

Best Practice # 201

Facility: Multiple

Best Practice Title: Welding Program Ownership

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Brief Description of Best Practice:

Consensus national codes, and specifically the American Society of Mechanical Engineers (ASME), specify ownership and transfer of ownership requirements for use of welding program documentation including; procedure qualification records (PQR), welding procedure specifications (WPS), welder performance qualification records (WPQ) (qualifications), as well as other welding specific documentation. This consensus-developed best practice provides Site Contractors with a framework for managing Site welding qualifications – contractor transfer and sharing on-site, sharing between sites, and use at non-DOE locations. When welding qualifications are properly managed, efficiencies in cost and schedule can be realized along with assurance that national codes and standards requirements are met.

For additional discussion of the supporting ASME code basis for this best practice, the user is referred to the following: *Welding Program Ownership for DOE Facilities – White Paper*, October 24, 2017, prepared by the Engineering Practices Subgroup. For a copy, contact the “Point of Contact” – this best practice.

Recommended Practice:

- 1) **Background:** DOE facilities have historically established, and maintained, a “Site Welding Program” to ensure welding activities meet minimum safety and quality standards / requirements. In addition, these programs are typically required to comply with national codes and standards such as those prepared by the American Society of Mechanical Engineers (ASME) and the American Welding Society (AWS).

Over time, inconsistencies in the interpretation and application of code rules regarding program ownership have developed at the various Sites within the Complex. This practice sets forth a consensus opinion, prepared by the DOE EFCOG Welding Task Team, EPSG, regarding Site Welding Program ownership and its relationship with national codes and standards, and implementation of code rules and practices. The following practice addresses the ASME code specifically, however; the approach applies to other codes and standards as well.

2) **Practice:** The basic, programmatic question is: Who 'owns' the welding qualifications (procedure and performance) and can they be used by multiple, on-site contractors (current and future), and by contractors at other sites within the Complex. A secondary question is whether the contractor has the right to use these qualifications at non-DOE or commercial locations.

a) Since all DOE contractors report to DOE, DOE has rightful ownership of the welding qualifications and hence the Site Welding Program. For separate, subcontracted construction projects, the subcontractor may use its own welding program or the Site Welding Program, provided specific language in the contract allows for such. For clarification, the following two scenarios are provided:

Case I DOE contracts a company to manage site welding activities, typical of M&O contracts: ASME qualifications are owned by the DOE, regardless of whether that contractor developed and qualified the procedures or took over existing procedures from a contractor who previously managed site welding activities.

Case II DOE contracts with a company to manage or self-perform a construction project, contractually separate from the Case I scenario: The contractor who establishes the welding qualifications, in accordance with that company's welding program, owns the welding qualifications.

b) DOE owned qualifications established at a Site (Case I):

- May be used by multiple contractors, and subcontractors, at that site and by subsequent site contractors if under control of DOE or the main contractor.
- May be used by contractors at other sites within the complex, provided specific language in the contract allows for such.
- May not be used by the site contractor for work or projects outside the scope of the DOE contract.

c) Contractor-owned qualifications (Case II):

- May be used by that contractor at the DOE construction project, as approved by the construction project contract.
- May be used by that contractor at all other projects (commercial and DOE) where the contract(s) allows for such.

Why the Best Practice is used: A correct understanding of the relationship between DOE and its contractors with regard to welding qualifications is critical to their proper use and application.

What are the benefits of the Best Practice: A clear and concise communication of the responsibility for and ownership of welding qualifications will:

- a) Provide a good understanding of the roles and relationship between DOE and their Contractor(s) and help facilitate the execution of welding activities
- b) Help ensure compliance to governing codes and standards
- c) Promote efficiency in the use and sharing of established site welding qualifications – reduce the potential for duplication of qualifications

What problems/issues are associated with not using the Best Practice: The above practice has not always been consistently applied throughout the complex. As a result, the most common issue is the duplication of effort (cost and schedule) in qualifying new procedures where existing qualifications could have, and should have, been used. This applies to both intra- and inter-site application of qualifications. A correct understanding of code welding rules and requirements, and the relationship between DOE and its contractors, will ensure the efficient and cost effective use of welding qualifications.

How the success of the Best Practice was Measured: Essentially all sites have welding programs. The Welding Task team queried members relative to cost/staffing and issue avoidance. The metric or measure by which success is determined is the avoidance of unnecessary costs and resources.

Description/Example of process experience using the Best Practice: The Idaho National Laboratory (INL) Welding program applies to all participating contractors performing welding activities conducted at the INL, as a result of contracts that are within the purview of the DOE Idaho Operations Manager.

As owner of the INL Welding Program the DOE Idaho Operation Office (DOE-ID) offers the INL Welding program to its contractors as a consolidated cost effective, and code based method for performing welding activities at the INL. This practice has allowed for the elimination of duplication of effort as well as increased savings associated with technical staffing, equipment and material costs (e.g. Multiple Weld Test Facilities, Procedure Qualification, Personnel Qualification etc.).

As signatory to the INL Welding Program, each program participant acknowledges review, approval and acceptance of the Welding Program for their use. Use of the INL Welding Program content or procedures is not used for work other than applicable DOE-ID contract work. This best practice relates to the Integrated Safety Management System “defining work”.