

EFCOG Best Practice #59

Qualification of (ALL) Inspection and Test Personnel (Not Just QA Organizations)

Facility: Los Alamos National Laboratory/West Valley Demonstration Project

Point of Contact: Tim J. McEvoy, 505-667-8172, mcevoytj@lanl.gov or Bob Carter, 509-377-3220, bob.carter@wch-rcc.com

Brief Description of Best Practice: To ensure that **ALL** organizations (**NOT JUST QA**) utilizing "Inspection and Test Personnel" for acceptance of items or activities affecting quality are qualified by discipline, and that these qualifications are documented (certified) in accordance with the contractors approved QA Program that utilized Codes and National Consensus Standards when developed.

Why the best practice was used: The initial qualification methods used to qualify and document inspection and test personnel should be based on national codes and consensus standards (e.g. American Welding Society, International Code Council, and American Society of Mechanical Engineers). If third-party certifications are available in the discipline needed then that certification should be required for inspectors. However, if the third-party certifications are cost/time prohibitive then an extensive in-house certification program should be established. An in-house certification process should include those elements listed in ASME NQA-1-2004 non-mandatory Appendix 2A-1 "Guidance on the Qualification of Inspection and Test Personnel". In addition to the guidance found in NQA-1 a rigorous mentoring program should be developed. This program should include the qualifications of the mentors for a specific discipline and the time required to be spent under the mentor. Secondly properly documenting these qualifications is just as important. ASME NQA-1 requirement 2 paragraph 302 "Inspection and Test" provides the initial evaluation and reevaluation time frames and paragraph 400 "Certification of Qualification" details the requirements to document (certify) these qualifications.

Unqualified inspection and test personnel can compromise construction efficiency and acceptability of the final product.

What are the benefits of the best practice: To ensure that when certification of Inspection and Test Personnel is required by contract, graded approach process, design specifications, or QA Program requirements, that costly delay in schedules due to questionable acceptability of the final product do not occur or are even perceived by the customer or regulatory oversight organization.

What problems/issues were associated with the best practice: Many industry audit results have determined that QA/QC organizations for the most part adequately document inspection and test personnel qualifications. A recent problem noticed is documenting qualification of inspection and test personnel in other organizations such as maintenance, operations, laboratories, start-up groups, etc. **The key to determine applicability is to understand that these requirements may apply to any organization having personnel performing inspection and test of items and activities affecting quality as defined by the projects QA Program**

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and graded approach process.

How the success of the Best Practice was measured: More positive results from internal and external assessments, quality of final product, decrease of deficiencies and/or delays noted in RA, ORR, and/or startup activities.

Description of process experience using the Best Practice: Design personnel working with certified Level II and III Inspection and Test Personnel when developing procurement specifications and documents, inspection and test hold and witness points, first article and receipt inspection and test acceptance criteria, found it to be a much improved method when these discipline certified inspectors were involved up front in the document review and approval or concurrence process.

When these inspections and test occurred in the field the independent personnel documenting acceptance of these items and activities had clear acceptance criteria in design documents and work packages as did the craft personnel who fabricated or erected these items. The results were a very much improved accept to reject percentage.