ATTACHMENT B
LANL IBC Inspector Qualification Guidelines

This document only applies to LANL. Its purpose is to provide the criteria for the IBC Inspector qualification process. To qualify as an approved inspector, an individual should meet the requirements of this guideline and demonstrate competence to the satisfaction of the LBO or the LANL IBC Chief Inspector (authority has been delegated to the Chief Inspector by the LBO). Special consideration will be given to those inspectors that achieve and maintain national certifications. Only approved inspectors may perform IBC or IEBC inspections at LANL.[1]

Also see LANL Procedure P330-8, *Inspection, Test and Acceptance*, for related requirements

Experience:

1. In order for experience to count toward qualifications, it must be based on verifiable work directly related to the category or type of inspection involved.
2. In order to recognize individuals with experience other than actual inspection activity, the following guidelines will be used in evaluating whether an individual satisfies the minimum required experience.
    a. Construction/fabrication experience will be credited one year for each two years of experience specific to the category of certification.
    b. A graduate engineer or a graduate geologist with design experience will be credited one year for every 2 years of design experience specific to the category of certification.
    c. Laboratory experience will be credited one year for each year of actual work related to the category of certification.
    d. Education experience will be credited as follows:
        i. A 2-year engineering technology degree plus appropriate in-house training may be substituted for not more than one year of experience toward a certification related to the discipline of the degree as determined by the LBO.
        ii. An engineering degree that results in issuance of a diploma of at least the Bachelor of Science designation plus appropriate in-house training may be substituted for not more than four years of experience toward a certification related to the discipline of the degree as determined by the LBO.
        iii. A geology degree that results in issuance of a diploma of at least the Bachelor of Science designation plus appropriate in-house training may be substituted for not more than four years of experience toward a certification related to soils and earthwork.
    e. A Professional Engineering license issued by any State Licensing Board is recognized as meeting the experience requirements of a certification related to the discipline of the PE as determined by the LBO.
3. Five or more years experience as a qualified inspector in one or more categories of work may fulfill up to half of the experience requirements in any category, at the discretion of the LBO.

[1] Partially based on Clark County, NV TG-17
http://www.clarkcountynv.gov/Depts/development_services/engineering/Pages/HowToGuides.aspx

National Certification

The following certifications are recognized for inspection personnel approvals:

- ICC (or ICBO, an ICC predecessor)
- IEIA[2]
- AWS
- NICET
- ASNT
- ACI
- Troxler, Campbell, or other equivalent test equipment certifications
- ASQ
- NEBB or AABC (air balance testing)
- NFPA[3]

Inspector-in-Training (Level 1 Inspector)

1. The intent of this provision is to provide practical opportunities for an inspector to gain the needed experience to qualify as an IBC inspector.
2. An inspector who does not meet the qualifications for a inspector category may be allowed to perform "Inspection" at the discretion of the Chief Inspector or the LBO, provided one or more of the following conditions are met:
   - The individual is working under the direct and continuous supervision of an inspector fully qualified for the type of work involved.
   - The individual is working under indirect or periodic supervision of an inspector, and the scope of work is minor and/or routine and within the capabilities of the individual.

Periodic Evaluation of Certifications

1. The Chief Inspector will periodically provide written tests to inspectors of a given classification to assess their knowledge of the IBC code and standard specification requirements of installations associated with that inspection classification (or pass national testing), or
2. The Chief Inspector or an inspector designated by the Chief Inspector will perform periodic surveillances of in-process inspection activities to assess the effectiveness of the inspections being performed.
3. Based on the results of this testing and/or surveillance activities, the Chief Inspector may require individual inspectors to take additional training or their qualifications may be revoked if deemed warranted by the Chief Inspector.

Training

1. The Chief Inspector will assign training to inspectors as deemed necessary to assure the inspectors are current with LANL requirements, latest technologies and installation practices, vendor requirements, etc.
2. Assigned training may be in the form of required reading, in-house classroom instruction, vendor instruction, on-line computer instruction or third party instruction.
3. Records will be kept of completion of assigned training

[2]IEIA for electrical inspectors.

[3] As of 2008, NFPA had certification programs for fire plans examiners, fire inspectors (not building/construction inspectors), and fire protection specialists. Other citations already listed including ICC, ICBO, and NICET may substitute.

Inspector Qualification Guidelines[4]

Notes:

1. For any requested qualification category or subcategory, should meet one of the listed options
2. Qualification to a main category listed with a single-letter designation implies qualification to all subcategories listed with a double-letter designation where the first letter of the subcategory designator is the same as the main category designator (e.g., a "B" masonry inspector can perform both "BC" structural inspection and "BT" masonry testing; however, a BC inspector cannot do BT unless specifically indicated).

Steel Fabricators (A)

1. 5 yrs experience inspecting steel fabrication or erection and
2. Current or prior AWS certification

Masonry (B)

Masonry Structures (BC)

1. 5 yrs experience inspecting masonry erection
2. ICBO or ICC certified Structural Masonry Special Inspector

Masonry Testing (BT)

1. 5 yrs experience inspecting masonry erection and current or prior ACI Concrete Field Testing Technician – Grade 1 certification

Concrete (C)

Footings and Foundations (CF)

1. 5 yrs experience inspecting concrete installations
2. ICBO or ICC certified Reinforced Concrete Special Inspector
3. ICBO or ICC certified Pre-stressed Concrete Special Inspector

Concrete Slab and Under-floor (CS)

1. 5 yrs experience inspecting concrete installations
2. ICBO or ICC certified Reinforced Concrete Special Inspector
3. ICBO or ICC certified Pre-stressed Concrete Special Inspector

Other Concrete Construction (CC)

1. 5 yrs experience inspecting concrete installations
2. ICBO or ICC certified Reinforced Concrete Special Inspector
3. ICBO or ICC certified Pre-stressed Concrete Special Inspector

Concrete Testing (CT)

1. 5 yrs experience inspecting concrete installations and current or prior ACI Concrete Field Testing Technician – Grade 1 certification
2. 5 yrs experience inspecting concrete installations and evaluation and approval of Chief Inspector

[4] Note: Clark County, NV uses the following another letter-coding system that is acceptable (ref TG-017)

Reinforced Concrete Special Inspector (CR)
1. 5 yrs. experience inspecting concrete installations
2. ICBO or ICC certified Reinforced Concrete Special Inspector

Unbonded Post-Tensioning Inspector (CP)
1. 5 yrs. experience inspecting concrete installations
2. ICBO or ICC certified Unbonded Post Tensioning Special Inspector
3. Post-Tensioning Institute (PTI) Level 2 Inspector

Electrical (E)
1. 5 yrs experience inspecting electrical installations
2. ICC or IEIA certification as an electrical inspector

Electrical within concrete slab or under-floor (EC)
1. 5 yrs experience inspecting electrical installations
2. ICC or IEIA certification as an electrical inspector

Electrical within wall framing (EF)
1. 5 yrs experience inspecting electrical installations
2. ICC or IEIA certification as an electrical inspector

Lightning Protection Systems
1. 5 yrs experience inspecting electrical installations
2. Lightning Protection Institute certification as a designer inspector
3. Approval of LANL Fire Marshal

Fireproofing (F)

Sprayed Fire-Resistant Materials (FS)
1. ICBO or ICC certified Spray-applied Fireproofing Special Inspector
2. 1 yr experience inspecting sprayed fire-resistant materials
3. Training and certification by material supplier

Fire-Resistant Penetrations (FP)
1. 1 yr experience inspecting fire-resistant penetration seals
2. Training and certification by material supplier
3. Training and approval by Chief Inspector or LBO

Soils: (G)

Soils Placement (GS)
1. 5 yrs experience inspecting soils placement and compaction

Soils Testing (GT)
1. NICET Construction Materials Testing – Soils certification
2. 5 yrs experience inspecting soils testing and evaluation and approval of Chief Inspector
3. Troxler, Campbell, or other equivalent certifications

Special Cases (H)

Expansion Anchors (HA)
1. Training and certification by material supplier
2. Prior experience inspecting expansion anchor installations and evaluation and approval of Chief Inspector

Epoxy Anchors (HE)
1. Training and certification by material supplier

2. Prior experience inspecting epoxy anchor installations and evaluation and approval of Chief Inspector

Undercut Anchors (HU)

1. Training and certification by material supplier
2. Prior experience inspecting undercut anchor installations and evaluation and approval of Chief Inspector

Welding (HW)

1. Current or prior AWS-CWI certification and listed as a LANL Authorized Certified Welding Inspector or Welding SME in Welder and Inspector database

Exterior Insulation and Finish Systems (I)

1. ICBO or ICC certified Building Inspector
2. Prior experience inspecting exterior insulation and finish systems and evaluation and approval of Chief Inspector

Fire Protection and Life Safety (J)

Fire Detection and Alarm Systems (JA)

1. Qualified fire protection engineer as defined by DOE-STD-1066, *Fire Protection Design Criteria*, with 2 years direct experience inspecting fire detection and alarm systems
2. NICET Level IV Fire Alarm Systems
3. Vendor-provided certification (product specific) and 5 years experience inspecting fire alarm systems
4. Approval of the LANL Fire Marshal

Water-Based Fire Suppression Systems (JW)

1. Registered/Licensed Professional Engineer
2. Qualified fire protection engineer as defined by DOE-STD-1066
3. NICET Level IV Automatic Sprinkler System Lay-Out
4. Approval of the LANL Fire Marshal

NOTE: Systems that incorporate electrical detection and releasing systems also require inspection by persons qualified under JA, Fire Detection and Alarm Systems, for this sub-system.

Special Extinguishing Systems (JE)

1. Registered/Licensed Professional Engineer
2. Qualified fire protection engineer as defined by DOE-STD-1066
3. NICET Level IV Special Hazards Suppression Systems
4. Vendor-provided certification (product specific) and 5 years experience inspecting special extinguishing systems
5. Approval of the LANL Fire Marshal

NOTE: Systems that incorporate electrical detection and releasing systems also require inspection by persons qualified under JA, Fire Detection and Alarm Systems, for this sub-system.

Passive/Life Safety Features (JL)

1. Registered/ Licensed Professional Engineer
2. Qualified fire protection engineer as defined by DOE-STD-1066
3. NFPA, ICBO, ICC or other certification as a fire inspector or fire protection specialist
4. AIA Fire-Resistant Ceiling and Wall Assemblies certification
5. Approval of the LANL Fire Marshal

Smoke Control (K)

1. Prior experience in system balancing and approval of LANL Fire Marshal

Lath and Gypsum Board Inspection (L)

1. ICBO or ICC certified Building Inspector
2. 2 yrs experience inspecting lath and gypsum board installations
3. Prior experience inspecting lath and gypsum board installations and evaluation and approval of Chief Inspector

Mechanical (M)

Plumbing within concrete slab or under-floor (MC)

1. 5 yrs experience inspecting plumbing installations

Plumbing within wall framing (MF)

1. 5 yrs experience inspecting plumbing installations

Plumbing (Final Inspection) (MP)

1. 5 yrs experience inspecting plumbing installations

Mechanical (Final Inspection) (MM)

1. 5 yrs experience inspecting mechanical installations
2. ASQ-CMI certification

Mechanical Welding (MW)

1. Prior or current AWS CWI certification and listed on "LANL Authorized Certified Welding Inspectors and Welding SMEs" list

Energy Efficiency (N)

1. Approval of Chief Inspector

Piles (P)

1. 2 yrs experience inspecting pile installations

Piers (R)

1. 5 yrs experience inspecting pier installations

Steel (S)

High Strength Bolted Steel (SB)

1. 5 yrs experience inspecting high strength bolted steel installations
2. ICBO- or ICC-certified Structural Steel Inspector

Welded Steel (SW)

1. 5 yrs experience inspecting welded structural steel and prior or current AWS CWI certification and listed on "LANL Authorized Certified Welding Inspectors and Welding SMEs" list

Other Steel (SO)

1. 5 yrs experience inspecting light weight steel installations

Wall and Panel Veneers (V)

1. Approval of Chief Inspector

Wood Construction (W)

1. 5 yrs experience inspecting wood framing installations
2. ICBO or ICC certified Building Inspector