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**Conduct of Engineering Glossary**

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**1.0 Purpose and Scope**

This is a functional series document (FSD) under PD340 *Conduct of Engineering and Configuration Management for Facility Work*.

[Table 1](#) herein defines over 450 abbreviations. [Table 2](#), Glossary of Terms Listing, defines over 650 terms used in other CoE FSD and Local documents (and elsewhere in engineering) to ensure that definitions in these documents are consistent and centrally accessible.

- These CoE documents include the Engineering Standards, Engineering Processes (e.g., Administrative Procedures [APs] and Work or Desk Instructions [WIs, DIs]), and Training and Qualification (Qual Standards, training materials).<sup>1</sup>

**Extensive hyperlinking makes this a useful tool for locating webpages and documents, both commonly used and hard-to-find.**

## 2.0 Authority

This functional document is issued by the Conduct of Engineering program at the Laboratory. This document derives from PD340, *Conduct of Engineering and Configuration Management for Facility Work*.

- Issuing Authority: Engineering Services Division Office (ES-DO)
- Responsible Manager: Conduct of Engineering Office Director
- Responsible Office: Conduct of Engineering Office (CoE or CENG)

## 3.0 Assistance, Suggestions, and Exception or Variance

For suggestions or clarification, enter request into the “CoE Glossary and Engineering Standards Comments/Suggestions” SharePoint [tool](#) (tool links also atop each [ESM](#) chapter webpage) with GLOS-COE-1 as the “Chapter or Document” number.

Otherwise (e.g., if outside firewall), contact the most appropriate [Conduct of Engineering Office](#) program team:

- Engineering Standards (e.g., ESM, TSM, P342) and general terms: [engstandards@lanl.gov](mailto:engstandards@lanl.gov)
- Engineering Processes (e.g., APs and P341): [coe-aps@lanl.gov](mailto:coe-aps@lanl.gov)
- Engineering Training (e.g., Qualification Standards and P343): [es-do-tng@lanl.gov](mailto:es-do-tng@lanl.gov).

For variance, first contact the manager of the most-affected program above.<sup>2</sup>

## 4.0 Abbreviations<sup>3</sup>

In the two-column-formatted listing below, many entries will relate to a term in the Section [7.0](#) Glossary of Terms Listing. Some terms are hyperlinked to that general area of the Glossary of Terms table, while others link to a relevant webpage external to GLOS-COE-1 (hover cursor to see URL). The abbreviation meanings are the CoE-preferred usages.

<sup>1</sup> As such, the definitions herein govern across all Functional and Local Documents issued by the [PD340](#) institutional Facility Conduct of Engineering (CoE) program, superseding definitions in those where they may conflict. They do not govern over PD340's subordinate P-series policy procedures, nor any other Institutional-level policy document (PD, SD, P, or RN series).

<sup>2</sup> For non-program-specific terms, contact [engstandards@lanl.gov](mailto:engstandards@lanl.gov). Guidance (typically italics) is not requirement/directive in nature, so relief is not necessary but suggested changes are encouraged.

Variance authority is at the same level as the program document, thus ES-DO approval via Form 2137 only required for requirement/direction matters at the AP, ESM, TSM, or QS level.). CENG may prefer to revise GLOS instead.

For derivative documents (e.g., master specs, Std. details, CSM, many forms and templates), Form 2137 is not required and Section 3.0 manager written direction is sufficient (aligns with ESM Ch. 1 Z10 on variances).

<sup>3</sup> An acronym is an abbreviation of a phrase that usually consists of the initial letter of each word in all caps with no punctuation. For some, initialism or alphabetism connotes this general meaning, and acronym is a subset—pronounced as a word rather than as letters. In this sense, NASA is an acronym, but USA is not. [And thus, abbreviation encompasses all.] [Wikipedia, 2024-9-16]. LANL discussion [here](#).

Note: Other useful (mandatory as noted) abbreviation listings beyond Table 1:

- A. LANL (some LANL-specific): (1) LANL Acronym [database](#) or more powerful [web app](#) from [CEA-TEC](#), and (2) [P315-4](#), *Conduct of Operations Glossary of Terms and Acronyms*.
- B. LANL (but not LANL-specific): LANL Style Guide [App. D](#): Technical Abbreviations.
- C. LANL CoE (mandatory):
  - 1. CoE/EDRMS “document type” abbreviations such as “CAL” in [AP-341-402](#) Att. A (with centrally assigned document number subset [here](#)),
  - 2. Item numbering and labeling IDs for Op System & System — and Equipment/Component — per ESM [Chapter 1](#) Section 200 [Att. 1](#) workbook’s 210 and 230 tabs respectively, and
  - 3. Drawing abbreviations, e.g., in [Standard Detail ST-Z1040-1](#) and CSM [Section 300](#).
- D. DOE: Directives-based [Acronyms](#) (paired with the Definitions tab); 10 CFR 830, *Nuclear Safety Management, Definitions* [830.3](#); OPM Project Management [Lexicon of Terms](#); [DOE PowerPedia](#); various other documents (e.g., for safety basis, [DOE-STD-3009 Master Acronyms List](#)). *These have precedence over GLOS-COE-1 when the document is directly or indirectly [contractual](#).*
- E. NRC: [NUREG-0544, "Collection of Abbreviations"](#).
- F. VCS: Those in voluntary consensus codes & standards (e.g., [ASME Y14.38](#), [IEEE 803.1-1992](#)).
- G. Obscure: A few additional abbreviations appear in the Section [7.0](#) Glossary of Terms Listing, so try Acrobat “Find” function if not in abbreviations table below, or sources above.

Quick links to abbreviations: [A-B](#) | [C-D](#) | [E-F](#) | [G-L](#) | [M-O](#) | [P-Q](#) | [R](#) | [S-Z](#)

Glossary of terms links:

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**Table 1. Abbreviations**

| Term                | Meaning                                                                |
|---------------------|------------------------------------------------------------------------|
| 801-FHA             | NFPA 801 fire hazard analysis                                          |
| ABA                 | Architectural Barriers Act                                             |
| ADA                 | Americans with Disabilities Act                                        |
| ADDIE               | Analyze, Design, Develop, Implement, and Evaluate                      |
| AdSTR               | Administrative Subcontract Technical Representative                    |
| A/E or AE           | architect/engineer (firm)                                              |
| AECO                | architecture, engineering, construction, and owner ( <i>industry</i> ) |
| <a href="#">AHJ</a> | Authority Having Jurisdiction                                          |
| AIR                 | Asset Impact Ranking                                                   |

| Term                   | Meaning                                 |
|------------------------|-----------------------------------------|
| ALD                    | Associate Lab Director (or Directorate) |
| <a href="#">ALDICP</a> | ALD Infrastructure & Capital Projects   |
| AM                     | Alternate Method                        |
| AoA                    | Analysis of Alternatives ( <i>ASD</i> ) |
| AP                     | Administrative Procedure                |
| App                    | appendix or application                 |
| ASD                    | Alternative Selection Document          |
| ASE                    | Accelerator Safety Envelope             |
| <a href="#">ASM</a>    | Acquisition Services Management         |

| Term                 | Meaning                                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------|
| ASME                 | American Society of Mechanical Engineers                                                              |
| ASOP                 | Asset Suite Optimization Project                                                                      |
| Att                  | Attachment                                                                                            |
| AWS                  | American Welding Society                                                                              |
| <a href="#">BAS</a>  | building automation system                                                                            |
| BEEP                 | Building emergency and evacuation plan                                                                |
| BOA                  | basic order(ing) agreement                                                                            |
| BOD                  | Basis of Design, or Beneficial Occupancy Date                                                         |
| BOM                  | Bill of Materials                                                                                     |
| BOP                  | balance of plant                                                                                      |
| BIM                  | building information model, or modeling                                                               |
| BTB                  | Build-to-budget                                                                                       |
| CAD                  | Computer-aided design (or drawing)                                                                    |
| CBOM                 | Consolidated Bill of Materials                                                                        |
| CD-#                 | Critical Decision                                                                                     |
| CDR                  | Conceptual Design Report                                                                              |
| CENG                 | Conduct of Engineering ( <i>ES office</i> )                                                           |
| <a href="#">CFR</a>  | Code of Federal Regulations                                                                           |
| CGD                  | commercial grade dedication                                                                           |
| CGI                  | commercial grade item                                                                                 |
| CGS                  | commercial grade service                                                                              |
| Ch.                  | Chapter                                                                                               |
| <a href="#">CI</a>   | Convectional or Commercial Implementation                                                             |
| CM                   | configuration management, corrective maintenance, or <a href="#">Construction Management Division</a> |
| CMAR                 | Construction Manager at Risk                                                                          |
| <a href="#">CMMS</a> | Computerized Maintenance Management System                                                            |
| <a href="#">CMOS</a> | The Chicago Manual of Style                                                                           |
| CMP                  | Configuration Management Plan                                                                         |
| CMTR                 | Certified Material (or Mill) Test Report                                                              |
| CNCR                 | Construction Non-Compliance Report                                                                    |
| CNI                  | Classified network infrastructure                                                                     |
| CO                   | Contracting Officer ( <i>NA-LA or ASM</i> )                                                           |
| COA                  | Condition of approval ( <i>from NNSA</i> )                                                            |

| Term                   | Meaning                                                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------|
| C of A                 | Certificate of Analysis                                                                                 |
| CoC                    | Certificate of Compliance                                                                               |
| C of C                 | Certificate of Conformance                                                                              |
| <a href="#">ConOps</a> | Conduct of Operations                                                                                   |
| CoO                    | Certificate of Occupancy                                                                                |
| COO                    | Chief Operations Officers ( <i>or Office, in ALDWP</i> )                                                |
| COE, or CoE            | Conduct of Engineering                                                                                  |
| CoP                    | Community of Practice                                                                                   |
| CR                     | Conditional Release                                                                                     |
| COR                    | Code of Record                                                                                          |
| COTS                   | commercial off-the-shelf                                                                                |
| CRA                    | Contractor Readiness Review                                                                             |
| CRAD                   | Criteria Review and Approach Documents                                                                  |
| CRD                    | Contractor Requirements Document ( <i>in a Directive</i> )                                              |
| C.S. or CS             | Construction Subcontractor                                                                              |
| CSA                    | Controlled Storage Area ( <i>P330-12</i> ) or Civil/Structural/Architectural (e.g., <i>C/S/A team</i> ) |
| <a href="#">CSE</a>    | Cognizant System Engineer                                                                               |
| CSED                   | Criticality Safety Evaluation Documentation                                                             |
| CSI                    | Construction Specifications Institute                                                                   |
| <a href="#">CSM</a>    | CAD Standards Manual                                                                                    |
| CSPL                   | Critical Spare Parts List                                                                               |
| <a href="#">CSR</a>    | Construction Service Request                                                                            |
| <a href="#">CUI</a>    | Controlled Unclassified Information                                                                     |
| Cx                     | commissioning                                                                                           |
| CxA                    | Commissioning Agent                                                                                     |
| CY                     | calendar year                                                                                           |
| D&D                    | deactivation (aka decommissioning, possibly with decontamination) and demolition                        |
| DA                     | Design Authority ( <i>could mean design agency re weapons</i> )                                         |
| DACUM                  | Developing a Curriculum ( <i>method</i> )                                                               |
| DAG                    | Design agency ( <i>uncommonly</i> )                                                                     |
| <a href="#">DAR</a>    | DA Representative (or document action request at TA-55)                                                 |
| DB (or D-B)            | design-build                                                                                            |

| Term                  | Meaning                                                                                |
|-----------------------|----------------------------------------------------------------------------------------|
| DBB                   | design-bid-build, or double-block-and-bleed ( <i>valving</i> )                         |
| <a href="#">DBIA</a>  | Design-Build Institute of America                                                      |
| DBTB                  | Design Build to Budget; a <i>mashup of DB and BTB</i>                                  |
| DCE                   | Discovered Condition Evaluation                                                        |
| DCF                   | Design Change Form                                                                     |
| DCRM                  | Document Control and Records Management                                                |
| DCT                   | Design Change Template                                                                 |
| DD                    | design development ( <i>phase</i> )                                                    |
| DD&R                  | deactivation, decommissioning & removal                                                |
| DE                    | Design Engineering                                                                     |
| <a href="#">DEAR</a>  | Department of Energy Acquisition Regulation                                            |
| DET                   | Determination doc type, <i>e.g., by LBO</i>                                            |
| DI                    | Desktop Instruction                                                                    |
| DID                   | defense in depth                                                                       |
| DIF                   | difficulty, importance, and frequency ( <i>analysis</i> ) for training                 |
| DMP                   | Design Management Plan                                                                 |
| DNFSB                 | Defense Nuclear Facilities Safety Board                                                |
| DOE                   | Department of Energy                                                                   |
| DOE G                 | Department of Energy Guide                                                             |
| DOE O                 | Department of Energy Order                                                             |
| DOE-STD               | Department of Energy Standard                                                          |
| DOR                   | Division of Responsibility, or Designer of Record                                      |
| <a href="#">DPBPS</a> | Defense Programs Business Process System                                               |
| DPIRC                 | Design Professional in Responsible Charge ( <i>IBC, other I-codes</i> )                |
| DPR                   | Design Package Reviewer, or <a href="#">P842</a> Designated Procurement Representative |
| DRN                   | Design Revision Notice                                                                 |
| DSA                   | Documented Safety Analysis                                                             |
| DV                    | design verification                                                                    |
| DWG                   | drawing (also, AutoCAD files extension is .dwg)                                        |
| <a href="#">ECHO</a>  | Engage, Communicate, Hear, and Observe                                                 |
| EDA                   | External Design Agency                                                                 |

| Term                    | Meaning                                                                                                            |
|-------------------------|--------------------------------------------------------------------------------------------------------------------|
| <a href="#">EDRMS</a>   | Electronic Document and Records Management System                                                                  |
| EED                     | emergency evacuation diagram                                                                                       |
| EEV                     | Exemption, Equivalency, and Variance (approval process by NNSA ESH)                                                |
| e.g.                    | <i>exempli gratia</i> (for example)                                                                                |
| EIL                     | Equipment and Infrastructure List                                                                                  |
| <a href="#">EJCDC</a>   | Engineers Joint Contract Documents Committee®                                                                      |
| EMC <sup>2</sup>        | Enhanced Minor Construction and Commercial practices ( <i>NNSA initiative</i> )                                    |
| EO                      | Executive Order                                                                                                    |
| EOR                     | Engineer of Record                                                                                                 |
| EPL                     | Engineering Project Leader ( <i>vs. PE</i> )                                                                       |
| EPP                     | Environmentally Preferable Products                                                                                |
| EPSC                    | Engineering Practices Subgroup ( <i>in <a href="#">EFCOG</a></i> )                                                 |
| ERFI                    | Engineering Request for Information                                                                                |
| <a href="#">ES</a>      | Engineering Services Division                                                                                      |
| <a href="#">ESC</a>     | Electrical Safety Committee                                                                                        |
| <a href="#">ESHQ</a>    | Environment, Safety, Health, and Quality Directorate                                                               |
| ESO                     | Electrical Safety Officer                                                                                          |
| ESPL                    | Essential Spare Parts List                                                                                         |
| ESR                     | Engineering Service Request, or Evaluation Report ( <i>ICC-ES</i> )                                                |
| ESS                     | Evaluation of Safety of the Situation [ <a href="#">SBP-112-3-R5.3</a> ]                                           |
| <a href="#">ESM</a>     | Engineering Standards Manual, STD-342-100                                                                          |
| ESM/TSM                 | ESM or TSM ( <i>whichever manual the project is using</i> )                                                        |
| <a href="#">EWB</a>     | Engineering Workbench ( <i>Accuris</i> )                                                                           |
| EX                      | Example drawing ( <i>doc number prefix for <a href="#">STD-342-400</a> set</i> ), or Exemption ( <i>DOE/NNSA</i> ) |
| Ex.                     | Exhibit ( <i>e.g., ASM contracts</i> )                                                                             |
| EXID                    | Excavation/Fill/Soil Disturbance Permit Request ( <i>within <a href="#">IRT</a></i> )                              |
| FA                      | Functional Assessment                                                                                              |
| <a href="#">FAC-COE</a> | Facility Conduct of Engineering                                                                                    |
| FACREP                  | Facility Representative ( <i>NNSA</i> )                                                                            |
| <a href="#">FAR</a>     | Federal Acquisition Regulation                                                                                     |
| FAT                     | factory acceptance test                                                                                            |

| Term                 | Meaning                                                                           |
|----------------------|-----------------------------------------------------------------------------------|
| FCR                  | Field Change Request                                                              |
| FD                   | Functional Document ( <i>aka FSD</i> )                                            |
| <a href="#">FDA</a>  | Facility Design Authority                                                         |
| <a href="#">FDAR</a> | FDA Representative                                                                |
| FDD                  | Facility Design Description                                                       |
| FEM                  | Facility Engineering Manager                                                      |
| FIE                  | Foreign Intelligence Entity                                                       |
| <a href="#">FIMS</a> | Facilities Information Management System ( <i>DOE site <a href="#">here</a></i> ) |
| FM                   | Form ( <i>LANL CoE</i> ), or Factory Mutual Insurance Company (FM Global)         |
| FMECA                | failure modes, effects, and criticality analysis                                  |
| <a href="#">FOD</a>  | Facility Operation Directorate (or Director)                                      |
| FOM                  | Facility Operations Manager                                                       |
| FORR                 | Federal Operational Readiness Review                                              |
| <a href="#">FP</a>   | Fire Protection                                                                   |
| FPD                  | Federal Project Director                                                          |
| FDPA                 | Fire Protection Design Analysis                                                   |
| FPE                  | Fire Protection Engineer                                                          |
| F/PO                 | Field/Production Offices ( <i>DOE, NNSA</i> )                                     |
| FPP                  | Fire Protection Professional                                                      |
| FPSR                 | Fire Protection Service Request                                                   |
| FPT                  | Functional Performance Test or Testing                                            |
| FRA                  | Federal Readiness Assessment                                                      |
| FRD                  | Functional and Requirements Document                                              |
| FRW                  | Functional Requirements Worksheet                                                 |
| FSA                  | Facility Safety Analysis                                                          |
| FSD                  | Functional Series Document <i>aka Functional Document (FD)</i>                    |
| FSE                  | Facility System Engineer                                                          |
| FSR                  | Facility Service Request                                                          |
| FY                   | fiscal year                                                                       |
| G                    | Guide ( <i>DOE document type</i> )                                                |
| GC                   | General Conditions ( <i>or clause type</i> )                                      |
| GFP                  | government furnished property ( <i>was equipment, thus GFE</i> )                  |
| GPP                  | General Plant Project                                                             |

| Term                   | Meaning                                                                                                                  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <a href="#">GSI</a>    | Graded Software Inventory ( <i>and Form 2033</i> )                                                                       |
| GSSO                   | Government SAP Security Officer                                                                                          |
| HA                     | hazards analysis                                                                                                         |
| HAR                    | Hazard Analysis Report                                                                                                   |
| HC                     | hazard category                                                                                                          |
| <a href="#">HR-ITS</a> | Human Resources – Institutional Talent Management Services ( <i>Training</i> )                                           |
| HVAC                   | heating ventilation and air conditioning                                                                                 |
| IAPMO                  | International Association of Plumbing & Mechanical Officials                                                             |
| IAS                    | Integrated Assessment Schedule, or International Accreditation Service                                                   |
| IAW                    | in accordance with                                                                                                       |
| IBC                    | International Building Code                                                                                              |
| IBR                    | Incorporated by reference                                                                                                |
| ICC                    | International Code Council                                                                                               |
| ICC-ES                 | ICC Evaluation Service                                                                                                   |
| ICE                    | Independent Cost Estimate                                                                                                |
| IDID                   | important to defense-in-depth                                                                                            |
| IDIQ                   | indefinite delivery, indefinite quantity ( <i>contract type</i> )                                                        |
| i.e.                   | <i>id est</i> (that is)                                                                                                  |
| IEBC                   | International Existing Building Code                                                                                     |
| IEDR                   | Independent external design review                                                                                       |
| <a href="#">IESL</a>   | Institutional Evaluated Suppliers List                                                                                   |
| IF                     | Incidental finding ( <i>in assessment</i> )                                                                              |
| IFC                    | Issued for construction ( <i>e.g., EDRMS status</i> ), when not <i>International Fire Code</i> )                         |
| IFI                    | issued for information ( <i>e.g., EDRMS</i> )                                                                            |
| IFU                    | issued for use ( <i>e.g., EDRMS</i> )                                                                                    |
| IHS                    | <a href="#">Industrial Hygiene and Safety</a> (ESH group); also, former name of Accuris <a href="#">online standards</a> |
| ILT                    | Instructor-led training ( <i>virtual or face-to-face, F2F</i> )                                                          |
| <a href="#">IM</a>     | Issues Management ( <i>in iLINK</i> )                                                                                    |
| IOD                    | Immediate Operability Determination                                                                                      |
| <a href="#">IPT</a>    | Integrated Project Team                                                                                                  |
| <a href="#">IQPA</a>   | Institutional Quality & Performance Assurance                                                                            |
| IRL                    | Interim Redline ( <i>e.g., dwg</i> )                                                                                     |

| Term                  | Meaning                                                                 |
|-----------------------|-------------------------------------------------------------------------|
| <a href="#">IRT</a>   | Integrated Review Tool                                                  |
| ISD-TS                | Infrastructure Service Division<br>Telecommunications Services          |
| <a href="#">ISH</a>   | Industrial Safety and Hygiene ( <i>LANL Group</i> )                     |
| <a href="#">iSoMS</a> | Intelligent System of Management Systems                                |
| ISSI                  | Institutional Safety Software Inventory ( <i>now GSI</i> )              |
| ITM                   | Inspection, Test, and Maintenance                                       |
| <a href="#">ITR</a>   | interdisciplinary technical review                                      |
| IVR                   | implementation verification review                                      |
| IWD/WCD               | Integrated Work Document / Work Control Document                        |
| JCO                   | Justification for Continued Operations                                  |
| KSA                   | knowledge, skills, and abilities ( <i>training analysis</i> )           |
| LAC                   | Los Alamos County                                                       |
| LA-FO                 | See NA-LA. LAFO is same.                                                |
| LANL                  | Los Alamos National Laboratory                                          |
| LANS                  | Los Alamos National Security ( <i>M&amp;O that preceded Triad/TNS</i> ) |
| LAP4                  | Los Alamos Plutonium Pit Production Project ( <i>i.e., 30/yr</i> )      |
| LBC                   | LANL Building Code                                                      |
| LBO                   | LANL Building Official                                                  |
| LCA                   | LANL Commissioning Authority                                            |
| LCC                   | life-cycle cost                                                         |
| LCCE                  | life-cycle cost-effective                                               |
| LCO                   | Limiting Condition of Operations                                        |
| LEBC                  | LANL Existing Building Code                                             |
| LEED                  | Leadership in Energy and Environmental Design                           |
| LIHSM                 | Laboratory Industrial Hygiene and Safety Manual ( <i>ESH OSH</i> )      |
| LMS                   | <a href="#">STD-342-200</a> , the LANL Master Specifications            |
| <a href="#">LOG</a>   | Logistics Division                                                      |
| LOIs                  | lines of inquiry                                                        |
| LS                    | limit state ( <i>structural</i> )                                       |
| LSME                  | Lead SME                                                                |
| M&E                   | materials and equipment                                                 |
| M&O                   | Management & Operating [ <i>DOE prime contract(or)</i> ]                |
| M&TE                  | measuring and test equipment                                            |

| Term                 | Meaning                                                                                                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MATOC                | Master Task Order Contract                                                                                                                                                  |
| MCT                  | minor construction threshold                                                                                                                                                |
| MCSE                 | Magic Cyber Systems Engineering                                                                                                                                             |
| MD                   | Modification ( <i>MSS work type</i> )                                                                                                                                       |
| <a href="#">MDI</a>  | Mission Dependency Index                                                                                                                                                    |
| MEL                  | Master Equipment List                                                                                                                                                       |
| ML                   | Management Level                                                                                                                                                            |
| MLDC                 | Management Level Determination Equipment/Component                                                                                                                          |
| MLDS                 | Management Level Determination System                                                                                                                                       |
| MOCA                 | M&O Contractor Agreement                                                                                                                                                    |
| mod                  | modification                                                                                                                                                                |
| <a href="#">MIE</a>  | Major Item of Equipment                                                                                                                                                     |
| MiM                  | Minor Maintenance                                                                                                                                                           |
| MNS                  | Mission Need Statement                                                                                                                                                      |
| MOU                  | Memorandum of Understanding                                                                                                                                                 |
| <a href="#">MPCL</a> | Metrology Program and Calibration Laboratory                                                                                                                                |
| MPII                 | manufacturer's printed installation instructions                                                                                                                            |
| MSA                  | management self-assessment                                                                                                                                                  |
| MSS                  | <a href="#">Maintenance and Site Services</a> , or for mech/pressure safety, <a href="#">Manufacturers Standardization Society</a> (e.g., their <a href="#">standards</a> ) |
| MTO                  | material takeoff                                                                                                                                                            |
| MTOA                 | Master Task Order Agreement                                                                                                                                                 |
| MUOB                 | modular multiuse office building                                                                                                                                            |
| MW                   | mixed waste                                                                                                                                                                 |
| MWP                  | mobile work package                                                                                                                                                         |
| <a href="#">N3B</a>  | Newport News Nuclear BWXT Los Alamos, LLC                                                                                                                                   |
| N/A                  | not applicable                                                                                                                                                              |
| NA-LA                | National Nuclear Security Administration (NNSA) Los Alamos                                                                                                                  |
| <a href="#">NAP</a>  | NNSA Policy                                                                                                                                                                 |
| NAR                  | New Activity Review Request (FNAR may be facility NAR) – now in PAR                                                                                                         |
| NCR                  | Nonconformance Report                                                                                                                                                       |
| NCS                  | Nuclear Criticality Safety ( <a href="#">Div</a> or concept). Or <a href="#">National CAD Standard</a> ; rarely National Codes & Standards ( <i>VCS preferred</i> )         |
| NDC                  | NPH Design Category                                                                                                                                                         |

| Term                     | Meaning                                                                             |
|--------------------------|-------------------------------------------------------------------------------------|
| NDE                      | nondestructive examination                                                          |
| NDT                      | nondestructive testing                                                              |
| NEC                      | National Electrical Code ( <i>NFPA 70</i> )                                         |
| NFAR                     | no further action required                                                          |
| NFE                      | Nuclear Facility Engineer ( <i>job class</i> )                                      |
| NFPA                     | National Fire Protection Association                                                |
| NI                       | New Information ( <i>safety basis</i> )                                             |
| NIE-TS                   | see ISD-TS                                                                          |
| <a href="#">NMAC</a>     | New Mexico Administrative Code                                                      |
| NMC&A                    | Nuclear Material Control & Accountability                                           |
| <a href="#">NNSA</a>     | National Nuclear Security Administration ( <i>DOE org is NA</i> )                   |
| NP                       | noteworthy practice ( <i>in assessment</i> )                                        |
| NPH                      | natural phenomena hazard                                                            |
| NRTL                     | Nationally Recognized Testing Laboratory                                            |
| NSC                      | nonstructural components                                                            |
| NSE                      | Nuclear Security Enterprise                                                         |
| NSP                      | Nuclear Safety Program ( <i>in ALDFO</i> )                                          |
| <a href="#">NTC@LANL</a> | National Training Center at LANL ( <i>DOE</i> )                                     |
| NTP                      | Notice to Proceed                                                                   |
| <a href="#">NTS</a>      | Noncompliance Tracking System ( <i>DOE</i> ); <i>avoid Firefox browser</i>          |
| O                        | Order ( <i>DOE directive type</i> )                                                 |
| <a href="#">O&amp;M</a>  | operations and maintenance                                                          |
| OBE                      | overcome by events                                                                  |
| OBI                      | Owners Building Inspector                                                           |
| OE                       | objective evidence ( <i>e.g., IM closure</i> )                                      |
| OFI                      | opportunity for improvement                                                         |
| OHC                      | Other Hazard Controls                                                               |
| OLT                      | On-line Training                                                                    |
| ORR                      | Operational Readiness Review                                                        |
| <a href="#">OSH-ISH</a>  | Occupational Safety and Health, Industrial Safety and Hygiene ( <i>LANL Group</i> ) |
| OTS                      | over-the-shoulder ( <i>review</i> )                                                 |
| OUO                      | Official Use Only ( <i>now a CUI type</i> )                                         |
| p.                       | page ( <i>e.g., p. 4</i> )                                                          |
| P&A                      | Process and Automation                                                              |
| P&ID                     | process & instrumentation diagram                                                   |

| Term                          | Meaning                                                                   |
|-------------------------------|---------------------------------------------------------------------------|
| P&P                           | Procurement Policy & Procedure Manual ( <a href="#">BUS-ASM-DO-0001</a> ) |
| <a href="#">PAA</a>           | Price-Anderson Act ( <i>was PAAA</i> )                                    |
| <a href="#">PAR</a>           | Project & Activity Review ( <i>system</i> )                               |
| Para                          | paragraph                                                                 |
| PC                            | Performance Category ( <i>for NPH</i> )                                   |
| PD                            | project delivery ( <i>an ES-Div function</i> )                            |
| PdM                           | predictive maintenance                                                    |
| PDS                           | private distribution system ( <i>ESM 18</i> )                             |
| PE                            | Project Engineer, but may be Professional Engineer                        |
| P.E.                          | Professional Engineer                                                     |
| <a href="#">PEEP</a>          | Project Engineering Estimating Program (or Execution Plan)                |
| PEI                           | PF-4 Equipment Installation ( <i>LAP4 project</i> )                       |
| PEL                           | Project Equipment List                                                    |
| PEMP                          | Performance Evaluation & Measurement Plan                                 |
| PEP                           | Project Execution Plan                                                    |
| <a href="#">PFE</a>           | Plutonium Facilities Engineering                                          |
| pFHA                          | project fire hazard analysis                                              |
| <a href="#">PID</a> (was PI#) | Project Identification Number                                             |
| <a href="#">PIE</a>           | Plutonium Infrastructure Engineering                                      |
| PISA                          | Potential Inadequacy of the Documented Safety Analysis                    |
| PIT                           | post-installation testing                                                 |
| PM                            | Project Manager or Management, or Preventive Maintenance                  |
| PMI                           | Preventive Maintenance Instruction                                        |
| PMID                          | PMI document ( <i>e.g., PMI or form</i> )                                 |
| <a href="#">PMRC</a>          | Project Management Resource Center ( <i>LANL</i> )                        |
| PMT                           | post-modification and/or post-maintenance testing                         |
| PO                            | purchase order                                                            |
| POAT                          | Pre-Operational Acceptance Test (POAT)                                    |
| POC                           | point-of-contact                                                          |
| POD                           | Prompt Operability Determination                                          |
| pp.                           | pages ( <i>e.g., pp. 4–8 or pp. 67, 72</i> )                              |
| PPD                           | Preliminary Project Determination                                         |
| PPEP                          | Preliminary Project Execution Plan                                        |

| Term                   | Meaning                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------|
| <a href="#">PQD</a>    | Procurement Quality Documents ( <i>tool</i> )                                                |
| PQR                    | Procedure Qualification Record(s) or Process Qualification Report                            |
| <a href="#">P-QSME</a> | Procurement Quality Subject Matter Expert                                                    |
| PR                     | purchase requisition                                                                         |
| PRD                    | Project record document, or ( <i>early in large projects</i> ) Program Requirements Document |
| PrE                    | Process Engineer                                                                             |
| PRID                   | Permits and Requirements Identification ( <i>see PAR</i> )                                   |
| PRT                    | Product Realization Team ( <i>for weapons</i> )                                              |
| PRV                    | pressure relief valve                                                                        |
| PS                     | Procurement Specialist ( <i>ASM buyer</i> )                                                  |
| <a href="#">PSD</a>    | Pressure System Database                                                                     |
| PSE                    | Plant System Engineer                                                                        |
| PSE-IM                 | Program Strategy and Execution–Information Management                                        |
| PSO                    | Pressure Safety Officer, or DOE Program Secretarial Officer                                  |
| <a href="#">PSP</a>    | Pressure Safety Program                                                                      |
| PT                     | dye-penetrant testing, or page-turn                                                          |
| PtE                    | Procurement Engineer                                                                         |
| PTS                    | protected transmission system                                                                |
| P-TSME                 | Procurement Technical Subject Matter Expert                                                  |
| PWHT                   | post-weld heat treatment                                                                     |
| QA                     | quality assurance                                                                            |
| QF                     | Quick Fix ( <i>maintenance</i> )                                                             |
| QC                     | quality control, or quality clause prefix in ASM/IQPA's Ex. H                                |
| QCI                    | quality control inspector or inspection                                                      |
| QD                     | Quality Deliverable ( <i>Ex. H</i> )                                                         |
| QE                     | Quality Engineer ( <i>e.g., in IQPA</i> )                                                    |
| QIA                    | Qualified Inspection Agency (or Agent)                                                       |
| QL                     | Quality Level ( <i>procurement</i> )                                                         |
| QMP                    | Quality Management Plan                                                                      |
| QMS                    | Quality Management System                                                                    |
| QS                     | Qualification Standard                                                                       |
| QVD                    | Quality Verification Document                                                                |

| Term                 | Meaning                                                                                                               |
|----------------------|-----------------------------------------------------------------------------------------------------------------------|
| R&D                  | research and development                                                                                              |
| R2A2s                | roles, responsibilities, authorities, and accountability                                                              |
| RA                   | Readiness Assessment or Registered Architect                                                                          |
| RAMI                 | reliability, availability, maintainability (RAM) + inspectability                                                     |
| RC                   | Risk Category ( <i>IBC Ch. 16</i> )                                                                                   |
| RCA                  | Root cause analysis                                                                                                   |
| RCD                  | Requirements and Criteria Document                                                                                    |
| RE                   | Responsible Engineer                                                                                                  |
| RFP                  | Request for Proposal                                                                                                  |
| RFI                  | Request for Information (or Request for Impact re Prime Contract <a href="#">mods</a> )                               |
| RLM                  | Responsible Line Manager                                                                                              |
| RP&IE                | Real Property and Installed Equipment                                                                                 |
| RPP                  | reduced-pressure-principle ( <i>backflow preventer type</i> )                                                         |
| RSM                  | Requirements Satisfaction Matrix                                                                                      |
| RT                   | radiographic examination                                                                                              |
| RTF                  | run-to-failure                                                                                                        |
| RVM                  | Requirements Verification Matrix                                                                                      |
| SAC                  | Specific Administrative Control or System Alignment Checklist                                                         |
| SAD                  | Safety Assessment Document                                                                                            |
| SAP                  | Special Access Program (or Concur travel application provider)                                                        |
| SAT                  | systematic approach to training, or Satisfactory ( <i>i.e., versus UNSAT</i> )                                        |
| SATOC                | single-award task order contract                                                                                      |
| <a href="#">SB</a>   | safety basis ( <i>org or document set</i> )                                                                           |
| SBT                  | Submittal Transmittal (form), or very casually, a submittal in general                                                |
| <a href="#">S/CI</a> | suspect or counterfeit item                                                                                           |
| S&CL                 | Standards & Calibration Lab, now the Metrology Program and Calibration Laboratory ( <a href="#">MPCL</a> )            |
| SCL                  | Supply Chain Logistics                                                                                                |
| SAPF                 | Special Access Program Facility                                                                                       |
| SC                   | safety class ( <i>type of SSC</i> )                                                                                   |
| SCIF                 | Sensitive Compartmented Information Facility                                                                          |
| SD                   | System Description ( <i>LANL policy type</i> ), <a href="#">Supplemental Directive (NNSA)</a> , or sustainable design |

| Term                | Meaning                                                                                    |
|---------------------|--------------------------------------------------------------------------------------------|
| SDC                 | Seismic Design Category                                                                    |
| SDD                 | System Design Description                                                                  |
| SDDR                | Subcontractor Deviation Disposition Request ( <i>Form 2178</i> )                           |
| SDS                 | Safety Design Strategy ( <i>DOE-STD-1189</i> ), or System Data Sheet                       |
| SE                  | Systems Engineer(ing)                                                                      |
| Sect or §           | Section ( <i>§ is Alt 0167</i> )                                                           |
| <a href="#">SEF</a> | Supplier Evaluation Form ( <i>QL 1/2</i> )                                                 |
| SEMP                | Systems Engineering Management Plan                                                        |
| SEP                 | Systems Engineering Plan                                                                   |
| SER                 | Safety Evaluation Report                                                                   |
| SHR                 | System Health Report                                                                       |
| SI                  | special inspection                                                                         |
| SIA                 | Special Inspection Agency                                                                  |
| SI-DCRM             | Service Innovation-Documents Control Records Management ( <i>now PSE-IM</i> )              |
| SIS or SSIS         | safety (significant) instrumented system                                                   |
| SLA                 | Service Level Agreement                                                                    |
| <a href="#">SLC</a> | SpecLink Cloud ( <i>app. by RIB, internal page <a href="#">here</a>, sometimes “S/L”</i> ) |
| SME                 | subject matter expert                                                                      |
| SMPO                | Safety Management Program Owner                                                            |
| SNM                 | Special Nuclear Material                                                                   |
| SOO                 | Sequence of Operation                                                                      |
| SoW, SOW            | Statement of Work                                                                          |
| spec                | specification                                                                              |
| SR                  | Surveillance Requirement, or ASM Sourcing Request                                          |
| SS                  | safety significant                                                                         |
| SSC                 | structure, system, or component                                                            |
| SSI                 | Statement of Special Inspections                                                           |
| SSO                 | Safety System Oversight ( <i>NNSA</i> )                                                    |
| ST                  | Standard Detail ( <i>in <a href="#">STD-342-400</a></i> )                                  |
| STD                 | Standard ( <i><a href="#">DOE</a> or <a href="#">LANL</a> document type</i> )              |
| STE                 | Shift Technical Engineer                                                                   |
| STR                 | Subcontract Technical Representative                                                       |
| UL                  | Underwriters Laboratories                                                                  |
| UT                  | ultrasonic examination                                                                     |

| Term                | Meaning                                                               |
|---------------------|-----------------------------------------------------------------------|
| T&Q                 | training and qualification                                            |
| TAC                 | test acceptance criteria                                              |
| TEAP                | Technical Evaluation and Acceptance Plan                              |
| TEC                 | Total Estimated Cost                                                  |
| TIA                 | Test & Inspection Agency                                              |
| TIP                 | Test & Inspection Plan                                                |
| TIS                 | Test & Inspection Summary                                             |
| TLA                 | three-letter abbreviation                                             |
| TM                  | temporary modification                                                |
| TMC                 | Temp Mod Control (process)                                            |
| TNS                 | <a href="#">Triad</a> National Security, LLC                          |
| TOA                 | task order agreement                                                  |
| TPC                 | Total Project Cost                                                    |
| TPD                 | Third-Party Dedicator ( <i>CGD</i> )                                  |
| TPP                 | Training Program Plan                                                 |
| TPS                 | Technical Project Specialist                                          |
| TRB                 | Test Review Board                                                     |
| TS&R                | Technical Specification & Requirements                                |
| <a href="#">TSM</a> | Tailored Standards Manual                                             |
| TSM/ESM             | TSM or ESM ( <i>whichever manual the project is using</i> )           |
| TSP                 | Technical Standards Program ( <i>DOE</i> )                            |
| TSRs                | Technical Safety Requirements                                         |
| TTO                 | turnover to operations                                                |
| U                   | Unclassified                                                          |
| UCNI                | Unclassified Controlled Nuclear Information                           |
| UI                  | Utilities and Infrastructure                                          |
| UMC                 | Uniform Mechanical Code ( <i>IAPMO</i> )                              |
| UNO                 | Unless Noted Otherwise ( <i>most used</i> )                           |
| UOS                 | unless otherwise specified ( <i>less so</i> )                         |
| UPC                 | Uniform Plumbing Code ( <i>IAPMO</i> ), or User-Performed Calibration |
| U.S.C.              | United States Code                                                    |
| USI                 | Unreviewed Safety Issue                                               |
| USQ                 | Unreviewed Safety Question                                            |
| USQD                | USQ Determination                                                     |
| VAR                 | CoE Variance or Alternate Method Form 2137's document type/acronym    |

| Term                 | Meaning                                |
|----------------------|----------------------------------------|
| <a href="#">VBEO</a> | Virtual Built/Build Environment Office |
| VCS                  | voluntary consensus standard           |
| VDC                  | virtual design and construction        |
| VFD                  | variable frequency drive               |
| VSS                  | Vital Safety System                    |
| VT                   | visual examination                     |
| <a href="#">VTR</a>  | vault-type room                        |

| Term                 | Meaning                                           |
|----------------------|---------------------------------------------------|
| WBS                  | work breakdown structure                          |
| WFO                  | Weapons Facilities Operations, or Work for Others |
| WI                   | Work Instruction                                  |
| WO                   | work order                                        |
| WPS                  | Welding Procedure Specification(s)                |
| <a href="#">WQAS</a> | Worker Qualification Authorization System         |

Links to abbreviations above:

[A-B](#) | [C-D](#) | [E-F](#) | [G-L](#) | [M-O](#) | [P-Q](#) | [R](#) | [S-Z](#)

Glossary of terms listing (below) links:

[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

## 5.0 Scope of Glossary of Terms Listing

- A. CoE: Not included are definitions judged too specialized to include herein (e.g., discipline-specific ones in the LANL Engineering Standards Manual and Master Specifications, where they will remain).
- B. LANL: Many other listings and sources exist; however, follow GLOS-COE-1 preferentially to them where they conflict. Examples: (1) LANL Style Guide [App. A](#); (2) Policy's [LANL Definition of Terms](#) (LDoT)<sup>4</sup>; (3) [P315-4](#), *Conduct of Operations Glossary of Terms and Acronyms*; and (4) [BUS-ASM-DO-0001](#), *Procurement Policy and Procedure Manual* and old [Acquisition Dictionary](#).<sup>5</sup>
  1. Exception: Terms from Institutional Policy documents (i.e., SD, PD, P, RN) are included herein for convenience; however, those sources govern where terms and definitions herein do not align. (In such cases, follow the most conservative and/or contact CoE for direction per Section 3.0. Assistance, Suggestions and Acceptance or Variance).
- C. DOE/NNSA: Many DOE directive definitions are [here](#) (paired with the Acronyms tab); NNSA ones [here](#). Additional definitions exist within the mandates themselves (Orders, CFRs) and guidance (Guides, Standards, Handbooks). The Project Management [Lexicon of Terms](#) exists for PM scope. These definitions govern when the source is LANL-contractual, with some terms included herein for convenience.<sup>6</sup>
- D. Beyond-DOE sources used or useful: The [American Heritage Dictionary](#) (LANL standard); NRC's [Glossary](#); [ASHRAE Terminology](#); [IEEE Standards Dictionary](#); Am. Nuc. Soc. [Glossary](#).

<sup>4</sup> *LANL Definitions* is maintained by the Policy Office, semi-informal w.r.t. bases and change control, and outside COE purview

<sup>5</sup> *ASM Dictionary* (2013) appears legacy but may be useful, especially for historical understanding

<sup>6</sup> Prime contract supersedes implementing contractor policy. Otherwise, definitions herein are mandatory regardless of source, including when not via prime contract. When further direction is needed, contact CoE per Section 3.0.

## 6.0 Using the Glossary of Terms Listing

- A. Hyperlinks may lead to the general area of a related term within Table 2, or to a webpage or document on the web. Naturally, LANL-internal links will fail for users outside the LANL firewall, but linked documents will be provided as appropriate (e.g., to project members).
- B. Source citations (e.g., “[AP-341-703]”) generally capture the primary location(s) of the definition and/or usage of same. Where a CoE document conflicts, GLOS-COE-1 governs as discussed above under Purpose/Scope.
- C. Usage notes, generally in italics (as are many titles) and source are normally not part of the definition per se.
- D. Multiple definitions for a term are sometimes provided; use the most applicable based on the source or sense matching the context (as with any dictionary).
- E. CoE-issued documents will be revised to reference this glossary going forward as follows:
  - 1. In CoE-issued documents, mirroring of GLOS definitions in addition to referencing it will be avoided unless determined necessary (e.g., in “2” below). Instead, including a brief list of relevant terms that are defined in GLOS (and linking to it) is helpful and preferable, with only other-than-GLOS terms defined.
  - 2. Duplicating glossary definitions in certain construction documents and their CoE templates may be appropriate when end-user reference to GLOS-COE-1 may not be preferable (e.g., documents used by workers in the field including drawings, specifications, and inspection plans). As such, in lieu of the term-only list, definitions may be included in design output templates such as the LANL [Standard Details](#); Master Spec (LMS) [01 4216 Definitions](#) and 01 4000 *Quality Requirements*; and ESM Ch. 16’s *Statement of Special Inspections* and *Test & Inspection Plan* so they appear in the issued construction document. *These should not meaningfully conflict with the Glossary.*
- F. Key references: See Appendix B for full titles of the most used citations.

## 7.0 Glossary of Terms Listing

Glossary of Terms Listing (below) links:

[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

Abbreviations (higher in document) links:

[A-B](#) | [C-D](#) | [E-F](#) | [G-L](#) | [M-O](#) | [P-Q](#) | [R](#) | [S-Z](#)

**Table 2. Glossary of Terms Listing**

| Term                | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 210 List            | <p>The approved <u>system-level names and abbreviations</u> for use in the Master Equipment List (and Project Equipment List precursor). It includes both the Operating System (category) and System-related choices.</p> <p><i>It is published on a tab (sheet) of ESM <a href="#">Chapter 1</a> Section 200's <a href="#">Attachment 1</a> MEL/CMMS Upload Workbook.</i></p> <p><i>Section 200 itself describes how the <u>System</u> designator is a segment of equipment IDs that appear on labels, drawings, procedures, and other documents (also discusses Types and Subtypes per 230 List).</i></p> |
| 230 List            | <p>The approved <u>equipment and component names and abbreviations</u> for use in the PEL and MEL. It includes both the Type (category) and Subtype fields (latter is used in IDs). <i>It is published similarly to the 210 List above.</i></p>                                                                                                                                                                                                                                                                                                                                                             |
| 410 List            | See Form 410.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>A</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Accelerator         | <p>See DOE O <a href="#">420.2D</a> (its <a href="#">Att. 2</a>) for this and related definitions.</p> <p><i>Accelerators per se are not a “Nonreactor Nuclear Facility,” and so not subject to most requirements for same, but a target with material-at-risk may be. LANL large examples are LANSCE and DARHT, small ones K15 and Microtron.</i></p>                                                                                                                                                                                                                                                      |
| Acceptable          | <p>Considered by the authority having jurisdiction as adequate for satisfying the goals, performance objectives, and/or performance criteria. [DOE-STD-1066-2023]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Acceptance          | <p>The act of approval of an item or service by authorized personnel in accordance with the applicable, approved work control process and/or subcontract requirements. [adapted from P330-8 r7, Chg4]</p> <p><i>May involve inspection and/or testing of items, or oversight of services, based on formal acceptance criteria or more qualitative judgement of acceptability.</i></p>                                                                                                                                                                                                                       |
| Acceptance Criteria | <p>Specified limits placed on the performance, results, or other characteristics of an item, process or service defined in codes, standards, or other requirement documents. [NQA-1]</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acceptance Method                                         | <p>A dedication method used to verify that the Commercial Grade item or service meets the acceptance criteria for the identified critical characteristics. (Paraphrased from ASME NQA-1a-2009 Subpart 2.14.) The acceptance methods used in the Commercial Grade Dedication (CGD) process are:</p> <ul style="list-style-type: none"> <li>• Method 1: Inspections, tests, or analysis performed after delivery.</li> <li>• Method 2: Commercial grade survey of the supplier.</li> <li>• Method 3: Source verification of the item or service.</li> <li>• Method 4: Acceptable supplier/item performance record. [AP-341-703]</li> </ul>                                                                                                                                                                                                          |
| Acceptance Plan                                           | <p>Document that includes necessary tasks and criteria for a procurement or other work to be approved.</p> <p><i>For procurement quality, per P841-1, if the P-TSME determines that the item/service being procured has a Quality Level (QL) then an <a href="#">Exhibit H</a> and Acceptance Plan must be created in the Procurement Quality Document (PQD) Tool <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Acceptance Testing (and software validation)              | <p>The process of exercising or evaluating a system or system component by manual or automated means to ensure that it satisfies the specified requirements, and to identify differences between expected and actual results in the operating environment. [ESM Ch. 21, SOFT-INTRO]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Accuracy                                                  | <p>The capability of an instrument to consistently indicate the true value of a measured quantity. [ESM Ch. 15; LMS 01 9100]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Accuris                                                   | <p>Provider of most online national and international codes and standards mostly commonly used at LANL via their <a href="#">Engineering Workbench</a> (EWB) product. Formerly “IHS.”</p> <p><i>See also LANL Research Library webpage for available <a href="#">non-EWB</a> standards including 300+ ANSI stds, others as listed including <a href="#">IBR</a>, and <a href="#">IEEEExplore</a> (for non-NFPA electrical, electronics, and software), and many others.</i></p> <p><i>Library catalog <a href="#">search</a> will also yield a few full-text standards and reports not in above (from Knovel and other database subscriptions). <a href="mailto:engstandards@lanl.gov">engstandards@lanl.gov</a> has leads on a few others.</i></p> <p><i>More online standards info in the Library's Standards <a href="#">LibGuide</a>.</i></p> |
| Acquisition Services Management <a href="#">ASM</a>       | <p>Division responsible for delivering and administering contracts (subcontracts); i.e., procurements. <i>This includes SOWs, STRs, DPRs.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Active SSC                                                | <p>An SSC that includes one or more components that must change state to perform its safety function. [AP-341-901]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Analyze, Design, Develop, Implement, and Evaluate (ADDIE) | <p>An instructional systems design framework that many instructional designers and training developers use to develop courses. [<a href="#">Wikipedia</a>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Addition                                                  | <p>An extension or increase in floor area, number of stories, or height of a building or structure. [ESM Ch. 16 IBC-GEN PPD form FM01.] <i>Must follow IEBC Ch.11.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| Administrative Change                                       | <ol style="list-style-type: none"> <li>1. A change to a document that is correcting typographical errors, grammar, punctuation, and clarifying instructions. Updating organizational names, hyperlinks, and reference document numbers also is considered an administrative change. [AP-341-401]. <i>Others are a <a href="#">Major Change</a>.</i><br/><i>In COE documents, the most minor of these (e.g., corrections) are often simply made and the document reposted; otherwise, an admin or other formal revision maybe processed, generally indicated by a decimal rev number increment (e.g., r2.1) if admin or very minor.</i></li> <li>2. In DOE orders, changes that do not alter requirements or responsibilities in the affected directive. Examples of such changes are: <ol style="list-style-type: none"> <li>a. typographical errors;</li> <li>b. nomenclature changes such as changes to organization names or titles of officials;</li> <li>c. clarifications that do not alter requirements or responsibilities; or</li> <li>d. changes to legal citations or references. [from DOE O 251.1D AdmChg1]</li> </ol> <i>Orders indicate such revs as AdmChgX. See also Limited Change (LtdChg).</i> </li> </ol> |
| Administrative Controls                                     | <ol style="list-style-type: none"> <li>1. Provisions relating to organization and management, procedures, record keeping, assessment, and reporting necessary to ensure safe operation of a facility. [10 CFR §830.3; ESM Ch. 21, SOFT-INTRO]</li> <li>2. Work procedures such as written safety policies, rules, supervision, schedules, and training with the goal of reducing the duration, frequency, and severity of exposure to workplace hazards. [<a href="#">DOE G 450.4-1C</a>, <i>Integrated Safety Management System Guide</i>]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Administrative Procedure (AP)                               | <ol style="list-style-type: none"> <li>1. Prescribes the steps to be used by personnel in carrying out administrative work activities. Procedures implement policy, requirements, and good business practices. <i>CoE APs are a Functional Document.</i> [AP-341-401]</li> <li>2. Defines the communication and coordination activities necessary to carry out a facility's technical programs, management control programs, and design control programs. These procedures are not directly used to operate or maintain equipment or facilities. [archived PD311]</li> </ol> <p><i>In CoE, the AP-341 series is ubiquitous except for some conventional/commercial-type work. Relevant to CoE projects, PM's AP-350 series is accessible <a href="#">here</a>; MSS's AP-MNT and AP-WORK series APs are <a href="#">here</a>.</i></p> <p><i>Note, for existing, operating facilities, the AP-341s may have expectations for document creation or revision that are slightly different than those in the Standards (that define expectations for all projects with new SSCs).</i></p>                                                                                                                                            |
| Administrative Subcontract Technical Representative (AdSTR) | Appointed to perform Technical Oversight of low-consequence subcontracts, engages LANL SMEs as appropriate and provides feedback to their [Procurement Specialist (PS)], Requesting Organization, and RLM with issues pertaining to subcontract performance. [P850]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ALARA                                                       | As Low as Reasonably Achievable. An approach to radiological control to manage and control exposures (individual and collective) to the work force and to the public at levels that are as low as is reasonable, taking into account social, technical, economic, practical, and public policy considerations. ALARA is not a dose limit but a process which has the objective of attaining doses as far below the applicable limits of 10CFR835 as is reasonably achievable. [ESM Ch. 11]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Alteration             | Any construction or renovation to an <i>existing structure</i> other than a <i>repair</i> or <i>addition</i> . [IEBC-2021]. See also <i>Level 1, 2, and 3 Alterations</i> .                                                                                                                                                                                                                                                                                                                             |
| All-the-Time Functions | Those that identify actions that must be considered at each precursor-level function as drivers for the identification of applicable requirements. These functions are generated based on performance or operational needs but are also based on programmatic drivers. Typical areas that result in all-the-time functions are Safety, Environment, Security, and Quality Assurance. [AP-341-601]                                                                                                       |
| Alteration             | Any construction or renovation to an <i>existing structure</i> other than a <i>repair</i> or <i>addition</i> . [IEBC-2021]. See also <i>Level 1, 2, and 3 Alterations</i> .                                                                                                                                                                                                                                                                                                                             |
| Alternate              | In a procurement, a defined portion of the work that is priced separately and thus provides an option for the owner in determining the final scope of the project. The alternate provides the owner with a choice between different products, or it can define the addition or deletion of a portion of the work. [CSI PRM 5 <sup>th</sup> Ed. §4.6.1; much more at 6.4]                                                                                                                                |
| Alternate Calculation  | A Design Verification method that uses an alternate calculation method to verify correctness of the original calculation or analysis. (ASME NQA-1) [AP-341-620]                                                                                                                                                                                                                                                                                                                                         |
| Alternate Method       | Alternative to how a requirement is met in cases where the “how” is specified, as granted by the requirement owner. These represent acceptable, alternative approaches to achieving the goal of a requirement. [adapted from DOE O 252.1D Chg 1].<br><br><i>Mainly used in <a href="#">Form 2137</a>, CoE Request for Variance or Alternate Method. See also <a href="#">Exception</a> and <a href="#">Variance</a> (including for discussion of other forms sometimes applicable). [ESM Ch. 1 Z10]</i> |
| Alternate Study        | See <a href="#">Trade Study</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Alternative            | 1. A choice between two or more approaches to satisfying a requirement, e.g. alternatives analyses for selection of a preferred project approach. [ <a href="#">source</a> ]<br>2. A system, condition, arrangement, material, or equipment submitted to the authority having jurisdiction as a substitute for a criterion in a standard. [DOE-STD-1066-2023]                                                                                                                                           |
| Amendment              | A correction, change or modification to the main contents of the standard. [ANSI Webstore <a href="#">Glossary</a> ]<br><br><i>ESM Ch. 1 Z10 notes that sitewide variances, alternate methods, and clarifications posted to LANL Standards are amendments.</i>                                                                                                                                                                                                                                          |

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| Analyses of Alternatives (AoA) | <p>The AoA process is an analytical study conducted to compare the operational effectiveness, cost, and risks of a number of potential alternatives to address valid needs and shortfalls in operational capability. This process helps ensure that the best alternative that satisfies the mission need is chosen on the basis of the selection criteria, such as safety, cost, or schedule. [<a href="#">GAO-20-195G Cost Estimating and Assessment Guide</a>]</p> <p><i>For NNSA projects seeking CD-1 approval, NA-MB conducts an AoA that is independent of the contractor organization... and the [AoA] Alternative Selection Document (ASD) captures NA-90's decision regarding the AoA option(s). [ref SDs 413.3 and 413.3-7]</i></p> <p><i>The AoA may be satisfied by appropriate NEPA analyses or other state and Federal processes that require an appropriate evaluation of alternatives. The resulting evaluation will be summarized in the PPEP. [DOE O 413.3]</i></p>                                                                                                                                                                                                                                    |
| Appendix                       | <ol style="list-style-type: none"> <li>1. For a book [and perhaps a manual]: "An appendix may include explanations and elaborations that are not essential parts of the text but are helpful to a reader seeking further clarification, texts of documents, long lists, survey questionnaires, or sometimes even charts or tables. ..." [<a href="#">CMOS 1.66</a>]</li> <li>2. For an ops-type procedure: Supplementary material at the end of a procedure. An appendix includes information from external sources, such as a vendor manual, textbook, or engineering drawing that provides supplemental information but that is not required for the performance of the procedure. [<a href="#">P315-4, Conduct of Operations Glossary of Terms and Acronyms</a>]</li> </ol> <p><i>In ASM procurement contracts, appendices are segments (e.g., an SOW as App. C, which was an exhibit in the past).</i></p> <p><i>In the modern Engineering Standards, appendices generally have page numbers that continue from the main/body, while attachment page numbering is 0–n (thus are more standalone, and are often web posted and revised independently from the main). CoE APs tend to be the opposite of this.</i></p> |
| Applicable                     | <p>For CoE, a document that LANL has determined will be applied, assuming NA-LA concurrence.</p> <p><i>This arises because the LANL Prime Contract, in the so-nicknamed "all-laws clause" in <a href="#">Part II Section I, at I-19 (pp. 290-291)</a>, requires that "[LANL] shall comply with the requirements of applicable Federal, State, and local laws and regulations (including DOE regulations), unless relief has been granted in writing by the appropriate regulatory agency."</i></p> <p><i>The net effect is that LANL follows most Federal laws and regs (CFRs) one might expect that one might expect, but that is not true of every state and local law/reg, as some are deemed not applicable (sometimes as a result of Federal supremacy principle).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Applicable Standard                                | <p>An applicable DOE technical standard or industry code or standard is one for which it has been determined by the contractor [LANL] that it will be used or will be applied for a specific facility/site to meet the design, construction, and operational requirements described in this Order. [DOE O 420.1C Chg 3, §7].</p> <p><i>The Order provides the process for determining which standards will be applicable. the LANL Engineering Standards (e.g., ESM and TSM) provide the minimum required codes and standards derived from contractual DOE and NNSA directives. A project-specific Code of Record list focuses on the key applicable documents including any project-specific ones.</i></p>                                                                                                                                                                                                                                                                                                                      |
| Approved                                           | <p>Approved/accepted by LANL. For matters related to the Building Code Program, this means by the authority having jurisdiction, e.g., the LANL Building Official or his/her delegates. [IBC-2021; DOE-STD-1066-2023; ESM Ch. 16]</p> <p><i>Enduring examples are in the <a href="#">Listing of LBO-Approved IBC Testing, NDE, and Inspection Agencies; Fabricators; and Products</a>. Other instances tend to be project-specific.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Approved for Release                               | <p>Design output signature accepting for LANL. <i>It may and should also be attesting that the output accurately reflects the design basis and followed a technically adequate design process and appropriate design control, and is either on the document itself or one tied to it (e.g., see <a href="#">VAR-10694, Project Drawing Package Approvals on Title Sheet; Fewer Signatures</a>).</i></p> <p>LANL Building Code Permitting Authority signature on SSIs (e.g., IBC-IP Att. B r15) is a similar concept attesting to adequacy of SME review and comment resolution. [CSM Table 202-1; P341 (§3.0, 3.4)]</p> <p><i>If permitted by CoE documents in the future, selected related design authority (FDAR) responsibilities from DOE-STD-1073-2016 (§2.5) such as this might instead be signed by the FDAR-chosen person with the best knowledge to affirm the above — e.g., the system engineer, project engineer, or Modification Manager heading the effort, with overall approval by FDAR still on the DCF.</i></p> |
| Approved for Use (AFU)                             | <p>New or modified system review/approval process in <a href="#">P101-34</a>, <i>Pressure Safety</i>. AFU process replaced Certification approach of ESM Ch. 17 former Section ADMIN-1 in place before 9/22/2023.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <a href="#">APROOVE</a> or <a href="#">Aproove</a> | <p>Online (electronic) document review software application (replaced DRS). Resource page <a href="#">here</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| AP-TRUST                                           | <p>ES-Div conventional/commercial initiative approach to AP procedure use.</p> <p><i>Per <a href="#">VAR-10717</a> of April 1, 2025, and with FDAR approval, engineers may remove unnecessary administrative procedures from such projects—thus placing greater trust in each engineer’s ability to find the most efficient, effective solutions. [The Blueprint, Feb. 19, 2025] Video <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| <a href="#">Archibus Web Central</a>                | <p>LANL's system of record for all building, trailer, and other structure &amp; facility assets. The system tracks Technical Area (TA), structure, building, and room level data. <i>Besides employee hoteling support, contains structure data including beneficial occ. date. Full description on Archibus Team <a href="#">page</a>.</i></p> <p><i>For seismic, go to Space Inventory, then LANL Special Reports, then Building Engineering Details. The newer RC or NDC/LS data will be there under the "DOE 1020 Standard" heading. The legacy PC category is under Seismic Essential as P_ (e.g., P1, P2 ..., where P2=PC2) for the building structure.</i></p> <p><i>For ML, Occ Cat, and fire info, from the above screen, type the TA-BLDG (e.g., 00-0787) into Structure ID, and &lt;return&gt;.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Architect/Engineer (A/E) or Architect-Engineer (AE) | A design agency of record, normally external to LANL. Generally synonymous with Engineer of Record ( <a href="#">EOR</a> ), Architect of Record, and sometimes Design Professional in Responsible Charge ( <a href="#">DPIRC</a> ). [ESM Ch. 1, Z10]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <a href="#">Ariba®</a>                              | <a href="#">ASM</a> 's procurement software from SAP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| As-Built                                            | <p>Important documentation (e.g., electrical one-line diagrams, database records) that is (1) verified by physical inspection as depicting the actual physical configuration and (2) verified as consistent with the design requirements. [based on DOE-STD-1073-16 and AP-341-405; AP-341-610]. See 3-element diagram at Configuration Management for a visual of this.</p> <p>As-builts are a small subset of the entirety of Project Record Documents (<a href="#">PRDs</a>). PRDs not formally "as-built" are therefore often just as-designed; however, inspection provides varying level of assurance of design/field alignment. [ESM Ch. 1, Z10].</p> <p><i>"As-built" is often misused at LANL, within DOE, and even industry (where errors &amp; omissions insurers dislike the implication) — when a PRD is what is delivered. True as-built verification steps are very formal, with discrepancies appropriately dispositioned in a process that ensures every deviation from original design is acceptable and the field precisely matches the design/intent; see 3-object graphic at Configuration Management herein, and ESM Ch1 <a href="#">Z10</a>, for more information. "Verified" or "true" as-built means the same as as-built and stresses the formality.</i></p> |
| As-Found                                            | Information, often in the form of marked-up documents, that reflects the actual physical configuration and identifies any discrepancies with currently approved facility documentation. [DOE-STD-1073-2016; AP-341-405] <i>Note: As-found</i> s are generally the product of a walkdown (e.g., tech baseline reconstitution). For highest confidence, Step 2 (verified consistent with the design requirements) in 1073's "As-Built" definition above is appropriate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ASME NQA-1                                          | <p><i>Quality Assurance Requirements for Nuclear Facility Applications</i>, issued by The American Society of Mechanical Engineers.</p> <p><i>Edition used by LANL is per PD330, currently ASME NQA-1-2008 with the NQA-1a-2009 addenda. Both are available via Accuris <a href="#">EWB</a>, and unofficial conformed files of combined verbiage exist within LANL. LANL QA program based on ASME NQA-1 began with SD330, R2, eff. 9/25/2012 (now PD330).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Asset                                               | A general term used to refer to a system, facility, structure, or component. This term is commonly used in the SE tool to refer to the block object type used to represent SSCs. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Asset Impact Ranking (AIR)                                                          | <p>AIR analysis is a process for determining the relative ranking of items in a system. The purpose of ranking the items is to determine which items get preferential treatment with respect to resource allocation. In the industrial setting, these items are generally assets and the resources are labor, materials, and schedule priority. [Eruditio]</p> <p><i>Unlike importance, AIR speaks to the combination of importance and failure rate, but without extensive mean time between failures data, LANL reliability eng efforts use only importance scores — for now.</i></p> <p><i>Importance is called criticality in industry, thus ACR, but AIR is used at LANL to avoid confusion.</i></p>                                                                                  |
| Asset Management (AM)                                                               | <p>The systematic planning and control of a physical resource throughout its life. This may include the specification, design, and construction of the asset, its operation, maintenance, and modification while in use, and its disposal when no longer required. [DOE G 433.1-1A Chg 1 (Admin Chg), <a href="#">Nuclear Facility Maintenance Management Program Guide for Use with DOE O 433.1B (LCAM)</a>]</p> <p><i>ALDWP has an asset management initiative under <a href="#">PRRO</a>. It's leading pilot programs for improvement of same for a PF-4 process and TA22 detonator production that involves tech baseline documentation and control, reliability engineering, supply chain logistics, and work execution. See Reliability Engineering herein for that portion.</i></p> |
| Asset Suite                                                                         | See Computerized Maintenance Management System ( <a href="#">CMMS</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Asset Suite Optimization Project (ASOP)                                             | MSS & ALDWP-led effort focused on more comprehensive use of CMMS for asset management. <i>Began ~FY25, part of a greater emphasis on asset management with efforts for a PF-4 process, TA22, and UI FOD. Aims to build upon and alter the (~2019-2026) MEL Realignment results.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Associate Laboratory Director for Facilities & Operations ( <a href="#">ALDFO</a> ) | <p>LANL organizational home of facility engineering divisions [e.g., Engineering Services (ES) and Plutonium Facilities Engineering (PFE)], Plutonium Infrastructure Engineering (PIE), and several other divisions.</p> <p><i>Of the ~17 <a href="#">ALDs</a>, ALDFO engineers have the most frequent interaction with ALDICP (Infrastructure and Capital Projects) and/or ALDPI (Plutonium Infrastructure) depending on role.</i></p>                                                                                                                                                                                                                                                                                                                                                    |

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| Authenticated Electronic Signatures (aka Digital Signature)  | <ol style="list-style-type: none"> <li>1. Digital Signature: An electronic signature comprised of encrypted identification certificates. When properly implemented, provides a mechanism for verifying origin authentication, data integrity and signatory non-repudiation (e.g., PIV/CAC certificates). [<a href="#">DOE O 243.1C</a> CRD; <a href="#">P1020-1</a>]</li> <li>2. Authenticated electronic signatures include Entrust and Adobe digital signatures with certificates, and embedded signatures in online tools such as SharePoint, Delta, or other engineering-approved document system. Authenticated electronic signatures are acceptable for engineering documents (versus wet-signing paper). <i>For drawings, the <a href="#">CAD Standards Manual</a> may provide additional direction (e.g., <a href="#">VAR-10066 R2, Electronic Drawing Approval</a>; <a href="#">VAR-10694, Project Drawing Package Approvals on Title Sheet</a>; <a href="#">Fewer Signatures</a>).</i> [AP-341-402 r2]</li> <li>3. A digital signature is a “digital identification that is an electronic authentication process attached to or logically associated with an electronic document. The digital identification must be: <ol style="list-style-type: none"> <li>a. Unique to the person using it</li> <li>b. Under the sole control of the licensee using it</li> <li>c. Linked to a document in such a manner that the digital identification is invalidated if any data in the document is changed.”</li> </ol> <p>[NM act for engineering: See <a href="#">Advisory Opinions</a> topic “PE/PS Advisory: Signatures/Electronic Signatures” (pgs 2-3)]</p> <p>To achieve “c” above, <i>when a pdf file is a QA record, the last signer before transmittal to PSE-IM should click the “Lock document after signing” button in the Acrobat dialog box during signing (this is generally also for the Authentication of records task defined below). This is especially true of NQA-1 QA records (see Record definition).</i></p> <p><i>For LANL personnel, who have certificates inherent in their PIV (badge), use of authenticated signatures is certainly expected.</i></p> <p><i>For subcontractors, there is a similar expectation for those doing ML-1, ML-2, or UCNI work because of its importance and since UCNI transmittal necessitates encryption (e.g., Entrust software) and thus such capability is inherent. Likewise for Professional Engineer’s work, to meet “3” above.</i></p> </li> </ol> |
| Authentication (identity, credential, and access management) | <p>The process of verifying a person’s identity using a credential (password, PIN, smartcard, badge, etc.). The Physical Access community may use the term “validate &amp; verify” a credential, which is an equivalent operation. [<a href="#">DOE O 206.2 Chg 2</a>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Authentication (of records)                                  | <p>Approval of QA records by an authorized individual by providing signature (or initials) and date that indicate a record has been reviewed for technical accuracy and administrative requirements. Authentication confirms the completeness of a record. Various forms of authentication may be used, e.g., email sent by an authenticated user, electronic or handwritten signature, or a completed and accepted form. [<a href="#">P1020-1</a>, r14]</p> <p><i>See also Project Record Document (<a href="#">PRD</a>).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Authority Having Jurisdiction (AHJ) | <ol style="list-style-type: none"> <li>1. An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure. In DOE, the Head of the Field Element is the AHJ, but responsibility can be <u>delegated</u> to another federal official and routine activities can be <u>assigned</u> to a contractor. [DOE-STD-1066-2023]</li> <li>2. Technical authority in NFPA, explosives safety, and Uniform Plumbing and Mechanical documents, but sometimes applied more broadly to other code officials. This and similar terms are known generically as <u>SMPOs</u> at LANL (search SMPO). [ESM Ch. 1, Z10; Ch. 2, D40GEN; Ch. 6 D10-30]</li> </ol> <p><i>Generally, NNSA is the default code official by Order or CFR and assigns some or all day-to-day duties to LANL by way of letter or other method. ESM Ch. 1 Z10 r15 includes a table (Z10-2) with a snapshot of this.</i></p>                                                                                                                                                                                                                       |
| Authorization Basis                 | <p>Those aspects of the facility design basis and operational requirements important for safe facility operations and relied on by DOE to authorize operation. The facility safety analysis report and other safety analyses, hazard classification documents, the technical safety requirements, DOE issued safety evaluation reports, and facility-specific commitments made to comply with DOE Orders or policies contain the authorization basis. [<a href="#">DOE G 413.3-23, Nuclear Facilities Commissioning</a>] <i>Definition is present in G 413.3-23 and <a href="#">DOE M 435.1-1 Chg 3 (LtdChg)</a>, an older rad waste manual, but not found elsewhere; per DOE O 421.1 draft, a Documented Safety Analysis generally encompasses the idea of an AB.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>B</b>                            | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Balance of Plant (BOP)              | <p>Those auxiliary or support systems that enable the primary process systems to operate. <i>E.g., the plutonium facility has an Essential Balance of Plant Group.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Baseline                            | <ol style="list-style-type: none"> <li>1. In project management, a quantitative definition of cost, schedule and technical performance that serves as a base or standard for measurement and control during the performance of an effort; the established plan against which the status of resources and the effort of the overall program, field program(s), project(s), task(s), or subtask(s) are measured, assessed, and controlled. Once established, baselines are subject to change control discipline. [<a href="#">Directives definitions</a>]</li> <li>2. In a CM sense, a specification or product that has been formally reviewed and agreed upon, that thereafter serves as the basis for use and further development, and that can be changed only by using an approved change control process. [ESM Ch. 21, SOFT-INTRO; Ch. 20]</li> <li>3. In a support to operations, maintenance, or mod sense, a set of operating readings and/or parameters taken when a system or equipment is operating under known conditions (usually new or rebuilt) used for comparing future readings to troubleshoot or assess the system/equipment health. <a href="#">DOE G 433.1-1A Chg 1 (Admin Chg)</a></li> </ol> |
| Basic Component                     | <p>A structure, system, component, or part thereof that affects its safety function, that was designed and manufactured in accordance with the requirements of ASME NQA-1, or commercial grade items which have successfully completed the dedication process. [ASME NQA-1a-2009 Subpart 2.14, AP-341-607, AP-341-610, AP-341-610, AP-341-703]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| <p>Basis of Design (BOD)</p>                                     | <ol style="list-style-type: none"> <li>1. ESM Ch. 20 r0: A controlled set of validated requirements that define the envelope of functional, performance, safety, and interface requirements with which a completed design must comply. This may also be called the Functional Specification.</li> <li>2. Per NNSA <a href="#">SD 413.3 Chg 1</a> App D guidance for capital line-item projects, the BOD maturity should be: <ol style="list-style-type: none"> <li>a. At the end of Conceptual Design: conceptual design criteria; operations, maintenance, and radiation protection requirements; scope of facilities/interface control documents; security design requirements document; system requirements identified [and, for nuclear, code of record and system design descriptions (or alternative)].</li> <li>b. At the end of Preliminary Design: Complete design criteria, system requirements identified (and COR for nuclear); and preliminary scope of facilities/interface control documents; reliability, availability, maintainability, and inspectability analysis.</li> <li>c. At the end of Construction: All the above updated to reflect the final design as constructed (memorializing any changes that occurred in final design or during construction) and issued and accepted.</li> </ol> </li> </ol> <p><i>Systems Engineering is the engineering discipline devoted to capturing and controlling basis of design, a term widely used in commercial design and, increasingly, within NNSA and LANL.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>Beneficial Occupancy;<br/>Beneficial Occupancy Date (BOD)</p> | <ol style="list-style-type: none"> <li>1. BOD: The stage of construction of a building or facility, before final completion, at which its user can occupy it for the purpose for which it was constructed. Beneficial occupancy does not imply that a project has reached CD-4. [It] is the date that follow-on contracts/activities (if any) such as information technology or furniture installations may begin. For large projects there may be multiple BODs, and the BOD does not replace CD-4... [NNSA SD 413.3 Chg1. App. A, 7.e]</li> <li>2. Beneficial Occupancy (and/or “Use and Possession prior to Completion”, or historically “Mechanical Completion”) are terms used to describe the case when LANL occupies or makes use of any part of the work prior to Substantial Completion or Final Completion.<br/><i>This does not refer to LANL Project Team members including inspectors but could include installers of LANL-furnished/installed equipment or building tenants. The presence of such personnel at the project site may cause disruption of the Subcontractor's activities and is discouraged; furthermore, such occupancy is subject to conditions set forth in the construction contract. LANL is not required to take such occupancy and may wait for Final Completion to use or occupy the site; however, if LANL decides to occupy any portion of the project space prior to Final Completion, LANL is required to issue a <u>Certificate of Beneficial Occupancy</u>. A Certificate of Beneficial Occupancy must not be issued without the concurrence of the LBO if Beneficial Occupancy occurs prior to Substantial Completion. [Adapted from UC Office of President Facility Managers Manual. “Use and Possession” is a FAR term. Archived ADPMSS Proc 606 used many of these terms. Mechanical and physical (full) completion were terms used in CM-Div CMP 300 rev 0. Concepts but possibly not terms above are used in pro forma (e.g., GC-29); ESM Ch. 16 IBC-GEN FM05; Ch. 15]</i></li> </ol> |

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| Bill of Materials (BOM);<br>Consolidated Bill of Materials (CBOM) | <ol style="list-style-type: none"> <li>1. The engineering BOM (EBOM) defines the finished product as it was designed, and lists the items, parts, components, sub-assemblies, and assemblies in the product designed by engineering. For a finished product there may be more than one engineering BOM. [National Defense Industrial Association Integrated Program Management Division Guide to the Integrated Baseline Review (IBR)]</li> <li>2. A listing to procure items based on item's make, model number, and quantities, not an item's performance specifications. [AP-341-517; LMS 01 1117] <i>May be a form (e.g., in AP-341-517) or a table (schedule) on a drawing. Bills of Materials are typically on drawings while a Consolidated Bill of Materials (CBOM; see that topic) is a project's compilation of all BOMs. CBOMs facilitate generation of a material takeoff.</i></li> </ol> <p><i>Specifying material and equipment (M&amp;E) is similar but without quantities; in the fire protection realm, this would include the info sheets on all the M&amp;E.</i></p> |
| <a href="#">Bluebeam</a>                                          | <p>Application for collaboration on pdfs, including review/markup (e.g., in the cloud using Bluebeam Studio, or a discrete Session). Bluebeam Revu is the desktop app, and there's a web-only option as well.</p> <p><i>ES Division's installable Revu landing page links to a Teams channel, training, support, tips, profiles, and useful links. Use is expected for commercial/conventional design reviews for ES-Div.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Bounding Set Points                                               | <p>These are set points to satisfy safety basis requirements, protect equipment/systems from operational damage, or other limiting values for the proper intended operation of the software. Changes to operational set points within the minimum or maximum values would not constitute a change, but rather would be considered operational use of the software. Example: Bounding set points may be minimum or maximum pressure or tank level values. [ESM Ch. 21, SOFT-INTRO]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| brownbags                                                         | <p>Short seminars, typically during the noon hour.</p> <p><i>Some call them Lunch &amp; Learns, with supplier reps or others occasionally providing food. For such for ES, see ES Learning Series.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| BUILDER-Sustainment Management System (SMS) <sup>TM</sup>         | <p>NNSA's authoritative data source for information related to condition and functionality assessments. [SD 430.1C].</p> <p><i>Engineering doesn't access the database normally, but it is used by NNSA for funding decisions, and its scope affects CMMS/MEL scope decisions in ESM Ch. 1 Section 200.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Building                                                          | <ol style="list-style-type: none"> <li>1. Any structure utilized or intended for supporting or sheltering any occupancy. [IBC-2021; it defines Structure as "That which is built or constructed."].</li> <li>2. A constructed asset that is enclosed with walls and a roof that provides space or agencies to perform activities or store materials as well as provides space for people to live or work. Fully enclosed tents and assembled modular units (triple wide or larger) are also considered buildings. [<a href="#">FIMS user guide</a>, per PD912 r0]</li> </ol> <p><i>LANL buildings are considered Federal buildings in CFR, DOJ, and other contexts, per EMRef-81.</i></p>                                                                                                                                                                                                                                                                                                                                                                                               |

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| Building Automation System (BAS)              | <p>A control system that provides temperature control to normally occupied portions of a facility. This may include, but is not limited to: HVAC equipment, power metering equipment, lighting controls, etc. It does not include Safety Significant (ML-2) or Safety Class (ML-1) control systems. [ESM Ch. 8 D3060.90]</p> <p><i>A minority in industry call this building management system (BMS).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Building Code Program                         | <p>LANL's administrative and technical provisions and amendments to the IBC and related codes and standards controlled by ESM Chapter 16. It establishes LANL as an autonomous jurisdiction, not subject to Los Alamos County or the State of NM authority in this regard.</p> <p><i>Related definitions not in this glossary may be Ch. 16 IBC-GEN or its referenced documents, including adopted/amended model codes such as the IBC, IEBC, NEC, UMC, and UPC. Program webpage within ES Division is <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Building Code Official (BCO)                  | <p>The officer or other designated authority charged with the administration and enforcement of the building code, or a duly authorized representative. The DOE Head of the Field Element or designee is the BCO, but responsibility can be delegated to another federal official or as otherwise directed by the Cognizant Secretarial Officer. [DOE-STD-1066-2023; DOE O 4320.1C].</p> <p><i>Day-to-day responsibility has been assigned by NA-LA to select LANL individuals; see <a href="#">LANL Building Official (LBO)</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Building core                                 | <p>A three-dimensional space, permeating one or more floors, and is used for the extension and distribution of utility services (e.g., elevators, washrooms, stairwells, mechanical and electrical systems, and telecommunications) throughout the building. [ESM Ch. 19, D60]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Building Information Model, or Modeling (BIM) | <p>A digital representation of physical and functional characteristics of a facility, facility systems in or around them, or infrastructure systems. A BIM is a shared knowledge resource for information about a facility, forming a reliable basis for decisions during its life cycle; defined as existing from earliest conception to demolition. [CSM Section 400 r0]</p> <p><i>Typically, BIM is authored by 3D CAD software with interactive ("smart") objects that includes or may interface with a database of object attribute data. This is the key component of a virtual build environment (VBE, see that definition). Autodesk Revit® is currently the BIM standard software within LANL.</i></p> <p><i>Virtual Design and Construction (VDC) is a similar concept to VBE and may include virtual reality and 4D (time) simulations to plan, design, and manage construction projects more efficiently. ALDICP has an initiative for VDC under Pilot tab <a href="#">here</a> (e.g., VAR-24-002; WI-100-005 VDC BEP WI; Section N)</i></p> |
| Building Official                             | <p>See <a href="#">LANL Building Official (LBO)</a> herein.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Building Services                             | <p>Plumbing, heating, electrical, ventilating, air conditioning, refrigerating, controls, fire alarm and suppression, elevators, boilers, pressure vessels, telecom/data, building security systems, and other mechanical and electrical systems or components required to make a facility fully functional for the required occupancy. [ESM Ch. 16 IBC-GEN]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Buy American Act (BAA)                  | <p>The BAA ... provides a preference for domestic end products for supplies acquired for use in the U.S. ... In summary, domestic end products and domestic construction materials include:</p> <ul style="list-style-type: none"> <li>• unmanufactured end products or construction materials mined or produced in the U.S.; and</li> <li>• end products or construction materials manufactured in the U.S., provided that construction material (is) manufactured in the United States, if– <ul style="list-style-type: none"> <li>- The cost of its components mined, produced, or manufactured in the United States exceeds ... 65% for items delivered in calendar years 2024–2028 and 75% for items delivered starting in CY 2029, or</li> <li>- the product is a commercial off-the-shelf (COTS) item. ...</li> </ul> </li> </ul> <p>Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic. <a href="#">[BUS-ASM-DO-0001, Procurement Policy and Procedure Manual, PP 25.0, more detail there]</a></p> <p><i>Contact ASM regarding determinations for exceptions (non-availability, also cost &gt;6% more or not in best interests). They need not document determinations below \$10k. [PP 13.2]</i></p> |
| <b>C</b>                                | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CAD Standards Manual (CSM or LCSM)      | <p>LANL's criteria for drawings (computer aided design), plus sketch guidance, for utilities, buildings, and related systems primarily, web posted as <a href="#">STD-342-300</a>. <i>Focused on Autodesk products; includes BIM direction in CSM Section 400.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Calculation                             | <p>Formal procedure of calculating (i.e., determining something by mathematical or logical methods) and/or problem-solving that involves numbers or quantities.. <a href="#">[AP-341-605]</a> <i>For the AP, the doc type is "CAL-".</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Cameo Systems Modeler                   | <p>A "cross-platform collaborative Model-Based Systems Engineering (MBSE) environment...to define, track, and visualize all aspects of systems in ... SysML models and diagrams." <a href="#">[Dassault Systèmes No Magic Inc. CATIA brand]</a></p> <p><i>Preferred software for ESM Ch. 20 SE work; used by PIE, Q-Div, PRRO ...</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Capital Asset Project (Capital Project) | <p>A project with defined start and end points required in the acquisition of capital assets. The project acquisition cost of a capital asset includes both its purchase price, and all other costs incurred to bring it to a form and location suitable for its intended use. It is independent of funding type. It excludes operating expense-funded activities such as repair, maintenance or alterations that are part of routine operations and maintenance functions. <a href="#">[DOE O 413.3B Chg 7 (LtdChg), Program and Project Management for the Acquisition of Capital Assets]</a> <i>Capital Project is the commonly used shorthand.</i></p> <p><i>Capital assets include land, structures and equipment (excluding software) that have a useful life of two years or more. Capital asset projects have an estimated cost greater than \$500,000. <a href="#">[SD350 r13]</a> Because capital assets/projects are accounted differently from pure operating expense, the phrase "color of money" is sometimes used to describe this distinction.</i></p>                                                                                                                                                                                                                            |

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| Certificate of Analysis (C of A) | <p>A certified report for gases or other chemicals, detailing chemical properties of the material(s) for which they are required, and in accordance with the applicable consensus standards (e.g., ISO 6141, 8573.1; ANSI/CGA stds). [adapted from P841-1, <a href="#">IQPA-IQ-FD-105</a> QD-18]</p> <p><i>FYI, gas purity refers to the percentage of a single gas in a mixture, while quality encompasses factors like contamination levels, delivery, and consistency.</i></p> <p><i>See also and adapt usage notes for Certified Material Test Report below.</i></p>                                                                                                                                                                                                                         |
| Certificate of Occupancy (CoO)   | <p>Process/Form for LANL Building Official acceptance of projects (generally only the highest risk category of same). [ESM Ch. 16 IBC-GEN &amp; Form 5; AP-350-40X]. <i>Captures supporting signatures and includes an optional wall placard. An optional, detailed pre-CoO checklist is web posted with it. Recent CoOs are posted as signature items by year <a href="#">here</a>.</i></p> <p><i>Outside LANL, “C of O” is most common; <a href="#">NMAC 14.5.3.13</a> uses “C/O”; some use CO.</i></p>                                                                                                                                                                                                                                                                                        |
| Certification                    | <ol style="list-style-type: none"> <li>1. General: The act of determining, verifying, and attesting in writing to the qualifications of personnel, processes, procedures, or items in accordance with specified requirements. [NQA-1, Part I, Introduction, 400]</li> <li>2. For personnel qualification: Possessing a certificate or certification document issued by a recognized authority attesting that a worker has been trained and/or tested and is competent and qualified to perform specific tasks or operate specific equipment. [adapted from LANL Definition of Terms]</li> </ol> <p><i>Certain DOE O 426.2 positions require certification as defined by that order, but none are within facility engineering.</i></p>                                                            |
| Certification Document           | <p>A document, regardless of title, signed or otherwise authenticated by an authorized representative of the certifying entity, certifying that a particular batch, lot, item, or service was manufactured/performed in accordance with and/or meets specific requirements contained in applicable codes, standards, specifications, or other published requirements. Examples include Certificate of Test and Certificate of Compliance (CoC). [aligns with <a href="#">IQPA-IQ-FD-105 r1</a> Ex. H – Part 1 (associated with P841-1)]. [LMS 01 4216r3] <i>Certification documents should be based on applicable codes or standards whenever possible (some have specific content requirements). For nuclear applications see <a href="#">NQA-1 Certificate of Conformance (C of C)</a></i></p> |

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| Certified Material (or Mill) Test Report (CMTR)      | <p>Report detailing physical and chemical properties of the material(s) for which they are required, and in accordance with the applicable national or international material standards (e.g., ASTM, ANSI) for the material type. CMTRs (material or mill) must be the results of test performed by the material manufacturer or by a material verification process, if such a process is allowed by the standard governing the material type and must specify the test method and the source of the acceptance criteria. Each CMTR must be signed by an authorized representative of the testing entity, be traceable to the materials delivered via heat, lot, or other identification, and must meet any content requirements of the applicable national or international standards invoked for the material type. [adapted from P841-1, <a href="#">IQPA-IQ-FD-105</a> QD-05].</p> <p><i>Usage guidance: When CMTRs are requested through Exhibit H – Part 1 for Standard Procurements (or otherwise), requestor should indicate the material(s) for which they are required and the consensus standard(s) to be met or provide references to Statement of Work (SOW) or specification section(s) where information is provided. If/when spelling out term, choose “Material” or “Mill” coinciding with referenced standard usage, with Mill typically for metals and Material generically or when unsure. CMTRs are evidence (data), and generally superior to CoC-type certification documents that are merely attestations. [LMS 01 4216r3; ESM Ch. 13, Vol. 1, 1-99]</i></p> |
| Change of Occupancy                                  | <p>Any of the following shall be considered as a change of occupancy where the [currently adopted] IBC requires a greater degree of safety, accessibility, structural strength, fire protection, means of egress, ventilation or sanitation than exists in the current building or structure:</p> <ol style="list-style-type: none"> <li>1. Any change in the occupancy classification of a building or structure.</li> <li>2. Any change in the purpose of, or a change in the level of activity within, a building or structure.</li> <li>3. A change of use. [IEBC-2021; ESM Ch. 16 IBC-GEN PPD form FM01]</li> </ol> <p><i>Must follow IEBC Ch. 10 (as well as other chapters when also an alteration).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <a href="#">Chicago Manual of Style</a> , The (CMOS) | <p>Lab standard for grammar and punctuation (except for news stories that follow the Associated Press Stylebook). [CEA Guides + Templates <a href="#">website</a>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Chief Inspectors (LBO)                               | <p>Selected individuals assigned by the LBO to oversee inspection functions day-to-day. [ESM Ch. 16 IBC-GEN]</p> <p><i>These are reflected on the <a href="#">Building Code program</a> website (e.g., organization chart) and/or elsewhere such as the <a href="#">Listing of LBO-Approved IBC Testing, NDE, and Inspection Agencies; Fabricators; and Products</a>. The Welding and NDE program owners for ESM Ch. 13 serve as SMEs/Chief Inspectors for those functions.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Chief Engineer                                       | <p>Broadly, an individual or office assigned by the line organization to fulfill specific technical duties in an organization.</p> <p><i>Within CoE, PD340 r8 equates the Chief Engineer position with Facility Design Authority (FDA); there are currently two people with this combined role, one within PFE and the LANL Site Chief Engineer within ES-Div, both assigned by ALDFO. P342 describes the LANL Site Chief Engineer as the technical authority on issues relating to national codes and standards, and the safety management program owner for the engineering and pressure safety functional areas.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Child Documents      | <p>Some engineering documents (primarily design revision documents) have a child relationship to a parent document. They are given names with sequential numbers that are paired with their parent documents.</p> <p><i>Examples of child documents are Field Change Requests (FCRs), Design Revision Notices (DRNs), and Design Information Transmittals (DITs). [AP-341-402]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| C number (C#)        | <p>CXXXXX- is the unique alphanumeric construction drawing number [CAD Stds Manual Section 200 r5 Table 202-1]</p> <p><i>Usage is described by Table 202-2, and the SharePoint Eng Document numbering <a href="#">page</a> assigns/logs them.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Code                 | <p>National or international consensus document adopted as an ordinance relating to building or system construction and occupancy, and administered for the protection of health, safety, and welfare. [ESM Ch. 13, Vol. 1, 1-99]</p> <p><i>LANL adopts codes (and standards) through the Engineering Standards, not ordinance. A subset, “model” building codes such as IBC and others, are typically amended when adopted; LANL does this through the ESM (ref. Ch. 16, IBC-GEN, Att. A LBC), whereas ASME codes are not commonly amended.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Code of Record (COR) | <p>A set of design and operational requirements, including Federal and state laws, in effect at the time a facility or item of equipment is designed and accepted by DOE. The COR is (i) initiated during the conceptual design phase, placed under configuration control to ensure it is updated to include more detailed design requirements as they are developed during preliminary design, (ii) controlled during final design and construction with a process for reviewing and evaluating new and revised requirements to determine their impact on project safety, cost, and schedule before a decision is taken to revise the COR, and (iii) maintained and controlled through facility decommissioning. The COR may be defined in contracts, Standards, or Requirements Identification Documents (or their equivalent), or project-specific documents. [DOE-STD-1189-2016].</p> <p><i>DOE Orders and CFRs should generally not be listed in the COR proper, except below a note as follows:</i></p> <p><b>DOE and NNSA Directives (For Reference Only)</b><br/> <i>Following the COR listing above will implement the design and quality criteria of the Contractor Requirements Documents of the following DOE and NNSA mandates. As such, they are not part of the formal COR, nor do they directly impose design criteria on the project.</i></p> <p><i>A similar COR approach could/should be used if, for example, a conventional-type project criteria (e.g., TSM) contained the technical requirements to achieve compliance with a code or standard but didn't impose it directly.</i></p> <p><i>Also, in the COR, when LMS and Std Detail collections are listed, the date should be “various” since later editions are often acceptable/preferred. Single Std. Details/dates can be listed if highly important; however, the project record spec's sections capture the template editions used so need not be listed (and both can be inferred from revision history).</i></p> <p><i>For fire COR, see also DOE O 420.1C, Chg 3 [Att. 2 Ch. II, 3.a.(2)(a)] and ESM <a href="#">Ch. 2</a>, Att. 1, Adopted Editions of NFPA Fire Protection Codes, Standards, and Recommended Practices.</i></p> <p><i>See also ESM Ch. 1, <a href="#">Z10</a> article on this topic, and AP-341-517, 602]</i></p> |

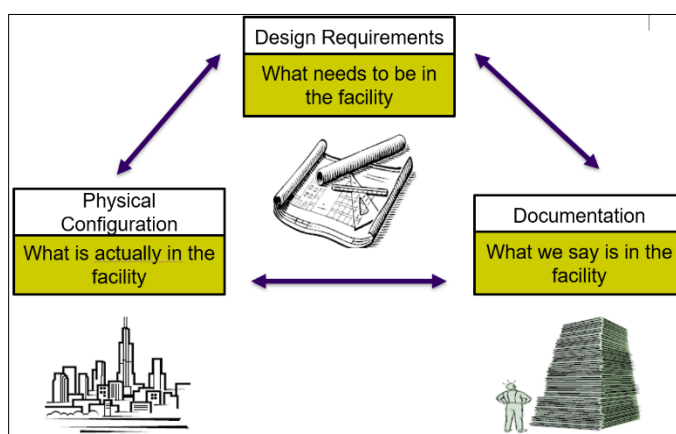
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| Code of Federal Regulations ( <a href="#">CFR</a> )                                     | <p>The official legal print publication containing the codification of the general and permanent rules published in the <i>Federal Register</i> by the departments and agencies of the Federal Government.</p> <p><i>LANL follows DOE-related (Title 10; some via NNSA references <a href="#">here</a>) and others (e.g., OSHA Title 29). Clarifications on Title 10 CFRs browsable and searchable at EHSS <a href="#">PC Portal</a>. See also “Applicable” herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Cognizant System Engineer (CSE)                                                         | <p>Involved in the planning and execution of maintenance activities affecting their assigned systems. Must have knowledge of the assigned system’s safety design basis and operating limits from safety analysis. Lead responsibility for configuration management of design. Each Vital Safety System (VSS) is assigned a qualified CSE, some may require an assignment of more than one based on a graded approach. A single CSE may be assigned to multiple systems. Applies to Safety Class and Safety Significant systems (active and passive) as defined in the facility’s NNSA-approved safety basis, as well as to a subset of Other Hazard Controls (OHC) systems. [P341; DOE O 420.1C]</p> <p><i>CSEs have been determined to be “Technical Staff” positions as per DOE O 426.2, having increased training and qualification versus a Plant System Engineer. [CSE-QS-004-R3] <a href="#">CSE Assignment/ Qualification Listing</a> on CoE Resources webpage.</i></p> |
| Collocated SSCs                                                                         | <p>SSCs that are located near important SSCs such that changes to these SSCs could negatively impact the safety or mission of the facility or activity or function of the important SSCs. [DOE-STD-1073-2016, <i>Configuration Management</i>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Comma — serial, Oxford, or Harvard                                                      | <p>The final comma in a list of things. In the comma usage to the left, the Oxford comma is the one right after Oxford. [adaptation of <a href="#">What Is the Oxford Comma (or Serial Comma)?   Grammarly</a>]</p> <p><i>Because LANL uses the Chicago Manual of Style for technical writing, the Oxford comma should be used. Ref. CMOS <a href="#">6.140</a> Run-in Lists. News stories don’t use it (they follow Assoc. Press or NYTimes style).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Commercial, commercial-type, and Commercial construction (CC) implementation initiative | <p>In NNSA, it is considered “practices for non-nuclear, non-complex real property capital asset design and construction that are more like those commonly associated with non-DOE practices.” [derived from NNSA SD 413.3-7]</p> <p><i>These would include standards; quality; inspection and oversight processes; and expectations regarding these.</i></p> <p><u>NOTE: LANL also uses the term conventional construction, so see that term herein.</u> <i>This is because, in the AECO industry, commercial often connotes buildings typically suitable for producing income from commerce (the sale of goods or services, aka mercantile, or even “commercial nuclear”), and distinct from other types industrial, storage, factory, residential, educational, institutional, or utilities — and SD 413.3-7 allows the lower-risk projects of these other categories.</i></p>                                                                                              |
| Commercial Grade Dedication (CGD)                                                       | <p>See Dedication.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Commercial Grade Item (CGI)                                                             | <p>A structure, system, or component (SSC) or part thereof that affects its safety function that was not designed and manufactured in accordance with the requirements of ASME NQA-1. [AP-341-607, AP-341-610, AP-341-703]</p> <p><i>See also <a href="#">Dedication</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Commercial Grade Service (CGS) | A service that was not provided in accordance with the requirements of ASME NQA-1 that affects the safety function of a basic component. (ASME NQA-1a-2009 Subpart 2.14) [AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Commingle                      | The ability of an individual in or from a radiologically controlled area and an individual in an uncontrolled area to come in contact with each other. [ESM Ch. 11]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Commissioning (Cx)             | <p>1. A collaborative, quality-driven, systematic process that focuses on verifying and documenting that a building and all its commissioned systems are planned, installed, inspected, tested, operated, and managed as designed. [ESM Ch. 15]</p> <p>2. A systematic process of assuring, by verification and documentation, from the pre-design phase to a minimum of one year after construction, that all facility systems perform interactively in accordance with the design documentation and intent, and in accordance with LANL's operational needs [ESM Ch. 1, Z10]. <i>Beyond a year, systems can be periodically recommissioned. Or, if Cx was never performed, retro-commissioned.</i></p> <p><i>Typical steps for commissioning a system (credit: P341 r7):</i></p> <pre> graph TD     A[Testing and Acceptance of equipment and components per Part 3.0 of construction specifications] --&gt; B[Test, Adjust, and Balance Ventilation and Hydronic Systems]     A --&gt; C[Test Instrumentation Loops]     A --&gt; D[Electrical Acceptance Test]     A --&gt; E[Preoperational Acceptance Test of Processes]     B --&gt; F[Integrated System Acceptance Test]     C --&gt; F     D --&gt; F     E --&gt; F   </pre> |
| Competent                      | Individuals or groups with the necessary ability, knowledge, and/or skill to complete a task successfully. [NQA-1; AP-341-605]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Component                      | Part or assembly of parts within a structure, system, or piece of equipment. [ESM Ch. 1, 200; AP-341-502] <i>In the CMMS/MEL, these can/should generally be handled as spawned from Equipment.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

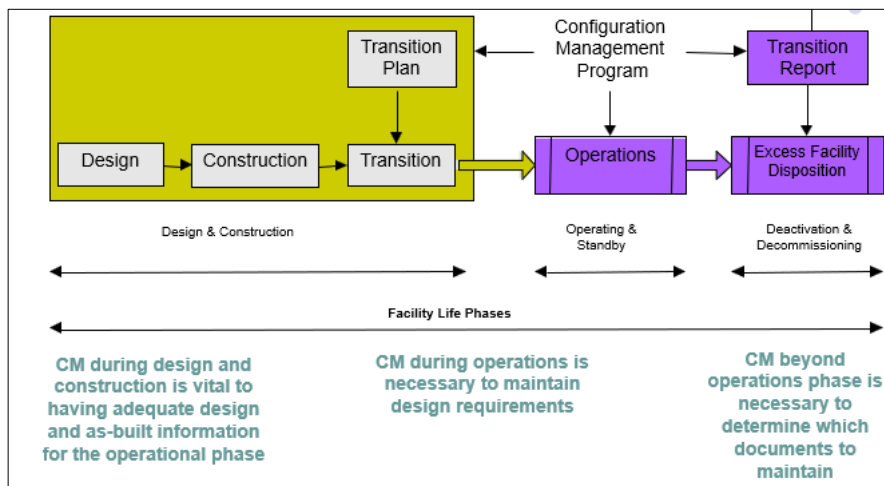
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| Component Configuration Datasheet (CCD)           | The document used for documenting both the component nameplate data and the independent verification. The CCD is also the mechanism for identifying missing nameplates or for transferring acquired data into the SSC technical baseline documents. [AP-341-510]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Component Testing (Pre-functional testing)        | <p>Tests performed to demonstrate specific equipment functionality and documentation of results via formal test records or installation data sheets. [ESM Ch. 15; LMS 01 9100]</p> <p><i>The individual pieces of equipment are confirmed to be capable of performing in accordance with the specifications, drawings, and manufacturer's requirements. The information recorded on the data sheet provides baseline data for future re-evaluation of the components or systems.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Compliance                                        | <p>The act of complying with a wish, request, or demand; acquiescence. [Am. Heritage Dictionary].</p> <p><i>In conduct of operations, engineering, and maintenance, the expectation is "thinking compliance" whereby direction is either met verbatim or, when it is unclear or appears unsensible, user stops for clarification or change. "Malicious compliance" is complying verbatim while knowing there is a better way and not getting permission to do otherwise.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Computerized Maintenance Management System (CMMS) | <p>Application that includes the Master Equipment List (MEL) and facilitates work, history-keeping, and other functions.</p> <p><i>LANL's CMMS includes the primary application, Asset Suite Enterprise Asset Management (EAM) v9 [AS9] from Hitachi ABB Power Grids, and also ABB's <a href="#">eSOMS</a> (many life safety inspections), which in total capture the MEL. [ESM Ch. 1, 200]</i></p> <p><i>Maintained by <a href="#">MSS-CMMS</a>; access from there or <a href="#">MSS homepage's</a> AssetSuite button. There's also a MicroStrategy dashboard available from the same webpages. AS9 and CMMS Desk Guides <a href="#">here</a>. Help via <a href="mailto:cmms-support@lanl.gov">cmms-support@lanl.gov</a></i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Conceptual Design, CD Phase                       | <ol style="list-style-type: none"> <li>1. The Conceptual Design process requires a mission need as an input. It is the exploration of concepts, specifications and designs for meeting the mission needs, and the development of alternatives that are technically viable, affordable and sustainable. The conceptual design provides sufficient detail to produce a more refined cost estimate range and to evaluate the merits of the project. [DOE O 413.3B Chg 7 Att 2 #15]</li> <li>2. Project design phase that culminates in the development of the design basis for the preferred design concept to proceed into preliminary design. (Paraphrased from DOE-STD-1189). <i>The end of conceptual design is marked by CD-1 approval for line-item projects and is approximately equivalent to 30% design completion for smaller projects. [AP-341-620]; however, per NNSA <a href="#">SD 413.3 Chg1</a> App. D, a CDR is produced for CD-1 (normally 15% of the overall project design effort, and 30% if nuclear.</i></li> <li>3. The phase of system/facility acquisition that develops a conceptual design package that fully specifies the final product to be developed and provides concept-level designs for facility and process. During this phase, the number and type of facilities and systems are identified for further development, with preliminary requirements being developed for each. (Begins when Critical Decision 0 [CD-0] is received, ref. DOE O 413.3). [ESM Ch. 20]</li> </ol> |

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| Conceptual Design Report (CDR)      | <p>[The result of a conceptual design effort,] a document that describes the project in sufficient detail to produce a budget cost estimate and to evaluate the merits of the project. <a href="#">[DOE G 430.1-1, Cost Estimating Guide]</a></p> <p><i>Typically includes basis-of-design material (see herein), drawings, and preliminary calculations.</i> [ESM <a href="#">Ch. 1</a> Z10 Att. C rev.9 draft]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Conditional Release (CR)            | <p>A controlled, documented, and approved release of a nonconforming item by the [Owning Manager (OM)] for limited use (pending final disposition and closure of the NCR), which permits the continuation of construction, installation, maintenance, operations, or modification. Items conditionally released continue to be nonconforming and must be controlled and dispositioned. [P330-6 r17]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Conduct of Engineering (CoE or COE) | <ol style="list-style-type: none"> <li>1. Formality of operations program focused on appropriate engineering conduct (e.g., function, activities, standardization, rigor); a corollary to conduct of operations, maintenance, and training programs.</li> <li>2. Relating to “the processes and procedures affecting conduct of engineering, engineering technical support, and configuration management ... the processes, procedures, and appropriate training modules that apply cost effective applications to meet DOE requirements for the execution and control of nuclear and commercial/industrial designs and the methods to maintain those designs.” [archived DOE <a href="#">G 440.1-8</a>, Att. 1 Example A (SRS) Charter 6.32]</li> <li>3. A process of disciplined management of engineering technical resources and processes to meet the customer’s design, operational, environmental, safety, and security objectives in a responsible and quality manner. <i>This discipline is achieved through execution of engineering principles, policies, programs, standards, training/qualifications, and meeting management expectations. Foundations of CoE are Design Authority, Configuration Management, Integrated Safety Management, Design Process, and Graded Approach.</i> [EFCOG EPSG CoE course slides 9/2020]</li> </ol> <p><i>Term possibly from nuclear Navy, INPO, or SRS and their E7 Manual.</i></p> <p><i>LANL’s ConOps <a href="#">webpage</a> speaks to “a philosophy of formalized, disciplined work that aims to achieve operational and programmatic excellence. ConOps is a methodology for ensuring operations and programmatic activities are performed safely and securely in accordance with applicable codes, standards, DOE directives, and sound business practices.” CoE could be defined similarly, but with “engineering” substituted for “operational and programmatic.”</i></p> |

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| Conduct of Engineering Office (CoE, CENG, or CENG-OFF) | <p>The ES Division organization per PD340, <i>Conduct of Engineering and Configuration Management for Facility Work</i>, Rev. 8 charged its administration. <i>CENG manages the three traditional CoE programs — Engineering Standards (supporting engineering throughout LANL) and the Engineering Processes and Engineering Training and Qualification programs (facility and hazardous process work). CENG-OFF was formerly in LANL organizational listings, so that or simply CENG still appears in many documents.</i></p> <p><i>In the context of approvals, CENG refers to the Office Director (lately a group leader who's staff is mostly in ES-FE or deployed to him/her).</i></p> <p><i>The CoE <a href="#">webpage</a> also hosts links to other technical programs based in ES-OPS: Pressure Safety; Welding, Joining, and NDE; and Building Automation and Data Acquisition Systems.</i></p> <p><i>Click here to <a href="#">Request a Website Update</a> (but CoE technical document update suggestion links are on those programs' pages).</i></p> |
| Configuration Item                                     | A collection of hardware or software elements treated as a unit for the purpose of configuration control. [ESM Ch. 21, SOFT-INTRO]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Configuration Management (CM)                          | <ol style="list-style-type: none"> <li>1. In general, a disciplined process that involves both management and technical direction to establish and document the design requirements and the physical configuration of the facility or activity and to ensure that they remain consistent with each other and the documentation. [DOE-STD-1073; PD340 r8]. <i>DOE-STD-1073 is required for nuclear projects per DOE O 413.3B and is a safe harbor for the CSE Program per DOE O 420.1C.</i></li> <li>2. In software quality, the process of identifying and defining the configuration items in a system (i.e., software and hardware), controlling the release and change of these items throughout the system's life cycle, and recording and reporting the status of configuration items and change requests. [ESM Ch. 21, SOFT-INTRO]</li> </ol> <p><i>See graphics that follow.</i></p>                                                                                                                                                                        |



**CM Basics: Maintaining Agreement Among Three Regimes**  
 (true "as-built" documents definitively ensure/portray this)



### CM in the Facility Life Cycle

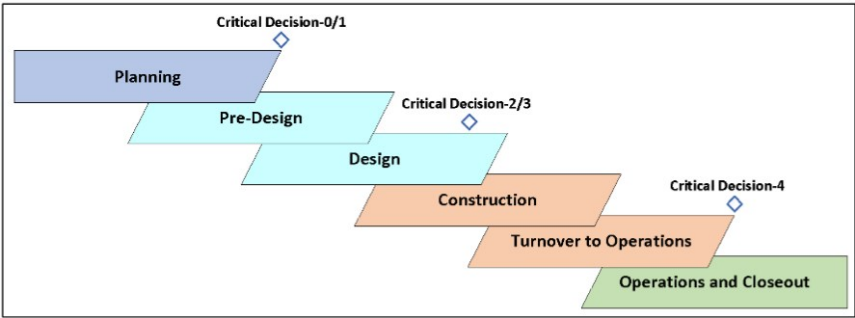
Credits: P341 and EFCOG EPSG CoE course slides 9/2020

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| Configuration Management Plan (CMP)   | <ol style="list-style-type: none"> <li>For projects: A plan to ensure and document that all components of a project interface both physically and functionally. [DOE G 430.1-1, Cost Estimating Guide]</li> <li>Per DOE-STD-1073-2016 (§1.2), a CMP: <ul style="list-style-type: none"> <li>Defines the key roles and responsibilities for CM;</li> <li>Identifies the structures, systems, and components (SSCs) and credited controls to be included in the CM process, as well as the basis and justification for the selection;</li> <li>Addresses how each of the key elements of CM will be met;</li> <li>Defines how interfaces are controlled; and</li> <li>Describes how the graded approach is applied to the CM process.</li> </ul> </li> </ol> <p><i>For capital projects, DOE-STD-1073-2016 is required per DOE O 413.3B (Att 1 CRD #9), and the STD requires a CMP.</i></p> <p><i>For an operating facility, the STD is cited as an acceptable approach to the CM required by DOE O 420.1C (Att 2, Ch. V. CSE Program, 3.c). While following CoE APs and other LANL processes ensures many aspects of CM, CoE also has a CMP template <a href="#">here</a> (potentially adaptable to a capital project).</i></p> |
| Confirmatory Testing                  | <p>Confirmatory testing consists of laboratory or field measurements conducted in accordance with P330-8, <i>Inspection and Test</i> that investigate the properties of interest (e.g., physical, chemical, geologic, mechanical, electrical, etc.) [AP-341-513]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Consolidated Bill of Materials (CBOM) | <p>Product bill of materials defining process materials, calibrated items, floor stock/shop aids, and tooling used for procurement and product planning. See also <i>Bill of Materials</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Constraints ( <i>design</i> )         | <p>Defining factors and requirements that limit the design flexibility. Constraints are normally provided in the form of laws, regulatory standards, national consensus codes, and LANL Engineering Standards. [AP-341-602]</p> <p><i>See graphic at Design Process. Constraints are also mentioned at Design Verification, <a href="#">Functional Specification</a>, and Interface Requirement.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Constructability                      | <p>A project management concept that measures how easily, efficiently, and environmentally friendly a building can be constructed. It's a way to evaluate a project's design to ensure it's feasible, practical, and effective. Constructability is typically assessed during the preconstruction phase of a project ...</p> <p>Constructability reviews are typically conducted by a team of construction experts who review a project's drawings, specifications, and other documentation. The goal is to identify any problems that might make the project difficult or impossible to build. [Google AI overview]; <a href="#">AP-350-303</a> r2.1.</p> <p><i>Beginning 2025, these reviews may be documented separately from the traditional design review. Discussed <a href="#">here</a>.</i></p> <p><i>ES Div has DI-ES-PD-312, <a href="#">Field Engineering Constructability Design Review</a> and <a href="#">DI-ES-EPD-003</a>, Risk Assessment, Design Quality &amp; Constructability.</i></p>                                                                                                                                                                                                                                                                                                                                                                                     |
| Construction Administration           | <p>When used at LANL, the tasks predominantly performed by the design agency and/or LANL project engineer during construction.</p> <p><i>Design Agency scope examples: Review and approval of submittals; RFI and SDDR review, disposition, and incorporation as part of the design or design changes; review/comment on change order requests affecting design scope or quality; processing of non-conformance reports; creation, review, disposition and incorporation of design revision documents including DRNs and FCRs; seismic anchorage and bracing design of non-structural (e.g., architectural, mechanical and electrical) components (if not completed in design phase) and assistance with IBC Ch. 17 Special Tests per structural observation where required by ESM Chapter 16, and typical standard-of-care observation of work in general for other disciplines for conformance to design; project close-out activities which include participating in the final inspection; preparation of record documents including updated drawings. [ESM Ch. 1 Z10 Att. C]</i></p> <p><i>Note: This is related to but not identical to the CSI-defined role of Construction Contract Administrator since that role often also includes the owner relying more heavily on the A/E for contract-cost-related matters that LANL reserves for the STR or ASM procurement specialist.</i></p> |
| Construction Documents                | <ol style="list-style-type: none"> <li>1. In the usual, physical sense: The written and graphic documents prepared or assembled by the A/E [and, at LANL, ASM] for communicating the project design for construction and administering the construction contract. [CSI PRM]. <i>For LANL self-perform work, the work package is the contract.</i></li> <li>2. In a process sense: In a non-DOE/NNSA environment, this may refer to the phase following design development (DD) wherein the owner is satisfied with the DD documents and the design agency moves forward and produces a design with greater detail. [adapted from AIA's <a href="#">Defining the architect's basic services</a>]. <i>In typical DOE/NNSA/LANL terms, this is the Final Design phase (see "<a href="#">Project Phases</a>" for an overview of phase terms).</i></li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Construction Industry Institute (CII) | <p>CII, based at UT-Austin, is the "research and development center for the capital projects industry." To join <a href="#">here</a>, see instructions under Resources tab <a href="#">here</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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| Construction Non-Compliance Report (CNCR)                     | Like a nonconformance report (NCR) but optionally used in projects under the Commercial Construction initiative. [CI-CNCR Guidance Document]<br><i>Used by design-build team in lieu of <a href="#">2276 - Subcontractor Nonconformance Report (NCR)</a>, and with LANL copied.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Construction Service Request ( <a href="#">CSR</a> )          | Initiating/tracking document for the LANL Construction Management (CM) team to provide self-performed or subcontracted services in construction, environmental, or programmatic areas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Construction Specifications Institute ( <a href="#">CSI</a> ) | A national not-for-profit association of more than 6,000 members dedicated to improving the communication of construction information throughout continuous development and transformation of standards and formats, education, and certification of professionals to improve project delivery processes. [CSI]<br>CSI specification format means the division/section numbering of MasterFormat (defined <a href="#">here</a> , numbering <a href="#">here</a> ), the 3-part and article heading outline of SectionFormat and, generally, the formatting guidance in PageFormat. [ESM Ch. 1, Z10 Att. F]                                                                                                                                                                                                                                                                                                   |
| Construction Subcontractor (C.S.)                             | The Constructor, when subcontracted (see below).<br><i>It is not widely abbreviated, but security designs (e.g., by SO-SS) often do so.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Constructor                                                   | Entity performing fabrication or physical construction activity. When not LANL self-performed, this is the Subcontractor. <i>Term used primarily in the Engineering Standards but typically not in contract pro forma (boilerplate), which uses "SUBCONTRACTOR" rather than Constructor, Builder, or General Contractor (GC).</i> [ESM Ch. 1, Z10; LMS 01 4216]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Contract                                                      | A mutually binding, legal agreement in which the seller furnishes supplies or services (including construction) and the buyer pays for them. Contracts include (but are not limited to) awards and notices of awards, job orders or task letters issued under basic ordering agreements (BOAs), letter contracts, or purchase orders. [ <a href="#">BUS-ASM-DO-0001</a> , <i>Procurement Policy and Procedure Manual</i> , 2.0, 2025-3]                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Contractor                                                    | Any entity under contract with the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) with the responsibility to perform activities at a DOE/NNSA site or facility.<br>At LANL, this is Triad, the prime contractor to NNSA. <i>ASM's procurement terms and conditions aka pro forma (aka boilerplate) formats it as CONTRACTOR; this may be a Triad employee or someone in Triad employ — as opposed to a constructor or vendor engaged by LANL, and thus a subcontractor to NNSA (i.e., SUBCONTRACTOR).</i><br>In very old LANL Standards documents, Contractor may still be in use as the subcontracted entity performing the work; correct to Subcontractor or seek clarification by RFI. <i>When the intention is that a task is performed by Triad, then the term LANL is preferred over Triad or Contractor in design outputs since timeless and clear.</i> [ESM Ch. 1, Z10] |
| Contractor Readiness Review                                   | In the readiness processes of PD115, upon completion of the MSA, the Contractor RR, either a Contractor Operational Readiness Review (CORR) or a Contractor Readiness Assessment (CRA), is performed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Contractor Requirements Document (CRD) | An attachment to a directive that states the parts of the directive that apply to contractors. Where required, a CRD is included as [an attachment] to a directive. CRDs can be unilaterally inserted into contracts that include DEAR 970.5204-2, <i>Laws, Regulations, and DOE Directives</i> , in accordance with that clause. The clause requires the Government to give the contractor time to identify the effect on the contract, including any increased costs or need for revision to the contract's incentives. For contracts not subject to DEAR 970.5204-2, the CRD may be bilaterally (that is, with the contractor's agreement) incorporated into the contract. [DOE O 251.1D AdmChg1]                                                                                                                                                                                                                                                                                           |
| Conventional Construction (CC)         | <p><u>NOTE: LANL at time uses this term rather than commercial construction (see <a href="#">herein</a>)</u></p> <p>Regardless of term, this concept "...introduces new-to-LANL delivery strategies to improve every phase of construction—planning, design, engineering, procurement, field execution, and transition to operations. Focused on projects that are lower in complexity, suited to standard industry construction methods, and present low hazards, this approach streamlines execution ..." [<a href="#">CC webpage</a>, 2025-8]</p> <p><i>This is LANL's implementation of NNSA's SD 413.3-7 [and previous Enhanced Minor Construction and Commercial practices initiative (EMC<sup>2</sup>)] and ALDCIP Director's <a href="#">memo</a>.</i></p> <p><i>Engineering-related CC practices are per the ES-led Commercial Implementation (CI) initiative including the "Commercial Implementation Handbook" and tools on the LBO webpage, directly <a href="#">here</a>.</i></p> |
| Corroborating Data                     | Corroborating data are existing data or newly developed data that are used to support or substantiate other existing data. [AP-341-513]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Credential                             | <p>Under the CoE training and qualification program, the result of completing a Training Standard for a position that is not subject to DOE O 426.2A <a href="#">Chg 1</a> (AdminChg), <i>Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities</i>.</p> <p><i>This term is for "non-qualified" positions — as opposed to "qualification/qualified" for DOE O 426.2 (nuclear safety basis affecting) positions requiring same based on qual standards. Candidate facility engineer position types: design, plant system, project, others (and roles such as pressure safety officer).</i></p>                                                                                                                                                                                                                                                                                                                                                |
| Credited                               | An adjective to describe a control that has been applied in hazard or accident analysis to reduce the likelihood of an event or mitigate the consequences (e.g. safety class SSCs, safety significant SSCs or SACs). [DOE O 421.1 draft 2023-11-16]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Critical Characteristics               | <p>An item's identifiable and measurable attributes necessary for the item to perform its intended safety function. Includes item's part number, identification markings, physical characteristics, and performance characteristics.</p> <p>Important design, material, and performance characteristics of a commercial grade item that, once verified, will provide reasonable assurance that the item will perform its intended safety function. [NQA-1, AP-341-607, AP-341-610, AP-341-703]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Critical Decision (CD)                       | <p>DOE/NNSA approval for a line-item project to proceed to the next phase. From <a href="#">RN350-02</a>:</p>  <ol style="list-style-type: none"> <li>0. CD-0 is Approve Mission Need <i>[conceptual design can then begin; that represents about 30% of the overall design effort]</i>.</li> <li>1. CD-1 is Approve Alternative Selection and Cost Range. <i>[Thus, preliminary design aka design development can begin; this results in 60% maturity]</i>.</li> <li>2. CD-2 is Approve Performance Baseline (definitive scope, schedule and cost baselines have been developed, and the project is ready for implementation. <i>[This authorizes detailed design aka construction document phase, which progresses design to a 90% complete level]</i></li> <li>3. CD-3 is Approve Start of Execution [e.g., construction], <i>[Design is 90% complete]</i></li> <li>4. CD-4 is Approve Start of Operations or Project Completion. <i>[Design is 100% complete]</i></li> </ol> <p>[DOE O 413.3; ESM Ch. 1, Z10]<br/> Summary of major related tasks here: <a href="#">Bp259 Capital Asset Preplanning CRC Checklist</a>, also see <a href="#">SD 413.3</a> (e.g., its <a href="#">App D</a>)</p> |
| Critical Review                              | <p>Submittals identified in LMS <a href="#">01 3300 Attachment A – Construction Submittal Log</a> that require review by LANL SMEs (or LANL Submittal Reviewers) in addition to review by the EOR.</p> <p><i>Such submittals are indicated as “LANL Critical Review Required. This is often in the context of ML-4 (e.g., conventional), subcontracted design-build work; such reviews might be reduced for design-bid-build (and unnecessary when LANL is EOR).</i></p> <p><i>By default, a critical review is a “consecutive review” — i.e., LANL SME review occurs after External Design Agency EOR’s review and approval . . . concurrent review is sometimes requested/granted . . . NOTE: For submittals not identified as “LANL Critical Review,” consecutive or concurrent review approaches don’t apply since those submittals are not reviewed or returned by LANL. [LMS <a href="#">01 3300, r7</a>]</i></p>                                                                                                                                                                                                                                                                                                                                                              |
| Critical spare parts (CSPs); CSP List (CSPL) | <p>Those parts that are required to be readily available to meet the operational goals for critical equipment and components . . . (i.e., component and/or its replaceable parts) needed to support sustained operation of Vital Safety Systems (VSSs). [AP-341-521 r3] PFE CSPL alternative form may be <a href="#">here</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Cross-connect                                         | <ol style="list-style-type: none"> <li>1. In telecommunications, enables the mechanical termination and interconnection of premise cabling and backbone cabling. [ESM Ch. 19 D60]</li> <li>2. In piping, the ability for two systems or fluids to intermingle (undesirable in some cases). [ESM Ch. 6 D20]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>D</b>                                              | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Data Qualification                                    | A formal process to provide a desired level of confidence that data are suitable for their intended use. [AP-341-513]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Dedicating Entity                                     | The organization that performs the dedication process. Dedication may be performed by the manufacturer of the item, a third-party dedicating entity (TPD), or by the facility (LANL). [ASME NQA-1a-2009 Subpart 2.14; AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Dedication (i.e., commercial grade)                   | <p>An acceptance process performed in accordance with ASME NQA-1 to provide reasonable assurance that a commercial grade item or service will perform its intended safety function and, in this respect, is deemed equivalent to an item or service designed and manufactured or provided under the requirements of ASME NQA-1.</p> <p>This assurance is achieved by identifying the critical characteristics of the item and verifying their acceptability by inspections, tests, or analyses performed by the purchaser or third-party dedicating entity after delivery, supplemented as necessary by one or more of the following: commercial grade surveys, product inspections or witness hold-points at the manufacturer's facility, and analysis of historical records for acceptable performance.</p> <p>In all cases, the dedication process must be conducted in accordance with the applicable provisions of Part I of ASME NQA-1. [ASME NQA-1a-2009 Subpart 2.14; AP-341-703]. <i>More commonly referred to as Commercial Grade Dedication/CGD. See <a href="#">Guidance on Technical Evaluations and Item Dedication in the Engineering Learning Guide</a> collection.</i></p> |
| Defense-in-Depth                                      | An approach to hazard control for nuclear facilities that is based on several layers of protection to prevent the release of radioactive or other hazardous materials so that no one layer by itself, no matter how effective, is completely relied upon. [DOE O 421.1 draft 2023-11-16]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Defense-in-Depth (DID) or Other Hazard Controls (OHC) | <p>Preventive or mitigative controls that do not rise to the level of SC or SS but still enhance the safety of the facility. These controls are identified in the hazard evaluation table, but not explicitly credited with a SC/SS designation as identified in the DSA. Such controls are maintained in accordance with safety management programs.</p> <p>Other hazard controls are expected to be designed to the applicable industry code/standard for the given type of non-safety SSC. [DOE-STD-3009-2014; AP-341-502].</p> <p><i>See also <a href="#">Equipment Important to Safety, Other Hazard Controls (OHC)</a>, and the graphic in <a href="#">App A</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Defense Nuclear Facilities Safety Board (DNFSB) | An independent organization within the executive branch chartered with the responsibility of providing recommendations and advice to the President and the Secretary of Energy regarding public health and safety issues at DOE (Department) defense nuclear facilities. In operation since in October 1989, the Board reviews and evaluates the content and implementation of health and safety standards, as well as other requirements, relating to the design, construction, operation, and decommissioning of the Department's defense nuclear facilities. [DOE's very comprehensive <a href="#">website</a> ] <a href="#">DNFSB site</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Deferred Design                                 | Design performed post-permit [IBC-2021 107.3.4.1 and 202; ESM Ch. 16 IBC-GEN & Ch. 1 Z10 Att. C].<br><i>Limited portions of the design may proceed this way. Often, deferred design is the DPIRC waiting until procurement to perform design such as anchorage of chosen model or support of field-routed piping. The LBO normally permits construction start with a package that lacks final design for specialties such as structural detailing, HVAC, fire alarm and suppression, and equipment anchorage (i.e., such deliverables are deferred, and sometimes also "delegated" (see definition below) to the constructor as well) — but the design-for-permitting should indicate that how this will transpire in the specification and/or drawings (but see Caution at Delegated Design Submittals).</i><br><i>Deferred design requires same reviews as required for pre-permit design (but not LBO review again), and 01 3300 constructor submittal process is typically utilized to trigger this, although a design review process is then used rather than normal/simple submittal status codes. [ESM Ch. 1 Z10 Att. C]</i> |
| Degraded Condition                              | A condition of an SSC, potentially affecting operability, in which quality or functional capability has been reduced by mechanisms such as aging, erosion, corrosion, or improper operation or maintenance. (P330-6) [AP-341-514]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Delegated Design                                | Design performed by a design agency other than the DPIRC, one serving either the DPIRC directly (normally during design phase, by a partnering firm or consultant) or engaged by the constructor (thus also deferred, defined above). [ESM Ch. 1 Z10 Att. C]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Delegated Design Submittals                     | Delegated, deferred, and detailed designs implementing specific performance and design criteria prepared by a design professional. Such submittals require lead Design Agency (DPIRC's) responsive action. These submittals are indicated in individual Specification Sections and in Attachment A - Construction Submittal Log. [LMS 01 3300 r7] <i>Caution: Only indicating deferred/delegated approach on a drawing, not the Spec/Log may result in time delays for the review (that presence on the log might prevent).</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <a href="#">Delta</a>                           | Online software for developing and approving several CoE forms. <i>Currently supports DCFs per AP-341-517, FCRs and DRNs per AP-341-519, ERFIs per AP-341-627, and PPDs per ESM Ch. 16 (thus modifications and construction administration).</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Demolition; also D&D and DD&R                   | Tearing down a system, structure, or portion of same. [ESM Ch. 16 IBC-GEN; PPD form FM01; LMS Div 02]. D&D is deactivation/decommissioning (sometimes preceded by characterization and/or decontamination), followed by demolition/dismantling, then disposal and/or salvage. DD&R, sometimes used by DOE-EM, is deactivation, decommissioning & removal. [AP-WORK-001 Att. 1] <i>See also ESM Ch. 16 IBC-GEN's heading for this, and <a href="#">FIMS</a> page.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

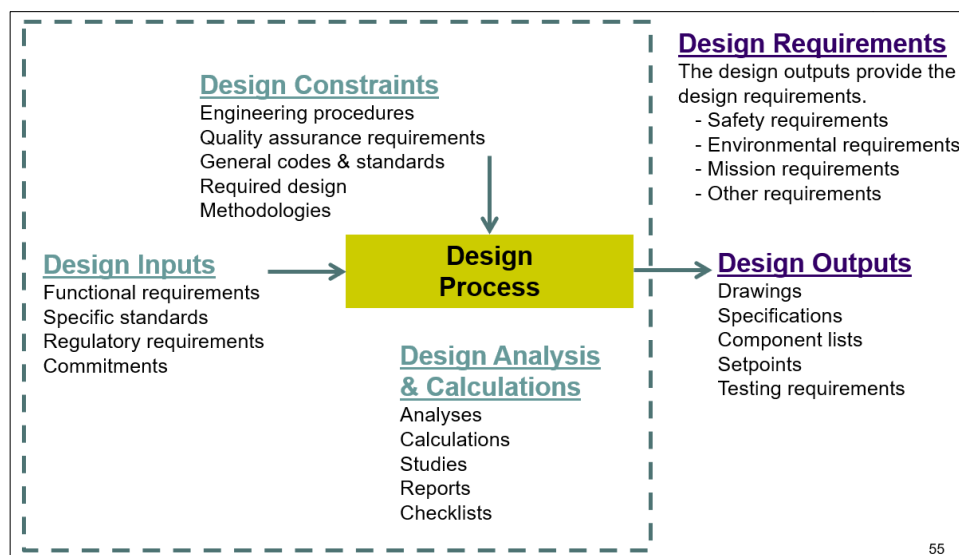
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| Demolition Instructions                                              | Part of the Design Change Form (AP-341-517-FM01). High-level engineering inputs necessary for modification implementation. Provides the minimum necessary guidance for controlling unusual activities or activities that directly affect demolition of modification or operation of equipment. [AP-341-517]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Department of Energy (DOE)                                           | The mission of the Energy Department is to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions. <a href="#">[source]</a> <i>Org chart may be found <a href="#">here</a>. LANL is a National Nuclear Security Administration lab.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Department of Energy Acquisition Regulation ( <a href="#">DEAR</a> ) | Standardized procurement clauses for DOE/NNSA contracting. DEAR 901.1 states "...uniform acquisition policies which implement and supplement the Federal Acquisition Regulation (FAR) (Chapter 1 of title 48 of the Code of Federal Regulations (CFR)... The FAR and DEAR apply to all DOE and NNSA acquisitions of supplies and services which obligate appropriated funds unless otherwise specified in this chapter."<br><br><i>CAUTION: LANL's <a href="#">prime contract</a> includes some DEAR and FAR clauses (either verbatim or with modification) in its <a href="#">Part II Section I</a>, wherein DEAR clause numbers are 9XX.##. While the official prime contract includes such clauses by reference only in Part II Section I, the following link directs you to PCM's working document with full text of all such contractual clauses: <a href="#">Prime Contract I Clauses with full text (modifications included) (pdf)</a>. DEAR authority is from 42 U.S.C. 7101 and 50 U.S.C. 2401. U.S.C. <a href="#">here</a>.</i> |
| Deputy Building Officials                                            | Persons assigned total or partial authority to act for the LBO. <i>Historically, the LANL Fire Marshal is a Deputy acting for fire and life-safety related matters. See ES-DO <a href="#">LBO</a> organization chart.</i> [ESM Ch. 16 IBC-GEN and Att. A (LBC) 103.3]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Derivative Classifier (DC)                                           | An individual authorized to confirm that an unmarked document or material is unclassified or determine that it is classified as allowed by his or her description of authority. A Derivative Classifier may also upgrade a document or material. (In RD/FRD/TFNI subject areas, a Derivative Classifier is equivalent to the Restricted Data Classifier referred to in 10 CFR part 1045.) [DOE O 475.2B] <i>A Reviewing Official (RO) performs a similar role for Controlled Unclassified Information (CUI); when DC or Unclassified term is used, it generally means that document was also reviewed for CUI (as it should be), and DC/RO is used to clearly indicate this.</i>                                                                                                                                                                                                                                                                                                                                                          |
| Derived Requirement                                                  | A lower-level function or performance metric that is deduced or inferred to fill in detail, gaps, or to subdivide an upper-level requirement amongst multiple SSCs. Derived requirements are generally determined through functional analysis, trade studies, or calculations. These can be changed by a project through additional analysis. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Design Agency ( <i>uncommonly DAg</i> )                              | The organization [LANL or external subcontractor (A/E)] responsible for the preparation of engineering design and documentation [P342]. <u>Design Agency of Record</u> means the same (see Engineering of Record definition). <u>Design Organization</u> , used in DOE-STD-1189, is similar.<br><br><i>See also Designer, DPIRC, and EOR.</i> [ESM Ch. 1, Z10; Ch. 2 D40GEN, ESM Ch. 8 D3060.90]<br><br>In the context of the Nuclear Security Enterprise weapons mission, LANL is the design agency for weapons designed here (and the production agency for detonators and Pu pits).                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Design Agency of Record               | Synonymous with the more common terms Engineer of Record and Design Agency. <i>(Comes from SD 413.3-7, term is more inclusive of architectural or A/E firms than is EOR.)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Design Analyses                       | Calculations and/or experiments associated with design. [ESM Ch. 21, SOFT-INTRO] <i>See graphic at Design Process.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Design Authority (DA)                 | <ol style="list-style-type: none"> <li>1. The organization having the responsibility and authority for approving the design bases, the configuration, and changes thereto. [NQA-1]</li> <li>2. The person or group responsible for the final acceptability of and changes to the design of a system or component and its technical baseline. [based on DOE-STD-1073]</li> </ol> <p><i>At LANL, the DA is not a group or organization but individuals. See Facility Design Authority for more. [PD340; ESM Ch. 2 D40GEN; Ch. 12]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Design Authority Representative (DAR) | <p>Person qualified to perform certain DA functions. [PD340]</p> <p><i>See Facility Design Authority Representative for more on this.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Design Basis                          | <ol style="list-style-type: none"> <li>1. Design input usage: The set of requirements that bound the design of systems, structures, and components within the facility. Those design requirements include consideration of safety, plant availability, efficiency, reliability, and maintainability. <a href="#">[DOE G 413.3-12 Chg 1 (Admin Chg)]</a> <i>The <u>design basis</u> establishes the boundaries of the design process, provides the technical and analytical basis for the design requirements, and documents <u>why</u> a requirement was specified. The <u>design requirements</u> specify <u>what</u> is required. [EFCOG EPSG CoE course slides 9/2020]</i></li> <li>2. Configuration management usage: Information which identifies the specific functions to be performed by an SSC of a facility and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be restraints derived from generally accepted 'state-of-the-art' practices for achieving functional goals or requirements derived from analysis (based on calculations and/or experiments) of the effects of a postulated accident for which an SSC must meet its functional goals. Consists of the Design Inputs, the Design Analysis and Calculations, and the Design Outputs. Explains why a design requirement has been specified in a particular manner or as a particular value. [DOE-STD-1073-2016; ~<a href="#">DOE G 420.1-1A</a>; AP-341-405, AP-341-605]</li> </ol> |
| Design Change                         | Any revision or alteration of the technical requirements defined by approved and issued design output documents and approved and issued changes thereto [NQA-1; AP-341-517; 620] <i>Refers to SSC configuration management, not design revision control per AP-341-519.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Design Change Form (DCF)              | <p>A form/traveler which identifies engineering workflows and documents key activities associated with making permanent physical modifications to the Los Alamos National Laboratory (LANL) site configuration. [AP-341-517]</p> <p><i>DCFs can be produced by <a href="#">Delta</a> or SharePoint (<a href="#">APs page</a>, more directly <a href="#">here</a>).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Design Change Template (DCT)  | <p>Provides an explanation and formality for documentation of design changes that occur during construction. It may be used for projects that are commercial/conventional and are subcontracted for design activities.</p> <p><i>Subcontracted design agencies are allowed to use their own design change process in lieu of this template. It is a simpler document than an FCR or DRN. [DCT Guidance Document Rev. 0, 11/22/24]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Design Criteria               | <p>Those design or technical requirements that define the item's form, fit, capabilities, applicable codes and standards, operational limits, and functional requirements defined in the item's design output documents. [AP-341-703]</p> <p><i>These are depicted as Design Requirements in the graphic at Design Process.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Design Development (DD) phase | <p>Note: In typical DOE/NNSA/LANL terms, this is the <a href="#">Preliminary Design</a> Phase. See "<a href="#">Project Phases</a>" for an overview of DOE phase terms. At LANL, the DD term may be encountered in commercial/conventional project SOWs.</p> <p>From AIA's <a href="#">Defining the architect's basic services</a>:</p> <p>DD services use the initial design documents from the schematic phase and take them one step further. This phase lays out mechanical, electrical, plumbing, structural, and architectural details.</p> <p>This phase results in drawings that often specify design elements such as material types and location of windows and doors. The level of detail provided in the DD phase is determined by the owner's request and the project requirements. The DD phase often ends with a formal presentation to, and approval by, the owner.</p> <p><i>Deliverables: Design development often produces floor plans, sections, and elevations with full dimensions. These drawings typically include door and window details and outline material specifications.</i></p> |
| Design Documents              | <p>Design documents define either the design requirements or the design basis of the facility or activity. Design documents include design specifications, design change packages, design drawings, design analysis, setpoint calculations, summary design documents, correspondence with DOE or other regulator that provides design commitments, and other documents that define the facility or activity design. [DOE-STD-1066-2016; ESM Ch. 8 D3060.90]</p> <p><i>These are any or all of the categories shown in the graphic at Design Process.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Designer of Record            | <p>Same concept as (see) Engineer of Record, but more inclusive of architects and other non-engineer providers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Design Feature                | <p>The design features of a nuclear facility specified in the technical safety requirements that, if altered or modified, would have a significant effect on safe operation. [10 CFR § 830.3]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| Design Inputs                | <ol style="list-style-type: none"> <li>1. Those specific criteria, limits, performance requirements, bases, or other initial requirements (i.e., specific operational requirements, design bases, and commitments), as well as general restrictions and limits to the engineering design process that ensure consistency and quality of design (i.e., quality assurance or QA requirements, applicable codes and standards, regulatory requirements, and required design methodologies) upon which the detailed final design is based. [DOE-STD-1073-2016]<br/>P341, AP-341-517, AP-341-620:</li> <li>2. Information such as contractual requirements, customer expectations, functions and performance requirements, requirements derived from hazard analysis, requirements derived from prototype testing, safety requirements, security requirements, interface requirements, operating environment, health and safety considerations, design life, codes and standards requirements, and reliability requirements.</li> <li>3. Requirements and criteria required to permit the design to be carried out in a correct manner and to provide a consistent basis for making design decisions, accomplishing design verification, and evaluating design changes.</li> </ol> <p><i>Examples: Project &amp; Activity Review (PAR, was PRID), Mission Needs Statement, Project Functions and Requirements document (FRD), Requirements and Criteria Document (RCD), Preliminary Project Determination (PPD), alternative studies, Conceptual Design Reports (CDRs), LANL Reviewing Organizations Form AP-341-620-FM02, Scope of Work (SOW), preliminary safety analysis documents, preliminary fire hazard evaluations, environmental reports, etc.</i></p> <p><i>See graphic at Design Process.</i></p> |
| Design Input Specification   | <p>A design document prepared for safety related systems, with emphasis on conditions unique to the facility and subject process. [ESM Ch. 8 D3060.90]<br/><i>Specifications as design inputs are common in complex software acquisition and some other contexts.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Design Management Plan (PMP) | <p>[An NA-led task, developed prior to conceptual design for (maybe only Major System/&gt;\$750M) capital projects], the DMP establishes the anticipated levels of design maturity at each CD phase. The DMP must be developed as early as possible after approval of the AoA to ensure that design activities are executed to the defined plan. The main purpose of the DMP is to define the approach for execution of design activities and to ensure that quality and consistency are maintained throughout the design process. The DMP includes the appropriate CD-1 and CD-2 performance baselines to manage the cost, schedule, and scope of the design effort. The DMP is tailored to both design-bid-build and design-build projects. For additional information see DOE G 413.3-1, <i>Managing Design and Construction Using Systems Engineering</i>. [NNSA SD 413.3, Chg 1, App A, 2.f; for major system projects, DOE O 413.3B Chg 7 pg. A-7; AP-350-201 r1 §5.4]</p> <p><i>DMPs are shown as N/A for commercial/conventional projects subject to NNSA SD 413.3-7 (pg. APA-4).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Design Manager (DM) | <p>A role to coordinate internal design work, provide project coordination support, ESR management, primary POC for design modifications to facility and programmatic groups.</p> <p><i>An optional, business role, not addressed in CoE APs but in DI-ES-EPD-006, <a href="#">Design Manager Roles and Responsibilities (pdf)</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Design Output       | <ol style="list-style-type: none"> <li>1. Includes documentation such as drawings, design change packages, specifications, load lists, valve lists, design reports, and setpoint lists. They are the composite result of the engineering organization's consideration of the design inputs and the design analysis and calculations. The design outputs specify the requirements of the design basis, e.g., the necessary functions, capabilities, capacities, physical sizes and dimensions, limits and setpoints. They include the operational requirements, as well as procurement requirements, QA requirements, construction/installation specifications and instructions, post-installation testing, post-maintenance testing, and periodic surveillance/testing requirements. [DOE-STD-1073-2016]</li> <li>2. Product of the design process that specifies the requirements of SSCs and dictates their physical configuration. Documents specify which requirements are essential to support the design bases. Procurement specifications establish suitability of procured items by invoking design codes and standards; specifying functional requirements; and identifying test, inspection, and certification requirements. <i>Examples: Calculations, Drawings/Sketches, Specifications, Bills of Material (BOM), Demolition and Installation Instructions, Post Modification Test Forms, Electrical Investigation Worksheets, Quality Inspection Plans, Management Level Determination (MLD) Forms, Master Equipment List (MEL) revisions, Facility Design Description (FDD), System Design Description (SDD), Hazard Analysis/Safety Analysis documents, Vendor Information, Engineering Studies, Technical Reports, etc. [P341, AP-341-517, AP-341-620]</i></li> </ol> <p><i>The AIA calls these “instruments of service” — the collection of documents, drawings, specifications, calculations, and other tangible materials produced by design professionals during the various stages of a project. [<a href="#">Understanding Instruments of Service</a> (aiacontracts.com)]</i></p> <p><i>See graphic below Design Process.</i></p> |
| Design Process      | <p>Translates design inputs into design output documents using design analysis and calculations. Analysis requires sufficient detail in the purpose, method, assumptions, design input, references, and units so that a person technically qualified in the subject can review and understand it and verify the adequacy of the results without recourse to the originator. [P341]</p> <p><i>See graphic which follows.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



### Design Process

Credit: EFCOG EPSG CoE course slides 9/2020

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| Design Professional in Responsible Charge (DPIRC) | <ol style="list-style-type: none"> <li>1. In general terms, the lead engineer or architect in the Design Agency with overall responsibility for the correctness and coordination of all agents, interfacing with LANL project engineer, and sealing (stamping) as required and delivering the design.</li> <li>2. For external AEs, IBC-2021 202 defines Registered DPIRC as: A <i>registered design professional</i> engaged by the owner or the owner's authorized agent to review and coordinate certain aspects of the project, as determined by the <i>building official</i>, for compatibility with the design of the building or structure, including submittal documents prepared by others, deferred submittal documents and phased submittal documents.<br/><i>Thus, if an engineer, a P.E.; if an Architect, a registered one.</i></li> <li>3. For LANL-performed design, the lead discipline engineer.</li> </ol> <p><i>Term is used by IBC (e.g., 107.3.4) and ESM Chapter 16, Ch. 1, Z10. DPRIC is designated to LBO by <a href="#">IBC-GEN</a> Form 3.</i></p> |
| Design Requirements                               | <p>Those engineering requirements reflected in design output documents that define the functions, capabilities, physical sizes and dimensions, limits and set points, etc. specified by design engineering for a structure, system, and component (SSC). The design requirements provide the results of the design process. The objective of the design control element of configuration management is to document and maintain the design requirements for configuration management SSCs and credited controls to ensure that they are consistent with the as-built facility or activity. (From DOE-STD-1073-2016) [P341, AP-341-405, AP-341-703]</p> <p><i>See graphic at Design Process above.</i></p>                                                                                                                                                                                                                                                                                                                                                                     |

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| Design Review                | <p>A critical review to provide assurance that the final design is correct and satisfactory (ASME NQA-1). [AP-341-620]</p> <p><i>Other relevant CoE documents include ESM Ch. 1 <a href="#">Z10</a> Att. C.</i></p> <p><i>For commercial/conventional reviews, <a href="#">guidance</a> exists; approach is typically page-turn reviews through 90% using BlueBeam, reviewers take Utrain Course #50368 (Types of Design Reviews), and all necessary comments are resolved (without the A/B/C comment categorization in AP-341-620). Most design reviewers serve on behalf of LANL as the Owner and are sometimes separate from the <a href="#">LBO plan examiners</a> performing code reviews that may only engage at 90% and onward.</i></p> <p><i>For capital projects subject to DOE O <a href="#">414.3B</a> (and not modified by applicable NNSA SDs) LANL, when "performing design for projects shall, at a minimum, conduct a Conceptual, Preliminary and Final Design Review, in accordance with the PEP," which means three or more documented reviews are required (e.g., at approximately 30, 60, and 90/100% maturity points.</i></p> <p><i>The above focuses on relatively formal reviews that follow less-formal design agency actions such as peer reviews/checks and verification (sometimes formal, e.g., nuclear), squad checks, inter-discipline coordination, and reviews by the P.E. prior to sealing.</i></p> |
| Design Revision Notice (DRN) | <p>Form/process used to process complex changes that introduce new design requirements which initiate new functions or requirements that exceed those defined in the project definition documents (Functions and Requirements Document, Requirements and Criteria Document, etc.). DRNs are also used to process changes that require substantial reanalysis or new analysis. When new design functions and requirements are added to the project, the Responsible Engineer shall update affected project definition and scoping documents. [AP-341-519]</p> <p><i>DRNs can be produced by <a href="#">Delta</a> (within logs per project) or standalone template with the AP.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| Design Verification (DV) | <ol style="list-style-type: none"> <li>1. Documented process for ensuring that the design and the resulting items comply with the project requirements [(e.g., inputs, constraints)]. Design verification methods can include design reviews, alternate calculations, qualification testing, and peer review of experimental design. When appropriate, the verification process may include consideration of previous verifications of similar designs or verifications of similar features of other designs. [DOE G 414.1-2B Chg 2 §4.6.5; <i>not stated succinctly in NQA-1 or DOE O 414.1E</i>] <ol style="list-style-type: none"> <li>a. Who (NQA-1): Quality achievement is verified by those not directly responsible for performing the work [PART I, Req.1, §201.c] ... Design verification shall be performed by any competent individual(s) or group(s) other than those who performed the original design but who may be from the same organization. This verification may be performed by the originator's supervisor, provided the supervisor (1) did not specify a singular design approach or rule out certain design considerations and did not establish the design inputs used in the design; or (2) the supervisor is the only individual in the organization competent to perform the verification. Cursory supervisory reviews do not satisfy the intent of this Standard. [PART I, Req.3 §500.a; and PART III, SUBPART 3.1, NONMANDATORY APPENDIX 3A-1]</li> <li>b. What/Who/When (DOE O 414.1E, CRD/Att. 2, 6.d &amp; e): Verify or validate the adequacy of design products using individuals or groups other than those who performed the work. Verify or validate work before approval and implementation of the design.</li> </ol> </li> <li>2. Independent design verification. A verification performed by a person other than the person who performed the original design work. It is the act of checking the design or requirement, often by using a different calculation method, to verify that the structure, system or component will meet established performance criteria. [DOE-STD-1073-2016 App. B] <i>Given definition #1, it is not necessary to add "independent" to "design verification." DOE-STD-1073 is required for nuclear projects per DOE O 413.3B and is a safe harbor for the CSE Program per DOE O 420.1C.</i></li> </ol> <p><i>DV may preclude a sealing P.E. (i.e., in Responsible Charge) from performing as Verifier if they performed work on the output depending on the governing mandate (e.g., NQA-1 or 414.1) and its conditions. See Professional Engineer.</i></p> <p><i>In addition to standards listed by definitions above, DV is also in PD330, DOE-STD-1189, P341, AP-341-605, AP-341-620, etc. For Systems Engineering, TSM r3 discusses DV Matrices (DVM) and ESM Ch. 20 r0 discuss those and Reports (DVR).</i></p> |
| Designer                 | <p>Anyone working in a design agency capacity, whether engineer, architect, drafter, or designer. See also Design Agency, DPIRC, and EOR. [ESM Ch. 1, Z10] <i>Within LANL engineering line organizations, may be a job title.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Desktop Instruction (DI)                            | <ol style="list-style-type: none"> <li>1. A Local Document that applies to workers within one ALD or one facility. The document is only used by one organization or facility to define and implement their processes. [SD311 Policy System]</li> <li>2. Information suitable for use at or on a desk or computer (such as a background area of a computer screen or monitor) that guides or aids a worker to perform specific tasks. [LANL Definitions for archived PD311]</li> </ol> <p><i>ES DIs and forms are <a href="#">here</a>. See also <a href="#">Work Instruction</a> herein. DIs and WIs are largely the same idea, but DIs are not really appropriate for non-desk location work whereas WIs could serve almost any procedural need not rising to an AP or policy. Note: In the past, some WIs and DIs were considered guidance; going forward, each new or revised WI or DI should be clear on expectations.</i></p> |
| Developing a Curriculum (DACUM)                     | A method that allows training teams to tailor managerial expectations to the printed job descriptions. [DOE-HDBK-1076-94 (Reaffirmed 1999), <a href="#">Table-Top Job Analysis</a> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Difficulty, Importance and Frequency (DIF) analysis | Once the task inventory, performance, conditions and standards have been identified, tasks and sub-tasks in the Role Performance Statement (RPS) will be subject to a DIF Analysis. The DIF analysis will be carried out in conjunction with SME to determine the priorities for learning design and development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Direct Costs                                        | Any costs that can be specifically identified with a particular project or activity, including salaries, travel, equipment, and supplies directly benefiting the project or activity. [ <a href="#">DOE G 430.1-1, Cost Estimating Guide</a> ] <i>Direct funding is received from (mostly federal) sponsors for work for which LANL will provide specific products and services. Much of this work scope is national security, with some basic and applied science and technology, and represents the overall Lab budget. A portion is shaved off to fund services — see Indirect Costs.</i>                                                                                                                                                                                                                                                                                                                                       |
| Directives                                          | <p>Documents in which DOE sets, communicates, and institutionalizes policies, requirements, responsibilities and procedures for Departmental elements and contractors. Directives include Policies, Orders, Notices, Manuals, and Guides. [DOE O 251.1D AdmChg1] <i>Manuals are being phased out, with under 6 existing in 2025.</i></p> <p><i>Mandatory DOE and NNSA directives are listed and hyperlinked in the LANL Prime <a href="#">contract's</a> App B. All here: DOE <a href="#">directives</a> and <a href="#">Guides</a>; NNSA <a href="#">directives</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                      |
| Discovered Condition Evaluation and Closure (DCE)   | A DCE process is initiated upon completion of Immediate Operability Determination (IOD) and/or Prompt Operability Determination (POD) after discovery of degraded or nonconforming condition in Safety Class (SC) or Safety Significant (SS) SSCs of Hazard Category 2 or 3 nuclear facilities. [AP-341-516 r3.1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Document                                            | <p>At the Laboratory, a document includes information, regardless of medium or characteristics, received or created in the course of business, including but not limited to procedures, work instructions, specifications, drawings, plans, forms, and change documents. Informal and preliminary working notes are generally not document, unless specifically designated by program, QAP, or other requirements.</p> <p>Documents (NQA-1 definition)—Any written, pictorial, or electronic information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, or results. A document is not considered to be a QA record until it satisfies the definition of a QA <a href="#">record</a> (as defined by NQA-1, <i>Quality Assurance Requirements for Nuclear Facility Applications</i>). [<a href="#">P1020-2</a> r7]</p>                                                             |

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| Document Control and Records Management (DCRM) | LANL organization responsible for maintaining documents and records (defined terms), or the function of doing so.<br><i>DCRM is one of the Management Systems in <a href="#">SD309</a>, LANL's System of Management Systems (thus iSoMS), and the function is currently in Program Strategy and Execution–Information Management (<a href="#">PSE-IM</a>). RM webpage <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Documented Safety Analysis (DSA)               | A documented analysis of the extent to which a nuclear facility can be operated safely with respect to workers, the public, and the environment, including a description of the conditions, safe boundaries, and hazard controls that provide the basis for ensuring safety. [10 CFR § 830.3].<br>For the purposes of answering USQ Screening Questions and USQD Questions, the DSA is understood to include DOE-approved and implemented amending documents, such as, Safety Basis Amendments and SERs containing Conditions of Approval. Changes associated with USQ determinations and associated safety analyses, including supporting safety analyses for any DOE-approved changes to a facility, and JCOs, are treated as part of the safety basis until incorporated into the approved DSA.<br>[Above from DOE O 421.1 draft 2023-11-16]. <i>Second paragraph gets DSA definition close to that of "Authorization Basis."</i> |
| Document Name                                  | Document's unique identifier. Also, can refer to the concatenation of document type abbreviations, numbers, and sometimes other intelligence that makes up the document's unique identifier. Can be equivalent to 'document number'. [AP-341-402]<br><i>EDRMS field is "Name" for this data and separately allows the 400-char-max "Title LANL," which is sometimes different.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Document Number                                | Document's unique identifier. Also, can refer to the concatenation of document type abbreviations, numbers, and sometimes other intelligence that makes up the document's unique identifier. Can be equivalent to 'document name.' [AP-341-402] Examples: AP-341-402, SDDR-EP95589-227.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Document Type                                  | Abbreviations to be used in Document Name or Number for common CoE document types, which CoE controls in AP-341-402 ("AP" is an example).<br><i>EDRMS doesn't control such abbreviations but controls the categories of documents it indexes in its "lanl_document_type_descrip" drop-down field (e.g., Drawing). EDRMS also has fields for document names and titles (which may include the number; see above).</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| DOE Enterprise                                 | The entirety of DOE/NNSA facilities and functions including Headquarters plus <a href="#">Offices, Labs, and Sites</a> .<br><i>Phonebook for many enterprise personnel <a href="#">here</a> (OneID) or via Powerpedia <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| DOE Order                                      | See Directives herein (which includes Orders, Guides, Notices, Manuals).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| DOE Standard                                                                | <p>Document issued by the <a href="#">DOE Technical Standards</a> program (TSP).</p> <p><i>It is most often a DOE-STD, but occasionally a handbook (DOE-HDBK-), NNSA standard (DOE-NA-STD-), or DOE-SPEC. Some are Order-mandated, some otherwise adopted, and others not applicable; see the Applicable and Invoked Standards topics herein. The TSP process includes a Tech Standards Manager in each Federal office as well as prime contractors at each lab or site, who facilitate document reviews and other needs. TSP includes provisions for <a href="#">topical committees</a> which are fairly similar to communities of practice (CoP).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Drawings                                                                    | <ol style="list-style-type: none"> <li>1. The part of the Subcontract that graphically shows the scope, extent, and character of the Work to be performed by Subcontractor. [adaptation of EJCDC® C-700, <i>Standard General Conditions of the Construction Contract</i> (2013), Para 1.01.A.]</li> <li>2. Graphic and pictorial portions of the documents showing the design, location, and dimensions of the project, generally including plans, elevations, sections, details, schedules, and diagrams. [National CAD Std v6]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| E                                                                           | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electrical Investigation Worksheet                                          | <p>Part of the Design Change Form. For modifications involving Electrical Distribution System (EDS) panels and circuits. Identifies EDS panels and circuits and other safety systems affected by the modification. Assists in defining lockout/tag out requirements. [AP-341-517]</p> <p><i>NOTE: Electrical system IDs other than EDS also exist; see ESM Ch. 1 Sec. 200, Att. 1, 210 tab.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Electrical Temporary Modifications                                          | <p>Temporary cables, jumper wires, lifted leads, pulled fuses, open terminal blocks, disabled annunciators, and temporary set point changes not part of routine maintenance, testing, or operating procedures. [AP-341-504]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Electric Power Research Institute ( <a href="#">EPRI</a> )                  | <p>EPRI conducts R&amp;D relating to the generation, delivery, and use of electricity (with a strong nuclear focus).</p> <p><i>Membership is very costly, and LANL/DOE lacks such, but some (mostly older) documents have been publicly released; CoE has a partial collection.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Electronic Document and Records Management System ( <a href="#">EDRMS</a> ) | <p>A system that provides document control and records management services to organizations throughout the Laboratory. The EDRMS is used to access work control documents, such as procedures, drawings, and specifications, enabling workers to obtain the most recently approved version of a document needed to perform work. [<a href="#">P1020-1</a>, r14]</p> <p><i>LANL homepage link is under Top Tools. Supports PDF previews, advanced searching, to locate and view records. The Centralized Repository is the most used by engineering. Guides and help may be available from UTrain course <a href="#">38870</a> and <a href="mailto:es-edrms@lanl.gov">es-edrms@lanl.gov</a>. Access to some cabinets is controlled by request; contact above or EDRMS support helpdesk at 667-3367 or <a href="#">AskIT</a>. Runs on Documentum D2 software. A combined EDMS and ERMS.</i></p> <p><i>A few facilities may have other or additional document systems, e.g., WETF and its Windchill PDMLink (why many CoE APs direct use of the facility's DCRM system generically). Should an AP or other CoE mandate require EDRMS, it is necessary.</i></p> |

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| EMRef-XX                                  | A Standards Program engineering manual reference ID; a document type used within the ESM/TSM bases and this Glossary to sequentially number obscure references such as memos and emails to allow organized server storage and simplified referencing. [ESM Ch. Z10].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Energy Facility Contractors Group (EFCOG) | <p>Collaborative group of DOE prime contractors and subcontractors.</p> <p><i>Of greatest CoE interest, includes (1) the Engineering Practices Subgroup (EPSG) [under <a href="#">Ops WG</a> that includes Communities of Practice for Fire Protection (FPCoP) and Pressure Safety; LANL participates] and (2) the Procurement Engineering CoP under <a href="#">Safety WG</a>'s QA Subgroup. Groups sometimes produce meeting minutes, "Best Practices," or other documents that get posted.</i></p> <p><i>Many EFCOG companies (not consortiums) are also in <a href="#">ETEBA</a>, a few in <a href="#">NEI</a>.</i></p>                                                                                                                                                                                    |
| <a href="#">Energy Hub</a>                | DOE's internal portal with news, events, communities of practice, other things. <i>Significant Federal interest, some for contractors.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Engineered (or Engineering) Controls      | Controls that eliminate or reduce exposure to a hazard through the use or substitution of engineered machinery or equipment. Examples include self-capping syringe needles, ventilation systems such as a fume hood, sound-dampening materials to reduce noise levels, safety interlocks, radiation shielding, process set points, and operating limits. [ <a href="#">DOE G 450.4-1C</a> , <i>Integrated Safety Management System Guide</i> ]                                                                                                                                                                                                                                                                                                                                                                 |
| Engineered Safety Feature (ESF)           | <p>In a HC 1–3 nuclear facility, SSCs that prevent and/or mitigate the consequences of potential accidents described in the Documented Safety Analysis (DSA). [DOE O 426.2A Chg 1 Att. 3]</p> <p><i>At LANL, these would therefore be in <a href="#">Vital Safety Systems</a>; see that definition and graphic in <a href="#">App. A</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Engineering Service Request (ESR)         | Online request/tracking program for Facility CoE-using line organizations. Submit <a href="#">Request</a> . <a href="#">Agent Login</a> . <a href="#">Project Engineer ESR User Guide (pdf)</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Engineering                               | <p>At LANL, the <u>application of science and mathematics by which the properties of matter and the sources of energy are made and maintained useful to humans in structures, systems, components, and processes...</u>in an efficient, safe, and secure manner through (1) the appropriate application of regulations, industry codes and standards, DOE Orders and standards, and (2) the education, skills, training, and judgment of engineering professionals. [CoE circa 2010] <i>LANL has over 3500 degreed engineers.</i></p> <p><i>Note: The "practice of engineering," however, which triggers the need for the sealing (PE stamping) of design by an external-to-LANL engineer, is based on para 61-23-3.H of adopted New Mexico Engineering and Surveying Practice Act (see entry herein).</i></p> |

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| Engineering Judgment (EJ); engineering judgement (UK spelling) | <ol style="list-style-type: none"> <li>1. Specific to fire-resistive construction: A method or process used to resolve field needs when a tested design, system or assembly is not available [not commercially addressed by a Nationally Recognized Testing Laboratory (NRTL) listing. The EJ results in a letter or report being issued by some knowledgeable party, which evaluates the impact of modifications to published fire resistance designs, firestop systems, etc. To be effective the EJ must be acceptable to the code authority and should be site-specific. [definition based on UL; NFPA 1 HDBK] <i>The IBC calls these research reports at 104.11.1.</i></li> <li>2. In general terms, a design-related, conservative decision or rationalization made by the engineer based on his/her experience, education, intuition, and/or technical merit. <a href="#">[Eng-Tips]</a></li> </ol> <p><i>This latter sense gained popularity within CoE around 2016 when EJ memos began to be used more widely in lieu of a formal calculation form for low-risk, simple needs (<a href="#">examples</a> posted with AP-341-605), and since 2025 the term is also associated with the AP-TRUST initiative for conventional-type design.</i></p> |
| Engineering Leadership Council ( <a href="#">ELC</a> )         | <p>“A leadership group with diverse representatives from almost all engineering organizations at the Laboratory. The ELC is focused on fostering, assuring, and championing engineering capabilities at LANL.”</p> <p><i>Goals are (1) improve quality of life (mentoring, inclusion, retention); (2) increase visibility (recognition, strategy and opportunities, professional development), and (3) enable infrastructure (innovation hub/sprints, engineering software, common processes).</i></p> <p><i>Webpage includes top tabs and links for new hires, mentoring, Engineers Week in February (Library also has <a href="#">this page</a>), news, monthly <a href="#">speaker series</a>, other things. The website has an <a href="#">Engineer’s Handbook</a> with links on LANL <a href="#">missions</a>, <a href="#">demographics</a>, and selected <a href="#">references</a> and <a href="#">discipline</a> material.</i></p> <p><i>The ELC and Engineering Institute (EI) are within the National Security Education Center (NSEC).</i></p>                                                                                                                                                                                              |
| <a href="#">Engineering LibGuide</a> (Resource Guide)          | <p>LANL Research Library compendium webpage of resources of interest to engineers. <i>Has both discipline-specific and resource-centric (e.g., ebooks, databases of documents) webparts to help locate needed information. Note, for a specific document, a Library Catalog <a href="#">search</a> on their homepage may yield results more comprehensively.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Engineering Manager (EM)                                       | <p>A supervisor of staff providing engineering in the line organization (per an organization chart). <i>See also Facility Engineering Manager.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| Engineering Request for Information (ERFI)            | <p>Form that may be used when design information is being requested either from within the design team or from external interfaces. The ERFI may be used during any phase of the project. The ERFI is not a design revision document (see AP-341-519 <i>Design Revision Control</i>) but may be used as a vehicle to clarify design within the bounds of the design requirements and scope. <i>The ERFI is not to be confused with the <a href="#">Request for Information</a> from AP-850-300 Technical Subcontract Management. The ERFI is for internal LANL use, while the RFI is for use between subcontractors and LANL. [AP-341-627r2]</i></p> <p><i>ERFIs can be produced by <a href="#">Delta</a> or using the AP's standalone form.</i></p> <p><i>An RFI provides for controlled identification, notification, and resolution of technical questions initiated by project personnel (Project Management, Design Engineering, Procurement, etc.). Per SD350, when self-perform, Field Engineers handle form/liaison between engineering and Superintendents.</i></p> |
| Engineering Requirements                              | <p>Requirements that the project, in agreement with the customer, has delegated to engineering, ensuring that requirements are verified at the end of the project. These include requirements decomposed or derived from delegated requirements. [TSM Ch 20 r4]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Engineering Service Request (ESR)                     | <p>Web-based system that "provides a single process to capture all work into the Engineering Services Division, as well as offers our customers a mechanism to track the status of their projects."</p> <p><i>Request and agent links are on the ES Division <a href="#">homepage</a> and may support other facility engineering organizations. Project engineers, see <a href="#">DI-ES-EPD-007</a>, Project Engineer ESR User Guide (pdf).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Engineering Services ( <a href="#">ES</a> ) Division) | <p>LANL division home to groups for Facility Operations (LANL-wide except for plutonium and waste facilities), Fire Protection, and Project Delivery, as well as the Conduct of Engineering and LANL Building Code program offices.</p> <p><i>"Provides facility-engineering support for our customers in an innovative, effective, and customer-focused manner. ES maintains a wide array of subject matter expertise in Architectural, Non-Destructive Examination, Electrical, Instrumentation and Controls, Mechanical, Pressure Safety, Welding, Fire Protection, Civil, and Structural Engineering." [2026-2-2].</i></p> <p><i>Engineering Services (ES) is also one of the Management Systems in <a href="#">SD309</a>, LANL's System of Management Systems (thus iSoMS), but in this sense it is likely to also encompass many PFE and PIE activities for historical reasons.</i></p> <p><i>Click here to <a href="#">Request a Website Update</a> (but CoE technical document update suggestion links are on those programs' pages).</i></p>                        |

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| Engineering Standards                                                               | <p>The manuals and collections that constitute the LANL technical standards mandated by <a href="#">P342</a>, <i>Engineering Standards</i>. About P342, PD340 states:</p> <p><i>“This document and its associated functional series documents define the minimum design criteria, fabrication, construction, and installation practices to assure that the design, repair, and alteration of LANL facilities and selected programmatic equipment associated with them satisfy requirements, needs, and customer expectations in a safe, secure, cost-effective, and environmentally responsible manner. The requirements in the engineering standards supplement those defined in the applicable DOE Orders listed in Appendix B of the Prime Contract; national codes and standards; and federal, state, and local codes and regulations considering the following criteria:</i></p> <ul style="list-style-type: none"> <li>▪ <i>unique site expectations relative to existing national codes and standards,</i></li> <li>▪ <i>justifiable unique site application or configuration, or</i></li> <li>▪ <i>site-specific lessons learned.</i></li> </ul> <p><i>Programmatic applicability of the Standards is addressed in detail in P342.”</i></p> <p><i>Note, for operating facilities, the APs with P341 may have expectations for document creation or revision that are slightly different than the Standards that define expectations for new SSCs.</i></p> <p><i>The LANL Engineering Standards Chatbot helps users navigate the Standards using AI trained with public-facing content. To use it, open ChatGPT Enterprise (e.g., via <a href="#">AI Hub</a>) and select “Explore bots.” Caution: Validate results with actual, latest ESM content.</i></p> |
| Engineering Standards Discipline Point-of-Contact aka Standards <a href="#">POC</a> | <p>Every document in the Standards set has one person responsible for its upkeep and user assistance. The LANL Site Chief Engineer designates a POC for most subject areas of the Engineering Standards including civil, architectural, structural, mechanical, pressure safety, etc. The Owners (SMPOs) of other LANL Safety Management Programs (e.g., fire protection, <a href="#">radiation protection</a>, <a href="#">electrical safety</a>) and Security designate POCs in their areas of responsibility. [P342; ESM Ch. 1, Sections Z10 and 100]</p> <p><i>A POC generally manages all a discipline’s documents; however, there may be POCs for different scopes (e.g., Specs &amp; Details different POC from ESM &amp; TSM). Listing link is on many of the Standards webpages, and is directly here <a href="#">POC/Technical Committee</a>, includes the SMPO and any Alternate POCs and SMEs [LANL-internal]. Described by ESM Ch. 1 <a href="#">Section 100</a>.</i></p> <p><i>POC is not the same role as ES Lead SME (search “LSME”), but the same person can serve both roles.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Engineering Standards Manual ( <a href="#">ESM</a> )                                | <p>STD-342-100, the primary LANL Engineering Standards document containing the comprehensive design criteria and a few technical/administrative programs for all project types. <i>There is also a <a href="#">Tailored Standards Manual</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Engineering Standards SME                                                           | <p>Assists the POC role as requested. <i>Some are listed on the <a href="#">POC/Technical Committee webpage</a> (see also entry above ESM on POCs).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| Engineer of record (EOR)                  | Often the same as Design Professional in Responsible Charge (see that) but term may also be used for the designer for a portion of the whole (e.g., structural, thus SEOR). Designer, Design Agency, or Design Professional of Record means the same, and is more inclusive (e.g., of architects). <a href="#">[Source; ESM Ch. 1, Z10, IBC-GEN]</a> <i>EOR appears briefly in NMAC and not IBC, but is in some other codes and standards.</i> |
| Environmentally Preferable Products (EPP) | Products with specific environmental or energy attributes.<br><i>Sustainable acquisition, or "green purchasing," refers to purchasing same. Requirements and guidance are in ESM <a href="#">Chapter 14</a> (§1.1 in r13), its Att. 1, and its chapter resources.</i>                                                                                                                                                                          |
| Environmental qualification (EQ)          | A process to ensure SSCs perform intended function under normal and off-normal conditions. [ESM Ch. 1, Z10] <i>See Z10 subsection by this title.</i>                                                                                                                                                                                                                                                                                           |
| Equipment                                 | Assembly of components viewed as a functional entity within a system for providing a specific function within it. <i>Equipment is listed in LANL CMMS with a unique equipment tag.</i> [ESM Ch. 1 Section 200; AP-341-502]                                                                                                                                                                                                                     |
| Equipment and Infrastructure List (EIL)   | A database developed to track work/upgrade activities for TA-55.<br><i>Segments of such work, and corresponding asset, will have an associated EIL number (e.g., 0787 or simply 787).</i>                                                                                                                                                                                                                                                      |
| Equipment Important to Safety             | For the purposes of answering USQD questions, equipment important to safety includes the SC/SS SSCs identified in the DSA and any equipment whose function, malfunction, or failure can affect safety functions of safety Structures, Systems, and Components (SSCs) or Specific Administrative Controls (SACs) described in the DSA. [DOE O 421.1 draft 2023-11-16]<br><i>At LANL, this is typically called a Vital Safety System.</i>        |

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| Equivalencies                        | <p>Alternatives to how a requirement in a directive is met in cases where the “how” is specified. These represent acceptable, alternative approaches to achieving the goal of a directive’s requirement. [<a href="#">DOE O 251.1D Chg 1 (Admin Chg)</a>, <a href="#">Departmental Directives Program</a>; ESM Ch. 1 Z10; <a href="#">P310-1</a>]</p> <p><i>In CoE, this term is used when DOE/NNSA-directive-based matters arise. This is most often with <a href="#">DOE O 420.1C 3.c</a> which addresses the in general process and for special cases.; otherwise, CoE uses “<a href="#">Alternate Method</a>.”</i></p> <p><i>The DOE EHSS PC <a href="#">Portal FAQs</a> [2024-8] addresses worker safety and health CFRs and has detailed instructions on submittal process. For fire matters, see also DOE-STD-1066.</i></p> <p><i>Finally, DOE G 420.1-1A, 5.4.16 has the following guidance:</i></p> <p><i>Justification of equivalent codes and standards should demonstrate that the proposed design of the SSCs meets, or exceeds, the level of safety (e.g., meets, or exceeds, the level of protection) provided by the normally applied codes and standards. Evaluation of the level of safety should address:</i></p> <ul style="list-style-type: none"> <li>• <i>Critical safety attributes of the SSCs;</i></li> <li>• <i>Critical characteristics of the SSCs that are important to design, material, and performance of the SSCs;</i></li> <li>• <i>The reliability of safety SSCs; and,</i></li> <li>• <i>The margins of safety to failure of the SSCs (e.g., pressure, temperature, environmental conditions, and other design loads) provided by application of the code.</i> <p><i>For individual components, equivalency should be demonstrated by defining and verifying that the substitute component meets or exceeds these characteristics. Equivalencies should be well documented with a technical basis and should receive peer review by a technically capable and experienced designer.</i></p> </li></ul> |
| Equivalency Evaluation               | <p>A technical evaluation performed to confirm that a replacement item (not identical to the original) can satisfactorily perform its intended functions, including its safety functions. [AP-341-503]</p> <p>See <a href="#">Guidance on Technical Evaluations and Item Dedication</a> in the <a href="#">Engineering Learning Guide</a> collection.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Equivalent Quality Assurance Program | <p>An equivalent quality assurance program that is alike in scope and implementation to PD330. [AP-341-513]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Equivalent Replacement               | <p>A replacement item not physically identical to the original. These items require equivalency evaluation to ensure that the intended functions, including its safety functions, will be maintained. [AP-341-503]</p> <p><i>See also Equivalency Evaluation above.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Ergonomics                           | <p>Also known as human factors or human factors engineering, is the application of psychological and physiological principles to the engineering and design of products, processes, and systems. [Wikipedia]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Errata                               | <p>A list of errors and their corrections inserted or provided in a separate page or publication. [ANSI Webstore <a href="#">Glossary</a>] ESM Ch. 1 Z10 directs that errata be followed. A corrigendum is similar -- a correction page after the standard is published.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| ES Learning Series                                     | Optional, monthly, often lunch-time seminars on topics of potential interest to Engineering Services Division.<br><i>Recordings on Ventana server <a href="#">here</a>. Recordings from the previous (2020 – Sept 2025) “brownbag” series by the PE Lead SME <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                               |
| Essential Spare Parts (ESP); ESP List (ESPL)           | Components and/or replaceable parts needed to support sustained mission operations. ESPs are defined as components and/or replacement parts for Management Level (ML)-3 and ML-4 programmatic equipment required for facility functional reliability, support of the production mission, product quality reliability, programmatic related defense in depth, and Preventive Maintenance (PM) program. [PA-AP-01127, R2, ALDWP Programmatic Equipment – Essential Spare Parts Program]<br><br><i>ML-1 and -2 programmatic spares would appear on a critical spare parts list/CSPL per AP-341-521.</i> |
| Essential Systems                                      | Within PFE, those systems deemed by FDAR/management as potentially essential to normal operations (could impact the mission).<br><br><i>They are currently in PF and CWF, are ML-4, and receive enhanced care from their system engineers. If not Essential, systems are either VSS (thus also ML-3 or higher) or Non-Essential (all the rest).</i>                                                                                                                                                                                                                                                  |
| Examination                                            | <ol style="list-style-type: none"> <li>1. In ASME pressure safety work, <u>quality control</u> work performed by the manufacturer, fabricator, or erector. <i>Inspection is a second layer of QA over this. For LANL self-perform work, this can occur simultaneously by the same person.</i> [ASME B31.3; ESM Ch. 17, GEN-1]</li> <li>2. In nondestructive examination, a procedure for determining a property (or properties) or other conditions or characteristics of a material or component by direct or indirect means. [ASTM E1316-24]</li> </ol>                                            |
| Examiner                                               | In ASME pressure safety work, an “individual with the training and experience commensurate with the needs of the specified examinations. It is the person who performs the <u>quality control</u> examinations and is performed by the manufacturer, fabricator, or erector.” [ASME B31.3; ESM Ch. 17]. <i>Oversight of such examinations is by an <a href="#">Inspector</a>.</i>                                                                                                                                                                                                                    |
| Example Design                                         | A multi-discipline set (as opposed to a single-drawing-type example) in the <a href="#">STD-342-400</a> collection (under the General heading) illustrating a package that met expectations (e.g., completeness, quality, formality, professionalism).<br><br><i><a href="#">Explanation of drawing types and numbers</a> in the collection.</i>                                                                                                                                                                                                                                                     |
| Example Drawing                                        | A depiction of acceptable content and format for a given construction drawing type in the <a href="#">STD-342-400</a> collection, and located under the applicable discipline. [ESM Ch. 1, Z10].<br><br><i><a href="#">Explanation of drawing types and numbers</a> in the collection.</i>                                                                                                                                                                                                                                                                                                           |
| Excavation/Fill/Soil Disturbance Permit Request (EXID) | Excavation/fill/soil disturbance request tool includes utilities locates and may be accessed through the Integrated Review Tool/ <a href="#">IRT</a> . [P101-17]                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Execution;<br>Execution Phase | <ol style="list-style-type: none"> <li>1. Phase: For asset capital projects, construction (and/or installation) and startup, testing, and turnover to operations (and at LANL, if not subject to DOE O 413.3B, maybe final design also). See "<a href="#">Project Phases</a> (non-nuclear)" and, for line items, Critical Decisions for further.<br/><br/><i>See Construction Administration for LANL-typical design agency services during this phase.</i></li> <li>2. Part 3 Execution, of a CSI-format construction specification section, "describes installation or application, including preparatory actions and post-installation cleaning and protection. Site-built assemblies and site-manufactured products and systems are included." Tests, inspection, and verification of performance <u>at the source</u> (fabricator) are not Part 3 and belong in Part 2. [CSI PRM and SectionFormat]</li> </ol> |
| Executive Order<br>(EO)       | <p>Directive from the White House to heads of departments.</p> <p><i>These are not self-invoking to DOE contractors; direction to implement them is normally through directives (e.g., DOE orders incorporated into contract), or from field office contracting officer letter. Can be searched <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Exemption                     | <p>A release from compliance with one or more requirements in a directive, as granted by the exempting organization's Head of the Departmental Element. [<a href="#">DOE O 251.1D Chg 1 (Admin Chg), Departmental Directives Program</a>; ESM Ch. 1 Z10; <a href="#">P310-1</a>]</p> <p><i>In CoE, this term is used when DOE/NNSA-directive-based matters arise; generally from and discussed in <a href="#">DOE O 420.1C 3.c.</a>; otherwise, CoE uses "<a href="#">Variance</a>." For fire matters, see also DOE-STD-1066. For DOE CFRs, see also EHSS PC Portal FAQ info at <a href="#">Equivalencies herein</a>.</i></p>                                                                                                                                                                                                                                                                                       |

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| Exhibits (Ex.)                 | <p>For a LANL procurement contract: “Attachments to the agreement, contract, subcontracts, or purchase orders that focus on particular requirements supplementary to the items, services, or construction under contract. These exhibits may include but are not limited to quality standards, security, environmental, safety, and health requirements.” <a href="#">[BUS-ASM-DO-0001, Procurement Policy and Procedure Manual]</a></p> <p><i>From approximately 2006–2022, nearly 10 exhibits were employed (since 2025, generally only exhibits F–H and I are present with other content included but not as exhibits per se).</i></p> <p><i>Actively Used Exhibits:</i> ASM Exhibit Portal <a href="#">here</a>. Or, for the following, use Portal and/or follow links included:</p> <ul style="list-style-type: none"> <li>• Environmental, Safety and Health Requirements (aka <a href="#">Exhibit F</a>)</li> <li>• Physical Security Requirements (aka <a href="#">Exhibit G-Physical</a>)</li> <li>• Cyber Security Requirements (aka <a href="#">Exhibit G-Cyber</a>)</li> <li>• Quality Assurance Requirements (aka Exhibit H, see definition below)</li> <li>• Subcontractor Submittal Requirements (aka <a href="#">Exhibit I</a>) which points to Specification Section 01 3300 Submittal Procedures for engineering and quality submittals</li> </ul> <p><i>Historical Exhibits:</i></p> <ul style="list-style-type: none"> <li>• General Conditions (was Exhibit A)</li> <li>• Special Conditions (was Exhibit B) <ul style="list-style-type: none"> <li>○ Latest are in Ariba and ASM’s limited-access googledocs <a href="#">directory</a> (current terms &amp; conditions <a href="#">here</a>); older versions of above <a href="#">here</a>.</li> </ul> </li> <li>• Technical Requirements (was Exhibit D) – now the Statement of Work (SOW)</li> <li>• List of Drawings or Subcontract Reference Documentation (was <a href="#">Ex. E</a>)</li> </ul> |
| <a href="#">Exhibit H</a>      | Procurement document prepared by the P-TSME and approved by a P-QSME. This Exhibit contains the QA requirements applicable to the procurement of items and/or services. [P841-1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Existing Data                  | <p>Data determined to be necessary for activities specified in Part I (of ASME NQA-1) but developed prior to the implementation or outside of Part I; or data published in scientific publications. Existing data does not include information that is accepted by the scientific and engineering community as an established fact (e.g., engineering handbooks, density tables, gravitational laws, etc.). [NQA-1; NQA-1 App. 3.1, AP-341-511, AP-341-513]</p> <p><i>Note: LANL adopted a QA program based on ASME NQA-1 in SD330, R2, eff. 9/25/2012, LANL Quality Assurance Program (now PD330); as such, data older than that may be indeterminate.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Extent of Condition Evaluation | An analysis used to determine the actual or potential applicability for a same or similar causal factor, condition, and/or issue to exist in other activities, projects, programs, facilities, or organizations. [P322-4 r18 Chg. 2]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| External Design Agency (EDA)   | An organization independent from LANL that provides design products to LANL (Architect-Engineers, design-build contractors, other DOE sites, equipment fabricators, and vendors). [AP-341-620]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| F                                                                 | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Fabricator                                                        | <p>A firm assembling items.</p> <p><i>Examples: Equipment, structural items, piping, gloveboxes.</i></p> <p><i>Note: The IBC is only concerned with Building Official “Approved Fabricators” — firms that produce Fabricated Items, which are “Structural, load-bearing or lateral load-resisting members or assemblies consisting of materials assembled prior to installation in a building or structure, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure ...” [IBC 2021, §202, 1704.2.5]. These may be concrete, steel, or other metal (wood rare at LANL). Related: <a href="#">Listing of LBO-Approved IBC Testing, NDE, and Inspection Agencies; Fabricators; and Products.</a></i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Facilities Information Management System ( <a href="#">FIMS</a> ) | DOE/NNSA’s Real Property Database of Record. [SD 430.1C]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Facility                                                          | <p>Note: The first definition is sufficient for most purposes, but use the most applicable, based on the source matching context. Underlining added.</p> <ol style="list-style-type: none"> <li>Any equipment, structure, system, process, or activity that fulfills a specific purpose. <u>Facilities do not have to be structures</u>. Examples include accelerators, storage areas, fusion research devices, nuclear reactors, production or processing plants, coal conversion plants, magneto-hydrodynamics experiments, windmills, radioactive waste disposal systems and burial grounds, environmental restoration activities, testing laboratories, research laboratories, transportation activities, and accommodations for analytical examinations of irradiated and unirradiated components. [DOE-STD-1066-2023; former DOE-HDBK-1188, <i>Glossary of Environment, Safety and Health Terms</i>; ESM Ch. 1, Z10; Ch. 13, Vol. 1, 1-99]</li> <li>A structure or collection of structures identified in the LANL FIMS database that occupy(ies) real estate. [PD912 r0]</li> <li>Improvements, structures, and fixtures located thereon (including prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers with or without undercarriages), and appurtenances thereto. [adapted from 41 CFR 102-71.20 definition of real property].</li> <li>For the purpose of this Guide, the definition most often refers to buildings and other structures, their functional systems and equipment, and other fixed systems and equipment installed therein to delineate a facility. However, specific <u>operations</u> and <u>processes independent of buildings or other structures</u> (e.g., waste retrieval and processing, waste burial, remediation, groundwater or soil decontamination, decommissioning) are <u>also encompassed by this definition</u>. The flexibility in the definition does not extend to subdivision of physically concurrent operations having potential energy sources that can seriously affect one another, or which use common systems fundamental to the operation (e.g., a common glovebox ventilation exhaust header). [<a href="#">DOE G 420.1-1A, Nonreactor Nuclear Safety Design Guide for use with DOE O 420.1C, Facility Safety</a>]</li> </ol> |

*Note: For nuclear facilities, [10CFR830](#) also includes activities that occur within the facility.*

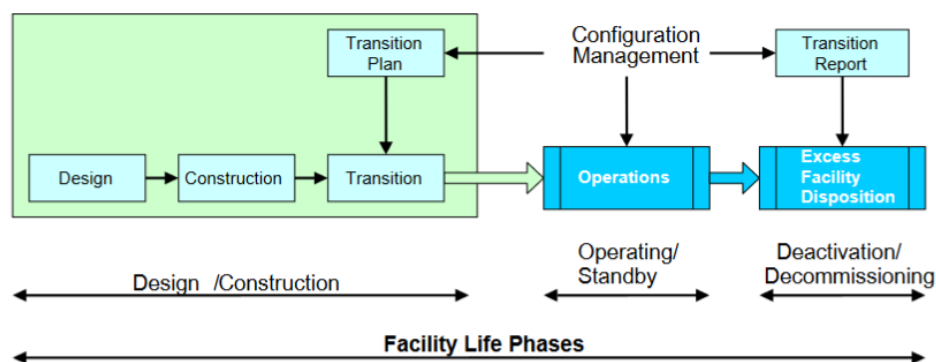
5. The buildings, utilities, structures, and other land improvements associated with an operation or service and dedicated to a common function. [[DOE G 450.4-1C](#), [ISM System Guide](#)]

*Note: For administration reasons, ESM (Ch. 16; Ch. 1 Sections Z10 and 200) treat utilities and other site/horizontal infrastructure distinctly from other facilities (while both are real property).*

Historical definitions of facility:

*Former DOE Order 4330.4B: A synonym for Real Property and Installed Equipment. RP&IE is the land, improvements on the land such as buildings, roads, fences, bridges, and utility systems and the equipment installed as part of the basic building construction that is essential to normal functioning of a building space, such as plumbing, electrical, and mechanical systems. This property/equipment is also referred to as institutional or plant and was formerly known as Class A.*

*Former Acquisition and Project Management Glossary of Terms Handbook: Any building, structure, or other improvement to real property including their functional systems and equipment; site development features such as landscaping, roads, walks, and parking areas; outside lighting and communications systems; central utility plants; utility supply and distribution systems; and other physical plant features. [compiled from DOE O 430.1; NA SD 430.1; 10 U.S.C. Sec. 2801(c)(1); and DOE G 413.3.21]*



Credit: P341 r7

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|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facility Conduct of Engineering (FAC-COE)       | <p>As set forth in <a href="#">PD340</a>, the program devoted to the LANL Engineering Standards, plus the other CoE programs (Eng. Processes and Eng. T&amp;Q) for facilities and programmatic SSCs and activities when it can affect the safety basis or technical baseline configuration of a facility. <i>Thus, this includes programmatic or R&amp;D engineering work either:</i></p> <ul style="list-style-type: none"> <li>• <i>involving SSCs described in the facility's safety basis (e.g., DSA, SAD, ASE), and/or</i></li> <li>• <i>conducted on Programmatic Real Property (fixed or process) that constitutes or supports a LANL facility and thus warrants rigorous configuration management for asset management or mission sustainment reasons.</i></li> </ul> <p><i>See also Programmatic R&amp;D Engineering herein (e.g., for PD370 applicability).</i></p>                                                                                                                                                                                                                           |
| Facility Design Authority (FDA)                 | <p>A Design Authority for a facility, group of facilities, or all LANL facilities, appointed by ALDFO to implement Conduct of Engineering within their designated scopes. There is one LANL Site Chief Engineer Facility Design Authority and may be one or more Facility Specific Facility Design Authorities. [ref. PD340 r8].</p> <p><i>Currently, the FDAs are the Division Leads of Engineering Services and <a href="#">Plutonium Facilities Engineering</a>. See also FDAR below.</i></p> <p><i>Generally synonymous with Design Authority. FDA term created in PD340 Rev. 5 (2014) when it was revised to allow for DA/DAR within PD370 scope; FDAR use widespread by 2017.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                             |
| Facility Design Authority Representative (FDAR) | <p>Responsible for approving design inputs, implementing design control, approving design outputs, approving design requirements and design configuration, and identifying and maintaining technical baseline documents for a facility or project. Has the primary responsibility of assuring integration of safety and security into the design process. Qualified individuals are designated by the applicable Design Authority (or Site Chief Engineer) for each facility or major capital project. [P341; ESM Ch. 1, Z10]</p> <p><i>The <a href="#">CoE Training and Qualification</a> program with P343 describes the T&amp;Q requirements for the FDAR position.</i></p> <p><i>FDAR and DAR are generally synonymous within Facility CoE. A listing of CENG-qualified DARs/FDARs is <a href="#">here</a>; it includes PD340-scope programmatic facilities and operations such as DARHT, LANSCE, NCERC, NNSS's U1a, and Packaging &amp; Transportation (LOG-PT). So-called "super-FDARs" are qualified for all facilities, e.g., qualified LBO(s), and the Site Facility Design Authority.</i></p> |
| Facility Design Description (FDD)               | <p>A document that defines the facility, its systems and functions. Provides links between design documents, safety basis, and implementing procedures. The FDD focuses on facility structures, systems and components (SSCs), systems that are facility-wide, that are not subject of a System Design Description (SDD), and information that is common to multiple systems. [ESM Ch. 1, Z10, <a href="#">Att. D new facility template</a>].</p> <p><i>AP-341-612 is intended for reconstitution in an existing facility where some bases may not be recoverable. See also System Data Sheet, SDS.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Facility Engineering Manager (FEM)                                 | <p>A supervisor in the technical organizational line (i.e., on an org chart) for a facility – a subset of EMs.</p> <p><i>FEMs are generally in ES or PFE divisions. Most FEMs are also FDARs and vis-a-versa; however, they have different R2A2s and have different <a href="#">qual standards</a>. If it appears that an AP-341 is using EM or FEM incorrectly, seek clarification if problematic (intent unclear).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Facility Operation Director or Directorate ( <a href="#">FOD</a> ) | <p>All site structures are assigned to a Responsible Associate Director (RAD); the FOD is the RAD's principal agent for operations and is responsible for executing non-programmatic work in the RAD's facilities. A FOD's area may include facilities assigned to more than one RAD.</p> <p><i>There are currently seven FODs who collaborate with the RADs to tailor facility/area-specific implementation of requirements based on need — but all will meet requirements and will comply with LANL standardized processes, like Formality of Operations. Each FOD has a number (1–10) and a maintenance management group assigned to them from MSS Division, charged with facility maintenance for that FOD only, as well as an engineering group from ES or PFE. [adapted from <a href="#">here</a>.]</i></p> <p><i>FOD-by-building, Eng Mgr, and other assignments are in <a href="#">LANL Locator</a> (also <a href="#">Archibus Web Central</a>). [SD900; ESM Ch. 1, 200]</i></p> |
| Facility Representative (FACREP, NNSA)                             | <p>An individual assigned responsibility by the Field Element Manager (or designee) for monitoring the safe and efficient performance of the site/facility and its operations. This individual is the primary point of contact with the contractor for operational and safety oversight and is responsible to the site's/facility's DOE Line Manager. [<a href="#">DOE O 422.1 Chg 4 (LtdChg)</a>, <a href="#">Conduct of Operations</a>] <a href="#">PowerPedia page</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Facility Service Request (FSR)                                     | <p>Online system that provides a mechanism for any LANL employee to identify and request work to a facility or SSC. This may include technical services, facility repairs, replacement or modification to real property or programmatic assets. [<a href="#">P950</a>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Facility System Engineer (FSE)                                     | <p>An engineer responsible for one or more systems.</p> <p><i>Plant System Engineer is the same but decreasingly used. Some FSEs may be with a nuclear facility (e.g., PFE's Essential Balance of Plant group); however, most support non-nuclear ones. Cognizant System Engineer (CSE) and Process Engineer (PrE) positions are similar but have significantly increased training and qualifications. Systems (the plural) Engineers (<a href="#">SE</a>) are very different.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Failure Modes and Effects Analysis (FMEA)                          | <p>An evaluation of an item's credible failure mechanisms and their effect on system and/or component functions. (DOE-HDBK-1230-2019 CGD Application) [AP-341-703] See "<a href="#">A Guide to FMECA</a>" in the <a href="#">Engineering Learning Guide</a> collection. <i>FMECA is failure modes, effects, and <u>criticality</u> analysis (adds impact)</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Failure Reporting Analysis and Corrective Action System (FRACAS)   | <p>Process that enables an organization to compare significant failures in a single event to seemingly insignificant failures spread across many events to see which problem is more valuable to solve for the organization. FRACAS is possible when failure codes ... are assigned to all corrective work on closeout. [Reliability Eng Focus Team/REFT of ASSET-MGMT Step Definitions, 2025]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Federal Acquisition Regulation ( <a href="#">FAR</a> ) | <p>The primary regulation for use by all executive agencies in their acquisition of supplies and services with appropriated funds. The FAR also contains standard solicitation provisions and contract clauses and the various agency FAR supplements. <a href="#">[GSA]</a></p> <p><i>CAUTION: The LANL Prime <a href="#">contract</a> includes only selected FAR and <a href="#">DEAR</a> provisions, with some modified (a subset is passed down to subs in ASM pro forma). While the official prime contract includes such clauses by reference only in Part II Section I, the following link directs you to PCM's working document with full text of all such contractual clauses: <a href="#">Prime Contract I Clauses with full text (modifications included) (pdf)</a>. FAR numbering is 52.2XX.</i></p>                                                                                             |
| Field Change Request (FCR)                             | <p>Form used to process field changes for design changes that do not rise to the level of a Design Revision Notice. FCRs may affect multiple disciplines, may affect multiple design documents, may generate new design documents, and may require reviews by multiple organizations. FCRs should not introduce new functions or requirements that exceed those defined in the project definition documents. <a href="#">[AP-341-519]</a></p> <p><i>FCRs can be produced by <a href="#">Delta</a> (within logs per project) or standalone template with the AP. There is a Simple FCR process alongside the normal that replaced Field Change Notices (FCNs) in 2017, and Delta has an <a href="#">FCN module</a>.</i></p>                                                                                                                                                                                   |
| Field Engineer (FE)                                    | <p>LANL role responsible for ensuring that the technical aspects of capital asset projects are in full conformance with the approved project documents by monitoring construction activities. This is accomplished by providing input during initiation, definition, execution, and project closeout to ensure baseline documents are accurate, design documents are adhered to, and as-built configurations are verified. FEs expedite project execution by identifying issues, coordinating technical solutions, and providing timely guidance to the constructor through approved procedures. <a href="#">[SD350 r13 §4.8; ESM Ch. 16]</a></p> <p><i>ES-Div has <a href="#">DI-ES-PD-310</a>, Field Engineering Design Support.</i></p> <p><i>Note: It's possible for subcontracted constructors to have an FE also, but in LANL documents, FE refers to LANL personnel unless clearly otherwise.</i></p> |
| Final Acceptance                                       | <p>The written acceptance issued to the constructor by the after project has achieved final completion. <a href="#">[ESM Ch. 15]</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Final Completion                                       | <p>Occurs when the work is fully and finally completed in accordance with the construction subcontract documents and all deficiencies have been corrected. <a href="#">[ESM Ch. 16 IBC-GEN FM05; Ch. 15]</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Final Design                                           | <ol style="list-style-type: none"> <li>1. Physical sense: The approved design output documents and approved changes thereto (ASME NQA-1). <a href="#">[AP-341-620]</a></li> <li>2. Process sense: Project design phase marked by completion of the design effort and production of approved design documentation necessary to permit procurement, construction, testing, checkout, and turnover to proceed. (From DOE O 413.3B). In a capital asset project, the end of final design is marked by CD-3 approval for large projects and is equivalent to 90% review and 100% design completion for smaller projects. <a href="#">[AP-341-620]</a>. Also referred to as <a href="#">Title II</a> based on old DOE documents.</li> </ol> <p><i>Same as <a href="#">Construction Documents</a> (both physically and process step)</i></p>                                                                        |

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| Final Design Phase                     | The phase of system/facility acquisition that develops component-level detailed designs that can be procured, manufactured, and constructed. (Begins when Critical Decision 2 [CD-2] is received, ref. DOE O 413.3B) [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                  |
| Final Product Validation               | The process of confirming that a completed final product meets stakeholder and/or mission requirements and is suitable for its intended use in the actual operational environment – the right final product was built. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                |
| Finding                                | A validated violation of a document or codified requirement regardless of the source. [AP-341-901]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Fire Hazard Analysis (FHA)             | A comprehensive assessment of the hazards of and potential damage from fire in a building or group of buildings, which takes one of the following forms: (a) Building/Facility FHA that establishes the fire safety of the facility at the time it is issued; (b) Preliminary/Project FHA which establishes the fire protection requirements for a new building or a modification to an existing building; or, (c) Transitional FHA which evaluates the minimum fire protection needs during a major transition from an operating status to some other status. [DOE-STD-1066-2023] |
| Fire Protection ( <a href="#">FP</a> ) | <ol style="list-style-type: none"> <li>1. The concept of reducing injury and loss due to fire. This includes an administrative program (<a href="#">PD 1220</a>, and definitions therein), design and construction requirements, and an NNSA-designated SMPO/AHJ/Fire Marshal.</li> <li>2. LANL organization or individuals responsible for the above program.</li> </ol> <p><i>Many FP definitions are in ESM Ch. 2 D40GEN, also TSM.</i></p>                                                                                                                                     |
| Fire Protection Design Analysis (FPDA) | An engineering analysis for non-nuclear facilities during or preceding the preliminary design to establish fire protection design criteria, including applicable national codes and consensus standards. Updated during the design process, the FPDA provides a comprehensive design review that ensures the fire protection requirements are incorporated into the design. [DOE-STD-1066-2023]                                                                                                                                                                                    |
| Fiscal year (FY)                       | <p>The U.S. government financial year that runs Oct–Sept, with the year reflecting the Jan–Sept (majority) portion of it.</p> <p><i>Usage examples: FY25; FY2025; 1QFY26 or Q1 FY26 [the first quarter of FY26 (i.e., Oct–Dec, 2025)].</i></p> <p><i>LANL FY financial closing effort necessitates that some accountings end the last full timecard week of Sept and some purchase accruals even sooner.</i></p> <p><i>Note: <u>CY</u> is calendar year, Jan–Dec.</i></p>                                                                                                          |
| Form 410                               | <p>Shorthand for ASM document 3041.00.0410, <i>Goods or Services Requiring Special Review and Approval</i>, a listing of items and services that need additional approval to purchase.</p> <p><i>Find on <a href="#">EDRMS website</a>, bottom of ASM <a href="#">Procurement</a> webpage, or directly <a href="#">here</a>. Includes items and/or services controlled by engineering programs governing buildings and structures, pressure safety, and welding.</i></p>                                                                                                           |
| Formality of Operations                | The aggregation of the conduct of operations, maintenance, engineering, training, and any/all other “conduct of” programs.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Function                                                                        | A task that must be performed. A function statement describes the capability necessary for a facility, system, or component to fulfill its mission. Describe a function using verb/noun combination such as “filter particulate.” A function transforms inputs to desired outputs. In the example of “filter particulate,” the function transforms an input fluid containing particulates into two outputs, the fluid without particulates and the particulates. A function describes what must be done, not how. Every function has at least one requirement associated with it. [AP-341-601, -602; ESM Ch. 21, SOFT-INTRO]        |
| Functional                                                                      | An SSC is functional when it can perform its specified functional requirements and performance criteria. [AP-341-514]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Functional Analysis                                                             | A systematic process for determining the capabilities necessary to achieve the desired operational objectives and contract requirements. This process is iterative in nature, generating a hierarchy of functions that can be allocated to implementing SSCs. Also included is a process for decomposing [parsing or separating] a requirement into distinct parts that the project can satisfy through engineering of facilities physical systems and technological elements. [ESM Ch. 20]                                                                                                                                         |
| Functionality Assessment (FA)                                                   | A disciplined evaluation of the ability of an SSC to perform its specified functional requirements and performance criteria upon discovery of degraded condition. [AP-341-514]                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Functional Document (aka Functional Series Document – FD, <a href="#">FSD</a> ) | [Provides] a subset of workers with greater detail to implement institutional documents. Functional documents must be described in a parent institutional document. Functional documents must not conflict with other institutional or functional documents, unless an exception is approved by the Policy Lead and the IA of the conflicting institutional document. [SD311 r0.1 <i>Policy System</i> ]; AP-341-401.<br><i>Same as Functional Series Documents. Policy <a href="#">website</a> lists them, e.g., <a href="#">here</a>. CoE examples are this glossary, the APs, the Engineering Standards, and qual standards.</i> |
| Functional Requirement                                                          | Requirements assigned to safety related SSCs that will ensure the Safety Function is met. Derived from hazard analysis and/or accident analysis and are defined and documented in facility safety analysis documents. [AP-341-607, AP-341-610, ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                          |
| Functional Specification                                                        | A document that specifies the final product to be delivered by a project. The definition identifies, in quantifiable terms, the final product boundaries, interfaces, functionality, performance, constraints and other specific requirements. At LANL, the functional specification need is met by the FRD and RCD. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                   |
| Functional Testing                                                              | Testing of a component or subsystem against prescribed acceptance criteria, based on the owner’s project requirements, vendor documentation, or industry standards to ensure that the SSC’s functions and follows a prescribed sequence of operations according to the predetermined design requirements. [ESM Ch. 15]                                                                                                                                                                                                                                                                                                              |

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| Functional Requirements Worksheet (FRW)                | <p>When using a formal systems engineering approach, the requirements for equipment (e.g., process) being installed with the facility construction; produced by the systems engineering function to support that approach (e.g., of ESM Ch 20).</p> <p><i>Normally created in the construction phase, needed because procurements usually don't call out functional requirements for equipment being installed (e.g., in glove boxes), simply source by part number or description.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Functions and Requirements Document (FRD)              | <p>Appropriate for complex projects, FRDs are developed from the Mission Need, Program Requirements Documents, and specific facility characterization data to quantify and qualify project requirements more concisely. [AP-341-601; ESM Ch. 20].</p> <p><i>When present, a companion to the RCD. Formerly called Functions &amp; Operating Requirements (F&amp;OR).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>G</b>                                               | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| General Documents                                      | Technical documents that are not categorized as Priority or Support Documents but provide engineering details to support work activities within a facility. [AP-341-405; ESM Ch. 1, Z10. Supersedes <a href="#">VAR-10642</a> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| General Plant Project (GPP)                            | See Minor Construction Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| General Test Criteria (GTC)                            | <p>A set of parameters that are observed or measured during a test: (1) to determine if functional or performance requirements are met for a non-safety or non-permitted component, system, or integrated set of systems; or (2) to confirm an assumption used as a basis for design of such items.</p> <p>GTC can be either qualitative or quantitative. They are established only for those parameters that need verification through test and have a set of limits that are established by design. GTC specify the location of measurement or the conditions for a test if it is necessary to provide a context for validation of the parameter. GTC can be expressed as an upper limit, lower limit, or a range (e.g., not to exceed 40 ft per minute, not less than 40 feet per min, or 40 feet per min <math>\pm 10\%</math>). GTC is the term applied to test criteria used to confirm compliance with requirements other than nuclear safety and regulatory permit requirements. [ESM Ch. 20]</p> |
| Glovebox (GB)                                          | A controlled environment work enclosure providing a primary barrier from the work area. The operation is performed through sealed, gloved openings to protect the worker, the ambient environment, and/or the product. [DOE-STD-1066-2023]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Government Furnished Equipment (GFE) or Property (GFP) | <p>LANL-furnished property or products, or in general to describe any LANL-furnished equipment for installation by the Construction Subcontractor in the work or used in its performance. [LMS 01 4216]</p> <p><i>ASM's Subcontract documents may also use "CONTRACTOR-furnished" so that term is potentially preferable (while not typical in non-LANL government work).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Graded Approach              | The process of ensuring that the level of analysis, documentation, and actions used to comply with a requirement in this part are commensurate with: (1) The relative importance to safety, safeguards, and security; (2) The magnitude of any hazard involved; (3) The life cycle stage of a facility; (4) The programmatic mission of a facility; (5) The particular characteristics of a facility; (6) The relative importance of radiological and nonradiological hazards; and (7) Any other relevant factor. [10 CFR 830.3; PD330; ESM 15, Ch. 5 Section I]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Guide                        | A document that provides recommended non-mandatory methods for accomplishing a task. Guides use terms such as “should” to express an expectation or “may” to identify a permitted method rather than compliance terms such as “must”, “shall”, or “will”. [AP-341-401]<br><i>The DOE directives program includes Guides <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Guiding Principles, The (GP) | The group of criteria defined by <a href="#">Guiding Principles for Sustainable Federal Buildings and Associated Instructions</a> issued by the Council on Environmental Quality in December of 2020. <i>Often referred to as “The Guiding Principles,” the document outlines a set of sustainable principles and practices to guide agencies in designing, locating, constructing, maintaining, and operating Federal buildings in a sustainable manner.</i> [ESM <a href="#">Ch. 14</a> r13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| H                            | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Hazard                       | A source of danger (i.e., material, energy source, or operation) with the potential to cause illness, injury, or death to a person or damage to a facility or to the environment (without regard for the likelihood or credibility of accident scenarios or consequence mitigation). [10 CFR 830.3; DOE-STD-3009-2014]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hazard Category (HC)         | A designation relating to risk to worker or public yielding DOE and/or LANL requirements to prevent and/or mitigate those risks. [ <a href="#">SBP111-1</a> r7]<br><br><ol style="list-style-type: none"> <li>1. <i>For non-nuclear, the seven categories are Accelerator, Biological, Chemical (with 4 levels), Explosives, Firing Range, Nature of Process, and Standard Industrial. Standard Industrial Hazard means under the thresholds in Figure A-1 of <a href="#">DOE-HDBK-1163-2020</a>, Integration of Hazards Analyses. Some of the above HCs refine the former system (High, Medium, Low, Less-than-low, etc).</i></li> <li>2. <i>For nuclear, HC is per 10 CFR Part 830, Subpart B, App. A Table 1; DOE-STD-3009; and the DOE-STD-1027-2018 Table 3.1 category (1, 2, or 3) or Below Hazard Category 3 (aka &lt;HC-3 or Radiological) — so four categories, but LANL doesn’t have any HC 1 (reactor) facilities, so three.</i><br/><br/> <i>From 10 CFR 830.3: Nuclear facilities meet the criteria for their respective HC consistent with the provisions of DOE-STD-1027-92, Chg 1. HC 1, 2, and 3 DOE nuclear facilities are required to have safety bases established in accordance with Subpart B of this part. Hazard categories are based on their radioactive material inventories and the potential consequences to the public, workers, and the environment. ...</i><br/><br/> [ESM Ch. 1, Z10; Ch. 5; Ch. 13, Vol. 1, 1-99]</li> </ol> |

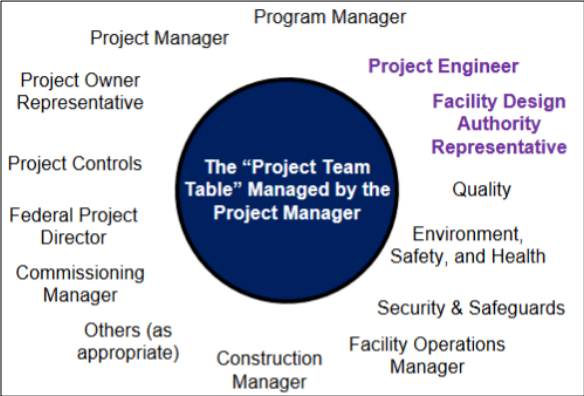
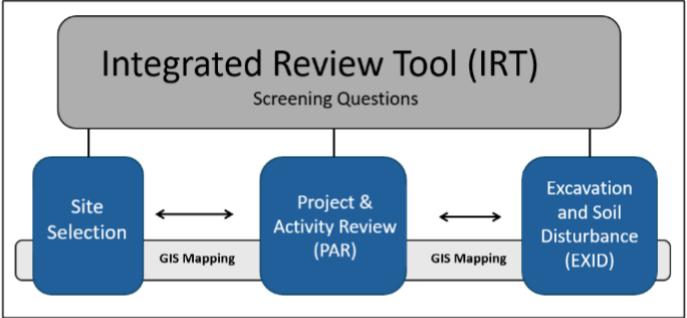
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| Hazard Controls                         | Measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment, including: <ul style="list-style-type: none"> <li>a. physical, design, structural, and engineering features;</li> <li>b. safety structures, systems, and components (SSCs);</li> <li>c. safety management programs (SMPs);</li> <li>d. TSRs; including SACs and,</li> <li>e. other controls necessary to provide adequate protection from hazards</li> </ul> [10 CFR 830.3; DOE-STD-3009]                                 |
| Hazardous material                      | Any solid, liquid, or gaseous material that is toxic, explosive, flammable, corrosive, or otherwise could adversely affect the health and safety of the public or workers or harm the environment. [DOE-STD-3009-2014, ESM Ch. 5 Section I]                                                                                                                                                                                                                                                                             |
| Hazards Controls                        | Hazard controls mean measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment, including: <ol style="list-style-type: none"> <li>1. Physical design, structural, and engineering features.</li> <li>2. Safety structures, systems, and components.</li> <li>3. Safety management programs.</li> <li>4. Technical safety requirements; and</li> <li>5. Other controls necessary to provide adequate protection from hazards.</li> </ol> [10CFR830; ESM Ch. 21, SOFT-INTRO]           |
| High-Hazard Work                        | When maintenance, work involving a high-hazard environment and/or an extensive planning effort. This work process is further described in <a href="#">AP-WORK-002</a> , <i>Work Planning</i> . [P950]                                                                                                                                                                                                                                                                                                                   |
| High-level Requirement                  | Functional and performance requirements and mission objectives that are normally defined by the customer in their technical requirements documents. Also included are technical requirements from regulations, directives, policies, and other customer and corporate documents. [ESM Ch. 20]                                                                                                                                                                                                                           |
| Hold Point (Inspection, Test, or Other) | A mandatory verification point in the sequence of work that is designated for review, which work must be held pending arrival of the designated organization. It cannot be bypassed without the specific release by an approved Hold Point Waiver. [P330-8; LMS 01 4000]<br><br><i>When QD-09 Hold Points is invoked in Exhibit H Part 1 / <a href="#">IQPA-IQ-FD-105</a>, constructor must notify LANL within 7 days for offsite work, 2 days for onsite. See also <a href="#">Witness Point</a> in this glossary.</i> |
| Hold Point Waiver                       | As described in applicable work control documents (e.g., field change, design change process), documentation approved by authorized personnel that govern the configuration management for the item and state that a specified Hold Point may be waived. [P330-8].                                                                                                                                                                                                                                                      |
| Horizontal infrastructure               | Structures that are longer than they are tall (e.g., roads, parking lots, bridges, tunnels). This is opposed to vertical infrastructure (e.g., shelters, benches, bicycle racks, trash receptacles, bus stop signs and poles, accompanying vegetation and landscaping, and park & ride facilities).<br><br><i>LANL may refer to vertical construction, a general term for buildings and such, as vertical infrastructure.</i>                                                                                           |

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| I                                         | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <a href="#">ICC-IAS</a>                   | ICC International Accreditation Service, Inc. [IBC; ESM Ch. 16.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Identical item                            | An item that exhibits the same technical and physical characteristics (physically identical). [AP-341-503]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Identification String (IDS)               | The system-subtype-sequence number ID-string used for numbering and labelling. Formerly called component location identifier (CLI). [ESM Ch. 1, 200]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Immediate Operability Determination (IOD) | <ol style="list-style-type: none"> <li>1. Process performed immediately or soon after discovery of a degraded or nonconforming condition relating to an in-service safety SSC. [AP-341-516 r3.1]</li> <li>2. An operability determination made immediately and in a controlled manner using the best available information upon discovery of a degraded or nonconforming condition of an operational safety SSC. While IOD is based on limited information, the information should be sufficient to conclude that there is a reasonable expectation that the SSC is operable. Reasonable expectation does not mean absolute assurance that the SSC is operable. Reasonable expectation means that from the evidence collected, the SSC is operable and a Prompt Operability Determination (POD) will support this expectation. [LANL Definition of Terms, 2024-8-15]</li> </ol> <p><i>Satisfactory performance of Surveillance Requirements (SRs) is usually sufficient to demonstrate operability. However, if conformance to criteria in the approved safety basis documentation that are both necessary and sufficient to establish operability cannot be established with reasonable expectation, then performance of SRs may not, by itself, be sufficient to demonstrate operability. An example of when a successful surveillance would not be sufficient to establish operability is the satisfactory completion of SRs but with results showing a degrading trend and indicate that the acceptance criteria might not be met before the next surveillance test. In such a case, a Prompt Operability Determination (POD) is necessary following the IOD. [AP-341-516 r3.1]</i></p> |
| Important to Defense in Depth (IDID)      | <p>An SSC who's preventive or mitigative function is a contributor to multiple layers of safety as determined from safety analyses. [Adapted from 10CFR830.3; DOE-STD-3009-2014; AP-341-802]</p> <p>See graphic in <a href="#">Appendix A</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Implementation Verification Review (IVR)  | <ol style="list-style-type: none"> <li>1. A formalized verification of the completeness and adequacy of the implementation of the safety basis (DSA and TSRs) for a nuclear facility. The IVR process is defined in local procedures. A successful IVR, including the resolution of all pre-start issues, may be a prerequisite to the start of an RR as defined in DOE O 425.1D. [DOE-STD-3006-2010]</li> <li>2. A FOD or independent review of the implementation (or partial implementation) of safety basis changes, including page changes, new safety basis documents, safety basis revisions, NNSA conditions of approval, positive unreviewed safety question determinations, discovery condition Unreviewed Safety Question Determinations, justifications for continued operation, and Laboratory recommended actions approved by the NA-LA. [PD115]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Implemented Changes       | Changes posted against facility technical baseline documents that have been implemented, tested, and accepted by Operations. [AP-341-402]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Implementing Document     | A document (e.g., procedure, specification, drawing, etc.) that satisfies a requirement. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Important to safety (ITS) | See Equipment Important to Safety, also see <a href="#">Other Hazard Controls</a> . [ESM Ch. 12]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Incidental finding (IF)   | A finding that, in the judgment of audit team, is an isolated incident, is not indicative of systemic problems, and can be easily corrected. [ <a href="#">Definition of Terms</a> for P328-5, r1]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Independent, Independence | <ol style="list-style-type: none"> <li>1. For a capital project, an office or entity that is not under the supervision, direction, or control of the sponsor responsible for carrying out the project's development or acquisition. [<a href="#">DOE O 413.3B Chg 7 (LtdChg), Program and Project Management for the Acquisition of Capital Assets</a>]</li> <li>2. Entity sense: Free from the influence, guidance, or control of another or others ... (<a href="#">AHD</a>).<br/><i>Several CoE documents use the term this way, such as with commissioning, inspection, certain reviews, and testing — and sometimes with specifics about what qualifies as independent. In other cases, the concept is present to some degree, but the term may not be (e.g., in NQA-1 design verification).</i></li> <li>3. SSC sense: Not determined or influenced by someone or <u>something</u> else; not contingent. (<a href="#">AHD</a>).<br/><i>For safety class SSCs, this sense is sometimes employed for safety systems meaning functionality is not impacted by the failure of something related. Here, such independence is be combined with redundancy, diversity, and separation to achieve single-failure-proof reliability. (DOE O 420.1C Att. 3 §3.a.(4)(b): "... interfaces must be evaluated to identify SSC failures that would prevent safety SSCs from performing their intended safety function. IEEE 384-2008, IEEE Standard Criteria for Independence of Class IE Equipment and Circuits, must be used for physical and electrical separation methods, including the use of separation distance, barriers, electrical isolation devices, or any combination thereof ...)</i></li> </ol> |
| Indirect Costs            | Costs incurred by an organization for common or joint objectives and that cannot be identified specifically with a particular activity or project. [ <a href="#">DOE G 430.1-1, Cost Estimating Guide</a> ] <i>There are fundamental services that enable all programs and employees to do their daily activities (such as management, payroll, IT, roads and grounds, etc.) that cannot be assigned to a single direct program sponsor (Direct Costs). To cover the cost of providing those services, the Lab charges each direct funded program a fee similar to a tax. Those taxes generate indirect revenue (sometimes referred to as "overhead"). [Director's Blog, <a href="#">4/30/2025</a>]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Informational Submittals  | Written or graphic information and physical samples that do not require the Design Agency EOR's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are indicated in Attachment A - Construction Submittal Log or may also be indicated in the individual Specification Sections. [LMS 01 3300 r7]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Information Handling Services | The IHS Engineering Workbench online code and standard service was the predecessor product name of <a href="#">Accuris's EWB</a> . Access <a href="#">here</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Infrastructure                | Horizontal constructions (e.g., roads, parking lots, bridges, tunnels, sidewalks, fencing, stormwater management) and, in some cases, vertical construction (buildings and other structures). [ESM Ch. 1 Z10] <i>Use of INFR in document metadata instead of a building number is appropriate for roads and UTIL for such not associated with a structure (and MULT for multi-structure).</i> [AP-341-402]                                                                                                                                                                                                                                                                                                                                                                                                                   |
| In-Service Inspection (ISI)   | <ol style="list-style-type: none"> <li>1. Inspections of design features to ensure that the operability and quality of design features and their support systems are maintained. [DOE O 421.1 draft 2023-11-16]</li> <li>2. The in-service inspection program ensures the performance of design features in safety basis documents. An ISI procedure is used to ensure that these passive design features are inspected to satisfy the intended safety function. [ALDWP <a href="#">PA-AP-01000 Document Control Processes r27</a>]</li> </ol>                                                                                                                                                                                                                                                                               |
| Inspection                    | <p>Examination or measurement to verify whether an item or activity conforms to specified requirements [ASME NQA-1/P330-8].</p> <p><i>Includes inspections done by LANL or LANL-approved party for conformance to the design and LANL Standards, including those required by the IBC and ASME.</i></p> <p><i>In offsite IBC structural work, LANL (as Owner) may allow for much of their verifier/QA Inspector role for IBC Ch. 17 special inspection to be managed by the fabricator given sufficient independence (third party company or corporate autonomy), ref. IBC-2021 1704.2.5 and ESM Ch. 16 IBC-GEN, IBC-IP, and IBC-FAB.</i></p> <p><i>Note: Examination, by NQA-1's inspection definition, is in a generic sense; in ASME pressure safety codes, <a href="#">examination</a> has specific expectations.</i></p> |
| Inspector                     | <ol style="list-style-type: none"> <li>1. In ASME pressure safety codes, a "qualified person who verifies all required examinations and testing have been completed and inspects to the extent necessary to be satisfied that the design of the system conforms to all applicable examination requirements of the code and of the engineering design." [ASME B31.3; ESM Ch. 17 Att. GEN-1] <i>This is QA scope (second level), not QC (first level), and should therefore be independent of fabricating organization.</i></li> <li>2. In structural steel codes &amp; standards, Inspector term is used for the (sub)contractor fabricator (QC), erector (QC), and verifier (QA) scopes.</li> </ol> <p>See also <a href="#">Qualified Inspection Agency</a> herein.</p>                                                      |
| Installation Instructions     | Part of the Design Change Form. High-level engineering inputs necessary for modification implementation. Provide the minimum necessary guidance for controlling unusual activities or activities that directly affect installation of modification or operation of equipment. [AP-341-517]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Installation Verification     | The initial portion of the commissioning process includes observations and punch-lists recorded and performed by the field engineer to confirm that all equipment is installed in accordance with the specifications and drawings. [ESM Ch. 15]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Institutional Document                                                 | [Provides] the entire LANL workforce, or a broad cross-section of it, with requirements to perform work consistently, safely, securely, and efficiently in accordance with the Prime Contract and its Governing Policies... Applies to the entire Laboratory workforce or a broad cross section of workers. Assigns responsibilities to workers in multiple ALDs. The requirements in institutional documents may flow down to functional or local documents, where more detail is provided to a subset of workers. [SD311 Policy System]; AP-341-401. <i>CoE examples are PD340, P341, P342, and P343.</i>                                                                                                                                                                                                            |
| <a href="#">Institutional Evaluated Suppliers List</a> (IESL)          | A list of suppliers whose QA management systems, performance history, and/or quality records have been evaluated and determined to have the capability to supply items or services in accordance with established requirements. [P841-1, <i>Quality Procurements</i> ].<br><br><i>Suppliers listed on the IESL are currently approved to provide LANL with products and/or services within their stated scope of supply, and for the stated location(s). It is the responsibility of both the procurement requester and the buyer to ensure the products/services needed reasonably match those listed in the IESL as well as ensuring compliance to any listed restrictions. The IESL does not attempt to provide exact legal business entity names or a comprehensive list of approved products and/or services.</i> |
| Institutional Quality & Performance Assurance ( <a href="#">IQPA</a> ) | Provides critical, expert, and timely services to ensure operational excellence is achieved and sustained by providing trustworthy and transparent continuous improvement and quality systems in support of LANL.<br><br><a href="#">IQPA Procedure Links.xlsx</a> (SharePoint)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Institute of Nuclear Power Operations ( <a href="#">INPO</a> )         | Organization tasked with monitoring and evaluating appropriate safety standards — including those for management, quality assurance, and operating procedures and practices at nuclear facilities.<br><br><i>Many INPO documents were the basis for conduct of engineering practice nationally and within DOE; while not all publicly available, DOE was affiliated in the past and LANL CoE has a partial collection of older ones.</i>                                                                                                                                                                                                                                                                                                                                                                               |
| Integrated Assessment Schedule (IAS)                                   | The schedule of assessments. An initial version of the schedule exists at the beginning of each fiscal year. [AP-341-901]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Integrated Project Team (IPT)                  | <p>A team formed and led by a LANL project manager (when assigned) and comprised of functional experts needed to execute capital asset work, such as engineering, procurement, construction, etc. [SD350; AP-350-100, 101; AP-341-620; ESM Ch. 1 Z10] <i>When ES, formed per <a href="#">DI-ES-EPD-010</a>.</i></p> <p><i>Composition of a typical, large IPT (credit: P341):</i></p>                                                |
| Integrated Review Tool ( <a href="#">IRT</a> ) | <p>IRT comprises three systems: (1) PAR, (2) Excavation, Fill, Soil Disturbance (EXID), and (3) Site Selection (minor siting). Proper use of these systems will improve the efficiency of work and minimize unanticipated impacts to scope, schedule, and budget. [P351 r4]</p>  <p><b>Fig. 1. Integrated Review Tool</b></p>                                                                                                       |
| Integrated Work Document (IWD)                 | <p>Hazard control documentation that integrates work definition, hazards and controls for work authorization and user-friendly communication to workers.</p> <p><i>The IWD may be a subset of a larger work package that includes other documents and information relating to an activity but not addressing hazard controls. [P300, Integrated Work Management].</i></p> <p><i>WorkSafe is a forthcoming work planning and control tool designed to help get IWD work done safely, securely, and efficiently.</i></p> |
| Interdisciplinary Coordination                 | <p>Squad checks to ensure a quality design is submitted to LANL's Stakeholders. [AP-341-627, Design Coordination]</p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| Interdisciplinary Technical Review (ITR)       | <p>A technical review of the proposed design change to assess the impacts of the change to the facility, activity, or operation that involves all potentially affected disciplines and organizations. [DOE-STD-1073; AP-341-620; ESM Ch. 1 Z10 Att. C].</p> <p><i>Sometimes also known as the Owner's Review. Team to support IPT per <a href="#">DI-ES-EPD-010</a>.</i></p>                                                                                                                                           |

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| Interface Requirement                       | <ol style="list-style-type: none"> <li>1. A functional or performance requirement, or a constraint, imposed on the boundary between two SSCs. An interface requirement can address boundary design details, location, connections, input/output characteristics, controls (engineered and administrative), physical interactions (e.g., vibration) or functional interactions. Interface requirements are typically imposed by joint decisions between two organizations, by pre-existing conditions or decisions, or imposed by the Customer or Stakeholder (e.g., existing external facility). A project may not change interface requirements unilaterally. [ESM Ch. 20]</li> <li>2. Relates to the boundary between two systems. The two interfacing systems may be within the same facility or in different facilities. When two different facilities are involved, the interface is referred to as an external facility interface. There are three types of interface requirements: <ul style="list-style-type: none"> <li>• Performance interface specifies how well a function is performed at a system boundary.</li> <li>• Interface constraints specify codes and standards applicable to the system interface, specific design, operating or maintenance configuration and essential features, etc.</li> <li>• Physical interface specifies characteristics at the system boundary. Those characteristics may include materials, dimensions, tolerances, finish size, weights, component type, dynamic limits, equipment envelopes, layout locations, etc. [AP-341-602]</li> </ul> </li> </ol> |
| International Building Code (IBC)           | <p>Primary model building code published by International Code Council (ICC). <i>The IBC is one of many I-Codes.</i></p> <p><i>LANL adopts and amends it; see LANL Building Code (LBC) herein. Before adopting the IBC in the early 2000's, the UBC was used.</i></p> <p><i>Apropos this CoE glossary, its Ch. 2 is Definitions.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| International Existing Building Code (IEBC) | <p>Model building code for existing structures published by ICC.</p> <p><i>LANL adopts and amends it; see LANL Existing Building Code (LEBC) herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Invoked Technical Standard                  | <p>A DOE or other Technical Standard that is called upon, in part or in whole, as a required method in a DOE Directive based on a clear requirement statement. The following is an example of an invoking requirement statement: "Safety analysis and supporting design must be developed and integrated in accordance with DOE-STD-1189-2016." (DOE Order 420.1C) [<a href="#">DOE O 251.1D Chg 1 (Admin Chg), Departmental Directives Program</a>; ESM Ch. 1 Z10; <a href="#">P310-1</a>]</p> <p><i>This category of standard has the highest bar for gaining formal equivalency or exemption (versus "Applicable Technical Standard" per DOE O 420.1C, which has lower requirements for equivalency.)</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Issue                                       | <p>A broad term describing a condition that negatively impacts performance or could potentially degrade performance. Issues can include a condition that is affecting, or could affect, the Laboratory's ability to sustainably achieve simultaneous mission, ST&amp;E, or operations excellence. [P322-4 r18 Chg. 2]</p> <p><i>The institutional issues management (IM) and rail task tracker (RTT) tool is in iLINK <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| Item                                         | <p>An all-inclusive term used in place of appurtenance, assembly, component, equipment, material, module, part, structure, product, software, subassembly, subsystem, system, unit, or support systems. [10 CFR § 830.3] ESM Ch. 1 200; AP-341-502, AP-341-703, AP-341-901]</p> <p><i>CMMS captures “equipment” and their “components” differently; “item” is used in Section 200 to refer to both, and some structures, generically.</i></p>                                                                                                                                                                   |
| J                                            | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                              | reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| K                                            | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <a href="#">Kahua</a>                        | <p>Project management and design review software.</p> <p><i>ES is piloting to potentially replace Aproove, focusing on projects in the Pajarito Corridor and TA-55, with an implementation timeline and training resources available. Kahua meets the federal government's FedRAMP security standards while also addressing specific project needs such as centralized hub for project access, an engineering review platform (2D/3D), a field verification and coordination tool, a construction tracker with submittals, a collaborative workspace for stakeholders, and full data ownership/control,</i></p> |
| Key Performance Parameters                   | <p>Required facility or system characteristics for the final product to be delivered to the client (e.g., integrated facility or system), relating to the ability to achieve the operational mission when used by trained operators in the intended operational environment under specified conditions. KPPs are used to focus development and associated decisions in a manner that ensures these parameters are met by the final product. They are used as part of the performance baseline at CD-2. [ESM Ch. 20]</p>                                                                                         |
| L                                            | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Laboratory                                   | <ol style="list-style-type: none"> <li>1. When capitalized, generally means LANL, e.g., “the Laboratory.” [P718 r4]</li> <li>2. Otherwise, a space used for analytical and/or R&amp;D work.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                          |
| Laboratory Implementation Requirements (LIR) | <p><i>Obsolete Institutional Policy document type, now a PD, P, or SD series.</i> [ESM Ch. 13, Vol. 1, 1-99].</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LANL Building Code (LBC)                     | <p>The IBC model building code and other such codes as amended by LANL (e.g., in ESM Ch. 16, IBC-GEN Att. A). Where the LANL Standards invoke the IBC and related codes, interpret to mean the LBC (note, except in obvious references to the base code, the term “IBC” is nevertheless often used due to higher recognition). [ESM Ch. 16 IBC-GEN]</p>                                                                                                                                                                                                                                                         |

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| <a href="#">LANL Building Official (LBO)</a>             | <p>The LANL individuals, as assigned by NA-LA, who administer the <a href="#">Building Code Program</a> set forth by ESM Chapter 16.</p> <p><i>The role includes performance or oversight of design (aka plan) reviews and approval (<a href="#">permitting</a>) of design documents and selected changes thereto, code-related testing and inspection (QC, QA), and certificate of occupancy (CoO). [ESM <a href="#">Chapter 16</a>, Building Code Program] As of spring 2025, there was a chief LBO as well as a Design Lead LBO for design “plan” examination/permitting and a Construction Lead LBO for inspection and occupancy.</i></p> <p><i>Except for most inspections, the FDAR is authorized to perform the functions of the LBO for many lower risk modifications under the IBC 105.1.1 annual permit provision allowed by the program.</i></p> <p><i>Building Official is the IBC term; “LANL” was added to be specific, as neither NM nor LA County is involved. See also <a href="#">Permitting Authority</a>.</i></p> |
| LANL Building Official Design Package Reviewer (LBO-DPR) | Person performing the final process/quality review and permitting of the Highest Risk projects per the Building Code Program. [ESM Ch. 16 IBC-GEN]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LANL Building Office Plan Examiner                       | Design reviewer SMEs chosen to review Highest Risk ESM <a href="#">Ch. 16</a> IBC-GEN projects. <i>Primary reviewers are shown in the organizational chart on the ES-Division’s LANL Building Official <a href="#">webpage</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LANL Commissioning Authority (LCA)                       | An independent commissioning process person designated by the Construction Management Division to manage the commissioning at LANL and, for facilities, to represent the LANL Building Official’s interests in matters related to commissioning. If required by ESM Ch. 15, LCA shall meet Level III qualifications of NQA-1 Part III, Subpart 3.1, Non-Mandatory Appendix 2A-1. [ESM Ch. 15] <i>Normally a Ch. 15 POC and/or manager in the <a href="#">CPE-PCS</a> (Project Completion and Startup) organization.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| LANL Existing Building Code (LEBC)                       | Amendments to the IEBC for buildings and systems in ESM Ch. 16 IBC-GEN, App. B. Where the LANL Standards invoke the IEBC and related codes, interpret to mean the LEBC (note, except in obvious references to the base code, the term “IEBC” is nevertheless often used due to higher recognition).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| LANL Inspector                                           | <p>A LANL (e.g., Triad) or LANL-subcontracted employee performing inspection duties. When simply “inspector” appears in a document, take to mean LANL Inspector unless otherwise allowed. [ESM Ch. 16 IBC-GEN].</p> <p><i>These are (see also) <a href="#">Owners Building Inspectors</a> when approved by the LANL Building Code Program Chief Inspector. See also <a href="#">Qualified Inspection Agency</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| LANL Master Specifications (LMS)                     | <p>The approximately 200 specification section templates in the <a href="#">STD-342-200</a> collection, organized and formatted to Construction Specifications Institute (see <a href="#">definition</a>) standards. [ESM Ch. 1 Z10 Att. F].</p> <p><i>Sections are either administrative or general (Division 01) or work-result-specific (Divs 02-43) template to be finalized and combined into a specification which is a construction output document addressing construction-type work, fabrication, and/or maintenance (maintenance examples: piping repairs and testing, carpeting, and other similar replacements). The LMS have QA, product, and execution requirements that help ensure construction meets the ESM or TSM design criteria.</i></p> <p><i>See also SpecLink Cloud (LANL's web app implementation of LMS).</i></p> |
| Leadership in Energy and Environmental Design (LEED) | <p>A green building rating system developed by United States Green Building Council (USGBC) and certified by Green Business Certification Inc. (GBCI). <i>Current LANL projects follow v4 or v4.1, while v5 BD+C launch is expected Fall 2025; refer to ESM <a href="#">Ch. 14</a> for direction.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Lead SME (LSME) | <p>Within ES Division, an SME responsible for fulfilling many of the technical and administrative tasks formerly performed by the discipline-focused EPD Team Leaders. The LSMEs are designated by the Division Leader and are assigned to one of the ES groups but have responsibilities for ES broadly.</p> <p><u>The ES Div <a href="#">homepage's</a> Contacts/LSMEs dropdown lists them. The creation of LSMEs does not affect the use of the “SME” concept or term in other matters such as ESM SMEs (or POCs), or SMEs in a very general sense — these remain. [They are not synonymous with Engineering Standards <a href="#">POC</a>.]</u></p> <p>LSMEs are responsible for the following tasks. This list is not all-inclusive but represents most routine responsibilities and tasks are specific to the individual’s respective discipline. A major thrust is developing ES employees.</p> <ul style="list-style-type: none"> <li>• Identify candidates and participate interviews for applicants within their discipline, as needed</li> <li>• Help maintain the Training and Qualification program for their discipline (with CoE)</li> <li>• Lead periodic (monthly minimum) meetings for their respective discipline across the three design groups. Topics should include: <ul style="list-style-type: none"> <li>○ General continuing education topics</li> <li>○ Emerging technologies within their field</li> <li>○ Discipline-specific qual training</li> <li>○ Dissemination of changes in Lab policy and Conduct of Engineering documents that pertain to their discipline</li> </ul> </li> <li>• Lead or support updates to the ESM chapters and master specifications applicable to their discipline (many LSMEs will also be Standards POCs)</li> <li>• Support questions and issues on behalf of the LANL Building Official</li> <li>• Review and comment on relevant CoE AP revisions</li> <li>• Lead or support initiatives within their discipline</li> <li>• Participate in oral-type checkouts for applicants within their discipline</li> <li>• Provide feedback to managers during performance reviews</li> <li>• Participate in mentoring</li> <li>• Approve calculations, as needed</li> <li>• Support management self-assessments</li> <li>• Be design/analysis software Owners/gatekeepers, both safety and non-safety (<a href="#">listing</a>, becoming <a href="#">Form 2033</a>, Graded Software Inventory)</li> <li>• Ensure work produced across the Project Delivery groups is consistent and looks like it was produced by the same division</li> <li>• Approve memos that pertain to their discipline.</li> </ul> <p>[ES-DO-Memo-22-019, 9/29/2022 (with minor updates)]</p> |
| Lessons Learned | <p>The capture of what went badly or well in a project, operations, maintenance, or other context for near-term process improvement action and future consideration.</p> <p><a href="#">DOE OPEXShare</a> is headquarters system for operating experience, lessons learned, best practices, reports, other useful items; LANL has its own OPEX site in <a href="#">iLINK</a>. ES Div has <a href="#">DI-ES-EPD-009</a>, LL Best Practices Program.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| Level 1 Alteration (IEBC)              | Includes the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose. Most true like-for-like or replacement-in-kind is this category. <i>Must follow IEBC Ch. 3 &amp; 7.</i> [ESM Ch. 16 IBC-GEN PPD form FM01.]                                                                                                                                                                                                                                                                                                                                                                      |
| Level 2 Alteration (IEBC)              | System reconfiguration, extension, additional equipment installation, or removal. Must follow IEBC Ch. 3, 7, and 8.<br><i>LANL has subdivided Level 2 for administrative matters only (IEBC met regardless). Level 2B generally includes possible egress aspects (workspace reconfiguration or door or window addition or elimination) and/or life safety or related systems affected; complete 2B definition is in Section IBC-GEN Table GEN-3 Three-tiered Graded Approach. Level 2A is Level 2 work not meeting Level 2B.</i> [ESM Ch. 16 IBC-GEN PPD form FM01.]                                                                                                                                             |
| Level 3 Alteration (IEBC)              | Applies when a major building renovation or reconfiguration work area exceeds 50 percent of the aggregate area of the building. <i>Must follow IEBC Ch. 3 and 7-9, plus warrants an RP 8 review.</i><br>Work Area: That portion or portions of a building consisting of all altered spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by code. Applies to altered spaces, not systems. [ESM Ch. 16 IBC-GEN PPD form FM01.]                                                         |
| Levels of Rigor                        | The level of strictness, detail, validation, and judgment to be applied to a specific task or evaluation. [ESM Ch. 15]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Life-cycle Cost (LCC)                  | The sum total of all direct, indirect, recurring, nonrecurring and other related costs incurred or estimated to be incurred in the planning, design, development, procurement, production, operations and maintenance, support, recapitalization and final disposition of real property over its anticipated life span for every aspect of the program, regardless of funding source. [DOE O 413.3B Chg 7]<br><i>Discussed in ESM Ch. 1 Z10 <a href="#">Attachment E</a>, Life Cycle Cost Methodology Guidance; <a href="#">Ch. 14</a> for energy decisions per 10CFR436, and shared <a href="#">Life-Cycle Cost Analysis (LCCA) Calculator and Resources</a> webpage. LCCE means life-cycle cost effective.</i> |
| Like-for-Like Replacement              | The replacement of an item with an item that is identical. [AP-341-503] See also <i><a href="#">"Identical Item,"</a></i> and <a href="#">Guidance on Technical Evaluations and Item Dedication</a> in the <a href="#">Engineering Learning Guide</a> collection.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Limited Change (LtdChg)                | A directive modification restricted to a limited portion of the requirements or responsibilities established in the directive. Previously known as the Page Change or the Minor Change. [ <a href="#">DOE O 251.1E Chg. 1 (LtdChg)</a> , <a href="#">Departmental Directives Program</a> ]                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Limiting Condition for Operation (LCO) | The limit that represents the lowest functional capability or performance level of safety structures, systems, and components (SSCs) and/or specific administrative controls (SACs) required for safe operations. [10 CFR § 830.3]                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Limiting Control Settings (LCSs)       | The settings on safety systems that control process variables to prevent exceeding a safety limit. [10 CFR § 830.3]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Limit State                                             | A condition beyond which a structure or member becomes unfit for service and is judged to be no longer useful for its intended function (serviceability <i>limit state</i> ) or to be unsafe (strength <i>limit state</i> ). [2021 IBC 202; ESM Ch 5 §III]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Line Item                                               | <ol style="list-style-type: none"> <li>Those with a TEC greater than the minor construction threshold. Funding for line-item projects must be included in the Congressional budget request as visible and uniquely numbered line-items. [DOE Financial Management Handbook <a href="#">Ch 02.3</a>].</li> <li>A distinct design, construction, betterment and/or fabrication of real property for which Congress will be requested to authorize and appropriate specific funds. A full-scale test asset or other pilot/prototype asset primarily constructed for experimental or demonstration purposes, but planned to become DOE property and continue to operate beyond the experimental or demonstration phase is included in this definition. [<a href="#">DOE O 413.3B Chg 7 (LtdChg)</a>, <a href="#">Program and Project Management for the Acquisition of Capital Assets</a>; SD350]</li> </ol>                                                                                                                                                                      |
| Listed                                                  | <p>Equipment, materials, or services included in a list published by an organization that is acceptable to the AHJ and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material or service meets appropriate designated standards or has been tested and found suitable for a specified purpose. This definition applies to products that are Underwriters Laboratories listed, FM Global, American Society of Mechanical Engineers (ASME) approved, or certified by another nationally recognized testing laboratory as defined in the Occupational Safety and Health Administration (OSHA). [DOE-STD-1066-2023]</p> <p><i>The OSHA “Current List of NRTLs” is <a href="#">here</a>. In ASME codes, products not listed as acceptable (e.g., certain fittings, pipe, plate) are considered “unlisted” and their use justified by a defined process. Electrical items at LANL similarly.</i></p> |
| Local Document                                          | Defines processes, operations, or other information needed to perform certain work within one ALD or one facility...Examples: Desktop Instructions, Handbooks, IWDs, Job Aids, Work Instructions, Building Evacuation Plans... [SD311, <i>Policy System</i> ].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Long-lead Procurement                                   | <p>equipment, services and/or materials that must be procured well in advance of the need because of long delivery times. [DOE O 413.3B Chg 7 Att. 2 Defns]</p> <p><i>The definition further says “If long-lead procurements are executed prior to CD-3 approval for the project, this will be designated as CD-3A and require a stand-alone decision by the PME, outside of the CD process.”</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Los Alamos County (LAC)                                 | <p>The New Mexico county encompassing LANL, the LA townsite, and White Rock. <i>Per prime contract, LANL follows local laws as applicable/appropriate, but this is probably rare, and any would likely be as specifically indicated by LANL policy documents such as the ESM. Where such may occur, refer to LAC <a href="#">Code of Ordinance</a>.</i></p> <p><i>The county and LANL interface in innumerable ways, including distribution of utilities and services including police, fire, and the county bus service.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Los Alamos Field Office (for NNSA – NA-LA, LASO, LA-FO) | <p>Manages the resources of the NNSA <a href="#">Los Alamos National Laboratory</a>. [adapted from <a href="#">PowerPedia page</a>.]</p> <p><i>There’s a separate contract for legacy cleanup through the DOE Environmental Management (DOE-EM) Los Alamos Field Office (EM-LA, EMLA) with <a href="#">N3B</a>, since April 2018.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Los Alamos National Laboratory (LANL)                     | <p>A design laboratory responsible for the safety and reliability of the nuclear explosives package in nuclear weapons. This lab possesses unique capabilities in neutron scattering, enhanced surveillance, radiography, and plutonium science and engineering.</p> <p><i>LANL is operated by Triad National Security, LLC, and located in Los Alamos, New Mexico. [NNSA's version of LANL prime contract <a href="#">webpage</a>]</i></p> <p><i>LANL is a government-owned, contractor-operated (GOCO) site in the <a href="#">U.S. Dept. of Energy's NNSA</a> enterprise and a <a href="#">Federally Funded R&amp;D Center (FFRDC)</a>. Main site/campus is ~40 sq miles, ~960 individual facilities, 17k employees, 8.4M ft<sup>2</sup> of floor area, and eight operating nuclear facilities.</i></p> <p><i>The Laboratory Names "Los Alamos National Laboratory" and "LANL" are registered Trademarks owned by the United States Department of Energy. [P714, Rev. 4]</i></p> |
| Los Alamos National Security, LLC (LANS)                  | <p>The prime management &amp; operating (M&amp;O) contractor at LANL from June 1, 2006, to October 31, 2018 [prior to <a href="#">Triad Nuclear Services (TNS)</a>]. Take all references to LANS in CoE documents to mean the current prime M&amp;O contractor, except when it is a historical reference such as this is. [ESM Ch. 1 Z10] <i>Before LANS was the Univ. of California alone dating to the 1940's.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Low-Hazard Work                                           | <p>When maintenance, work requiring minimal planning. Low-hazard work may be routinely accomplished using FSRs, unplanned work orders, or standing work orders. This work process is further described in <a href="#">AP-WORK-002</a>, <i>Work Planning</i>. [P950]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>M</b>                                                  | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maintenance & Site Services ( <a href="#">MSS</a> )       | <p>Division that provides infrastructure maintenance and utilities support. <i>Has numerous groups, some centralized programs and others deployed to each FOD.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Maintenance Instruction (procedure; <a href="#">MNT</a> ) | <p>Document that provides instructions for programmatic corrective, preventative, and destructive maintenance work activities, and requirements for operations (non-MSS) personnel responsible for managing, operating, inspecting, testing, and maintaining Structures, Systems and Components (SSCs). [P950, Conduct of Maintenance]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Major Item of Equipment                                   | <p>Capital equipment with a cost that exceeds \$2M. In most cases, capital equipment is installed with no construction cost. However, in cases where the equipment requires provision of supporting construction such as foundations, utilities, structural modifications, and/or additions to a building, the associated construction activities must be acquired through a line-item construction project or a minor construction project if the cost is below the minor construction threshold stated in 50 U.S.C. 2741(2). [DOE O 413.3B Chg7]. <i>See also Minor Construction Threshold and DOE Financial Management Handbook <a href="#">Ch 02.4</a>.</i></p>                                                                                                                                                                                                                                                                                                                 |
| Major Modification                                        | <p>Changes to a nuclear facility that "substantially change the existing safety basis for the facility." [adaptation of 10CFR830 and DOE-STD-1189].</p> <p><i>Determination is made through a checklist (see <a href="#">SBP114-1</a>, <i>Safety Basis Development for Projects</i>, Att. C) [ESM Ch. 1, Z10; Ch. 5]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Major Revision                                            | <p>A change in the intent, scope, purpose, responsibilities, safety, or technical content described in document. [AP-341-401] <i>Other changes are therefore <a href="#">Administrative</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Management Level (ML)            | <ol style="list-style-type: none"> <li>1. Reflects the consequence of failure portion of the risk. Conduct of Engineering requirements are graded per the level to reduce risk. ML-1 is most stringent, and ML-4 are the least stringent. All levels have some level of quality controls. [PD330; P341]</li> <li>2. Grading based on an estimation of consequence of failure to LANL as an institution, which helps in establishing the degree of technical/ administrative oversight and control required to ensure that SSCs can meet their required function in the protection of the public, the worker, the environment, classified and SNM assets, or their ability to support meeting high-level institutional mission requirements. [AP-341-502; ESM Ch. 1, Z10]</li> </ol> <p><i>The concept, as of release of this glossary edition:</i></p> <p><b>ML-1:</b></p> <ul style="list-style-type: none"> <li>• An SSC and activity of Hazard Category 2 or 3 Nuclear Facility that performs Documented Safety Analysis (DSA) credited Safety Class (SC) function(s).</li> <li>• An SSC and activity of Accelerator Facility that performs Safety Assessment Document (SAD) or Accelerator Safety Envelope (ASE) designated public protection function(s).</li> <li>• An SSC and activity of High Hazard Nonnuclear Facility that performs function(s) identified in the Facility Safety Analysis (FSA) for protection of the public.</li> </ul> <p><b>ML-2:</b></p> <ul style="list-style-type: none"> <li>• An SSC and activity of Hazard Category 2 or 3 Nuclear Facility that performs DSA designated Safety Significant (SS) function(s)</li> <li>• An SSC and activity of Accelerator Facility that performs SAD or ASE designated worker protection function(s)</li> <li>• An SSC and activity of High Hazard Nonnuclear Facility that performs function(s) identified in the FSA for protection of the uninvolved or noninvolved worker.</li> </ul> <p><b>ML-3:</b> The criteria are too numerous to list herein; see AP-341-502.</p> <p><b>ML-4:</b> SSCs and activities that do not meet the requirements of ML-1, 2, or 3.</p> |
| Management Self-Assessment (MSA) | In the readiness process of PD115, following preparation, Line Management uses an MSA to determine the adequacy of their preparations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Master Document List (MDL)       | <p>Largely historical concept in operating facilities, as most need only have a Technical Baseline Document List (<i>and the TBDL is sometimes generated by a report that uses an EDRMS TB flag.</i>)</p> <p><i>Per AP-341-405 r6.2, "The Technical Baseline Document List, as described in Section 4.1, has historically been labeled the facility's 'Master Document list' (MDL). This AP recognizes the use of the title 'Master Document List' as meeting the requirement for a Technical Baseline Document List as long as it meets the salient features of the Technical Baseline Document List described in this AP." MDL term also appears in P341 r7.3 at 5.12.7.</i></p> <p><i>The project document list discussed in the Engineering Standards and herein is related; it provides an index to all documents generated by the Design Agency.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Master Equipment List (MEL)         | <ol style="list-style-type: none"> <li>1. A subset of CMMS data used for configuration management of items including data for unique identification such as system and key attributes such as safety information. [ESM Ch. 1, Section 200; ESM Ch. 8 D3060.90]</li> <li>2. A detailed listing of SSCs that are a part of the safety basis. Typically, the MEL includes additional facility equipment with the safety items flagged for identification. [<a href="#">DOE G 433.1-1A Chg 1 (Admin Chg), Nuclear Facility Maintenance Management Program Guide for Use with DOE O 433.1B</a>] <i>See III.C of the Guide for details. Caution: DOE O 433.1 is not the only driver for MEL items; see Ch. 1 Section 200.</i></li> </ol> <p><i>The <a href="#">Project Equipment List</a> is a precursor to MEL data entry by MSS MEL Admins; they (and PM coordinators) are listed under Contacts drop-down on <a href="#">MSS homepage</a>. See also Computerized Maintenance Management System.</i></p> |
| MasterFormat®                       | <p>The architecture, engineering, and construction (AEC) industry's gold standard for organizing and communicating specifications and work results for construction projects. [CSI]. <i>The 48-division and section numbering/naming scheme used by LANL's <a href="#">Master Specification</a> (LMS) collection.</i></p> <p><i>Not to be confused with <a href="#">MasterSpec</a>, a proprietary collection of generic, AIA-affiliated office master templates from Deltek (previously ARCOM) in their SpecPoint product.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Master Specifications               | See LANL Master Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Master Task Order Contract (MATOC)  | <p>Streamlined procurement agreement whereby the overall expectations for a generic work scope are initially established, then individual tasks orders for a specific, well-defined result are released/let, often without competition. [derived from <a href="#">BUS-ASM-DO-0001</a>, <i>Procurement Policy and Procedure Manual</i>, 2024-3-5].</p> <p><i>Construction-related MATOC currently includes Jaynes and Hensel Phelps.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| May                                 | Denotes permission, neither a requirement nor a recommendation. [DOE O 426.2]. A directive term that indicates an optional action or expectation. [PD115]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mechanical Temporary Modifications  | Jumpers, blind flanges, blocked (gagged) valves or dampers, system additions (additional pumps, instrumentation, controllers, etc.), and temporary set point changes not part of a routine maintenance, testing, or operating procedure. [AP-341-504]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Manhole (MH)                        | <p>A vault located in the ground as part of an underground electrical or telecommunications duct system and used to facilitate placing, connecting, and maintenance of cables as well as the placing of associated equipment, in which it is expected that a person will enter to perform work. [expansion of ESM Ch. 19 G50]</p> <p><i>Increasingly preferable is maintenance hole, utility hole, person hole, or people hole (sewer hole when such).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Measuring and Test Equipment (M&TE) | Devices or systems used to calibrate, measure, gage, test, or inspect to control or acquire data to verify conformance to specified requirements. [LMS 01 4000] <i>Generally portable; such installed devices are "instrumentation."</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Microstrategy (now Strategy)                                   | <p>Enterprise analytics software.</p> <p><i>LANL uses for querying/reporting on mainframe applications such as AccessIT, CMMS, Labwide Reporting, and Property. Link <a href="#">here</a>. May require an app account to get its data.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Minor Construction Project, Minor construction threshold (MCT) | <ol style="list-style-type: none"> <li>1. As defined in 50 USC 2743, any plant project not specifically authorized by law [e.g., not a line item] for which the total estimated cost does not exceed the minor construction threshold. ... Minor construction projects include all projects referred to as General Plant Projects (GPPs); Institutional General Plant Projects (IGPPs); and Accelerator Improvement Projects (AIPs) ... <i>As of February 9, 2024, the minor construction threshold (MCT) was \$34M (§ II.A.3).</i> [DOE Financial Management Handbook <a href="#">Ch 02.3</a>].</li> <li>2. 50 <a href="#">U.S.C.</a> 2743: Miscellaneous minor construction project, of a general nature, for which the total estimated cost may not exceed the minor construction threshold stated in 50 U.S.C. 2741(2). These projects, sometimes called General Plant Projects or GPPs, are necessary to adapt facilities to new or improved production techniques, to effect economies of operations, and to reduce or eliminate health, fire and security problems. These projects provide for design, construction, additions, and/or improvements to land, buildings, replacements or additions to roads, and general area improvements.</li> </ol> <p>General Plant Projects: [Those] for maintaining infrastructure at a site ... miscellaneous, minor, new construction projects of a general nature, the total estimated costs of which may not exceed the Congressional authorizations ... These projects provide for designs or construction (or both); other capital alterations and additions; and improvements to land, buildings, and utility systems. They may include the construction of small new buildings, replacements or addition to roads, and general area improvement.</p> <p>Institutional GPP (i.e., IGPP) meet all normal GPP requirements but are of a general institutional nature benefiting multiple cost objectives and required for general purpose site-wide needs. IGPPs do not include projects whose benefit can be directly attributed to a specific or single program. [LANL Glossary, refers to Project Management Terms that may no longer exist]. <i>Above usage of “infrastructure” includes utilities, roads, buildings.</i></p> <p><a href="#">DOE O 413.3B Chg 7 (LtdChg), Program and Project Management for the Acquisition of Capital Assets</a></p> |
| Minor Maintenance (MiM)                                        | <p>A list of work activities preapproved by the Facility Operations Director (FOD), characterized by low hazards, and requiring no detailed planning (e.g., relamping). FOD preapproval assures that facility hazards and program priorities are appropriately factored into grading decisions. This is further described in AP-WORK-001, <i>Work Initiation, Screening, and Acceptance</i>. <a href="#">[P950]</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Mission Dependency Index (MDI) | <p>NNSA's risk-based, <i>consequence to mission</i> metric that assigns a quantitative score to a real property asset. This score informs decision makers of the potential impact the loss of the asset would have on NNSA's mission. [SD 430.1C].</p> <p>The MDI score is a 1-100 score calculated for each facility to measure its impact to the mission by combining the consequences if the facility was lost, the difficulty to replace it, and the interdependency of it to other facilities. MDI also links assets to the core capabilities they support which provides greater insight for understanding risks. [AP-341-405, AP-341-502].</p> <p><i>MDI Scores are published in <a href="#">Archibus Web Central</a>. For a single list, however, go to <a href="#">MSS-DATA Group</a> and open the most recent FY's Official MDI, RN, DM, &amp; RPV file. The MDI score is the last column.</i></p> |
| Mission Need Statement (MNS)   | <p>The primary document supporting the [Project Management Executive's] decision to initiate exploration of options to fulfill a capability gap including but not limited to acquisition of a new capital asset. [DOE O 413.3B Chg.7, Att 2]</p> <p><i>The mission need statement document identifies a capability gap between the current state of the program's mission and the mission plan. It is the first step in the identification and execution of a DOE project. [AP-350-101]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                              |
| Mixed Waste (MW)               | <p>MW contains both hazardous waste (as defined by RCRA and its amendments) and radioactive waste (as defined by AEA and its amendments). It is jointly regulated by NRC or NRC's Agreement States and EPA or EPA's RCRA Authorized States. The fundamental and most comprehensive statutory definition is found in the Federal Facilities Compliance Act (FFCA) where Section 1004(41) was added to RCRA: "The term 'mixed waste' means waste that contains both hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954." [ESM Ch. 10]</p>                                                                                                                                                                                                                                                                                                             |
| Mobile Structures              | <p>Trailers or similar structures with axles (undercarriages) designed to be readily moved from one location to another. This includes utility trailers, flatbed trailers, semi-trailers, or other similar structures. Mobile structures typically do not have motors, nor do they require fuel. Mobile structures for this purpose are hitched to motorized vehicles for transport. Mobile structures are used for a variety of purposes at LANL and should not be used for fixed or permanent storage. [PD912 r0]</p> <p><i>ESM Ch. 16 IBC-GEN defines all manner of prefab structures.</i></p>                                                                                                                                                                                                                                                                                                            |
| Model                          | <p>Simplifications of the real world constructed to gain insights into select attributes of a particular physical, biological, economic, engineered, or social system. [ESM Ch. 21, SOFT-INTRO]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Moderate-Hazard Work           | <p>When maintenance, work requiring a moderate level of planning, cost estimation, and research before execution. This work process is further described in <a href="#">AP-WORK-002</a>, <i>Work Planning</i>. [P950]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Modification                                                                | <ol style="list-style-type: none"> <li>1. In a general CoE sense, a change to an existing document, activity, or SSC. <i>In building code terms (i.e., IEBC), the latter is also an Alteration, and an activity change might trigger a Change of Occupancy. Control of modifications, aka change control, is a major pillar of configuration management and thus CoE. (E.g., PFE has a Modification Eng. Manager overseeing such work at TA-55.)</i></li> <li>2. In the 2021 IBC and IEBC, §104.10 Modifications permits the code official to allow equivalent alternatives. <i>See also Alternate Method herein.</i></li> <li>3. For the Prime Contract, an NNSA-issued change listed on the <a href="#">Prime Contract Modifications Webpage</a>.</li> </ol> |
| Most Recent                                                                 | Version of a standard containing current content. [ANSI Webstore <a href="#">Glossary</a> ] <i>ESM Ch. 1 Z10 uses this term in discussing which version of certain standards must be followed, and Accuris's search dialog box uses as well. "Current" means the same, can be applied to any report or document.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Must                                                                        | Denotes a requirement [DOE O 426.2]. A directive term that indicates a required action or expectation [PD115]. <i>Shall means the same, see usage notes for it.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>N</b>                                                                    | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Nameplate                                                                   | The plate or label attached to a component by the manufacturer to provide applicable component identification and design data, such as temperature, pressure, flow, etc. [AP-341-510]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nationally Recognized Testing Laboratory ( <a href="#">NRTL</a> )           | An organization which is recognized by OSHA in accordance with [1910.7 App A] and which tests for safety, and lists or labels or accepts, equipment or materials and which meets all of the following criteria ... [29 CFR 1910.7(b)] <i>A complete listing of acceptable NRTLs is located <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| National Nuclear Security Administration ( <a href="#">NNSA</a> , DOE-NNSA) | <p>A semi-autonomous agency of the Department of Energy (DOE); NNSA is headed by the Administrator.</p> <p><i>LANL is operated under contract to the DOE and NNSA. NNSA uses DOE directives and NNSA-issued <a href="#">ones</a> (see Directive), and LANL a subset per Prime Contract. Organization code is DOE-NA and the Los Alamos field office (see same herein) is NA-LA.</i></p> <p><i>NNSA Technical Bulletins (NATB) are <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                |
| National Training Center ( <a href="#">NTC</a> )                            | <p>Through the NTC, the [DOE] Office of Enterprise Assessments (EA) performs the mission-critical support function of developing, maintaining, and delivering standardized health, safety, safeguards, security, and protective force training for DOE and NNSA Federal and contractor employees. The mission of the NTC ... is to provide and facilitate quality training for Federal and contractor personnel in support of DOE's mission. [About webpage]</p> <p><i>NTC is Albuquerque based. <a href="#">NTC@LANL</a> is a remote NTC program/location in Los Alamos.</i></p>                                                                                                                                                                              |

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| Native file                                                       | <p>An electronic file type normally manipulated by the software program by which it was developed and not saved to an alternative like pdf that hinders ready manipulation by the original program. Example native file format/type extensions are .docx, .xlsx, and .dwg.</p> <p><i>LANL default expectation for design deliverables including deferred and/or delegated design is both native and pdf. EDRMS can store both native and pdf files (native facilitates revision, although back-conversion of some unlocked pdfs is possible but may introduce errors).</i></p>                                                                                                                                                                                                                                                                       |
| Natural phenomena hazard (NPH)                                    | <p>An act of nature (e.g., earthquake, wind, tornado, flood, precipitation, volcanic eruption, or lightning strike) that poses a threat or danger to workers, the public, or to the environment by potential damage to structures, systems, and components. [DOE-STD-1020]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Natural phenomena hazard (NPH)<br>Design Category (NDC)           | <p>Refers to the DOE/LANL five (1–5) category system for design/analysis of nuclear SSCs. [DOE-STD-1020; ESM Ch. 5 Sections I, III] <i>For non-nuclear, the IBC Risk Categories are used.</i></p> <p><i>Given an overall NPH category (NDC 1–5), SDC is used for the corresponding seismic design category (caution, this is NOT the IBC's SDC A–F categorization); WDC is for wind, FDC flood, and PDC precipitation. Design category, along with Limit State (LS), fully defines the design criteria.</i></p> <p><i>ESM Ch. 5 Section I includes a sometimes-conservative crosswalk from old PC category to current ones (RC or NDC+LS). (See also Performance Category.) To find such data for buildings, see Archibus herein (or ESM Ch. 16 PPD instructions or ESM Ch. 5 website's Resources). For SSCs, such data is captured in CMMS.</i></p> |
| New Information (NI)                                              | <p>Information that could indicate a PISA in the current facility safety basis. NI can result from discovery of errors, inaccuracies, or omissions in the current safety basis, discovery of a discrepant as-found condition, vendor information, or occurrence of an event. In order for the information to be considered "NI", the information must be applicable to one or more onsite HC-2 or HC-3 facilities/activities, valid (reliable, accurate, and traceable), and related to questioning the adequacy of a facility's <b>implemented</b> safety basis. <a href="#">[SBP-112-5-R6]</a> Discussed in AP-341-516, Operability Determination.</p>                                                                                                                                                                                             |
| New Mexico Administrative Code (NMAC)                             | <p>Regulations issued by the state. <i>Per prime contract, LANL follows as applicable/appropriate (will be as specifically indicated by LANL policy documents). The ESM mostly refers to Titles 14 and 16 (Chs. 30 &amp; 39).</i></p> <p><i>For titles by chapter, or broad searching, use SRCA <a href="#">site</a> (upper-right or LL drop-down) or, for entire titles only, go <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| New Mexico Engineering and Surveying Practice Act (ESPA)          | <p>Law governing the qualification and registration of professional engineers (P.E.s) and surveyors. <i>The statute is §61-23 NMSA 1978 (§16.39 in NMAC); both available <a href="#">here</a>. LANL amends, adopts, and enforces in ESM Ch. 1 Z10. ESPA includes an exclusion applying to most LANL engineers, but licensure is encouraged. There is also an Architectural Act (§61-15 NMSA 1978 / NMAC §16.30), both <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                  |
| Newport News Nuclear BWXT-Los Alamos, LLC ( <a href="#">N3B</a> ) | <p>Contractor for Los Alamos Legacy Cleanup Contract (LLCC) and joint venture of HII Nuclear (a division of Huntington Ingalls Industries) and BWX Technologies. <i>This contract is through the DOE Environmental Management (DOE-EM) Los Alamos Field Office (EM-LA, EMLA), since April 2018.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| NNSA Policies<br>( <a href="#">NAPs</a> ) | <p>Establish policies, requirements, and responsibilities unique to NNSA that are traceable to parent requirements in laws, regulations, MOUs, or IAs, with the exception of requirements established by the Administrator under the authority of the NNSA Act. Focus on subject areas not covered by DOE directives or technical standards. [<a href="#">source</a>]</p> <p><i>Some are LANL-contractual, see Directives herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nonconformance                            | <p>A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate. [NQA-1]. <i>Triggers use of <a href="#">P330-6</a>, Nonconformance Control and Reporting, and normally an NCR form.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Nonconforming Condition                   | <p>A deficiency in characteristic, documentation, or procedure that renders the quality of an item or activity unacceptable or indeterminate. [P330-6; AP-341-514]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Nondestructive Examination (NDE)          | <p>The development and application of technical methods to examine materials or components in ways that do not impair future usefulness and serviceability to detect, locate, measure, and evaluate flaws; to assess integrity, properties, and composition; and to measure geometrical characteristics. NDE/NDT typically includes radiographic testing (RT), magnetic particle (MT), ultrasonic testing (UT), liquid penetrant (PT), electromagnetic testing (ECT), neutron radiographic, leak testing (LT), acoustic emission testing, and visual testing (VT). [ASTM E1316-24; ~<a href="#">P330-5</a>; ESM <a href="#">Ch. 13</a>, Vol. 1, 1-99; Vol. 6, 6-02 Att. 1]</p> <p><i>“NDE” is generally preferred by ASME and LANL but NDT (T=testing; ASTM/original term) and NDI (I = Inspection, often DoD/aerospace) essentially mean the same. Regarding visual examination, depending on the application, this may require control as an NDE process (VT) versus weld inspection per ESM Ch. 13. Vol. 6, VT includes ASME piping installation.</i></p> <p><i>Vol. 6, 6-02 and its Att. 1 contain additional NDE definitions.</i></p> |
| Non-Essential                             | See Essential.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Non-NQA-1 qualified supplier              | <p>A supplier that did not develop, produce, store/maintain, and ship the item in accordance with an ASME NQA-1 quality assurance program. [generalized from ESM Ch. 21, SOFT-INTRO]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Nonreactor Nuclear Facility               | <p>A facility, activity, or operation that involves or will involve radioactive and/or fissionable materials in such a form and quantity that a nuclear or a nuclear explosive hazard potentially exists to workers, the public, or the environment, but does not include accelerators and their operations and does not include activities involving only incidental use and generation of radioactive materials or radiation such as check and calibration sources; use of radioactive sources in research, experimental, and analytical laboratory activities; electron microscopes; and X-ray machines. [10 CFR 830.3; ESM Ch. 1, Z10]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| no substitution                           | <p>Indicates the product listed is required and the typical “or approved equal” approach is not allowed; requires formal, explicit EOR approval (request form and, if LANL standard, Standards <a href="#">POC</a> approval, not just submittal transmittal response). [ESM Ch. 1 Z10 Att. F <i>Specifications</i>; LMS 01 2500 <i>Substitution Procedures</i>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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| Noteworthy Practice                                   | A positive condition that is beyond normal performance expectations or standard practices and is worthy of emulation, commendation, and communication to others as a good example. [ <a href="#">Definition of Terms</a> for P328-5, r1]; AP-341-901]                                                                                                                                                                                                                                               |
| Notice to Proceed (NTP)                               | As soon as required site and facility access is granted, work control documents are developed, and required notifications and approvals are complete, [an NTP] is issued to the subcontractor which marks the date when subcontractor's construction, installation and/or project work commences. [AP-350-300 r2]                                                                                                                                                                                   |
| NQA-1                                                 | See ASME NQA-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| NQA-1 Certificate of Conformance (C of C)             | A document signed or otherwise authenticated by an authorized individual certifying the degree to which items or services meet the specified requirements. NQA-1 C of Cs must meet the criteria of NQA-1 2008 Part I, Requirement 7, Section 503 <i>Certificate of Conformance</i> . [P841-1 based on NQA-1; Ex. H QD-01; LMS 01 4216 r4]. <i>For nuclear safety items (e.g., QL-1) primarily. [AP-341-703].</i><br><br>See <a href="#">Certification Document</a> for other CoC-related documents. |
| Nuclear Facility                                      | Reactor and non-reactor nuclear facilities where an activity is conducted for or on behalf of DOE that includes any related area, structure, facility, or activity to the extent necessary to ensure proper implementation of the requirements established by 10 CFR 830. [10CFR830; DOE-STD-3006; PD115]<br><br><i>LANL SB maintains LIST-SBD-503 on their <a href="#">webpage</a> under Other Resources (e.g., r2.1 directly <a href="#">here</a>)</i>                                            |
| Nuclear Regulatory Commission ( <a href="#">NRC</a> ) | Organization focused on commercial nuclear (versus DOE/NNSA) reactor safety oversight and licensing, materials safety oversight and licensing for a variety of purposes, and waste management of both high- and low-level waste. <i>A few NRC documents and notices are useful in a DOE context and are publicly available.</i>                                                                                                                                                                     |
| Nuclear Safety Program ( <a href="#">NSP</a> )        | The ALDFO directorate branch that nominally includes the facility engineering divisions of predominantly Nuclear Facility Engineers (ES, PFE, PIE), Nuclear Criticality Safety Division, and Safety Basis Division.                                                                                                                                                                                                                                                                                 |
| Nuclear Security Enterprise (NSE)                     | Collectively, NNSA's Headquarters program and mission support offices, field offices, laboratories (Sandia, Los Alamos, and Lawrence Livermore National Laboratories), production plants (Y-12 Plant, Pantex Plant, Kansas City National Security Campus, Savannah River Site), and the Nevada National Security Site. [ <a href="#">source</a> ] <i>Part of the greater DOE Enterprise.</i>                                                                                                        |
| <b>O</b>                                              | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Objective Evidence (OE)                               | Any documented statement of fact, other information or record, quantitative or qualitative, pertaining to the quality of an item or activity based on observation, measurement, or test that can be verified. [P322-4 r18 Chg. 2]                                                                                                                                                                                                                                                                   |
| Off-site                                              | Describes work that may be performed at the subcontractor's site. Work will not be performed on LANL, Laboratory-leased property, or at a third-party site. [ <a href="#">BUS-ASM-DO-0001</a> , <i>Procurement Policy and Procedure Manual</i> , 2.0, 2025-3-5]                                                                                                                                                                                                                                     |

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| OmniClass®                                 | A comprehensive classification system for the construction industry, encompassing key elements of both <a href="#">MasterFormat®</a> and <a href="#">UniFormat®</a> for building lifecycle and project management. [CSI]                                                                                                                                                                                                                                                       |
| On-site                                    | Distinguishes work that will be performed at LANL, on Laboratory-leased property, or where LANL has liability for actions occurring at a third-party site. [ <a href="#">BUS-ASM-DO-0001</a> , <i>Procurement Policy and Procedure Manual</i> , 2.0, 2025-3-5]                                                                                                                                                                                                                 |
| Operating Facility                         | A facility that is post-startup/turned over from construction phase and thus managed by an operations organization. [ESM Ch. 1 Z10]                                                                                                                                                                                                                                                                                                                                            |
| Operating Limits                           | The limits required to ensure the safe operation of a nuclear facility, including limiting control settings and limiting conditions for operation. [10CFR830]                                                                                                                                                                                                                                                                                                                  |
| Operation Requirements                     | Qualitative or quantitative statements that identify the essential capabilities needed to accomplish the Functional Requirements. [AP-341-602]                                                                                                                                                                                                                                                                                                                                 |
| Operational Readiness Review (ORR)         | A disciplined, systematic, documented, performance-based examination of facilities, equipment, personnel, procedures, and management control systems for ensuring that a facility can be operated safely within its approved safety envelope as defined by the facility safety basis plan. The ORR provides the basis for the Department to direct startup or restart of the facility, activity, or operation. [DOE O 413.3B]. See also <a href="#">Readiness Assessment</a> . |
| Operations and Maintenance (O&M) Criterion | Functional series documents that define criteria and comprise the LANL O&M Manual for SSCs as required by MSS's <a href="#">P950</a> , <i>Conduct of Maintenance</i> .<br><i>LANL O&amp;Ms <a href="#">here</a>. See also Preventive Maintenance Instructions (PMI). Some non-LANL O&amp;M guides <a href="#">here</a> (WBDG).</i>                                                                                                                                             |
| OPEX                                       | See Lessons Learned herein.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Opportunity for Improvement (OFI)          | A situation, event, or product where an opportunity exists for preventive, corrective, or proactive actions to be taken to reach a desired outcome. Typically, an OFI is not a violation or a requirement, but could lead to one. An OFI may also cover a condition that is outside the scope of quality issues, such as repeated slippage or scheduled activities. [P328 r0; AP-341-901]                                                                                      |

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| Oral Checkout            | <p>An oral assessment of a trainee's mastery of the operational knowledge and organizational awareness required to do a job. <i>Although an oral checkout may be similar in scope and format to the oral exam required for certified positions by DOE O 426.2A, Personnel Selection, Training, Qualification and Certification Requirements for DOE Nuclear Facilities, an oral checkout is not the same as this oral exam and is not intended to meet the same requirements.</i> [CoE-specific]</p> <p><i>Usage is for a Training Standard's credential or a Qual Standard's qualification. As defined in the relevant standard, the lines of inquiry and evaluation (judgement) of the candidate's responses would be documented at an appropriate level; the result may be pass, pass-with-lookups, fail, or reboard.</i></p> <p><i>CoE previously used the terms Oral Examination generically, Oral Board for CSE role, and Oral Checkout for PREs and other, non-CSE roles. Oral Evaluation and Oral Board are no longer used since CoE engineers are not in certified positions (also, "evaluation" is used by Federal personnel per DOE O 426.1B, Department of Energy Federal Technical Capabilities), although "board" is sometimes used to describe a multi-member judging team.</i></p> <p><i>Alternatively, a final checkout discussion may be used in certain cases.</i></p> |
| Order                    | Most prevalent form of DOE directive (see <i>Directive</i> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Order of Precedence      | See Precedence.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <a href="#">OrgEx</a>    | <p>DOE's <u>Organizational Excellence</u> website. A "platform for transferring relevant knowledge throughout the DOE complex. It will become a useful centralized tool for sharing best practices, news, information, and insights to support the pursuit of organizational excellence...It will allow sharing the practices developed inside an organization with other organizations so that those organizations can adapt those practices to their specific cultural and organizational settings. The website also will allow managers and employees to look outside their organization for global standards and best practices to improve the performance and reliability of their organizations."</p> <p><i>A lot of content is Federal-specific, but perhaps most useful to LANL are the DOE and NNSA Communities of Practices on Energy Hub <a href="#">CoP</a> (replacing OrgEx <a href="#">CoPs</a> tab), including Electrical Safety and Fire Protection; and the OrgEx Forum tab, including Pressure Safety and others. OrgEx registration required. Some CoPs also have EFCOG presence.</i></p>                                                                                                                                                                                                                                                                              |
| OSHA+                    | <p>An NNSA-specific compliance tool for construction projects that uses a tailored, graded approach to meet 10 Code of Federal Regulations (CFR) 851, <i>Worker Safety and Health Program</i> and DOE Acquisition Regulation 970.5223-1, <i>Integration of Environment, Safety, and Health into Work Planning and Execution</i>. [Memo, Al-Daouk, Expansion of OSHA+ for Potential Use on All NNSA Construction Projects, 7/11/2024]</p> <p><i>LANL adapted for commercial/conventional construction to SD 413.3-7 in 2025, may change the term at some point.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <a href="#">OSTI.gov</a> | The primary search tool for DOE-funded science, technology, and engineering R&D results and the organizational hub for information about the DOE Office of Scientific and Technical Information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Other Hazard Controls (OHC)                    | <p>Preventive or mitigative controls that do not rise to the level of SC or SS but still enhance the safety of the facility. These controls are identified in the hazard evaluation table but not explicitly credited with a SC/SS designation as identified in the DSA. Such controls are maintained in accordance with safety management programs. Such controls are maintained in accordance with safety management programs and the Unreviewed Safety Question process. Other hazard controls may also include specific controls required by DOE in its Safety Evaluation Report (see DOE-STD-1104-2009 for further guidance) ... Other hazard controls are expected to be designed to the applicable industry code/standard for the given type of non-safety SSC... (from DOE-STD-3009-2014).</p> <p><i>OHCs (and DIDs for non-3009-2014 DSAs) are <u>SSCs</u> that <u>have specific safety functions (not credited)</u> that are specifically identified in the <u>DSA (in the hazard tables)</u>. They are not a functional element of an SMP like Rad Protection CAMs, a Fire Alarm Panel, or some security SSCs. The vast majority are ML-3 per AP-341-502 FM01 r7.2 (I), although there may be a few that are ML-4 because they are passive AND not identified as an OHC or DID control in the HA tables of a safety basis document for providing a barrier between the facility worker and the hazard (e.g., radioactive material, chemical exposure), but require procurement quality level QL-3 per P841-1.</i></p> <p><i>See graphic in <a href="#">Appendix A</a>.</i></p> |
| Over-the-shoulder review (OTS)                 | <p>Design review process considered less formal and more interactive and real-time than that normally associated with AP-341-620 and -517 and use of Aproove or similar system.</p> <p><i>Offline review occurs prior to Page-turn (PT) sessions. See ESM <a href="#">Ch.1</a> Z10, Att. C 30-60-90/100 schedule; a commercial/conventional review <a href="#">work instruction</a> was developed in 2025.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Owner                                          | <p>Ultimately NNSA, which owns the LANL site; however, day-to-day execution of the owner roles has been assigned to Triad for CoE codes and standards (e.g., IBC, ASME pressure safety). [ref. ESM Ch. 1, 16, 17]</p> <p><i>Also, while the prime contract doesn't say "owner" anywhere, it directs Triad to act in NNSA's best interests on typical owner-related concerns such as real property construction and maintenance.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Owners Building Inspector, <a href="#">OBI</a> | <p>A LANL or LANL-employed construction inspector (ESM Ch. 16 IBC-IP).</p> <p><i>Scope includes building and piping (ESM Ch. 17) code inspections.</i></p> <p><i>Special Inspectors (SI, per IBC Ch. 17) are a subset of OBI. Another subset example is Owner's Inspector or and delegates. OBIs wear two hats: (1) performing jurisdiction inspections per codes and their invoked standards and (2) observing work to ensure it meets the design on behalf of the owner (LANL).</i></p> <p><i>See also <a href="#">Qualified Inspection Agency</a> herein for other inspector types.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Owners Inspector                               | <p>Synonymous with ASME Owner's Inspector and delegates for pressure system related inspection [ESM <a href="#">Ch. 17</a> Pressure Safety Att. GEN-1].</p> <p><i>It is sometimes used more broadly to describe what are now termed OBIs above.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Owner's Project Requirements (OPR) | Industry term for a document capturing functional and operational requirements prior to design.<br><i>At LANL, this might be accomplished at a very early point by a Mission Need Statement and later, during pre-conceptual or conceptual design, in a Program Requirements Document (or other programming document), a Requirements and Criteria Document, and/or a Functions and Requirements Document.</i>                                                                                                                                                                                        |
| <b>P</b>                           | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Parent Documents                   | Documents with unique names and filed as unique documents in records management software. Examples: Calculations, Design Change Forms (DCFs), and System Design Descriptions (SDDs). Also known as Stand-alone Documents. [AP-341-402]                                                                                                                                                                                                                                                                                                                                                                |
| Part                               | <ol style="list-style-type: none"> <li>1. In a CSI-format specification section, a top-level heading (Part 1 – General, Part 2 – Products, or Part 3 – Execution) [CSI SectionFormat; ESM Ch. 1 Z10 Att. F; LMS STD-342-200]</li> <li>2. Items from which a component or equipment is assembled (e.g., resistors, capacitors, wires, embedded software, transistors, modules, O-rings, springs, bearings, gaskets, belts, bolting, seals). Parts are not assigned unique identification in CMMS. They are identified by manufacturer/vendor assigned part number. [AP-341-502, AP-341-703]</li> </ol> |
| Partial Occupancy                  | LBO approval to utilize part of a system or structure. [ESM Ch. 16 IBC-GEN FM05]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Passive SSC                        | An SSC that does not change state to perform its safety function; a non-moving, unpowered, design feature (as opposed to <a href="#">active</a> ). [AP-341-901]<br><i>Examples: Confinement and containment barriers such as walls, barriers, piping, vessels.</i>                                                                                                                                                                                                                                                                                                                                    |
| Peer                               | One having technical expertise in the subject matter to be reviewed to a degree at least equivalent to that needed for the original work. [AP-341-513]                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Peer Review                        | <ol style="list-style-type: none"> <li>1. For qualification of existing data: An in-depth critique of assumptions, calculations, extrapolations, alternate interpretations, methodology, and acceptance criteria employed, and of conclusions drawn in the original work. Peer reviews confirm the adequacy of work. [AP-341-513]</li> <li>2. Structural design: [When required, a] formal review process in which an external party (independent from the project) will review the methodology, results, and process by which a design is developed. [ESM Ch. 5, Section I]</li> </ol>               |
| Pending Changes                    | <p>There are two types of pending changes posted against facility Technical Baseline documents:</p> <ul style="list-style-type: none"> <li>• Yet to be Implemented Changes: design changes that are either in the design development phase, or the design has been approved but not yet implemented, or the implementation is in progress.</li> <li>• Implemented Changes: changes that have been implemented, tested, and accepted by Operations.</li> </ul> <p>[AP-341-402]</p>                                                                                                                     |

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| Performance Category (PC)                          | <p>Natural phenomenon hazard classifications used at LANL circa 1993–2003, first defined by <a href="#">DOE-STD-1021-93</a>.</p> <p><i>ESM Ch. 5 Section I includes a sometimes-conservative crosswalk from old PC category to current ones (RC or NDC+LS). To find such data for buildings, see Archibus herein (or ESM Ch. 16 PPD instructions or ESM Ch. 5 website's Resources). For SSCs, such data is captured in CMMS.</i></p>                                                                                                                                                                                                                                                                                                                                     |
| Performance Criteria                               | <p>Criteria imposed on the SSC so it can meet functional requirement(s) and, thereby, satisfy its safety function. Characterizes the specific operational responses and capabilities necessary to meet functional requirements. Performance criteria are defined and documented in facility safety analysis documents. [AP-341-607, AP-341-610]</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Performance Function                               | <p>A function that is required to satisfy item performance. [ESM Ch. 21, SOFT-INTRO]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Performance Evaluation & Measurement Plans (PEMPs) | <p>ES Division initiatives responsive to NA-LA input.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Performance Requirements                           | <p>Quantified statements that define how well or to what degree functions need performing. There are three types of performance requirements that should always be considered for each function (not all three necessarily apply to each function):</p> <ul style="list-style-type: none"> <li>• Output magnitude or capacity (i.e., how much)</li> <li>• Process throughput (i.e., number of products per time)</li> <li>• Output product characteristics (i.e., parameter limits)</li> </ul> <p>Performance requirements are directly measurable (e.g., pressure, temperature, voltage, transfer frequency, miles per hour, gallons per minute, purity, number of containers stored, etc.) and provide specific parameters that the design must meet. [AP-341-602]</p> |
| Performance Specification                          | <p>A description of the required end result of a product or system and includes the criteria to be used for verification of proper installation. It is generally written to encourage the use of innovative techniques. [The Project Resource Manual—CSI Manual of Practice, PRM Glossary of Terms, circa 2004]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Performance Testing                                | <p>Performance tests are conducted to verify performance of entire systems and multiple systems against a defined set of requirements and parameters. Examples of systems which typically require performance tests are HVAC systems, process systems, critical capacity mechanical equipment and integrated operation of systems. [ESM Ch. 15]</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Periodic Review                                    | <p>A planned review to assess a document's continued necessity, usability, and accuracy (e.g., document references, organizational references, etc.) [AP-341-401]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Permanent                                          | <p>That which is not “temporary” (see that term).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| Permitting Authority                                | <p>The LANL Building Official (LBO) is the NNSA-assigned building code authority, but to avoid confusion, Permitting Authority is sometimes used for the person granting design approval/release. This will be either the LBO (via the Design Package Reviewer [LBO-DPR]) or the FDAR (under the IBC 105.1.1 annual permit provision) depending on the risk level (e.g., per ESM Ch. 16 Table IBC-GEN-3).</p> <p><i>Permitting Authority signature ensures complete package, acceptable quality, code SME concurrence, and other IBC and Engineering Standards expectations.</i></p>                                                                                                                                                                                                                                                                                    |
| Permits Requirements Identification (PRID)          | See Project & Activity Review (PAR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Personal Property                                   | <p>Includes all equipment, material, and supplies not classified as real property (Refer to DOE O 580.1A [now 41 CFR 109, plus DOE G <a href="#">580.1-1A</a> Chg 1] and to 41 CFR Chapter 102-71). NNSA also considers personal property to be items that are not permanently affixed to the real property asset and can be removed without serious impact either to the real property or to the items themselves. Personal property may include items necessary for the course of normal administrative or business operations, such as office furniture, as well as science and engineering equipment. [NNSA SD 430.1C, <i>Real Property Asset Management</i>].</p> <p><i>Most of this would meet the concepts of “Programmatic–R&amp;D or Tenant” in ESM Ch. 1 Z10 (r15 and previous).</i></p> <p><i>See also Programmatic and Real Property topics herein.</i></p> |
| Plant System Engineer (PSE)                         | See Facility System Engineer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Plutonium Facilities Engineering Division (PFE)     | <p>PFE’s mission is to “provide [system] engineering support to operations and maintenance activities to the TA-55 Facility Operations Director (FOD) and to provide design and project engineering services in support of Facility Operations and the Plutonium Facility enduring mission.” [2025-1-27]</p> <p><i>PFE and PIE activities were in ES-Div prior to 2/14/2022.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Plutonium Infrastructure Engineering Division (PIE) | <p>PIE “delivers high-quality engineering services to the plutonium national security mission by providing a diverse set of engineering resources to support the modernization of the TA-55 infrastructure and capabilities. These multi-disciplined engineering and technically skilled resources are key to successfully delivering engineering design and executing the plutonium infrastructure project portfolio during construction.” [2025-1-27]</p>                                                                                                                                                                                                                                                                                                                                                                                                             |
| Point-of-Contact (POC)                              | <p>See Engineering Standards Discipline <a href="#">POC</a> definition herein for most common CoE usage. In other CoE programs, POC may refer to the program manager.</p> <p><i>Beyond CoE, LANL orgs may list a POC in the <a href="#">Phonebook+</a> for inquiries.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Post-Installation Testing (PIT)                     | Activities conducted after installation of a commercial grade item to verify required critical characteristics prior to placement in operation. [AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Post-Modification/Post-Maintenance Testing (PMT)    | Validates that the system or component performs as intended and operates within the design requirements after the change is installed (or maintenance) and before turnover to operations [DOE-STD-1073; AP-341-801; ESM Ch. 15]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| Potential Inadequacy of the Documented Safety Analysis (PISA) | <ol style="list-style-type: none"> <li>1. A situation that arises that indicates that the ...DSA... potentially may not be bounding or may be otherwise inadequate typically as the result of discrepant as-found conditions, operational events, or the discovery of other new information. (Note: all three conditions are referred to as "new information.") [DOE O 421.1 draft 2023-11-16]</li> <li>2. A condition in which the safety basis may be inadequate or the physical condition may not be accurate because the documented safety analysis may not match the current physical configuration of the facility, or the safety analysis may be inappropriate, inadequate, or contain errors [<a href="#">SBP-112-5-R6</a>; AP-341-802]</li> </ol> |
| <a href="#">Powerpedia</a>                                    | <p>A non-public, employee-created encyclopedia of information about DOE. It uses the same technology that powers <a href="#">Wikipedia</a> (<a href="#">Mediawiki</a>) and can be <a href="#">accessed and edited by any DOE employee or contractor</a>. Powerpedia's mission is to help employees share information on topics while improving communication and coordination between DOE organizations.</p> <p><i>Registration required. Useful info includes some DOE organization charts. Has 90k+ pages of info.</i></p> <p><i>There's also a newer DOE Energy Hub employee portal, sparse in 2025 (<a href="#">registration</a> requires MS Authenticator app + latest mobile OS).</i></p>                                                            |
| Precedence aka order of precedence                            | <p>The hierarchy of document authority; i.e., what governs in the event of conflict or difference.</p> <ol style="list-style-type: none"> <li>a. When designing using the LANL <a href="#">standards</a>, the ESM &amp; TSM have precedence over the Master Specs, Std. Details, and CAD Stds).</li> <li>b. In a construction <a href="#">specification</a>, Division 01 sections have precedence over others (Div 02-43). [ESM Ch. 1 Z10 Att. F]</li> </ol> <p><i>In ASM <a href="#">contracts</a>, the SOW has precedence over the specs and, historically, the specs over the drawings.</i></p>                                                                                                                                                         |
| Precision                                                     | <p>The ability of an instrument to produce repeatable readings of the same quantity under the same conditions. The precision of an instrument refers to its ability to produce a tightly grouped set of values around the mean value of the measured quantity. [ESM Ch. 15; LMS 01 9100] <i>See also Accuracy.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Preconceptual Design Phase                                    | <p>The phase of system/facility acquisition that examines alternate approaches to satisfying a mission need, establishes high-level requirements, confirms feasible alternatives exist, and selects the preferred alternative approach. Results are used to decide to pursue conceptual design. [ESM Ch. 20]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Pre-construction services                                     | <p>Services offered to support owners, architects, and engineers in making decisions. They are used in planning a construction project before the actual construction begins. The stage where these services are offered is called pre-construction or "pre-con". [<a href="#">Wikipedia</a>]</p> <p><i>In LANL conventional ("commercial") work, this might include constructability reviews; site, access, &amp; logistical constraints; structure &amp; construction methods; phasing plans; scheduling; estimating; and risk analysis — and be performed by the constructor [per the <a href="#">SOWs</a> 2025-8].</i></p>                                                                                                                             |

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| Predictive Maintenance (PdM)            | <p>Techniques designed to help determine the condition of in-service equipment to estimate when maintenance should be performed. [AP-MNT-006, Preventive and Predictive Maintenance]</p> <p><i>PdM uses data analysis and predictive modeling to anticipate when failures might occur. Vibration analysis is an example. May be done periodically or when a problem is suspected (i.e., predictive diagnostics aka non-recurring PdM).</i></p> <p><i>Condition-Based Maintenance (CBM) is another proactive maintenance strategy that aims to optimize maintenance schedules and reduce downtime, focusing on monitoring the current health of equipment to determine when maintenance is needed.</i></p> <p><i>See also predictive maintenance.</i></p>                                                                                                                                                                                                                                                                                                                       |
| Preliminary Design Phase                | <ol style="list-style-type: none"> <li>1. The phase of system/facility acquisition that advances the conceptual design by fully specifying the facilities and systems that will be designed and constructed to meet the mission need. It details the system and facility-level design by identifying the required components and structures. This phase provides sufficient detail to enable procurement of long-lead items. (Begins when Critical Decision 1 [CD-1] is received, ref. DOE O 413.3B) [ESM Ch. 20]</li> <li>2. Project design phase where design concepts are developed into facility layouts, P&amp;IDs, electrical one-lines, and equipment selection. (Paraphrased from DOE-STD-1189 and DOE O 413.3B). The end of preliminary design is marked by CD-2 approval for large projects and is roughly equivalent to 60% design completion for smaller projects. [AP-341-620]</li> </ol> <p><i>Sometimes referred to as <a href="#">Title I</a> based on old DOE documents. Outside DOE and LANL, this is the design development (DD) phase per the AIA.</i></p> |
| Preliminary Project Determination (PPD) | <p>LANL Building Code Program process/form for establishing related design criteria prior to project going underway. [ESM Ch. 16 IBC-GEN, Form 1; also available via "Delta" web program]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Pressure Safety Program                 | <p>The <a href="#">program</a> to reduce injuries, equipment damage, and lost productivity due to pressurized (or vacuum) system failure (and to meet 10CFR851).</p> <p><i>Scope includes design and construction requirements (ESM Ch. 17, with definitions in <a href="#">Attachment GEN-1, Definitions and Abbreviations</a>) and an administrative program (<a href="#">P101-34</a>, <a href="#">P101-5</a>, with definitions therein).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Preventive Maintenance (PM)             | <p>Periodic (scheduled) inspection, service, and/or other tasks intended to forestall failure or prolong life (thus requiring corrective maintenance).</p> <p><i>The proper balance between the two is achieved by ensuring that costs associated with PM/PdM are offset by improved facility reliability, availability, and reduced corrective maintenance. This eliminates excessive or unnecessary PM/PdM that consumes resources better applied to corrective maintenance, or increases the risk of maintenance errors, rework, personnel radiation, and hazardous material exposure. [~AP-MNT-006, Preventive and Predictive Maintenance] PM optimization (PMO) is a strategic process of reviewing and refining PM tasks to ensure they are effective and efficient.</i></p>                                                                                                                                                                                                                                                                                             |

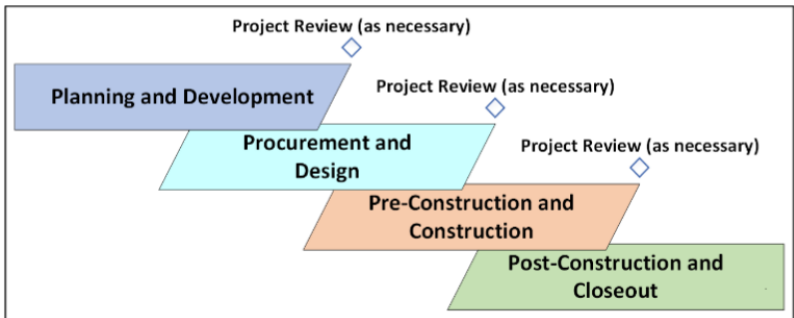
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| Preventive Maintenance Instruction (PMI) | Procedure that implements MSS's Operations and Maintenance (O&M) Criteria. Posted <a href="#">here</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Primary Function                         | The driving mission of the project itself. It provides a link between the higher order function and the project. [AP-341-601]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <a href="#">Prime Contract</a>           | NNSA-issued document governing performance by LANL's managing and operating (M&O) contractor (e.g., Triad).<br><i>It includes some <a href="#">DEAR</a> and <a href="#">FAR</a> clauses (either verbatim or with modification) in its <a href="#">Part II Section I</a> and builds upon those with site specifics, also including its Part III, Section J, <a href="#">Appendix B list of applicable DOE and NNSA directives</a>. Total page count is 350+. LANL (e.g., Triad) performs to the contract, which is amended over time with <a href="#">modifications</a>, and also to written direction from NNSA (e.g., a contracting officer/CO).</i> |
| Priority Documents                       | Technical documents that are required to perform Technical Safety Requirements (TSRs) in Hazard Category 2 or 3 (HC-2 or HC-3) nuclear facilities or Operational Safety Requirements (OSRs) in accelerator facilities and high and moderate hazard nonnuclear facilities. [AP-341-405, ESM Ch. 1, Z10; CAD Standards Manual, Section 100. Definition supersedes that in <a href="#">VAR-10642</a> and other documents.<br><i>Priority is LANL's renaming of Essential in older (late 1990's) editions of DOE-STD-1073.</i>                                                                                                                            |
| Priority Drawing                         | The most common form of Priority document; <i>see above</i> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Procedure Qualification Records (PQR)    | A record of welding variables used to produce an acceptable test weldment and the results of the tests conducted on the weldment to qualify a welding procedure specification. [ESM Ch. 13, Vol. 1, 1-99]                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Procedure Writer's Manual or Guide       | Document with approach(es) for procedure content and format.<br><i>Since 2014, <a href="#">DOE has promoted</a> use of the Procedure Professionals Association (PPA) <a href="#">AP 907-005, Procedure Writer's Manual</a>. LANL has its own (e.g., <a href="#">Policy Template</a>; CoE <a href="#">AP-341-401's</a> AP and WI templates; <i>ops-procedure-focused</i> <a href="#">P315-5</a>, Technical Procedure Writer's Manual).<br/><i>SNL technical procedure document (2021) <a href="#">here</a>.</i></i>                                                                                                                                    |
| Process                                  | 1. A series of actions that achieves an end or result. [10 CFR 830.3]<br>2. Process equipment: Manufacturing, process, or production equipment of tenant organizations, as distinguished from utilities or building services equipment. [ESM Ch. 16 IBC-GEN; Ch. 1 Z10]                                                                                                                                                                                                                                                                                                                                                                               |
| Process and Automation (P&A)             | Former team of I&C SMEs within ES, now decentralized in ES project delivery groups. [ESM Ch. 8 D3060.90]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Process Engineer (PrE)                               | <p>Programmatic system engineer responsible for one or more systems of a process that is typically a long-life system with formal configuration control (not rapidly changing R&amp;D experimentation; e.g., by a Principal Investigator).</p> <p><i>When nuclear safety or a facility is involved, PrEs are also subject to PD340, P341 and its APs, and P343 for training and qualification; P343 states: 'The PrE supports and acts as the owner of their assigned system which may interface with an Engineered Safety Feature and acts as the responsible Engineer for all CoE-related documentation and activities involving their assigned system rated at the non-VSS ML-3 or ML-4 level. PrEs have been determined to be "Technical Staff" positions as per DOE Order 426.2, having increased training and qualification versus a Plant System Engineer.'</i> [ESD-QS-013-R0.1 draft]</p>        |
| Procurement                                          | <p>The act of acquisition of goods or services, or the LANL entity doing so (e.g., ASM). ASM <a href="#">Procurement page</a>. From PD840:</p>  <pre> graph LR     A[Demand Planning] --&gt; B[Supply Planning]     B --&gt; C[Supplier Development]     C --&gt; D[Supplier Qualification]     D --&gt; E[Sourcing]     E --&gt; F[Contracting]     F --&gt; G[Buying]     G --&gt; H[Invoicing]     H --&gt; I[Supplier Performance]   </pre>                                                                                                                                                                                                                                                                                                                                                                         |
| Procurement Engineer (PtE)                           | <p>Ensures the proper acquisition of SSCs and services by specifying and implementing the appropriate technical and quality requirements in the procurement process. Interfaces with the Design Engineer, Project/System Engineer, Project/Facility Manager, Quality Assurance Engineer, and Procurement Specialist. [P341].</p> <p><i>Typically in <a href="#">PIE-EPF1</a> group, tasked to produce accurate, technically strong, and compliant procurement packages, and solutions for both nuclear and non-nuclear (conventional or commercial) equipment and materials. Additionally, the group develops commercial grade dedication plans and packages, both for onsite dedication, and in support of CGD that occurs during fabrication subcontracts with nuclear suppliers.</i></p> <p><i>There is an EFCOG Community of Practice for PtEs under <a href="#">Safety WG</a>'s QA Subgroup.</i></p> |
| Procurement Quality                                  | <ol style="list-style-type: none"> <li>1. Graded application of quality approaches to acquisition.</li> <li>2. At LANL, the process of verifying that the technical and quality aspects of a quality related procurement meet the requirements of P841-1 and legacy P840-1 Policies [<a href="#">IQPA Procurement Quality</a>]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Procurement Quality Subject Matter Expert (P-QSME)   | <p>The quality assurance expert assigned by the IQPA-IQ Group Leader to review and approve quality-affecting procurements. [P841-1, <i>Quality Procurements</i>, r6, §5.0]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Procurement Technical Subject Matter Expert (P-TSME) | <p>The technical and quality expert for the item and/or service being procured who establishes the technical and quality requirements for the item and/or service being procured and who is authorized in accordance with Section 6.0, <i>Training</i>, of this document. [P841-1, <i>Quality Procurements</i>, r6 §5.0]</p> <p><i>They are listed in the IQPA <a href="#">Certification &amp; Qualification Tool</a> (via <a href="#">reports</a>).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Professional Engineer (P.E.) | <p>A design professional registered in one or more states. [ESM Ch. 1 Z10]</p> <p><i>A P.E. must (1) earn a four-year degree in engineering from an <a href="#">accredited engineering program</a>, (2) pass the Fundamentals of Engineering (FE) exam, (3) complete four years of progressive engineering experience under a PE, and (4) pass the Principles and Practice of Engineering (PE) exam (<a href="#">NSPE</a>).</i></p> <p><i>A P.E.'s application of their stamp and signature to a work product is "sealing."</i></p> <p><i>Per the <a href="#">NM Engineering and Surveying Practice Act (2025)</a>, a signing/sealing P.E. must be registered in NM (an "NMPE") and "be in responsible charge of and directly responsible for the work issued." Also, "responsible charge" means "responsibility for the direction, control and supervision of engineering ... to assure that the work product has been critically examined and evaluated for compliance with appropriate professional standards by a licensee in that profession, and by sealing or signing the documents, the professional engineer ... accepts responsibility for the engineering ... work ... represented by the documents and that applicable engineering ... standards have been met."</i></p> <p><i>This does not mean the P.E. did any of the work personally, only that they take responsibility for it.</i></p> <p><i>See also <a href="#">Engineer of Record</a> and <a href="#">Design Professional in Responsible Charge</a>.</i></p> |
| Pro forma (not proforma)     | <p>The content of a procurement routinely included with the statement of work (e.g., conditions, some exhibits), the majority of which is static. <i>Less formally called boilerplate.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Programmatic                 | <ol style="list-style-type: none"> <li>1. The activities and property directly supporting Lab missions, and via such funding.</li> <li>2. For equipment, this includes Programmatic Real Property and, at least within NNSA, Personal Property (which is unattached), so refer to those definitions herein.</li> </ol> <p><i>Historical definitions of programmatic equipment were:</i></p> <ol style="list-style-type: none"> <li>1. <i>Work or equipment that is tenant, R&amp;D, or process – not facility, utility, infrastructure, or environmental program related. [ESM Ch. 1, Z10; Ch. 8 D3060.90; Ch. 16, IBC-GEN]</i></li> <li>2. <i>A synonym for Personal Property and Programmatic Equipment. PP&amp;PE is equipment used purely for programmatic purposes, such as reactors, accelerator machinery, chemical processing lines, lasers, computers, machine tools, etc., and the support equipment dedicated to the programmatic purpose. This property/equipment is also referred to as organizational, research, production, operating or process and was formerly known as Class B. [former DOE Order 4330.4B].</i></li> </ol>                                                                                                                                                                                                                                                                                                                                                                                      |

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| Programmatic R&D Engineering                                                     | <p>As used by PD340 (r8.1), includes engineering-related activities associated with designing or developing programmatic R&amp;D engineered devices, components, and/or controls needed to execute research.</p> <p><i>PD340 indicates that Programmatic R&amp;D engineering that does not affect the safety basis or technical baseline is exempt from PD340, P341, and P343 (but not P342 Engineering Standards); furthermore, <a href="#">PD370</a> or <a href="#">SD601</a> work is limited to Personal Property which neither constitutes nor supports a LANL Facility. See Facility Conduct of Engineering herein for more on PD340-versus-PD370 applicability.</i></p> <p><i>ES-DO-Memo-21-003 reiterated the above, adding that <a href="#">PD370</a> applies where the activity warrants additional engineering rigor to reduce ES&amp;H risks or research quality risks. (This is as opposed to use of <a href="#">SD601</a>, “Conduct of Research and Development,” which is less prescriptive.)</i></p>                    |
| Programmatic Real Property                                                       | <p>Refers to reactors, accelerators, and similar devices used by programmatic personnel and listed in the Facilities Information Management System as “Other Structures and Facilities” under the 3000 series usage codes, such as 3009, 3209, 3221, 3251 and 3261. [DOE O 430.1 Chg 2, <a href="#">Real Property Asset Management</a>]</p> <p><i>Referred to as “Programmatic–Process” by ESM Ch. 1 Z10 (r15 and previous). CoE for such follows PD340 series as it constitutes a facility. (See also Facility Conduct of Engineering herein.)</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Program Requirements Document (PRD)                                              | <p>[For a large project, i.e., a line item (e.g., over \$50M)], the document that translates the “need” in the Mission Need Statement into initial top-level requirements addressing such concerns as performance, supportability, physical and functional integration, human integration, security, test and evaluation, implementation and transition, quality assurance and configuration management. [<a href="#">SD 413.3 Chg 1</a> on PM; <a href="#">SD 413.3-4</a> on PRDs; AP-350-101 r1]</p> <p><i>Note, PRD may also mean project record document.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Program Strategy and Execution–Information Management ( <a href="#">PSE-IM</a> ) | <p>LANL organization supporting document control and records management (formerly SI-DCRM). <i>RM webpage <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Project                                                                          | <ol style="list-style-type: none"> <li>1. An undertaking that encompasses a set of tasks or activities having a definable starting point and well-defined objectives. Usually, each task has a planned completion date (due date) and assigned resources.</li> <li>2. A set of related activities needed to produce specific products or services to meet a customer’s requirement. In contrast to programs, projects are finite (have a definite beginning, middle, and end). <i>LANL projects are typically a subset of, and funded by, a LANL program.</i></li> <li>3. In the Engineering Standards, ANY task or activity involving the installation, modification, or permanent removal of an SSC at LANL managed formally or otherwise. Includes related fabrication, construction, procurement — and maintenance activities where required — and may not be a formal project or subproject, nor subject to Project Management’s SD350 and related procedures. “Task” means the same. [ESM Ch. 1, Z10; Ch. 16 IBC-GEN]</li> </ol> |

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| Project & Activity Review (PAR)                   | A work planning tool that facilitates communication among project and activity owners, SMEs, and facility operations. The objective is to identify LANL, state, and federal requirements, facilitate SME review, document compliance with requirements, and obtain FOD authorization for new and modified activities. ... The PAR is the result of integrating the Permits and Requirements Identification (PRID) and the New Activity Review (NAR) processes into a single cohesive system. <a href="#">[P351 r4; ESM Ch. 1 Z10; Ch. 16 IBC-GEN]</a> <i>Part of (see) Integrated Review Tool/IRT</i>                                                                                                                                                                                                                          |
| Project Engineer (PE)                             | <ol style="list-style-type: none"> <li>1. Individual assigned by engineering management as the single point of contact for design activities. [AP-341-610, ESM Ch. 1, Z10]</li> <li>2. The person who directs, leads, and manages assigned engineering personnel and engineering support including engineering subcontractors (EOR), manages technical resources and ensures that proper engineering processes are followed, and ensures project owner needs and technical requirements are followed. <a href="#">[D-B Construction SOW Template 21NOV2022]</a></li> </ol> <p><i>Note, "PE" may mean professional engineer in a sealed design context, but "P.E." may be more common for that role and is preferred.</i></p>                                                                                                   |
| Project Equipment List (PEL)                      | An equipment/component listing the project delivers as a turnover document (xls). LANL finalizes and uploads the PEL to become the <a href="#">Master Equipment List (MEL)</a> in CMMS for the operating facility. [ESM Ch. 1 Z10]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Project Execution Plan (PEP)                      | DOE's core document for management of a project. It establishes the policies and procedures to be followed in order to manage and control project planning, initiation, definition, execution, and transition/closeout, and uses the outcomes and outputs from all project planning processes, integrating them into a formally approved document. A PEP includes an accurate reflection of how the project is to be accomplished, resource requirements, technical considerations, risk management, configuration management, and roles and responsibilities. <a href="#">[DOE O 413.3B Chg 7 (LtdChg), Program and Project Management for the Acquisition of Capital Assets]</a> ; SDs 413.3 and 413.3-7; LANL SD350 and <a href="#">RN350-02</a><br><i>A Preliminary PEP (PPEP) is also discussed in the above sources.</i> |
| Project Identification Number (PID, formerly PI#) | For projects subject to SD350, "a unique tracking number used to reference documents, establish document numbering, and ensure roll-up of any associated work orders to give complete project information over the entire project lifecycle. If a PID has not been assigned to the project, the PM submits the PID request at <a href="#">pid.lanl.gov</a> ." [AP-350-100, R9.1; AP-350-105]<br><i>The website has a useful PID/project lookup page directly <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                         |
| Project Lead                                      | Project manager (assigned by organization), project leader (assigned by PM Division) or other designated individual responsible for the management and overall design effort of the project. [ESM Ch. 11]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| Project Management             | <p>Activities related to leading the execution of projects or, as in some CoE documents, the role — the LANL functional project manager overseeing the scope, schedule, and budget.</p> <p>LANL has many organizations dedicated to PM (<a href="#">ALDICEP</a>, others). The Project Management Resource Center (PMRC) Procedures, Training &amp; Development Project/Program (PCR-PTD) <a href="#">website</a> offers selected SD350-series APs, WI, and other documents linking to EDRMS. Note: The AP-350-X00 Series was revised 12/2025 to describe low hazard, non-nuclear work while the AP-350-X01 (and X02) Series were being revised in 2026 to describe HazCat 2 or 3 nuclear facility work (ref <a href="#">RN350-02</a>).</p> <p>Latest DOE (but not NNSA) PM directives is <a href="#">here</a>. The <a href="#">DOE-OPM Lexicon of Terms</a> also exists for that scope. Briefing slide sets on the key DOE guides on PM here: <a href="#">EFCOG PDWG's Training Express</a>. Some outside-DOE PM terms <a href="#">here</a>.</p> |
| Project Manual                 | <p>The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes. [EJCDC® C-700]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Project Phases (non-nuclear)   | <p>Per <a href="#">RN350-02</a>, low and moderate-risk project phases and reviews:</p>  <p>For nuclear projects per DOE O 413.3B, see <a href="#">RN350-02</a> (fig. 5.2 and 5.1.1.b) or <a href="#">Critical Decisions</a> herein for phases and milestones.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Project Quality Assurance Plan | <p>A Subcontractor's project-specific quality assurance/quality control (QA/QC) plan subject to review and approval by LANL prior to performing quality affecting work. [LMS 01 4000 r8 1.4.A] See <i>discussion at Quality Assurance Program Description</i>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Project Record Document (PRD)  | <p>Final (e.g., closeout) records that incorporate all field changes. "<a href="#">As-builts</a>" are generally a small, critical subset of these. PRDs are QA records (while Issued-for-Construction precursors are not, per DCRM), so the signature(s) on PRDs are attesting that it reflects the installed condition to the best of one's knowledge and thus fulfills the requirement for "<a href="#">authentication</a>" (see that definition) before record storage. [based on CSI MasterFormat 01 7839 and DPIC's 1999 Contract Guide (risk management handbook for AEs), pgs III-23 thru 25; ESM Ch. 1 Z10]</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Prompt Operability Determination (POD) | <p>In Safety Class (SC) or Safety Significant (SS) SSCs of Hazard Category 2 or 3 nuclear facilities:</p> <p>Operability determination of a Structure, System, and Component (SSC) as a follow up to an Immediate Operability Determination (IOD). A POD is warranted when additional information, such as supporting analysis, is needed to confirm the results of an IOD. [LANL Definition of Terms, 2024-8-15]</p> <p><i>A CSE process normally completed within 72 clock hours of its initiation unless the FEM requires different period. [AP-341-516 r3.1]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ProtoSTAR                              | <p>“The ProtoSTAR Common Design Pilot is an initiative to develop a common scalable design for administrative space that could be deployed at various NNSA Sites. The common design will be developed utilizing three Pilot Sites...” [ProtoSTAR Pilot Project Feasibility Study, r0]</p> <p><i>The Standard Acquisition and Recapitalization (STAR) approach is intended for reconfigurable and repeatable modular concept office building designs, and LANL’s use of it is a pilot project.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Public                                 | <ol style="list-style-type: none"> <li>For nuclear safety, “All individuals outside the DOE site boundary.” [DOE-STD-3009-2014 and DOE G 420.1-1A, Nonreactor Nuclear Safety Design Guide for use with DOE O 420.1C, Facility Safety]</li> <li>In a very general sense, public can simply be the opposite of private: “...Most public property is government-provided and not charged-for separately to users, but open to the public. However, it is incorrect to say that all public property can be used freely by the public. Many public goods are provided only to subsets of the population. That is, the 'public' may vary and does not in fact determine its public or private nature.”<br/>[<a href="https://en.wikipedia.org/wiki/Public_property">https://en.wikipedia.org/wiki/Public_property</a>]</li> <li>In code matters, IBC-2021 includes these public-related definitions. LANL interpretation guidance follows each. <p><b>PUBLIC ENTRANCE.</b> An entrance that is not a <i>service entrance</i> or a <i>restricted entrance</i>.</p> <p><i>At LANL, this definition generally works as written; entrance leads to public-use areas (see below)</i></p> <p><b>RESTRICTED ENTRANCE.</b> An entrance that is made available for common use on a controlled basis, but not public use, and that is not a <i>service entrance</i>.</p> <p><i>At LANL, works as written; most entrances are of this type, have a badge reader.</i></p> <p><b>PUBLIC WAY.</b> See definition for this below <i>Public Building</i>.</p> <p><b>PUBLIC-USE AREAS.</b> Interior or exterior rooms or spaces that are made available to the general public.</p> <p><i>At LANL, interior spaces such as the unbadged areas of Otowi and the Research Library, and the Bradbury Science Museum and some Manhattan Project National Historical Park (MAPR) buildings, may fall into this category, as would exterior infrastructure such as sidewalks and parking lots.</i></p> </li> </ol> |

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| Public Building             | <p>In statutory space, definitions vary depending on the document. Insofar as 40 USC 3301 which governs certain sustainable design mandates such as 10CFR433, per LANL Legal Counsel, the (C)(v) nuclear exclusion in USC/CFR definition below is considered applicable to the entire site, so LANL generally has no “public buildings,” while they are “Federal buildings” (although the Otowi, Oppenheimer, and Bradbury Science Museum buildings are often at least treated as such).</p> <p>From 40 USC 3301, and 41 CFR 102-71.20 is similar (both 2023 editions):</p> <p>(A) means a building, whether for single or multitenant occupancy, and its grounds, approaches, and appurtenances, which is generally suitable for use as office or storage space or both by one or more federal agencies or mixed-ownership Government corporations;</p> <p>(B) includes— (i) federal office buildings; ... (vii) warehouses; ... (viii) record centers; ... (x) telecommuting centers; (xi) similar federal facilities; and (xii) any other buildings or construction projects the inclusion of which the President considers to be justified in the public interest; but (C) does not include a building or construction project described in subparagraphs (A) and (B)— e...e(v) that is on or used in connection with river, harbor, flood control, reclamation or power projects, for chemical manufacturing or development projects, or for <u>nuclear production, research, or development projects</u>; ... eeee</p> |
| Public Way                  | <p>Any street, alley, parking lot, or other parcel of land open to the outside air leading to a street, either accessible to the public or to any LANL-badged employees, and which has a clear width and height of not less than 10 feet and is accessible to emergency responders. [LANL Building Office <a href="#">DET-25-001</a>]</p> <p><i>This differs slightly from the IBC-2021 definition due to LANL situation.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Q                           | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Qualification (Personnel)   | <ol style="list-style-type: none"> <li>1. The characteristics or abilities gained through education, training, or experience, as measured against established requirements, such as standards or tests that qualify an individual to perform a required function. [NQA-1, Part I, 400]</li> <li>2. The process for attaining, demonstrating, and documenting the knowledge, skills, and abilities identified for a position by the systematic approach to training (SAT) process. It includes education, experience, classroom and on-the-job training, examination, and any special requirements necessary to perform assigned responsibilities for a given position. [DOE O 426.2A <a href="#">Chg 1</a> (AdminChg), <i>Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities</i>, Att. 3]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Qualification Standard (QS) | <p>The formal documentation of qualification or certification requirements [for] an individual assigned to the position. Information in the QS is extracted from the approved Qualification Program developed for that position. [adapted from LANL <a href="#">Definition of Terms</a> based on P781-1; P343]</p> <p><i>These are associated with DOE O 426.2A positions. CoE also has training standards, see that term.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Qualification Tests         | <p>Testing that demonstrates adequate performance of items under conditions that simulate the most adverse design conditions. (ASME NQA-1) [AP-341-620]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| Qualified Inspection Agency, or Agent (QIA) | <p>A LANL-qualified inspection agency (or agent) acceptable to the LANL Building Official.</p> <p><i>This is most often the LANL ES Chief Inspector's Owners Building Inspectors (OBIs) which includes the ASME Inspectors/Owner's Inspectors and delegates, but also includes any others when approved by the Chief such as third-party inspectors, QC inspectors (in IQPA), or <a href="#">MSS-MP</a> SMEs (e.g., boilers, elevators).</i></p> <p><i>It also includes these organizations that maintain a separate qualification program accepted by the LBO: (1) for electrical safety/NEC, the ES&amp;H OSH-HEO Chief Electrical Inspector's Office/Team (<a href="#">EIT</a>), (2) Fire Protection, (3) CWIs approved by the Welding Program Administrator and NDE examiners approved by the Responsible Level III per ESM <a href="#">Ch. 13</a> Vol. 6 and in the associated <a href="#">database</a>. [<a href="#">ESM Ch. 16</a>, IBC-GEN; IBC-IP Att. J].</i></p> <p><i>Att. J also allows non-QIA inspectors for certain low-risk, non-code tasks, termed <u>Sub-QIA</u>, being "Someone who did not personally perform the work, selected by management. May be by craft supervision, engineering, or QC other than a QIA (e.g., in IQPA) or programmatic or facility technicians."</i></p> <p>See also definitions of Inspection, Inspector, LANL Inspector, Special Inspection Agency (and Inspector), and Owners Building Inspector.</p>                                                                                                                                                |
| Quality                                     | <p>The condition achieved when an item, service, or process meets or exceeds the user's requirements and expectations. [10CFR830]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Quality Assurance (QA)                      | <ol style="list-style-type: none"> <li>1. All those actions that provide confidence that quality is achieved. [10 CFR 830; LMS 01 4000].</li> <li>2. Measurable systematic actions to assure confidence that the implementation of planned activities result in meeting objectives, goals, and contract documents. [ICC's Accreditation Criteria and Special Inspection Manual]</li> <li>3. All the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfill requirements for quality. [<a href="#">ASQ.org</a>]</li> <li>4. Part of quality management focused on providing confidence that quality requirements will be fulfilled. [ASQ/ANSI/ISO 9000-15]</li> </ol> <p><i>In LANL construction work, QA is the overall quality approach that normally includes Quality Control (QC, see also). Such QA has two parts:</i></p> <p><i>(1) prior to work, LANL reviews the constructor's quality program to ensure acceptability (e.g., might require editing of QC procedures and forms described at Quality Control below to add/delete data capture, steps, or checks), and</i></p> <p><i>(2) during or after work, LANL or a LANL (e.g., LBO)-approved third party inspectors perform checks on items and QC forms in the field (if during work, may be periodically, continuously, and/or a Hold or Witness Point). Such QA checks are thus a second, overlayed, higher level of verification sufficiently independent of work organization to verify work/QC is performed properly.</i></p> |

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| Quality Assurance Program (QAP)                  | <p>The <u>overall program or management system</u> established to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of work. [10CFR §<a href="#">830.3a</a>; <a href="#">DOE O 414.1E and others</a>] As such, QAP is the preferred term for the concept within DOE.</p> <p><i>Often termed quality system or quality management system (QMS) outside DOE. [ASQ/ANSI/ISO 9000, ISO 10005]</i></p> <p><i>QMS is defined as a structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The Quality System provides the framework for planning, implementing, and assessing the work performed by an organization and for carrying out required quality assurance (QA) and quality control (QC) activities [ANSI/ASQC E4 via <a href="#">DOE G 414.1-2B Chg 2 (Admin Chg), Quality Assurance Program Guide</a>]</i></p> <p><i>IQPA-IQ-FSD-012, Rev. 1, Supplier Evaluations discusses QMS expectations when such are being assessed.</i></p>                                                                                      |
| Quality Assurance Program Description (QAPD)     | <p>A <u>document</u> describing how the quality assurance requirements are met for a project or program. The QAPD must (1) summarize the QAP; (2) adequately prescribe the flow down of requirements to working level processes (e.g., procedures, instructions, or any other similar term used in the implementing documents); (3) describe the selection of the voluntary consensus standard(s) used to develop the working-level processes of the QAP; and (4) provide a summary explaining the graded approach. [summary of <a href="#">DOE O 414.1E, Quality Assurance</a>]</p> <p><i>Term is new with DOE O 414.1E and preferred for LANL written approaches to QA. [ref. DOE order and PD330, Los Alamos National Laboratory Quality Assurance Program Description, r0 draft 2025-8] Subcontractor and legacy documents may be titled many things, including Quality Assurance (or QA) Manual, Plan, Program, Management Manual — or QA System Manual.</i></p> <p><i>Also, a project-specific (not merely general) plan or general program supplement containing intentions for the LANL project may be required of subcontractors for higher-risk jobs by the IPT; may be termed Project-Specific Quality Assurance/Quality Control (QA/QC) Plan or Project Quality Management Plan. [LMS 01 4000; ISO 10005]</i></p> |
| Quality Assurance Subject Matter Expert (QA SME) | <p>A person who performs the quality assurance role defined in P341 Facility Engineering Processes Manual and administrative procedures (e.g., AP-341-513, AP-341-601, AP-341-602, AP-341-610, AP-341-703).</p> <p><i>When this role is in the procurement process, see Procurement Quality SME (P-QSME).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Quality Control (QC)                | <p>1. The act of examination, testing, or measurement that verifies processes and services, or documents conform to specified criteria. [ICC's Accreditation Criteria and Special Inspection Manual; LMS 01 4000; ESM Ch. 16 IBC-IP Att. I for TIS]</p> <p>2. Part of quality management focused on fulfilling quality requirements. [ASQ/ANSI/ISO 9000-15]</p> <p><i>For construction at LANL, QC is the constructor's responsibility. It is the in-process or soon-after, first level of quality verification that is not necessarily financially independent of the work-performing entity. The constructor will have a quality program (may be termed Quality Assurance or Quality Control). For QC, each equipment item type and important installation activity should have an individualized QC sheet (e.g., anchor install, cable pulling). A QC person (perhaps one per 25 workers) monitors such actions and checks such installations, completes a sheet for each, signs, and dates. The sheets are reviewable by QA personnel and become part of the project record.</i></p> <p><i>In ASME code work, such QC is termed Examination. With structural steel fab, both QC and QA is normally termed Inspection. See also Examination, Inspection, and the Quality Assurance definition's usage note above.</i></p> |
| Quality Inspection Plans (QIP)      | <p>Indicates examinations or activities that are designated as witness and hold points during a modification implementation. Specifies examination method, acceptance criteria, and testing procedures. Such is required by and/or part of the Design Change Form. [AP-341-517]</p> <p><i>Quality inspection requirements are also required by ESM Chapters 1 and 16. This implements multiple QA mandates and building codes, and by default it is the EOR's responsibility. This is sometimes in the form of <b>TIP</b>, other times a PMT, and an SSI as needed; ref. ESM Ch. 16 IBC-IP including Att. I and J.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Quality Level (QL)                  | <p>Procurement quality categories/levels that provide a grading structure used to establish the level of rigor used to implement quality assurance controls for the procurement of items and/or services. [P841-1, R6]</p> <p><i>P841-1 applies to purchases by LANL, not subcontractors. In its Table 1, QL-1 is Nuclear Quality, QL-2 is Enhanced Quality, and QL-3 is Standard Quality (with additional direction for each).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Quality Management System           | See Quality Assurance Program.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Quality Verification Document (QVD) | <p>A document, or collection of documents, providing objective evidence that specified requirements have been satisfied, to the extent required by an approved Purchase Order. Documents include, but are not limited to, inspection reports, test reports, nondestructive examination reports, certificates of compliance, material test reports, and the like. [<a href="#">24590-WTP-GPG-AS-008, Rev 0</a>].</p> <p><i>A QVD is typically required to be completed prior to shipment. PF-4's LAP4 project uses them, has developed a work instruction for them, see with other recent WIs <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Quality Verification Record (QVR)              | Documents the verification of the quality of a product, process, or service. Quality verification records are part of a company's Quality Management System (QMS). [Google AI 2025-1-29].<br><i>See also Records / NQA-1 QA Records herein.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| R                                              | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Readiness Assessment (RA);<br>Readiness Review | An assessment to determine a facility's readiness to startup or restart when an ORR is not required or when a contractor's standard procedures for startup are not judged by the contractor or DOE management to provide an adequate verification of readiness. [DOE 413.3B].<br><i>This is the less rigorous of two DOE/NNSA approaches defined by DOE O 425.1D — the other being an Operational Readiness Review (ORR, called Federal ORR/FORR by PD115). DOE O <a href="#">420.2D</a> Atts. 1 &amp; 2 define Accelerator Readiness Reviews (ARR). All are preceded by a Contractor Readiness Review step (see that term). LANL program <a href="#">site</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Reaffirmed (R)                                 | The standard was reviewed and republished by the copyright holder without changes to its content. [ANSI Webstore <a href="#">Glossary</a> ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Real Property                                  | (1) Any interest in land, together with the improvements, structures, and fixtures located thereon (including prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers with or without undercarriages), and appurtenances thereto, under the control of any Federal agency, except ... [snip, n/a to LANL].<br><br>(2) Improvements of any kind, structures, and fixtures under the control of any Federal agency <u>when designated by such agency for disposition</u> without the underlying land (including such as may be located on the public domain, on lands withdrawn or reserved from the public domain, on lands reserved or dedicated for national forest or national park purposes, or on lands that are not owned by the United States) excluding, however, prefabricated movable structures, such as Butler-type storage warehouses and Quonset huts, and house trailers (with or without undercarriages).<br><br>[Management Regulation 41 CFR 102-71.20 (2023)]<br><i>Other than real property, the other major category of SSCs in DOE/NNSA/LANL context is Personal Property. See also <a href="#">Facility</a> for related discussion.</i> |
| Reasonable Assurance                           | In the context of commercial grade item acceptance, ... an engineering determination premised upon a justifiable level of confidence based on objective and measurable facts, actions, or observations from which adequacy of the item for its intended purpose can be inferred. (DOE-HDBK-1230-2019) [AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Recommended                                    | Not required, suggested method only. [National CAD Std v6]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

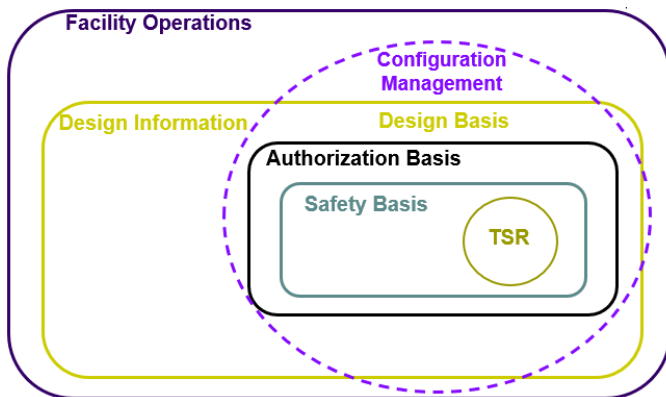
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| Record  | <ol style="list-style-type: none"> <li>1. A completed document or other medium that provides objective evidence of an item, service, or process. [10CFR830.3]</li> <li>2. LANL Definition of Terms for P1021, P1020-2:<br/>Includes all books, papers, maps, photographs, machine-readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of data in them. (Refer to P1020-1, Laboratory Records Management for expanded definition.)</li> </ol> <p>Note: At the Laboratory, records include information, regardless of medium or characteristics, created or received in connection with the transaction of Laboratory programs and operations, and preserved as evidence of policies, decisions, procedures, and operations because of their informational and evidential value. Examples include, but are not limited to, official correspondence and memoranda (including e-mail); Laboratory notebooks; LANL-produced or - controlled publications (such as Los Alamos Unlimited Release [LA-UR] documents); project plans and reports; technical reports; maps; drawings; graphics; calculations; as-built specifications; photographs; film and video; microfilm; sound recordings; machine-readable materials; completed Laboratory forms; project-acceptance reports; test/inspection reports; and stack emission filter raw data.</p> <p>NQA-1 QA Records—Consist of two categories: Lifetime and Nonpermanent. Lifetime QA Records meet one of the following criteria: 1) records that would be of significant value in demonstrating capability for safe operation; 2) records that would be of significant value in maintaining, reworking, repairing, replacing, or modifying an item; 3) records that would be of significant value in determining the cause of an accident or malfunction of an item; or 4) records that provide required baseline data for in-service inspections. Lifetime Records must be retained for the life of the item. Nonpermanent QA Records provide evidence that an activity was performed in accordance with applicable requirements, but do not meet the criteria for Lifetime Records. Nonpermanent Records must be maintained for the identified retention period. [LANL Definition of Terms for <a href="#">P1020-1</a>, r14] <i>P1020-1 also lists specific document types subject to NQA-1, citing SD330 (now PD330).</i></p> <p><i>See also Project Record Documents.</i></p> |
| Redline | Design revision control process with less formality than a field change request (FCR). <i>To be introduced for non-nuclear projects by Alternate Method VAR-10715 to AP-341-519 in 2025.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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| Reference Document                                                                   | <ol style="list-style-type: none"> <li>1. One related to — and either mentioned or invoked by — the referring document. <i>Simply referencing is not invoking/mandating. “Invoked by reference” requires a clear statement that the referenced document must be followed.</i></li> <li>2. In a construction sense, one provided in and referenced by a procurement or work package because it is supports completion of the task (but is itself generally not the main design). <i>Examples: (1) a useful existing site or building plan; (2) a geotechnical report provided to a design agency to facilitate adequate foundation design.</i></li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Reliability, availability, maintainability (RAM) + inspectability = RAMI             | <p>The interrelated concepts regarding equipment uptime (availability).</p> <p><i>Reliability is measured as mean time between failures (MTBF), maintainability is mean time to repair (MTTR). Inspectability is sometimes also considered; e.g., mean time to inspect while offline (which sometimes results in a repair). For IT equipment, one resource is the <a href="#">Uptime Institute</a>. Reliability Centered Maintenance (RCM) is a methodology for improving RAMI, see that below.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Reliability Centered Maintenance (RCM)                                               | <ol style="list-style-type: none"> <li>1. A process used to determine what must be done to ensure that any physical asset continues to do what its users want it to do in its present operating context. [Reliability-centered Maintenance II (2<sup>nd</sup> Edition, John Moubray), §1.2 Maintenance and RCM]</li> <li>2. A logical, structured framework for determining the optimum mix of applicable and effective maintenance activities needed to sustain the desired level of component and system operational reliability while ensuring their safe and economical operation. [ALDWP-MNTC's PA-AP-01108, <i>Reliability-Centered Maintenance for Programmatic Equipment</i> (Rev. 3, Eff. Date: 08/05/2024), §3.1 Definitions]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Reliability Engineering (ReIE, or RE [not to be confused with Responsible Engineer]) | <ol style="list-style-type: none"> <li>1. The discipline focused on ensuring equipment performs its intended function under specified conditions for a defined period [Society for Maintenance &amp; Reliability Professionals (SMRP)]</li> <li>2. A discipline focused on ensuring that products, systems, and processes perform their intended functions effectively and consistently over time. [The Certified Reliability Engineer Handbook (3<sup>rd</sup> Edition)]</li> </ol> <p><i>ESM Ch. 12 r3 <a href="#">§5.2.A</a> has other references, e.g. <a href="#">Society of Reliability Engineers</a>. See Asset Management for current improvement pilot efforts. The ReIE portion encompasses RCM-related processes regarding obsolescence; life-cycle engineering; asset hierarchy/databasing; importance grading; Failure Reporting Analysis and Corrective Action System (FRACAS); and root cause failure analysis (RCA) — all to inform asset strategy, PM creation, and critical spares. [WP (weapons) Asset Management Working Group [Rel. Eng. Focus Team (REFT) of ASSET-MGMT's, now PRRO (NDA-VO) Asset Management, Maintenance, and Reliability: Overview, Processes, Step Definitions, 2025-8] Systems Reliability Engineer (SRE) means the same as ReIE (RELE).</i></p> |

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| Relocatable Structure    | Facilities including manufactured structures, mobile homes, trailers, semi-trailers, modular type structures, factory assembled structures, cargo containers, hazardous materials or flammable liquid storage containers, air supported/inflated structures, tent/membrane, and cloth/rib structures. This term does not apply to (a) trailers and cargo containers that are being used in the transportation mode for conveying materials while on-site, or to (b) prefabricated buildings designed for a permanent location, or to (c) structures placed on a slab and intended for permanent installation. [DOE-STD-1066-2023] <i>Note, 2023 edition may not yet be implemented; see ESM Ch. 2.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Repair                   | <ol style="list-style-type: none"> <li>1. In all contexts, the process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still does not conform to the original requirement. [NQA-1/P330-6]</li> <li>2. In the context of existing-SSC IEBC categories, the restoration to good or sound condition of any part of an existing building for the purpose of its maintenance. Repair includes the patching or restoration or replacement of damaged materials, elements, equipment, or fixtures for the purpose of maintaining such components in good or sound condition with respect to existing loads or performance requirements. Limited to work on the item and does not include complete or substantial replacement (a majority of the original remains) or other new work. Repairs shall not include the cutting away of any wall, partition, or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement, or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent, or similar piping, electric wiring, or mechanical or other work affecting public health or general safety. <i>Must follow IEBC Ch. 4. Work on non-damaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall generally not be subject to the other classification requirements (must describe in SOW; subject to LBO concurrence).</i> [adaptation of IEBC; ESM Ch. 16 IBC-GEN PPD FM01]</li> </ol> |
| Replicable Building      | A building or structure utilizing a replicable design. [IBC-2021, App. N] <i>Many prefabricated buildings are of this type; see ESM Ch. 16, IBC-GEN.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Replicable Design        | <p>A prototypical design developed for application in multiple locations with minimal variation or modification. [IBC-2021, App. N]</p> <p><i>More generally and not necessarily in the IBC sense, the Standard Details in <a href="#">STD-342-400</a> are replicable design templates or referenceable designs, and there are others currently outside that collection such as the pre-engineered metal building design.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Request for Impact (RFI) | LANL Prime Contracts process for Management System Sponsors and Leads to complete an impact assessment worksheet on NA-LA proposed new/revised directives and sometimes other <a href="#">Prime Contract modifications</a> , per SD310. <i>See below for more common use of RFI in engineering.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Request for Information ( <a href="#">RFI</a> )          | <p>A document that presents a technical question initiated by the subcontractor when:</p> <ul style="list-style-type: none"><li>• The Subcontractor is unable to understand the technical document (e.g., scope, specification, drawings, or data).</li><li>• Discovers or perceives a conflict, ambiguity, error, or omission in or among the technical documents. [STR <a href="#">AP-850-300</a> r6]</li></ul> <p><i>See also Engineering Request for Information (ERFI) for LANL-internal corollary.</i></p> <p><i>An RFI provides for controlled identification, notification, and resolution of technical questions initiated by project personnel (Project Management, Design Engineering, Procurement, etc.). Per SD350, when self-perform, Field Engineers handle form/liaison between engineering and Superintendents.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                      |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
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| Request for Proposal (RFP)                               | A solicitation to bidders that includes the technical scope of work. [ESM Ch. 1 Z10]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements                                             | Expectations that the facility, system, or component must meet for successful performance of its mission. Requirements should be traceable, measurable, and testable. [AP-341-602]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements and Criteria Documents (RCD)                | Establishes design requirements and maintains the technical baseline for a project. Required for line item, GPP, and complex projects. Will be based on FRD, if present. [AP-341-602, ESM Ch. 1, Z10]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements Satisfaction Matrix (RSM)                   | <p>In a Systems Engineering software program, the crosswalk to the identification numbering of requirements from the RCD and COR (e.g., for ESM Ch. 20).</p> <p><i>Produced by Systems Engineers during the design phase to support the Requirements Verification Matrix and other SE activities.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements System (LANL <a href="#">Policy</a> Office) | <p>The institutional-level process and policy documents that govern management and worker actions. The hierarchy is:</p> <table><tr><th colspan="4">Table 1. Hierarchy of Requirements System Documents</th></tr><tr><th>Purpose</th><th>Applicability</th><th>Issuing Authority (IA)</th><th>Content</th></tr><tr><td colspan="4">Institutional</td></tr><tr><td>Governing Policies (GP)</td><td>Institution</td><td>Laboratory Director (DIR)</td><td>High-level policy framework</td></tr><tr><td>System or Program Description (SD, PD)</td><td>Institution</td><td>DIR or Deputy Director (DD)</td><td>Institutional system or program</td></tr><tr><td>Procedure (P)</td><td>Institution</td><td>DIR, DD, or Associate Laboratory Director (ALD)</td><td>Process, steps, and/or requirements on how work is to be performed</td></tr><tr><td>Requirements Notice (RN)</td><td>Institution</td><td>DIR, DD, or ALD</td><td>Urgent, short-term requirements that expire within one year from date of issue.</td></tr></table> <p><a href="#">[SD311, Policy System, and P311-1, Policy Process]</a></p> <p><i>Hierarchically, below these are Functional Series Documents (<a href="#">FSDs</a>), and below that Local Documents.</i></p> | Table 1. Hierarchy of Requirements System Documents |                                                                                 |  |  | Purpose | Applicability | Issuing Authority (IA) | Content | Institutional |  |  |  | Governing Policies (GP) | Institution | Laboratory Director (DIR) | High-level policy framework | System or Program Description (SD, PD) | Institution | DIR or Deputy Director (DD) | Institutional system or program | Procedure (P) | Institution | DIR, DD, or Associate Laboratory Director (ALD) | Process, steps, and/or requirements on how work is to be performed | Requirements Notice (RN) | Institution | DIR, DD, or ALD | Urgent, short-term requirements that expire within one year from date of issue. |
| Table 1. Hierarchy of Requirements System Documents      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Purpose                                                  | Applicability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Issuing Authority (IA)                              | Content                                                                         |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Institutional                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Governing Policies (GP)                                  | Institution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Laboratory Director (DIR)                           | High-level policy framework                                                     |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| System or Program Description (SD, PD)                   | Institution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DIR or Deputy Director (DD)                         | Institutional system or program                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Procedure (P)                                            | Institution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DIR, DD, or Associate Laboratory Director (ALD)     | Process, steps, and/or requirements on how work is to be performed              |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements Notice (RN)                                 | Institution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | DIR, DD, or ALD                                     | Urgent, short-term requirements that expire within one year from date of issue. |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |
| Requirements Verification Matrix (RVM)                   | A document that is used to identify, plan and track completion of V&V activities, by requirement. The RVM is typically developed for each system using the requirements in the system specification. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                     |                                                                                 |  |  |         |               |                        |         |               |  |  |  |                         |             |                           |                             |                                        |             |                             |                                 |               |             |                                                 |                                                                    |                          |             |                 |                                                                                 |

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| Research and Development (R&D)                         | Any creative systematic activity undertaken in order to increase the stock of knowledge, and the use of this knowledge to devise new applications. (SD601).                                                                                                                                                                                                                                                                                                                                                                                             |
| Research and Development Engineering                   | Experimental or creative engineering work effort that contributes to the scientific or engineering body of knowledge or results in a tangible product meeting a mission need. Includes both engineering research and technology development, and engineering activities performed in support of R&D. [PD370, <i>Conduct of Engineering for Research and Development (R&amp;D)</i> ] <i>The work is often led by a Principal Investigator.</i>                                                                                                           |
| Responsible Engineer (RE)                              | Assigned by Engineering Management. The following may be assigned the role of RE: Design Engineer, Plant System Engineer, Cognizant System Engineer, Process Engineer, Project Engineer, External Design Agency Engineer. [AP-341-517]                                                                                                                                                                                                                                                                                                                  |
| Responsible Line Manager (RLM)                         | Manager role assigned duties, authorities, and accountability by one or more policy documents.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| RevCom                                                 | An online review, comment, and approval system for draft documents (e.g., DOE directives & standards, and LANL policy and some CoE documents) used until ~September 2025. <i>The tool was provided by “doxcelerate,” a LANL spinoff. The reviews were generally by invitation. The document was parsed into small segments to which comments were entered.</i><br><br><i>At LANL beginning fall 2025, Teams replaced REVCOM and new custom tools were planned for LANL (access from <a href="#">Policy Resources</a> page) and DOE.</i>                 |
| Risk Category (RC)                                     | A categorization of buildings and <i>other structures</i> for determination of flood, wind, snow, ice, and earthquake loads based on the risk associated with unacceptable performance. [2021 IBC; ESM Ch. 5, Section I].<br><i>One of four survivability grading levels for non-nuclear structures defined by IBC Ch.16 Table 1604.5. LANL began using around 2004 with IBC adoption, replacing <a href="#">Performance Category</a> (PC) for new non-nuclear NPH determinations.</i>                                                                  |
| Risk-Based Graded Approach                             | Involves grading based on consideration of consequence of SSC failure and its probability of failure to perform assigned function(s). Provides the basis for establishing the degree of technical and administrative oversight and control required to ensure that the SSC can meet its required function(s) for protection of the public, the worker, the environment, classified assets, or its ability to support LANL mission commitments. [P341]                                                                                                   |
| Root Cause Failure Analysis, Root Cause Analysis (RCA) | The objective of RCA is to systematically identify the root causes of issues affecting asset performance and to implement corrective actions that prevent recurrence, ensuring reliable and efficient operations. RCA consists of two parts: <ol style="list-style-type: none"> <li>1. Thresholds or Triggers for identifying which events or trends should be analyzed, and</li> <li>2. A process or procedure for how to conduct the RCA.</li> </ol> <p>[Reliability Eng Focus Team/REFT of ASSET-MGMT, now PRRO (NDA-VO) Step Definitions, 2025]</p> |

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| ROSY (Review Only SYstem) | Process for the classification review of unclassified content intended for internal use and sharing in LANL, DOE/NNSA operation. <i>These not require, or meet the criteria for, assignment of an LA-UR or LA-CP number [i.e., material meant for unlimited public release that contains scientific and technical information (STI)]. ROSY integrated with <a href="#">RASST 6.0 tool</a> in April 2026; ROSY documents will receive a U-NAPR (Unclassified, Not Approved for Public Release) number.</i>                                                                                                                                                                                                                                                                                                  |
| S                         | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Safe Harbor               | A provision of a statute or a regulation that specifies that certain conduct will be deemed not to violate a given rule. It is usually found in connection with a more-vague, overall standard... <a href="#">[Wikipedia]</a><br><i>Term sometimes used in CoE to characterize directive statements regarding acceptable methods or methodology (such as DOE Order 420.1C's mention of DOE G 420.1-1A and numerous DOE-STDs).</i>                                                                                                                                                                                                                                                                                                                                                                          |
| Safety Basis              | <p>The documented safety analysis and hazard controls that provide reasonable assurance that a DOE nuclear facility can be operated safely in a manner that adequately protects workers, the public, and the environment. [10 CFR §830.3]<br/><i>The Design, Authorization, and Safety Bases (and CM helping protect them):</i></p>  <p>Credit: EFCOG EPSG CoE course slides 9/2020</p> <p><i>Alternatively, this may refer to LANL's <a href="#">Safety Basis Division</a>, which in their PD110, <a href="#">Safety Basis</a> uses the term not only for nuclear, but non-nuclear including accelerators (with ASEs and SADs) and other facilities (as does <a href="#">P300</a>, Integrated Work Management.</i></p> |
| Safety Class (SC) SSCs    | Structures, systems, and components, including portions of process systems, including portions of process systems who's preventative or mitigative function is necessary to limit radioactive hazardous material exposure to the public, as determined from the safety analyses. (From 10 CFR 830.3 and <a href="#">SBP-114-2</a> ) [AP-341-502, ESM Ch. 1, Z10, ESM Ch. 8 D3060.90]                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| Safety Design Strategy (SDS)    | <p>For Hazard Category 1–3 nuclear projects, an SDS provides preliminary information on the scope of anticipated significant hazards and the general strategy for addressing those hazards. The SDS is updated throughout subsequent project phases and should contain enough detail to guide design on overarching design criteria, establish major safety structures, systems, and components, and identify significant project risks associated with the proposed facility relative to safety. [DOE O 413.3B Chg 7, App. C §15]</p> <p><i>An SDS is expected for DOE-STD-1189 scope (for new DOE HC 1–3 facilities, and any Major Modifications and DOE O 413.3B projects for same).</i></p> |
| Safety Evaluation Report (SER)  | <p>The report prepared by DOE to document:</p> <ol style="list-style-type: none"> <li>(1) The sufficiency of the documented safety analysis for a Hazard Category 1, 2, or 3 DOE nuclear facility;</li> <li>(2) The extent to which a contractor has satisfied the requirements of Subpart B of this part; and</li> <li>(3) The basis for approval by DOE of the safety basis for the facility, including any conditions for approval. [10CFR830.3]</li> </ol> <p><i>Effectively defines the authorization basis; see graphic at Safety Basis above.</i></p>                                                                                                                                    |
| Safety Function                 | <p>The performance of an item necessary to achieve safe, reliable, and effective utilization in a nuclear context. Safety functions are defined and documented in facility safety analysis documents. [AP-341-607, AP-341-610]</p> <p><i>Function in general is defined more fully <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                |
| Safety Limits                   | <p>The limits on process variables associated with those safety class physical barriers, generally passive, that are necessary for the intended facility function and that are required to guard against the uncontrolled release of radioactive materials. [10 CFR § 830.3]</p>                                                                                                                                                                                                                                                                                                                                                                                                                |
| Safety Management Program (SMP) | <p>A program designed to ensure a [nuclear] facility is operated in a manner that adequately protects workers, the public, and the environment by covering a topic such as: Quality assurance; maintenance of safety systems; personnel training; conduct of operations; inadvertent criticality protection; emergency preparedness; fire protection; waste management; or radiological protection of workers, the public, and the environment. [10 CFR <a href="#">830.3</a>]</p>                                                                                                                                                                                                              |

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| <p>Safety Management Program Owner (SMPO)</p>       | <ol style="list-style-type: none"> <li>1. Narrowly, the responsible manager of a program that helps keep a nuclear facility within its authorization basis [10CFR830 plus DOE O 450.2 on ISM)] <i>See SMP above.</i></li> <li>2. Within CoE's Engineering Standards, the technical authority on issues relating to national codes and standards, DOE Orders, and the Engineering Standards. LANL has individuals assigned (some by NNSA) as SMPOs for each of the Standards-affecting SMPs and other programs. [P342; PD340 r8] <i>This is an expansion of the 10CFR830 concept.</i></li> </ol> <p><i>The LANL Site Chief Engineer is the SMPO for the engineering and pressure safety functional areas and has designated the Engineering Standards Points of Contact (<a href="#">POCs</a>) as the SMPO representatives (formerly SMPORs) for opinions on the disciplines within them; e.g., general, civil, architectural, structural, mechanical, instrumentation and control, hazardous process, nuclear, welding, sustainable design, commissioning, pressure safety, comm, systems engineering, and software.</i></p> <p><i>The SMPOs of other SMPs or programs (e.g., fire protection, radiation protection, electrical safety, security, secure comm) designate POC authority in their areas of responsibility. SMPOs are web listed along with the POCs <a href="#">here</a>, but engage SMPOs through the POCs.</i></p> <p><i>Some SMPOs may also use the alternate title of Authority Having Jurisdiction (AHJ), particularly when this latter term is recognized in their technical documents (e.g., National Fire Protection Association [NFPA] standards).</i></p> |
| <p>Safety Related (Item)</p>                        | <ol style="list-style-type: none"> <li>1. Item that has been designated Management Level (ML) 1 or 2 in Hazard Category 2 and 3 nuclear facilities. [AP-341-607] <i>Note: Thus only ML-1 and 2 in nuclear; <u>excludes ML-1/2 that may be elsewhere.</u></i></li> <li>2. A term meaning safety class, safety significant, and those ML-1 and ML-2 SSCs that could potentially impact public or worker safety or the environment in the same way as safety class or safety significant systems respectively. [ESM Ch. 8 D3060.90] <i>Thus effectively <u>all</u> ML-1 and ML-2.</i></li> </ol> <p><i>Note: Use definition based on document intent until usage is eliminated, made consistent, or clarified to be less ambiguous. Originally may have been NRC's concept <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>Safety Significant Instrumented System (SIS)</p> | <p>An SS system or 29 CFR 1910.119 hazardous process independent protection layer that requires instrumentation, logic devices and final control elements to monitor and detect a ML-2/SS event, and which will result in automatic or operator action that will bring the facility or process system to a safe state. [ESM Ch. 8 D3060.90]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Safety Significant (SS) SSCs                        | Those structures, systems, and components which are not designated as safety-class structures, systems, and components, but whose preventive or mitigative function is a major contributor to defense-in-depth and/or worker safety, as determined from safety analyses. Support systems have the potential to be Safety Significant as well. (From 10 CFR 830.3 and <a href="#">SBP-114-2</a> ) [AP-341-502, ESM Ch. 1, Z10]                                                                                                                                                                                                                                |
| Safety Software                                     | Includes safety system software, safety and hazard analysis software and design software and safety management and administrative controls software [i.e., SSS, SHADS, and SMACS]. <a href="#">[DOE G 414.1-4, Safety Software Guide for Use with 10 CFR 830, Subpart A, Quality Assurance Requirements, and DOE O 414.1C, Quality Assurance]</a><br><br><i>Term used for decades; however, beginning with <a href="#">DOE O 414.1E</a> (CRD Part C), basic/useful concept remains but term does not. <a href="#">[P1040; Form 2033 Graded Software Inventory; ESM Ch. 21, SOFT-INTRO]</a></i>                                                               |
| Safety structures, systems, and components          | Both safety class structures, systems, and components and safety significant structures, systems, and components. [10CFR830.3]<br><br><i>Term is used in nuclear contexts but can be misconstrued as all things safety when not used carefully/qualified as such.</i>                                                                                                                                                                                                                                                                                                                                                                                        |
| Safety System Oversight (SSO)                       | SSO personnel oversee contractor management of safety systems at DOE defense nuclear facilities and are responsible for overseeing assigned systems to ensure they will perform as required by the safety basis and other applicable requirements. <i>DOE O 420.1C, Facility Safety, requires Field Element Managers to provide oversight of the implementation of the cognizant system engineer (CSE) program and the operability of associated safety systems within the CSE program. The personnel who are assigned this responsibility are typically referred to as SSOs. [DOE-STD-8000-2021]</i> Conversely, <i>FACREPs are assigned to a facility.</i> |
| Sampling Plan                                       | A plan developed to determine the definition of appropriate lot and sample size to achieve reasonable assurance that the sample size chosen provides an adequate representation of the item(s) quality. (DOE-HDBK-1230-2019) [AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Schedule of Values                                  | A statement furnished by Subcontractor allocating portions of the Subcontract sum to various portions of the Work and used as the basis for reviewing Subcontractor's Applications for Payment (i.e., Subcontractor's proposed payment schedule based on milestones). [LMS 01 3300 r7]                                                                                                                                                                                                                                                                                                                                                                       |
| Sealing                                             | A professional engineer or licensed architect's application of their stamp and signature to a work product (casually, PE stamping).<br><br><i>The "practice of engineering," which triggers the need for the sealing of design by an external-to-LANL engineer, and precisely what must be sealed, is in <a href="#">ESM Ch. 1</a> Z10; that stems from para 61-23-3.H of adopted New Mexico Engineering and Surveying Practice Act.</i><br><br><i>See also mentions of sealing elsewhere herein and <a href="#">this</a> blog.</i>                                                                                                                          |
| Sensitive Compartmented Information Facility (SCIF) | An accredited area(s), room(s) or building(s) where Sensitive Compartmented Information (SCI) is stored, used, processed or discussed. [UFC 4-010-05; ESM Ch. 9]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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| Secondary Function(s) | Functions that are precursor requirements for the Primary Function. [AP-341-601]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Section (§)           | <p>Part of (or a place in) a document.</p> <p><i>For LANL Standards, may refer to (1) a discrete document within an ESM chapter (e.g., Section Z10, with subsections, articles, and/or paragraphs within it) or (2) a piece of a specification (e.g., Section 01 3300) with articles having paragraphs and subparagraphs that's assembled with other pieces with a table of contents and a coversheet.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Security Areas        | <p>Types include:</p> <ul style="list-style-type: none"> <li>• General Access Areas (GAA) will never contain classified matter and are accessible to all workers and the public.</li> <li>• Property Protection Areas (PPA) may contain CUI, UCNI and up to Category IV Special Nuclear Material, and require active badges to access.</li> <li>• Limited Areas (LA) may contain CUI, up to Secret Restricted Data and up to Category III SNM and require L or Q clearance to access.</li> <li>• Protected Areas (PA) may contain up to CUI, SRD and Category II SNM, and require an L or Q clearance to access.</li> <li>• Material Access Areas (MAA) may contain up to Category I SNM and Category II SNM with credible rollup to Category I. Unescorted access requires a Q clearance and enrollment in the Human Reliability Program.</li> </ul> <p>[DOE O 473.1A Att 2, Ch. II ]</p> <p><i>ESM <a href="#">Ch. 9</a> Security, provided when needed, includes this and other details.</i></p> |
| Self-perform          | <p>Construction work accomplished by LANL workers (i.e., not subcontracted). <i>Projects that include such work (partially or entirely) should employ Section “<a href="#">01 1117</a>, Work by Owner—Self Perform” in the specification; it effectively modifies the more-common-situation subcontract-related terms to self-perform ones.</i></p> <p><i><u>Design</u> produced by LANL is normally referred to as “in-house,” not self-perform, to avoid confusion with constructor-related matters.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Server Equipment Room | <p>An equipment room that houses mainly computer servers. In information technology circles, the term “server equipment room” is generally used for groups of servers housed in data centers. Server equipment rooms may also house headless systems that are controlled remotely via keyboard/video/mouse (KVM) devices, Virtual Network Computing (VNC), or other terminal emulation software to the desktop. [ESM Ch. 19, D60]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Service               | <ol style="list-style-type: none"> <li>1. The performance of activities such as design, fabrication, inspection, nondestructive examination, repair, or installation. (ASME NQA-1) [AP-341-703]</li> <li>2. The performance of work, such as design, manufacturing, construction, fabrication, assembly, decontamination, environmental restoration, waste management, laboratory sample analyses, inspection, nondestructive examination/testing, environmental qualification, equipment qualification, repair, installation, or the like. [10CFR830.3]</li> </ol> <p><i>Note, in a building electrical supply, service entrance is a physical place.</i></p>                                                                                                                                                                                                                                                                                                                                      |

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| Service Innovation-Document Control Records Management (SI-DCRM) | Former name of LANL organization supporting these functions, now Program Strategy and Execution–Information Management (PSE-IM).<br><i>RM webpage <a href="#">here</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shall                                                            | Denotes a requirement (versus “should”) [DOE O 6430.1A (archived) and DOE Std Style Guide].<br><i>See also Shall Consider. “Must” means the same and is the preferred term in DOE orders and LANL policy documents; see usage notes for it. “Will” is sometimes used to convey LANL intended actions in specifications that largely direct constructors with “shall” type directive language.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Shall Consider                                                   | Requires that an objective assessment be performed to determine to what extent the specific factor, criterion, guideline, standard, etc., will be incorporated into or satisfied by the design. The results and basis of this assessment shall be documented. Such documentation shall be retrievable and can be in the form of engineering studies, meeting minutes, reports, internal memoranda, etc. [archived DOE O 6430.1A, 0101-3.2]. Such documentation shall be submitted to LANL for approval where directed by the contract or upon request. “Shall analyze” and similar “shall XYZ” directive statements mean the same — do so and document having done so ( <i>if it isn’t documented it didn’t happen by the old QA adage</i> ).                                                                                                                                                                                                                                                                                       |
| Shift Technical Engineer (STE)                                   | An engineer providing on-shift technical support to operating and maintenance personnel. <i>Such positions are in PF-4.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Shop Drawings                                                    | All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Subcontractor and submitted by Subcontractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Subcontract Documents. [LANL adaptation of EJCDC® C-700]<br><i>Note that “Shop Drawings” are specifically not part of the main design’s Subcontract Documents, rather are often required submittals during construction (or possibly references for a subsequent subcontract). They are a detailed drawing directing fabrication and/or installation.</i><br><i>Term is generally limited to the detailed implementation of engineering design drawings (sometimes preliminary in nature) and/or calculations. As such, shop drawings are generally not engineering outputs necessitating professional engineer sealing, but when an engineering output they must be sealed. Search “sealing” in ESM <a href="#">Ch. 1</a> Z10.</i> |
| Should                                                           | Denotes a recommended action or expectation. [DOE O 426.2; PD115]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Significant Modification (fire protection/life safety)           | An addition, alteration, renovation, or repair to an existing facility that involves a change in floor area, number of stories, size of rooms, use of the area or occupancy of the structure. A significant modification does not include replacement with a like structure or equipment. [DOE-STD-1066-2023 ( <i>Note, LANL may not fully utilize 2023 currently; see ESM Ch. 2 to determine</i> )].                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| Single-failure Criterion         | <p>Per DOE G 420.1-1A, App. B: Safety-class systems are able to perform all required safety functions for a design basis accident (DBA) in the presence of the following:</p> <ul style="list-style-type: none"> <li>Any single detectable failure within the safety-class systems concurrent with all identifiable but undetectable failures.</li> <li>All failures caused by the single failure.</li> <li>All failures and spurious system actions that cause, or are caused by, the DBA requiring the safety-class system function.</li> </ul> <p>The single failure could occur prior to, or at any time during, the DBA for which the safety system is required to function. [ANSI/IEEE Standard 379-2000]</p>                                                                                                                                                   |
| Site                             | May refer to the entire LANL property or the location of a project (take meaning from context).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Site Selection                   | <p>Choosing land for a new structure and gaining approval.</p> <p><i>Minor site selection requests are handled by the <a href="#">IRT</a> while major ones are via the Space and Siting Request System per <a href="#">P941</a> and the <a href="#">INFRAPLAN</a> organization in <a href="#">IPPO</a>. [P351 r4]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Software Quality Assurance (SQA) | <p>The process of ensuring software works as intended.</p> <p><i>Those responsible for this must follow either ESM Chapter <a href="#">21</a> or <a href="#">P1040</a> (assistance from IQPA-IQ <a href="#">here</a>) depending on scope. Both have many SQA-specific definitions, e.g., Ch. 21 Section SOFT-INTRO Appendix A.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Sole source, or single source    | Specifying or procuring only one product or firm, with no substitution allowed. <i>A non-competitive justification (NCJ) is sometimes required by ASM. <a href="#">[BUS-ASM-DO-0001]</a>, Procurement Policy and Procedure Manual, PP 6.0, 6.1; more detail there]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Special Inspection               | <ol style="list-style-type: none"> <li>Inspection of construction requiring the expertise of an <i>approved special inspector</i> in order to ensure compliance with this code and the approved <i>construction documents</i>... [IBC-2021, §202 relating to 1704.2.5]</li> <li>A process of inspection, testing, and reporting by LBO-approved special inspectors and testing agencies to assure that the construction of critical elements that prevent catastrophic failure are performed in accordance with the approved construction documents, as required by IBC's Ch. 17, <i>Special Inspections and Tests</i>. [ESM Ch. 16 IBC-GEN]</li> </ol> <p><i>The Statement of Special Inspections lists the tasks for a given project.</i></p> <p><i>Offsite fabrication work is exempt when the shop is listed on the <a href="#">LBO-Approved Listing</a>.</i></p> |
| Special Inspection Agency (SIA)  | Organization providing special inspectors and managing their training and qualification in accordance with ESM Chapter 16. <i>This is LANL or Subcontractors that it may approve to perform this work and is a specific type of Inspection Agency. It is the most safety critical subtype of Qualified Inspection Agency per Section IBC-IP Att J. [ESM Ch. 16 IBC-GEN]</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Special Inspector (SI)           | A qualified person employed or retained by an <i>approved agency</i> and <i>approved</i> by the <i>building official</i> as having the competence necessary to inspect a particular type of construction requiring <i>special inspection</i> . [IBC-2021, §202 relating to 1704.2.5; ESM Ch. 16 IBC-GEN, IBC-IP]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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| Special Process                        | <p>A process, the results of which are highly dependent on the control of the process or the skill of the operators, or both, and in which the specified quality cannot be readily determined by inspection or test of the product. [NQA-1 2008/9; PD330; <a href="#">P330-5</a>].</p> <p><i>Examples include, but are not limited to, welding, heat-treating, nondestructive examination (NDE), application of critical coatings, and specialized cleaning and must be performed by qualified personnel using qualified procedures in accordance with specified requirements.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Specific Administrative Control        | <p>An administrative control that is identified to prevent or mitigate a hazard or accident scenario and has a safety function that would be safety significant or safety class if the function were provided by a structure, system or component. [DOE-STD-3009-2014; DOE-STD-1186-2016]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Specifications                         | <ol style="list-style-type: none"> <li>1. The part of the Subcontract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work. [adaptation of EJCDC® C-700, <i>Standard General Conditions of the Construction Contract</i> (2013), Para 1.01.A.]</li> <li>2. Written technical description of materials, equipment, systems, codes, standards, inspections, tests, and workmanship that complement the engineering drawing's graphical descriptions of scope, extent, and character of the work to be performed by the work provider. [AP-341-610; ESM Ch. 1 Z10 Att. F]</li> </ol> <p><i>A CSI-format specification includes a coversheet, table of contents, and Division 01 and other sections having a 3-part format best for construction type projects. See ESM <a href="#">Z10 Att. F</a> for requirements on spec development (and, for internally produced, <a href="#">AP-341-610</a>), both CSI and procurement-only.</i></p> <p><i>A <u>performance specification</u> defines desired results by the AE and/or constructor without prescribing materials or methods. A Functional Specification is a systems engineering concept of a design input document (really also a performance spec, but informing the design process).</i></p> |
| SpecLink Cloud ( <a href="#">SLC</a> ) | <p>Main implementation of project specification development software by RIB (formerly BSD).</p> <p><i>A set of RIB and LANL office masters for use by ES Division, A/Es, and selected others launched in 2025. Internal portal <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Stand-alone Documents                  | <p>Documents with unique names and filed as unique documents in records management software. Examples: calculations, Design Change Forms (DCFs), and System Design Descriptions (SDDs). Also known as Parent Documents. [AP-341-402]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Standard                               | <p>A set of guidelines and criteria against which a product can be judged. (WBDG) [They] include the common and repeated use of rules, conditions, guidelines, or characteristics for products or related processes and production methods. [OMB, Circular A-119].</p> <p><i>This may refer to LANL Engineering Standards, national or international standards, <a href="#">DOE Technical Standards</a>, or other standards. Document type "STD" is used in DOE and many LANL standards document numbers.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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| Standard Detail                                                              | <p>The repeatable details (ST-) in the LANL Engineering Standards collected as <a href="#">STD-342-400</a>. [ESM Ch. 1, Z10]</p> <p><i>The collection also includes (see) <a href="#">Example Drawings</a>. <a href="#">Explanation of all drawing types and numbers</a> in the collection.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Statement of Special Inspections (SSI)                                       | <p>A project-specific plan exclusively for the requirements of IBC Chapter 17, <i>Special Inspections and Tests</i>, produced by the Engineer of Record.</p> <p><i>LANL template is ESM Chapter 16, IBC-IP, Att. B. [LMS 01 4000]</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Statement of Work (SOW)                                                      | <p>A description of the outcome LANL wants delivered.</p> <p><i>In an ASM subcontract, this is typically Appendix C and discussed in depth by <a href="#">P850</a>. New Labwide SOW templates on ASM SOW page <a href="#">here</a> (e.g., basic, construction); related discussion on <a href="#">ASM STR page</a>. For conventional/commercial construction, template(s) <b>expected Fall 2025, discussed <a href="#">here</a></b>. Prior to 2025, SOWs consisted of Exhibit D, supported by E. ES-Div SOW template for IDIQ AE task orders <a href="#">here</a>.</i></p>                                                                                                                                                                |
| Structural definitions not herein                                            | See ESM <a href="#">Chapter 5</a> , Section I.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Structural Temporary Modifications                                           | Includes temporary shielding, temporary supports (piping, electrical, mechanical, etc.), temporary enclosures or load-bearing partitions, general civil-type bracing, or structural members, and if using an SSC for safety – temporary rigging, lifting, or arrangements. [AP-341-504]                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Structure                                                                    | Elements that provide support or enclosure such as a building, freestanding tanks, platforms, towers, dikes, and stacks. For the purposes of management level determination, structures (if free standing) are treated as systems. [AP-341-502]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Structure, System, and Component (SSC)                                       | <p>Physical items designed, built, or installed to support the operation of the facility. A structure is an element or a collection of elements to provide support or enclosure such as a building, freestanding tank, basin, dike, or stack. A system is a collection of components assembled to perform a function such as piping; cable trays; conduits; or heating, ventilation, and air conditioning. A component is an item of equipment such as a pump, valve, or relay or an element of a larger array such as a length of pipe, elbow, or reducer. [DOE G 433.1-1A Chg 1]. <i>Thus, SSCs include buildings, not just equipment.</i></p> <p><i>This glossary includes alternate definitions for each term in SSC as well.</i></p> |
| Structures, Systems, and Components (SSCs) that are part of the safety basis | Safety-Class and Safety-Significant SSCs; other systems that perform important defense-in-depth functions; and equipment relied on for the safe operation and safe shutdown of the nuclear facility, and for maintaining the facility in a safe shutdown condition as documented in the safety basis (e.g., DSA). Support systems to Safety SSCs that are required for the safety functions are also included. [DOE G 433.1-1A Chg 1]                                                                                                                                                                                                                                                                                                     |
| Subcontract                                                                  | Any contract (see “Contract”) entered into by a subcontractor to furnish supplies or services for performance of the Prime Contract or a subcontract requirement. [ <a href="#">BUS-ASM-DO-0001</a> , <i>Procurement Policy and Procedure Manual</i> , 2.0, 2025-3-5]                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| Subcontract Documents                                         | <ol style="list-style-type: none"> <li>1. Denotes this Subcontract and those appendices and exhibits referenced thereon. [Master Fixed-Price D-B Construction template, Rev. 4 26FEB24]</li> <li>2. Documents through which LANL procures work (e.g., design and/or construction services). [LMS 01 3300 r7]</li> </ol> <p><i>Appendices, <a href="#">Exhibits</a>, and Statements of Work are pieces of a subcontract and discussed herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Subcontractor                                                 | <ol style="list-style-type: none"> <li>1. Any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or another subcontractor. [<a href="#">BUS-ASM-DO-0001</a>, <i>Procurement Policy and Procedure Manual</i>, 2.0, 2025-3-5]</li> </ol> <p><i>Note: "First-tier" indicates those contracted directly by Triad, LANL's Prime M&amp;O Contractor. Thus, those engaged by LANL/Triad are subcontractors (to NNSA). Firms hired by subs are called "lower-tier" in above manual and "sub-tier" by Exhibit H.</i></p> <ol style="list-style-type: none"> <li>2. The individual or legal entity that has entered into a subcontract with Triad for delivery of goods and/or services (P850). Lower-tier Subcontractors (aka subtiers or sub-tiers) work for Subcontractors. [ESM Ch. Z10]</li> <li>3. A legal entity that assumes, by contract, obligations for delivery of a specified scope of work (product or service). As used herein, the term includes vendor, equipment vendor, fabricator, or constructor, and their lower-tier suppliers. [ESM Ch. 13, Vol. 1, 1-99]</li> </ol> <p><i>Usage: This term is also used for design agencies outside of LANL (A/Es). ASM subcontracts use all-caps CONTRACTOR (for LANL) and SUBCONTRACTOR.</i></p> <p><i>See also Constructor for additional information when a subcontractor is in that role and see also Contractor.</i></p> |
| Subcontractor Deviation Disposition Request (SDDR), Form 2178 | <p>Form/process to document, disposition, review, and reject or approve deviations to subcontract requirements (i.e., procurement of items or services). Also identifies LANL actions resulting from subcontractor deviation such as the identification of changes to LANL design documents, identification of changes to the project baseline, and SDDR closure requirements. [2178; AP-341-519; ESM Ch. 1 Z10 Att. F]</p> <p><i>Because form is theoretically initiated by the supplier, it is web posted on the <a href="#">Standards Homepage</a> as well as the <a href="#">Forms Center</a>, plus the ASM external <a href="#">Supplier Forms/Exhibits page</a> (updates are manual and sometimes lag); however, <a href="#">Delta</a> can also produce SDDR logs and SDDRs within them.</i></p> <p><i>ALDPI LAP4 LIP projects should use <a href="#">2178-LIP</a>. Some PFE design-change SDDRs may require a USQ and FCR.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Subcontract Technical Representative (STR)                    | <p>[LANL-appointee] to perform Technical Oversight of subcontracts, engages LANL SMEs as appropriate and provides feedback to [identified LANL stakeholders] with issues pertaining to subcontract performance. <i>There are four types of STR, including AdSTR (Administrative/low-consequence), STR (Moderate/High Hazard), HSTR (High-consequence), and PSTR (Programmatic)</i> [P850] <a href="#">ASM (main) STR page</a>. <a href="#">CM-STR page</a>.</p> <p>For LANL self-performed work, should STR appear, take to mean the craft superintendent or project coordinator [LMS 01 1117].</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Subject Matter Expert (SME) | <p>The person (e.g., Responsible Engineer, System Engineer, Process Engineer, Principal Investigator, Scientist, other Professional Specialist, etc.) who has demonstrated and documented competence and expertise in a specific process, service, or item and is authorized to determine technical or performance adequacy, specifications, codes, standards, and/or quality-related requirements. [clarification of P850 r9].</p> <p><i>ES Division has <a href="#">Lead SMEs</a> that mentor and assist discipline-specific functions across group lines. The Standards Program has <a href="#">POCs</a> for each discipline with some also Lead SMEs (see also those terms), and also relies on SMEs.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Submittal                   | <p>A document or item provided by the constructor to enable confirmation from the EOR, and other parties as appropriate, that the proposed materials, methods, and/or related approaches comply with the project's design intent, specifications, and applicable building codes.</p> <p><i>Submittals serve as a quality assurance mechanism, helping to identify and resolve potential issues before purchase or construction progresses, reducing the risk of delays, rework, or non-compliance. All submittals are project records.</i></p> <p><i><u>Engineering submittals</u> (many also concern quality) are generally required by the Specification, summarized by the 01 3300 Submittal Procedures Att. A log, and transmitted and processed per Section 01 3300 for Design Agency and project action or information. [ESM Ch. 1 Z10 Att. F; LMS 01 3300]</i></p> <p><i><u>Action</u> Submittals require review and approval by the EOR before work proceeds. <u>Informational</u> Submittals are provided for documentation and verification purposes and typically do not require a formal response.</i></p> <p><i>When EOR is not LANL, only a subset is reviewed by LANL (deferred design being one example). LANL review process is 01 3300 together with AP-341-720.</i></p> <p><i>Submittal formats include written and/or graphic information (e.g., intended product choice, shop drawings) and occasionally physical samples or maintenance materials for project AE and/or LANL review.</i></p> <p><i>Transmittal to LANL document control currently via <a href="mailto:project-dcrm@lanl.gov">project-dcrm@lanl.gov</a> (most) or <a href="mailto:aldpi-dcrm@lanl.gov">aldpi-dcrm@lanl.gov</a> (TA55/PIE) primarily.</i></p> <p><i>In a procurement using <a href="#">Exhibit I</a>, Subcontractor Submittal Requirements, term includes commercial (e.g., bonds), quality (e.g., qualifications), and/or engineering.</i></p> |
| Submittal Log               | <p>A Designer-of-Record provided summary of submittals required by the scope of work, created with the design. [LMS 01 3300]</p> <p><i>Sometimes called Construction Submittal Summary or Submittal Summary.</i></p> <p><i>This is reviewed during the design process to ensure consensus among the Designer, Permitting Authorities, and Owner who will approve submittals in the construction phase. The LANL Master Specification 01 3300 Attachment A – Construction Submittal Log is the default template and may be specified as a project requirement by the IPT, or a similar deliverable may be defined in the SOW.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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| Submitted<br>(signature field or line on design outputs such as drawings and Statements of Special Inspection) | <p>Design Agency signature affirming that the document was (1) <u>coordinated</u> among potentially affected disciplines and design entities and (2) required <u>checks, verifications, and reviews</u> were performed and review <u>comments resolved</u> per required processes. “Submitted by” may be same individual as Verifier. [CSM Section 200, ESM Ch 16 IBC-IP Att B SSI]</p> <p><i>External (AEs): Should be signed by the Design Professional in Responsible Charge or possibly another lead in the firm. P.E. sealing may be by different person.</i></p> <p><i>LANL: Should be signed by the person with the best knowledge to affirm the above—the Responsible Engineer. For larger projects, this may be the lead or only Project Engineer, or the Group Leader. For very small tasks, it may be a design or system engineer. It could also be the FDAR (even when also “Accepting”). Note, AP output coversheets often don’t include “Submitted By” — e.g., calcs (AP-341-605), drawings (-608), and specs (-610) — for those, follow the instructions for the blocks present.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Substantial Completion                                                                                         | <ol style="list-style-type: none"> <li>1. The point when the Work or a designated portion of the Work is sufficiently complete, in accordance with the Subcontract Documents, so that CONTRACTOR may use or occupy the Work or designated portion thereof for its intended purpose, as determined by CONTRACTOR. Additional requirements for achieving Substantial Completion are provided in the Statement of Work. [Master Fixed-Price Design-Build Construction template, Rev. 4 26FEB24]</li> <li>2. A legally recognized point in time that allows the owner to take occupancy of the facility even though there is work yet to be completed and documentary, regulatory, and contractual closeout requirements yet to be met. [ESM Ch. 15]</li> <li>3. That stage in the progress of the work, as determined by the STR, when the work is complete and in accordance with the subcontract documents except only for completion of minor items which do not impair LANL’s ability to occupy and fully utilize the work for its intended purpose (this may require limiting access by the Subcontractor to the site for security or safety reasons). <i>Any liquidated damages are calculated.</i><br/> <i>A <u>Certificate of Substantial Completion</u> must not be issued until after a <u>Certificate of Occupancy</u> is issued by the LBO, all work is in place, all required agency approvals have been received, and all systems and equipment are fully functioning as verified by commissioning. Minor items (punch list) may include only patching, repair or replacement, and clean-up. Examples of acceptable punch list items include replacement of light switches, touch-up painting, repair of scratches on walls or floors, replacement of locks which do not function properly, replacement of filters or light bulbs, and other similar items.</i> [ESM Ch. 16 IBC-GEN FM05]</li> </ol> |

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| Substitution                                 | <p>Changes in products, materials, equipment, and methods of construction from those required by the Subcontract Documents. There are two types:</p> <ol style="list-style-type: none"> <li>1. Substitutions for Cause: Changes proposed by Subcontractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.</li> <li>2. Substitutions for Convenience: Changes proposed by Subcontractor or Contractor that are not required to meet other Project requirements but may offer advantage to either party.</li> </ol> <p>No Substitution: Phrase after a make/model in a design document to indicate that substitution requests almost certainly will not be accepted. [LMS 01 2500, <i>Substitution Procedures</i>]</p> <p><i>Section 01 2500 must be followed for products not meeting a Specification's salient features or when other than the "No Substitution" product. Likewise, when the Drawings specify a proprietary product, thus the basis for design, constructor must treat that as "No Substitution" and either provide said product or submit alternative per 01 2500, since other products require A/E evaluation for comparable features and potential anchorage/bracing design impacts. [ESM Ch. 1 Z10 Att. F]</i></p> |
| <a href="#">Supplemental Directives</a> (SD) | <p>Issued by the NNSA, these augment policies, requirements, and responsibilities covered in DOE directives or technical standards.</p> <p><i>Some are LANL-contractual, see Directives herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Supplier                                     | <p>Any individual or organization who furnishes items or services in accordance with a procurement document. An all-inclusive term used in place of any of the following: vendor, seller, contractor, subcontractor, fabricator, consultant, and their sub-tier levels. (ASME NQA-1) [AP-341-703]</p> <p><i>Often used in procurement quality documents, e.g., "supplier evaluation," "Institutional Evaluated Suppliers List (<a href="#">IESL</a>).</i></p> <p><i>LANL procurement pro forma for design or construction uses "SUBCONTRACTOR" rather than supplier, and "lower-tier" vice sub-tier.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Support Documents                            | <p>Technical documents necessary for hazard controls during the performance of work activities within a Facility. These documents are used to support operational and maintenance activities such as SSC troubleshooting, system alignments, Lock Out / Tag Out (LO/TO) development and/or system walkdowns, and abnormal response procedures. [AP-341-405; ESM Ch. 1, Z10. Supersedes <a href="#">VAR-10642</a>]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Support Services Subcontractor (SSS)         | <p>Obsolete term/concept for LANL-captive maintenance and support services company (e.g., Johnson Controls, KSL) that was insourced years ago; take to mean LANL. <i>May still appear in a few ESM Ch. 13 documents.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Surveillance Requirement (SR)                | <p>Requirements related to test, calibration, or inspection of equipment to ensure that operability and quality of safety SSCs/SACs and their support systems are maintained, that facility operation is within safety limits, and that LCSs and LCOs are met.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

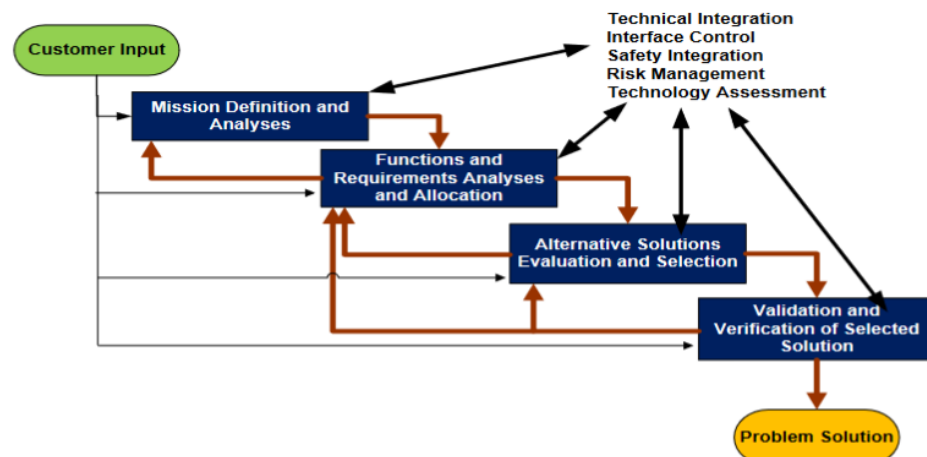
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| Suspect/Counterfeit Item (S/CI)       | An all-inclusive term, including a suspect item, and a counterfeit item. An item that does not conform to established requirements and exhibits one or more of the indications included in P330-9, <i>Suspect/Counterfeit Items (S/CI)</i> , [Att. A], Suspect/Counterfeit Items (S/CI) Indicators List.... [LANL Definition of Terms for <a href="#">P330-9</a> ] <i>Investigation of S/CI should be performed to determine whether the indications are the result of a quality-control problem or are actually fraudulent. LANL's program page <a href="#">here</a>. Clauses of P841-1's Ex. H templates for QL-1, -2, and -3 address S/CI, and S/CI is addressed in the Counterfeit/Suspect Materials clause of the General Terms and Conditions including commonly counterfeited items in P330-9 Att. A.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Sustainable Design                    | A building design (or design process) that aims to minimize the use of energy and resources to reduce environmental impact and support energy security. <i>ESM <a href="#">Ch. 14</a> includes several additional, related definitions not in this glossary.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| System                                | An interrelated set of equipment and items that can perform a specified function or set of functions that fulfill a purpose. [AP-341-502]<br><i>See also <a href="#">210 Listing</a>.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| System Acceptance Test or Testing     | Test(s) by which specific components, equipment, assemblies, systems, and system interfaces are confirmed to comply with the criteria described in the project requirements. This includes all modes and sequences of control, safety interlocks, conditional control responses and all specified responses in accordance with design basis requirements. [ESM Ch. 15; LMS 01 9100]<br><i>System acceptance testing is the process of performing the test or tests.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Systematic Approach to Training (SAT) | A logical process for identifying and acquiring the knowledge, skills, and abilities [KSA] required to safely perform the duties of a specific position. It includes the following elements: (a) an analysis of the jobs to be performed; (b) design of learning objectives derived from the analysis of the job that describe desired performance after training; (c) development of lesson plans and other training materials; (d) implementation of the developed training; (e) evaluation of trainee mastery of the objectives during training; and (f) evaluation and revision of the training based on the performance of trained personnel in the job setting. [ <a href="#">DOE O 426.2A Chg 1 (AdminChg), Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities</a> ]<br><i>See also DOE-HDBK-1078, Training Program Handbook: A Systematic Approach to Training.</i><br><i>SAT is an aspect of Training Needs Analysis (TNA) and can involve Role Performance Statement (RPS); Difficulty, Importance, and Frequency (DIF) analysis; Knowledge, Skills, and Abilities (or Attitude) (KSA) analysis; and Training Gap Analysis. [<a href="#">Resource Learning Design</a>]</i><br><i>CoE T&amp;Q program performs SATs for many new and <a href="#">changed processes</a>.</i> |

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| System Data Sheet (SDS)                                                                                 | <ol style="list-style-type: none"> <li>Existing Facilities: The FDD (may) include System Data Sheets (SDSs) for systems within the facility. ... AP-341-612-TMP02 is the template for the SDS. [AP-341-612 r4, 4.0]</li> <li>New Facility FDDs: For those systems requiring an SDD, but the SDD has not been developed, develop a System Data Sheet using Att D.4. ... System data sheets may also be used for those SSCs that do not require an SDD, but a higher degree of detail for the SSC is necessary. SDDs may begin development in parallel with the FDD, during the conceptual design phase. [ESM Ch. 1 Z10, Att D on FDDs, end of r3 D.1; D.4 template]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| System Design Description (SDD)                                                                         | <p>Identifies the requirements associated with structures, systems, and components (SSCs); explains why those requirements exist (that is, provides the bases for the requirements); and describes the features of the system design provided to meet those requirements. [DOE-STD-3024]</p> <p><i>Purpose is to collect system information to facilitate efficient design, maintenance, operation, and training. It also provides coordination between the engineering documents, facility safety basis, and procurement and construction documents. [AP-341-611, ESM Ch. 1, Z10, ESM Ch. 8 D3060.90]</i></p> <p><i>When required for new systems, they should follow DOE-STD-3024; AP-341-611 is intended for reconstitution of an existing system where some bases may not be recoverable.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                            |
| System Health Report (SHR)                                                                              | <p>Periodic assessment report of an active structure, system, or component (SSC). Required for Vital Safety Systems in Hazard Category 2 and 3 nuclear facilities. The SHR addresses areas that may affect the system health (i.e., maintenance, configuration, material condition, vendor communications). A System Health Report template is created as part of the System Health Monitoring Package for the SSC. [AP-341-802]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| System Interaction<br>aka "two-over-one<br>phenomenon"<br>(sometimes<br>abbreviated "II/I" or<br>"2/1") | <p>In some instances, an SSC may not perform a safety function by itself, but its failure may adversely affect the safety function of another SSC. This phenomenon is commonly referred to as system interaction or "two-over-one phenomenon." [ANSI/ANS-2.26-2004 (R2021), 6.3.2.4]</p> <p><i>Standard continues: "[System interaction] shall be considered in the facility safety analyses and SSC seismic categorization. Earthquake-caused fire, flooding, and impact from movement or collapse of nearby objects are recognized sources for producing these potential failure sequences.</i></p> <p><i>System interaction considerations shall also include the adverse effects of failure of a lower-category (i.e., SDC or Limit State) SSC (i.e., the source SSC) on the safety function of a higher category SSC (i.e., the target SSC). The target SSC is to withstand the imposed loading..."</i></p> <p><i>MLD AP-341-502-FM02(I), Rev. 7.2 notes, "Items that are relied upon for "two-over-one" protections are still assigned Management Levels based on the system function that they support. Note that the item needs to be evaluated for the appropriate structural design category."</i></p> |
| System Verification                                                                                     | <p>The process of confirming that systems and structures fulfill specified design requirements, that the requirements were properly rolled into the design [ESM Ch. 20] <i>This is "Major Element Verification" in V-diagram at Validation herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

# Systems Engineering (SE)

1. A proven, disciplined approach that supports management in clearly defining the mission or problem; managing system functions and requirements; identifying and managing risk; establishing bases for informed decision-making; and verifying that products and services meet customer needs [DOE O 413.3B Att. 3; DOE G 413.3-1 on SE]
2. SE is an integrative approach to realize, use, and retire engineered systems using systems principles and concepts, and scientific, technological, and management methods. The goal of the SE approach is to transform mission and operational requirements into system architecture, performance parameters, and design details. An interdisciplinary field of engineering and engineering management, it focuses on how to design and manage complex systems over their life cycles. *Its application underlies the development of a project's scope.* [DOE G 413.3-X draft 2024-2-3]
3. A systematic approach used for developing solutions for complex technical problems. An applied process for developing a preferred technical solution in response to a specific set of requirements. Involves mission analysis, requirements identification and analysis, development of engineering solutions, assessment of developed solutions, selection of a preferred solution, and verification that the solution meets the requirements. [P341; ESM Ch. 20]

*Systems (the plural) Engineering is an engineering discipline (B.S. degree available) and role devoted to capturing and controlling the “basis of design,” a term widely used in commercial design and, increasingly, within NNSA and LANL. An SE is not at all the same as a VSS’s Cognizant System Engineer (CSE) or a Plant System Engineer (PSE, non-VSS); such engineers, even with multiple systems assigned, remain System (the singular) Engineers. ESM Ch. 20 r0 uses “SE” for both Systems Engineering and Engineer (discipline and its practitioner, take in context). SE process overview:*



Credit: P341 r7

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>T</b>                                                     | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Tailored Standards Manual (TSM), <a href="#">STD-342-600</a> | <p>A distillation of the LANL Standards that are applicable and limited to non-nuclear projects of low risk.</p> <p><i>Projects not meeting TSM applicability criteria must use the ESM.</i></p> <p><i>The TSM invokes applicable codes and standards, meeting the requirements of LANL's prime contract with NNSA. Where applicable, specific aspects of the ESM, Master Specification requirements, or Standard Details are incorporated by reference. The most important preferences for safety, operability, maintainability, and cost-effectiveness are included but extensive guidance is not. This streamlined document is expected to help produce buildings more quickly and at a lower initial cost, offsetting any long-term issues associated with loss of many preferential requirements in the other standards documents.</i></p> |
| Technical Baseline                                           | <p>All documents and data used to identify, justify, and demonstrate the physical, functional, or operational requirements of Structures, Systems, and Components (SSCs). [AP-341-405, also -504, -605]</p> <p><i>A listing of these documents and data should be available.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Technical Evaluation and Acceptance Plan (TEAP)              | <p>Document to identify the safety functions, critical characteristics (CCs), acceptance criteria, and acceptance methods that are sufficient to demonstrate that the item or service will perform its safety function. [NQA-1; DOE-HDBK-1230-2019; AP-341-703]</p> <p><i>Document numbers are "TEA-..."</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Technical Project Specialist (TPS)                           | <p>Assists project engineers (PEs) by taking on nontechnical tasks such as project setup, records management, data management, document management, issues tracking, and more.</p> <p><i>In ES-Div, TPSs are deployed from the ALDICP's Project Management Office.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Technical Requirement                                        | <p>Characteristics (functional, performance, and operational) that define the key item attributes necessary to ensure that the item will meet technical requirements. Technical requirements for services describe the conditions under which the service must be provided. <a href="#">[Definition of Terms for P841-1 r6]</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Technical Safety Requirements (TSRs)                         | <p>The limits, controls, and related actions that establish the specific parameters and requisite actions for the safe operation of a nuclear facility and include, as appropriate for the work and the hazards identified in the Documented Safety Analysis for the facility: safety limits, operating limits, surveillance requirements, administrative and management controls, use and application provisions, and design features, as well as a bases appendix. [10 CFR 830.3]</p>                                                                                                                                                                                                                                                                                                                                                         |
| Technically Qualified                                        | <p>ASME NQA-1 term for an individual with the ability to successfully perform a task based on technical knowledge, experience, and/or education (as opposed to an individual qualified through a certification or testing program). [AP-341-605]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| Technical Specifications & Requirements (TS&R) | <p>A specifications document produced by operations or programmatic staff, focused on defining characteristics of an asset. A TS&amp;R describes capabilities, capacities, process parameters, and other requirements.</p> <p><i>Used by several TA-55 projects (e.g., PEI2) in conjunction with other technical requirement sources (e.g., DSA, FHA) for the development of the RCD. Considered a spec within ALDWP <a href="#">PA-AP-01000</a> Document Control Processes.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Technical Standard                             | <p>Any standard on a technical topic, but usually refers to a DOE Standard (see that topic) issued by the DOE Technical Standards Program.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Technology Assessment Report (TAR)             | <p>A report produced by operations or programmatic staff focused on process technology (e.g., at TA55).</p> <p><i>Not a typical FAC-COE document; CoE does, however, have trade studies (see that topic).</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Temporary                                      | <ol style="list-style-type: none"> <li>1. In the context of most structures, nonstructural and other components, and/or building codes (and LANL amendments to same), those installed for three years or less.</li> <li>2. For construction jobsite office buildings, storage structures, and associated other structures only, it is the period of the project construction.</li> </ol> <p>[ESM Ch. 16 IBC-GEN's Temporary heading]</p> <p><i>Consensus codes and standards have other limits, typically 180 days, but the above applies for CoE work as explained by Ch. 16's bases document.</i></p> <p><i>Non-CoE documents may have shorter durations for specific matters (e.g., siting requests) and those must be met for same. Ex, PD912 r0: "Structures typically used short term (&lt;180 calendar days). This could be for the duration of a project and may include transportainers that have no permanent foundations, anchoring, or utilities."</i></p> |
| Temporary Modification (TM)                    | <p>Operating facility modifications installed for less than six months and usually minor modifications to facility SSCs with respect to approved drawings or other design documents.</p> <p>Examples of temporary modifications include lifted electrical leads; electrical jumpers; temporary electrical loads; pulled circuit breakers; disabled annunciators; temporary set point changes; mechanical jumpers; bind or blank flanges; disabled relief or safety valves or vacuum breakers; installed or removed filters or strainers; plugged floor drains; temporary pipe supports; temporary repairs that allow equipment to remain, or be returned to service, in a condition that is not the same as the technical baseline; or modifications to establish an interface between an operating system and a system lay-up. [AP-341-504, <i>Temporary Modification Control (TMC)</i>]</p>                                                                          |
| Test & Inspection Plan (TIP)                   | <p>A plan identifying applicable tests and inspections for a project. [LMS 01 4000; <a href="#">VAR-10761</a>, <i>TIP Template Renamed "Test &amp; Inspection Summary (TIS) Template (Guidance)" and Related Changes</i>]</p> <p><i>VIT: In the past, a Verification of Inspection and Test (VIT) Plan was developed to document and approve inspection and testing requirements for nuclear facilities including acceptance criteria, implementing organizations, and whether the inspection or test was a Hold or Witness point. VIT Plans are no longer recommended. Test and inspection requirements and associated documentation can now be achieved using a combination of the TIP, quality verification documents (possibly including ESM Ch. 15 Commissioning test reports), and Ch. 20 Systems Engineering V&amp;V documents such as the Requirements Verification Matrix.</i></p>                                                                            |

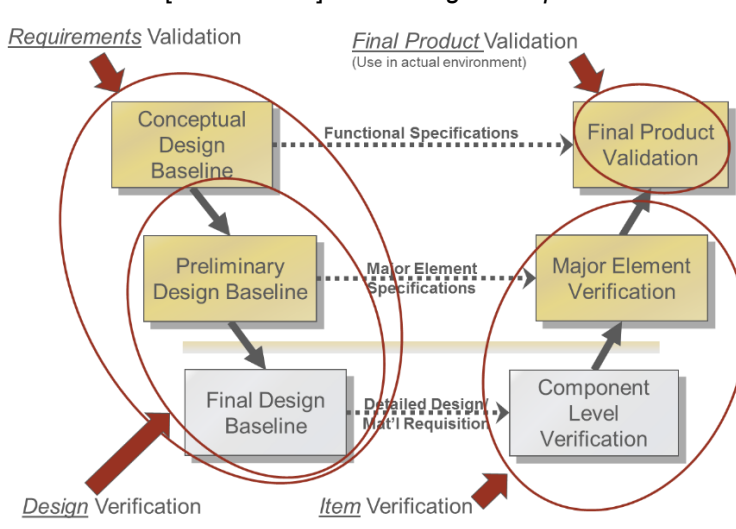
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| Test & Inspection Summary (TIS) | <p>A Test &amp; Inspection Plan precursor by the Designer of Record showing project-specific T&amp;I tasks but not integration with workflow or schedule.</p> <p><i>Typically, EOR-developed from the TIS template of ESM <a href="#">Ch. 16</a>, IBC-IP, Att. I, Test and Inspection Summary (TIS) Template (Guidance), but normally not a required output. This is reviewed during the design process to ensure consensus among the Designer and the Permitting Authority.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test Acceptance Criteria (TAC)  | <p>A set of parameters that observed or measured during a test: (1) to determine if nuclear safety and regulatory permit functional or performance requirements are met for a component or system, or an integrated set of systems; or (2) to confirm an assumption used as a basis for design of such items. TAC can be either qualitative or quantitative. They are established only for those parameters that need verification through test and have a set of limits that are established by design. TAC specifies the location of measurement or the conditions for a test if it is necessary to provide a context for validation of the parameter. TAC can be expressed as an upper limit, lower limit, or a range (e.g., not to exceed 40 ft per minute, not less than 40 feet per min, or 40 feet per min <math>\pm 10\%</math>). TAC is the term applied to test criteria used to confirm compliance with nuclear safety and regulatory permit requirements. [ESM Ch. 20]</p> |
| Test Case                       | <p>A set of test inputs, execution conditions, and expected results developed for a particular objective, such as to exercise a particular program path or to verify compliance with a specific requirement. (ASME NQA-1) [AP-341-703, ESM Ch. 21, SOFT-INTRO, -V&amp;V]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Testing                         | <p>An element of verification for the determination of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions [ASME NQA-1].</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Testing Agency                  | <p>A firm providing independent, certified test results. [ESM Ch. 16 IBC-Gen, IBC-TIA]</p> <p><i>For IBC-type work, must be on a listing maintained by the LBO.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Testing (Sub)Contractor         | <p>The person, company, or agent responsible to the prime subcontractor for:</p> <ul style="list-style-type: none"> <li>• Making inspections required for Cx.</li> <li>• Coordinating, scheduling, and managing Cx activities of the Subcontractor, lower-tier subcontractors, and suppliers.</li> <li>• Obtaining documentation required for Cx from the Subcontractor, lower-tier subcontractors, and vendors.</li> </ul> <p>[ESM Ch. 15]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test Plan (procedure)           | <p>A document that describes the approach for testing a system or component. Typical contents identify the items to be tested, tasks to be performed, and responsibilities for the testing activities. (ASME NQA-1) [AP-341-703, ESM Ch. 21, SOFT-INTRO, -V&amp;V]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| Title I (Preliminary) Design                                | <p>NOTE: This is a largely historical term. Current DOE O 413.3B calls this Preliminary Design (see that definition). Outside DOE and LANL, this is the Design Development phase per AIA.</p> <p>The preliminary stage of project design. In this phase, the design criteria are defined in greater detail to permit the design process to proceed with the development of alternate concepts and a Title I design summary, if required. <a href="#">DOE G 430.1-1, Cost Estimating Guide</a> (1997)</p> <p><i>Continues the design effort utilizing the conceptual design and the project design criteria as a basis for project development. Title I design develops topographical and subsurface data and determines the requirements and criteria which will govern the definitive design. Tasks include preparation of preliminary planning and engineering studies, preliminary drawings and outline specifications, life-cycle cost analysis, preliminary cost estimates, and scheduling for project completion. Preliminary design provides identification of long lead procurement items and analysis of risks associated with continued project development. [Superseded DOE 4700.1 (Chg 1 Attachment 3, 6-2-92)]</i></p> <p><i>Outside DOE and LANL, this is the design development (DD) phase per AIA.</i></p> |
| Title II (Detailed) Design                                  | <p>NOTE: This is a largely historical term. Current DOE O 413.3B calls this <a href="#">Final Design</a> (see that definition). Outside DOE and LANL, this is the Construction Documents phase per AIA.</p> <p>The definitive stage of project design. The approved Title I concept and the supporting documentation prepared for Title I form the basis of all activity in Title II. Definitive design includes any drawings, specifications, bidding documents, cost estimates, and coordination with all parties that might affect the project; development of firm construction and procurement schedules; and assistance in analyzing proposals or bids. <a href="#">DOE G 430.1-1, Cost Estimating Guide</a> (1997).</p> <p><i>This continues the development of the project based on approved preliminary design (Title I). Definitive design includes any revisions required of the Title I effort; preparation of final working drawings, specifications, bidding documents, cost estimates, and coordination with all parties which might affect the project; development of firm construction and procurement schedules; and assistance in analyzing proposals or bids. [Superseded DOE 4700.1 (Chg 1 Attachment 3, 6-2-92)]</i></p>                                                                            |
| Title III Services (during construction and turnover phase) | <p>NOTE: This is a largely historical term, more recently called the <a href="#">Execution Phase</a> (or Construction and Turnover to Operations phases); see those terms.</p> <ol style="list-style-type: none"> <li>1. The inspection portion of project engineering design &amp; inspection (ED&amp;I). The activities identified in DOE Order 4700.1, <i>Project Management Systems</i>, for inclusion in Title III can be separated into two categories: office support and field services. <a href="#">DOE G 430.1-1, Cost Estimating Guide</a> (1997)</li> <li>2. Those activities required to assure that the project is constructed in accordance with the plans and specifications (e.g., construction inspection), and that the quality of materials and workmanship is consistent with the requirements of the project (e.g., materials testing). <i>[Superseded DOE 4700.1 (Chg 1 Attachment 3, 6-2-92)]</i></li> </ol>                                                                                                                                                                                                                                                                                                                                                                                       |

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| Total Project Cost (TPC)         | <p>All costs between [critical decisions] CD-0 and CD-4 specific to a project incurred through the startup of a facility, but prior to the operation of the facility. Thus, TPC includes <u>Total Estimated Cost (TEC)</u> plus <u>Other Project Costs (OPC)</u>.</p> <p>TEC: All engineering design costs (after conceptual design), facility construction costs and other costs specifically related to those construction efforts. TEC will include, but is not limited to project, design, and construction management; contract modifications (to include equitable adjustments) resulting in changes to these costs; design; construction; contingency; contractor support directly related to design and construction; and equipment rental and refurbishment.</p> <p>OPC: All other costs related to a project that are not included in the TEC. OPCs will include but are not limited to: research and development; conceptual design and conceptual design report; startup and commissioning costs; NEPA documentation; PDS preparation; siting; and permitting requirements.</p> <p>[above from DOE O 413.3B Chg 7 <a href="#">here</a>]</p> <p>Because this definition is for 413.3B projects, when a project is below that threshold and the LANL Standards requirement threshold is TPC-based, to meet the intent, sum the costs for conceptual design through turnover. For TEC, sum only post-conceptual design and construction costs.</p> |
| Traceability                     | The ability to trace history, application, or location of an item and like items and activities by means of recorded identification. (ASME NQA-1) [AP-341-703]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Tracing                          | A process to relate the source of requirements with implementing documents in a manner that is transparent, stable, and auditable. Tracing is bi-directional, meaning that a requirement can be traced to all implementing documents, and each requirement of an implementing document can be traced back to its source. [ESM Ch. 20]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Trade Study                      | <p>An analysis of alternatives, normally performed early in the design process. See <a href="#">AP-341-603</a>, <i>Alternative Studies and the Alternative Studies Learning Guide</i> in the <a href="#">Engineering Learning Guide</a> collection. See also ESM Ch. 20.</p> <p><i>Also, for capital asset projects, NNSA may perform an analysis of alternatives to make technical investment decisions based on many factors such as mission gaps, risks, costs, effectiveness, and technology maturity using such a study per <a href="#">SD 413.3-3</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Training and Qualification (T&Q) | <p>Within CoE, the program ensuring workers subject to PD340 have the knowledge, skills, and abilities to perform their jobs safely and effectively.</p> <p><i>Some worker positions are qualified (see <a href="#">definition</a> for same) T&amp;Q website <a href="#">here</a>.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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| Training Program Plan                                | <p>Describes how the organization will implement training that is effective, compliant, and meets the mission support needs of the organization. [PD781r4].</p> <p><i>Each Laboratory directorate must develop a TPP appropriate for their regulatory requirements and for providing the training necessary for their operational needs. Refer to <a href="#">P781-1</a>, Conduct of Training, for procedures for training implementation plan development and Implementation. Nuclear facilities are required to follow <a href="#">P781-4</a>, Training Implementation Matrices, for the development and maintenance of training implementation matrices.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Training Standard (TS)                               | <p>Like a Qualification standard (QS), but for a position that cannot impact the safety basis of a nuclear facility (or qualification is not deemed necessary by CoE). Completion of the standard results in a credential (see that term).</p> <p><i>See also Oral Checkout.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Triad National Security, LLC ( <a href="#">TNS</a> ) | <p>The limited liability company that began managing and operating LANL under <a href="#">contract</a> with the NNSA on 11/1/2018. In CoE documents, take all occurrences of “LANS,” the previous M&amp;O contractor, to mean Triad except when LANS is in a clearly historical usage like this sentence.</p> <p><i>The three affiliates/member companies are Battelle Memorial Institute, The Texas A&amp;M University System, and The Regents of the University of California. Integrated named subcontractors are two large subcontractors, Fluor Federal Services, Inc.; and Huntington Ingalls Industries (HII)/Stoller Newport News Nuclear, Inc.; and three small business subcontractors, Longenecker &amp; Associates, Inc.; Merrick-SMSI Joint Venture, LLP; and TechSource, Inc.</i></p> <p><i>The contract is currently set to end October 30, 2028.</i></p> <p><i>Triad Proprietary Information (<a href="#">TPI</a>) is occasionally encountered.</i></p>                                                                                                                                                                                                                                                                                                                                       |
| <b>U</b>                                             | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Underway                                             | <p>From the LANL Engineering Standards, when the design phase of a project has begun such that the code of record (COR) is set, and the project is generally not subject to following new or revised standards. This point is:</p> <ol style="list-style-type: none"> <li>1. Major projects: For projects formally managed per SD350, <i>Project Management for Capital Asset Acquisition and Construction</i>, the COR (version of the Engineering Standards and its references to be used) default is the date of design contract solicitation (except where subcontract sets it as award date). Projects may elect to document/lock-down the COR to the version no earlier than 30 days prior to the technical subject matter expert (TSME) approval date of the Request for Proposal for design services (including design-build). In no case may COR be earlier than 6 months before subcontract award.</li> <li>2. FOD- and programmatic-managed work including maintenance: When not a major project, the date used for determining applicability of new or revised Standards is the managing organization’s (e.g., FOD or programmatic line manager) approval to proceed with design (or no more than 30 days prior to date of RFP for design services, if sooner).</li> </ol> <p>[ESM Ch. 1 Z10]</p> |
| Underground line                                     | <p>Any active or inactive buried pipe, duct, conduit, or cable.</p> <p><i>If it is owned by UI FOD, it is referred to as a “Utility.” If it is owned by another FOD, it is referred to as a “FOD-owned (underground) line.” See also Utility.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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| UniFormat                                   | <p>A format for classifying building elements and related sitework. Elements, as defined here, are major components common to most buildings. Elements usually perform a given function, regardless of the design, specification, construction method, or materials used. [<i>UNIFORMAT II Elemental Classification for Building Specifications, Cost Estimating, and Cost Analysis</i>, <a href="#">NISTIR 6389</a> (1999), which is based on ASTM E1557-97 <i>Uniformat II Classification for Building Elements</i>].</p> <p><i>Ex. no.: D5020. LANL has remained with the 1997–99 (not 2010) version of this work breakdown structure for system/subsystem level numbering in ESM sections and Standard Details because NNSA uses same in <a href="#">BUILDER</a> asset management database. FIMS, BIM modeling, and RSMeans estimating also use UniFormat.</i></p> |
| United States Code (U.S. Code; U.S.C.; USC) | <p>The <a href="#">United States Code</a> is the codification by subject matter of the general and permanent laws of the United States. It is divided by broad subjects into 54 titles and published by the <a href="#">Office of the Law Revision Counsel of the U.S. House of Representatives</a>.</p> <p><i>The database (first link above) shows the present status of laws that have been amended on one or more occasions. Unlike CFRs, there is no Title devoted to Energy (though TITLE 50—War and National Defense, Chapter 41 establishes the NNSA). An example citation: 50USC Sec. 167d. Sale of helium.</i></p>                                                                                                                                                                                                                                           |
| unit operation                              | <p>A basic step in a process. Unit operations involve a physical change or chemical transformation such as separation, crystallization, evaporation, filtration, polymerization, isomerization, and other reactions. [<a href="#">Wikipedia</a>]</p> <p><i>In PF-4, many parts of the production processes are unit operations, with QC inspection steps along the way.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Unreviewed Safety Issue (USI)               | <p>For an accelerator, a significant increase in the probability of, or consequences from (1) a planned modification to documentation, systems, or components (including new activities) that creates a previously unanalyzed postulated accident or condition that could result in a significant adverse impact; or (2) discovery of a previously unanalyzed condition. [<a href="#">SBP-113-3-R4</a>; DOE O 420.2D Att 2]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Unreviewed Safety Question (USQ)            | <p>A situation where (1) the probability of the occurrence or the consequences of an accident or the malfunction of equipment important to safety previously evaluated in the documented safety analysis could be increased; (2) the possibility of an accident or malfunction of a different type than any evaluated previously in the documented safety analysis could be created; or (3) the documented safety analysis may not be bounding or may be otherwise inadequate. [10 CFR 830.3(a); <a href="#">SBP-112-3-R5.3</a>]</p>                                                                                                                                                                                                                                                                                                                                   |
| USQ Determination                           | <p>An evaluation performed for the situations identified in 10 CFR § 830.203(c) to determine whether the proposed change, test, or experiment, or potential inadequacy creates a USQ and therefore requires DOE approval prior to implementation. [DOE O 421.1 draft 2023-11-16]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| USQ Screening                               | <p>An optional process of reviewing potential work activities and changes against the criteria in 10 CFR 830.203(c) to identify activities/changes that do not materially affect the approved DSA and to identify when a USQ Determination needs to be performed. [DOE O 421.1 draft 2023-11-16]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| Utilities                                          | <p>Services to or from structures such as potable and fire water, sanitary sewer, steam &amp; condensate, natural gas, telephony (communications), and electrical transmission and distribution, and managed by <a href="#">Utilities and Infrastructure FOD (UI-DO)</a>, with telephony an exception. [ESM Ch. 1, Z10]</p> <p><i>Utilities, and the service points (interface) to the FOD (e.g., after the water meter, final gas pressure reducing valve and, for electrical, secondary lugs of pad-mount transformer or barrel splices outside the weather head on an overhead system) are defined by Interface Agreement <a href="#">UIDO-AGMT-001</a>. This and many other UI-DO documents including <a href="#">procedures</a> are <a href="#">here</a>.</i></p> <p><i>The ESM and TSM address utilities primarily in Ch's 3-Civil, 7-Electrical, and 17-Pressure Safety. For power, UI is considered a private utility but is associated with the Los Alamos Power Pool (LAPP) and is registered under NERC/WECC as a Distribution Provider that supplies services not only to LANL but external customers as well. [ESM Ch. 16 IBC-GEN r13 draft]</i></p> <p><i>See also "Underground Line" herein.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| V                                                  | <p style="text-align: right;"><a href="#">TOP</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Validation (including software and final products) | <ol style="list-style-type: none"> <li>The process of exercising or evaluating a system or system component by manual or automated means to ensure that it satisfies the specified requirements and to identify differences between expected and actual results in an operating environment (Ref. NQA-1); and, ...             <ol style="list-style-type: none"> <li>... for software, providing evidence that the software, and its associated products, satisfies system requirements allocated to software at the end of each life cycle activity, solves the right problem (e.g., correctly models physical laws, implements business rules, uses the proper system assumptions), and satisfies the intended use and user needs (archived <a href="#">DOE O 414.1D</a>). [ESM Ch. 21, SOFT-INTRO]</li> </ol> </li> <li>Final product validation is the process of confirming that a completed final product meets stakeholder and/or mission requirements and is suitable for its intended use in the actual operational environment – the right final product was built. [ESM Ch. 20] <i>The V-diagram depicts this and verification:</i></li> </ol>  <p>The V-diagram illustrates the relationship between design baselines and verification/validation activities. On the left side, the design baselines descend: Conceptual Design Baseline, Preliminary Design Baseline, and Final Design Baseline. On the right side, the verification activities ascend: Component Level Verification, Major Element Verification, and Final Product Validation. Horizontal dashed arrows connect the baselines to the verification activities: Functional Specifications (Conceptual to Final Product), Major Element Specifications (Preliminary to Major Element), and Detailed Design Mat'l Requisition (Final Design to Component Level). A large red circle encloses the Conceptual, Preliminary, and Final Design Baselines, with a red arrow pointing to it labeled 'Requirements Validation'. Another large red circle encloses the Component Level and Major Element Verification boxes, with a red arrow pointing to it labeled 'Design Verification'. A third large red circle encloses the Major Element and Final Product Validation boxes, with a red arrow pointing to it labeled 'Item Verification'. A red arrow points from the Final Design Baseline to the Final Product Validation box, labeled 'Final Product Validation (Use in actual environment)'.</p> |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value Engineering (VE) | <p>A structured technique commonly used in project management to optimize the overall value of the project. Often, creative strategies will be employed in an attempt to achieve the lowest life-cycle cost available for the project. The VE effort is a planned, detailed review/evaluation of a project to identify alternative approaches to providing the needed assets. <a href="#">[Directives Definitions]</a></p> <p><i>VE is encompassed by Value Management. SMEs are generally a member of <a href="#">SAVE International</a> and rare within the DOE enterprise.</i></p>                                                                                                                                                                                                                                                                                                                                               |
| Value Management (VM)  | <p>An organized effort directed at analyzing the functions of systems, equipment, facilities, services and supplies for achieving the essential functions at the lowest life-cycle cost that is consistent with required performance, quality, reliability and safety. VM encompasses VE. [DOE O 413.3B Chg7]</p> <p><i>See also NNSA <a href="#">SD 413.3-5A</a>, Value Management.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Variance               | <p>A release from compliance with one or more requirements, as granted by the requirement owner. [adapted from DOE O 252.1D Chg 1]. [ESM Ch. 1 Z10]</p> <p><i>See also <a href="#">Alternate Method</a>.</i></p> <p><i>Main usage: <a href="#">Form 2137</a>, “Conduct of Engineering Request for Variance or Alternate Method.” When a DOE or NNSA order is involved, a LANL variance is also often an <a href="#">Exemption</a> situation.</i></p> <p><i>DOE release from 10CFR81 is also called a Variance: “The process for requesting and approving variances from the provisions of 10 CFR Part 851 is delineated in Subpart D of Part 851 and in supplemental guidance promulgated by DOE.” [DOE-STD-1066-2023] <a href="#">eVariance website</a></i></p> <p><i>LANL has other forms for non-CoE variances such as <a href="#">Electrical Safety Program</a>, <a href="#">3057 for Policy documents</a>, and others.</i></p> |
| Vendor                 | A supplier.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Verification<br>(including for software)                     | <ol style="list-style-type: none"> <li>1. The act of reviewing, inspecting, testing, checking, auditing, or otherwise determining and documenting whether items, processes, services, or documents conform to specified requirements (Ref. NQA-1);</li> <li>2. The act of checking by an independent qualified person that an installed SSC, feature, test result, or process conforms to established criteria. In this context this would typically be performed by review of test documents, installation records, or other supporting information required to be generated by the Project. [ESM Ch. 2 &amp; 16 <a href="#">FP DOR r6</a>]</li> <li>3. For software, providing objective evidence that the software and its associated products conform to requirements (e.g., for correctness, completeness, consistency, and accuracy) for all life cycle activities during each life cycle process (e.g., acquisition, supply, development, operation, and maintenance); satisfy standards, practices, and conventions during life cycle processes; successfully complete each life cycle activity; and satisfy all the criteria for initiating succeeding life cycle activities (e.g., building the software correctly) (Ref. archived <a href="#">DOE O 414.1D</a>). [AP-341-605, ESM Ch. 21, SOFT-INTRO]</li> </ol> <p><i>A <u>Verifier</u> performs this process step which appears in many contexts, including <u>design verification</u>, installation (e.g., QC, QA, inspection), testing and commissioning, and readiness/startup (e.g., Implementation Verification Review); <u>see those terms herein for specific requirements and refer to the V-diagram in <a href="#">Validation</a> above.</u></i></p> |
| Verification Document                                        | Evidence supporting the verification process. <i>Verification will always entail the signature of the authorized individual attesting to acceptability. Where warranted by the scope of the change or the importance of the facility or SSC, provide a statement of observations or more extensive objective evidence documents (e.g., results, reports, photos).</i> [AP-341-519 FM01]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Verifier                                                     | The person performing verification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Verify                                                       | The action of verification; see that term above.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Virtual Build Environment Office<br>( <a href="#">VBEO</a> ) | <p>Team or office within Engineering Services (e.g., Operations Group) whose mission is to collaboratively implement VBE workflows in stages across the ALDFO and ALDICP directorates. [<a href="#">CSM</a> Section 400 r0]</p> <p><i>Goals include (1) defining BIM standards; (2) facilitating technology adoption through communication and training (3) centralizing VBE service requests into a single system for streamlined coordination; (4) establish and maintain an on-premise data management solution, (5) managing data, including the establishment of an approved enclave with appropriate partitions segregating non-sensitive from sensitive data on a central server; and (6) laying the groundwork for the compliant and secure implementation of industry-standard cloud-based environments in the next phase. Article <a href="#">here</a>.</i></p> <p><i>See also Building Information Modeling.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vital Safety System (VSS)              | <p>Safety Class (SC) or Safety Significant (SS) SSCs as defined in a nuclear facility's DOE-approved safety basis documentation, plus Other Hazard Controls (OHC) SSCs listed in the facility Documented Safety Analysis and selected as Important to Defense in Depth (IDID) by facility line management. [P341, AP-341-101]</p> <p><i>See graphic in <a href="#">Appendix A</a>.</i></p> <p><i>VSS includes Engineered Safety Feature(s).</i></p> <p><i>Each VSS will have a Cognizant System Engineer (CSE) assigned; see <a href="#">CSE Assignment/Qualification Listing</a> on CoE Resources page. VSS term traces to March 8, 2000 or earlier — e.g., DNFSB <a href="#">letter</a> forwarding "Recommendation 2000-2, Configuration Management -- Vital Safety Systems."</i></p> |
| Voltage (Low, Medium, High)            | <p>LANL-specific voltage range definitions are in ESM <a href="#">Ch. 7</a>, Section D5000 and "low" differs from homeowner-typical.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Voluntary Consensus Standard (VCS)     | <p>Technical documents, such as test methods, specifications, and terminology, that are developed or adopted by VCS bodies using procedures that have safeguards to ensure that the standards development process is open to all interested parties, and that all input and viewpoints are taken into account and treated fairly. VCS bodies are generally private sector, not-for-profit entities such as organizations, associations, or technical societies. [EPA]</p> <p><i>LANL subscribes to <a href="#">Accuris</a> EWB services for most VCS. Click for <a href="#">non-EWB</a> ones including <a href="#">IEEEExplore</a> for non-NFPA electrical, electronic, software. VCS bodies are also called standards developing organizations (SDOs).</i></p>                         |
| <b>W</b>                               | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Walk-down                              | <p>A visual inspection of the structure, system, and component (SSC) to identify physical configuration and discrepancies with currently approved SSC documentation. [AP-341-510]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Walk-down Team                         | <p>Personnel responsible for gathering information during the walk-down and verifying and documenting the accuracy and completeness of this information. Each walk-down team consists of at least two members (i.e., preparer and verifier). [AP-341-510]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Welding Procedure Specifications (WPS) | <p>A written document that provides the required welding variables for a specific application to assure repeatability by a properly trained welders and welding operators and provides direction to the welder or welding operator for making production welds in accordance with Code requirements. [ESM Ch. 13, Vol. 1, 1-99; Vol. 3]</p>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Welding Technique Sheet (WTS)          | <p>Document containing the specific requirements for welding various thicknesses of materials utilizing various welding processes. These WTS requirements apply to a limited number of specific welding operation or welding conditions (e.g., critical, costly) and are used in conjunction with the requirements of the WPS, WFP, and GWS. [ESM Ch. 13, Vol. 1, 1-99]</p>                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Will                                                 | In LANL standards (e.g., a spec), typically indicates a LANL planned or committed action (e.g., "LANL will provide xxx for installation by the Subcontractor."). <i>For less-firm LANL actions, a document might use "may". (e.g., "LANL may perform additional compaction tests of the trench backfill").</i> [ESM Ch. 1 Z10, Att. F, App. E]                                                                                                                                                                                                                                                                                                                                       |
| Whole Building Design Guide (WBDG)                   | Website providing integrated "whole building design techniques and technologies."<br><br><i>Under Federal facility Criteria, useful material includes current specs from the <a href="#">VA</a> and the military's Unified Facilities Guide Specifications (UFGS), and archived <a href="#">NASA</a> specs; many DoD, VA, and NASA standards; and non-LANL O&amp;M approaches.</i>                                                                                                                                                                                                                                                                                                   |
| Witness                                              | The act of on-site observing (inspection) by an independent qualified person of an installation and/or testing of an SSC, feature, or process to verify conformance with established criteria. In this context it would require physical presence and visual observation of the activity while it is taking place. If a physical presence is not possible or safe, alternative means can be used if feasible and approved. [ESM Ch. 2 & 16 <a href="#">FP DOR r6</a> ]<br><br><i>Note, new documents/contexts should use the more commonly used definitions herein for Hold Point and Witness Point, assuming the distinction is useful, or for the sake of greater consistency.</i> |
| Witness Point                                        | A point in the process where an inspection, test, or activity point is reached that requires notification of the designated individual that the items are available for the designated inspection, test, or activity. Work may proceed past the point and work is not required to stop if the requester is not present. [P330-8; LMS 01 4000] <i>See also Hold Point.</i>                                                                                                                                                                                                                                                                                                            |
| Worker Qualification and Authorization System (WQAS) | LANL web application for entitled WQ Authorizers to authorize one or more workers, and for reporting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| "Work," "Goods" or "Services"                        | All the stated or implied activities to be performed by SUBCONTRACTOR as required by this Subcontract, including the furnishing and supervision of all technical personnel and labor, and the supply of equipment, materials, and supplies necessary to perform this Subcontract. [Master Fixed-Price Design-Build Construction template, Rev. 4 26FEB24]                                                                                                                                                                                                                                                                                                                            |

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Instruction (WI)                          | <p>1. A [Local Procedure type] document that provides specific instructions on how an organization will perform a specific work task. A Work Instruction (WI) may be called a Desk Manual, Performance Standard, or have another appropriate title. [LANL Definitions for archived PD311]</p> <p>2. An implementing document that provides detailed steps for accomplishing specific tasks. [AP-341-401, which has a template for WIs]</p> <p><i>WI is preferred template/term for CoE-issued — versus Desk(top) Instruction (DI) which has been used historically. DIs and WIs are largely the same idea, but by their title DIs are not appropriate for non-desk location work whereas WIs could serve almost any procedural need not rising to an AP or other policy.</i></p> <p><i>Note: In the past, some WIs and DIs were considered guidance; going forward, each new or revised WI or DI should be clear on expectations. WIs issued by CoE Office are on the AP's SharePoint, upper left link, <a href="#">here</a>. LBO inspection WIs are in <a href="#">EDRMS</a> (ALDICP / 1_Procedures / view by Procedure Type/Work Instructions), and associated forms at <a href="#">\\dcstorage.lanl.gov\es\FE-Mgmt\Construction Management\Commonly used forms, checklists, etc</a></i></p> <p><i>For non-enduring mod direction, installation or other work package instructions should be used rather than a formal WI (ref. AP-341-517).</i></p> |
| <b>X</b>                                       | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                | reserved for future use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Y</b>                                       | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Yet to be Implemented Changes                  | Design changes posted against facility Technical Baseline documents that are either in the design development phase, or the design has been approved but not yet implemented, or the implementation is in progress. [AP-341-402]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Z</b>                                       | <a href="#">TOP</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Z10 (section of <a href="#">ESM</a> Chapter 1) | The <i>General Requirements for All Disciplines</i> section of the ESM General Chapter. <i>It is the key to and most essential direction in the Engineering Standards.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Links to Glossary directly above:

[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

Links to Abbreviations above Glossary: [A-B](#) | [C-D](#) | [E-F](#) | [G-L](#) | [M-O](#) | [P-Q](#) | [R](#) | [S-Z](#)

## 8.0 Change Control

The Conduct of Engineering Office is responsible for maintaining this document and will do so on the same maximum interval as APs.<sup>7</sup>

For suggestion processes, see Section [3.0](#) Assistance, Suggestions, and Exception or Variance.

<sup>7</sup> Per AP-341-401 r6, five years maximum, but typically at least annually. As the governing CoE definitions document, revisions affecting requirements or their satisfaction must follow CoE document reviews and approvals commensurate with same,

## 9.0 History

| Date      | Revision <sup>8</sup> | Description                                                                                                                                                                                                                 |
|-----------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5/06/2024 | 0                     | Original issue as LA-UR-24-24095, often using definitions in current COE documents, plus many others. Incorporated <a href="#">VAR-10642</a> , <i>Priority</i> , <i>Support</i> , and <i>General Document Definitions</i> . |
| 2/10/2025 | 1                     | Numerous changes and additions. Deleted definitions more appropriately controlled by ESM chapters 19–21.                                                                                                                    |
| 8/28/2025 | 2                     | Numerous changes and additions, updates for DOE O 414.1E and commercial implementation (SD 413.3-7, SD350 r13, others).                                                                                                     |
| 4/10/2026 | 3                     | Numerous changes and additions, updates for PD330, SD350's <a href="#">RN350-02</a> , Test & Inspection Summary. Common citation references moved to App. B.                                                                |

## 10.0 Contact

[Conduct of Engineering Office](#), via methods in Section [3.0](#) Assistance, Suggestions, and Exception or Variance.

## 11.0 Appendices

Appendix A. Graphic(s) Serving Multiple Definitions

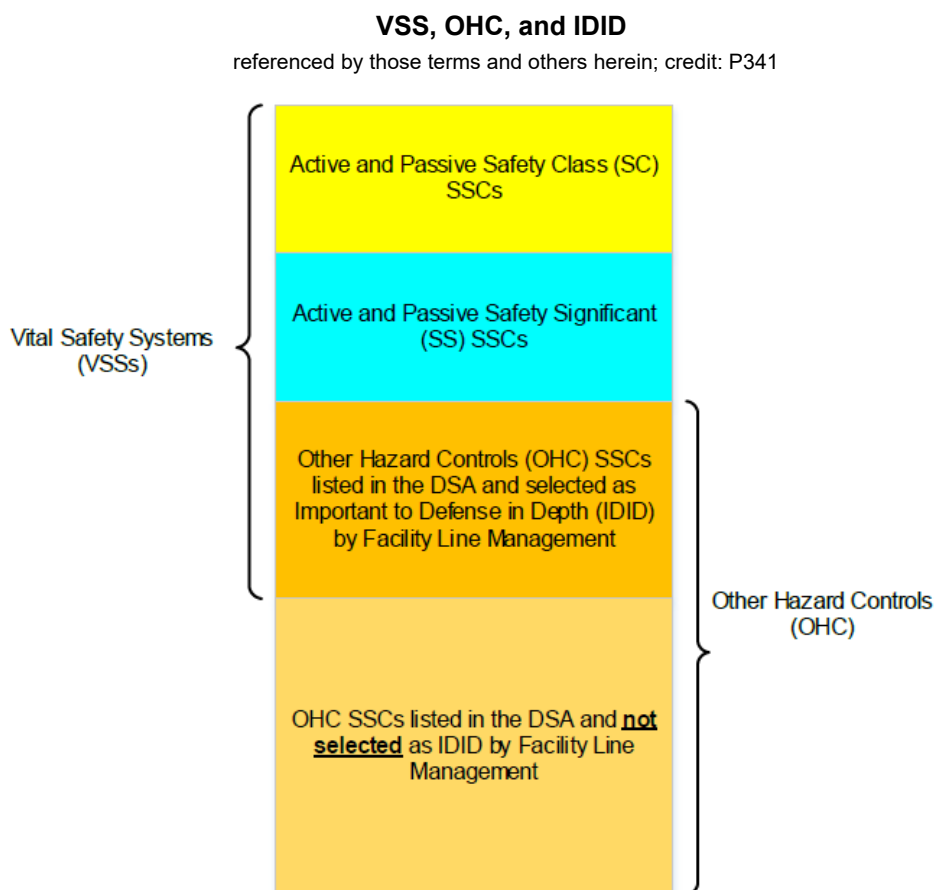
Appendix B. Key References

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including IQPA and Issuing Authority (ES-DO) where applicable. All other changes (e.g., helpful entries, usage note or reference changes, hyperlink maintenance) may be performed without a formal review process or IQPA approval and issued by the Responsible Manager (CoE Office Director). Purely administrative issues may also be simply fixed while significant ones will be indicated by revision number incrementation (e.g., r1.1, r1.2...; r2...; or Chg 1).

<sup>8</sup> Decimal increments indicate largely informative updates while integer updates are more extensive and/or include directive changes (requirement change).

## Appendix A. Graphic(s) Serving Multiple Definitions



## Appendix B. Key References

Full title of a few of the most common shortened citations in Table 2 Glossary of Terms Listing follow.

| Most-Common Citations      | Full Title and/or Meaning                                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">10 CFR 830</a> | 10 CFR 830, <i>Nuclear Safety Management</i> (Definitions at <a href="#">830.3</a> )                                                                                     |
| ESM                        | <a href="#">STD-342-100</a> , the <i>Engineering Standards Manual</i> , chapters (Ch.) and sections (e.g., Z10) as indicated                                             |
| LMS                        | <a href="#">STD-342-200</a> , the <i>LANL Master Specifications</i> (section collection)                                                                                 |
| NQA-1                      | ASME NQA-1-2008 with the NQA-1a-2009 addenda, <i>Quality Assurance Requirements for Nuclear Facility Applications</i> . Both available via Accuris <a href="#">EWB</a> . |
| <a href="#">PD330</a>      | <i>LANL Quality Assurance Program Description</i>                                                                                                                        |