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RECORD OF REVISIONS

Rev	Date	Description	POC	RM
0	10/01/09	Initial issue supporting expansion of chapter to include non-welding NDE.	Kelly Bingham, <i>ES-DE</i>	Larry Goen, <i>CENG-OFF</i>
1	11/21/13	Added J2 vision requirement to Para. 5.1.B; added Para. 5.2.G where AWS-CWI & AWS-SCWI = VT Level II	David Bingham, <i>ES-EPD</i>	Larry Goen, <i>ES-DO</i>
2	12/19/22	Added SME and Responsible Level III roles. Clarified in 5.2 that AWS CWI and SCWI still require examination before certification as LANL VT Level II. Visual record became FM01. Added procedure approvals and FM02 for deviations to same, thus 6-02 title change. Modifications for clarity, including removal of requirements stated in Att 1.	David Harvey, <i>ES-FE</i>	Michael Richardson, <i>ES-DO</i>

Contact the [NDE Standards POC](#) for upkeep, interpretation, and variance issues.

This document is online at <https://engstandards.lanl.gov>

WIGN 6-02 NDE Inspector Qualification and Performance

1.0 Purpose and Scope

- A. The purpose of this procedure is to establish the qualification and certification requirements for personnel performing NDE in support of the LANL Welding Program, or other NDE work except for specified weapons applications. (See WIGN 6-01 for welding inspector qualification).
- B. The scope of this procedure applies to personnel conducting NDE, including subcontractor personnel when invoked by specification or contract.

2.0 References

- A. LANL [P330-5](#), Special Processes
- B. GWS 1-01, Introduction and Scope
- C. GWS 1-02, Administrative Control of Welding & Brazing
- D. ESM Chapter 16, IBC Program, Sections IBC-IP and IBC-TIA or successors
- E. Applicable codes and standards as specified in the LANL Engineering Standards Manual (ESM), Master Specifications, and other specified program requirements including NDE procedures (e.g., ITM-1306-NDE series)

3.0 Acronyms and Definitions

Acronym / Term	Description
ES	Engineering Services Division (LANL)
GWS	General Welding Standards (LANL)
NDE	Non-destructive examinations; an examination process conducted to detect internal or surface defects in materials using techniques that do not damage or destroy the item being tested. The most common types are RT, UT, MT, PT, and ET methods. Depending on the applicable code, VT (visual) may also require control as an NDE process in accordance with this procedure
NPA	NDE Program Administrator; same as LANL Responsible Level III.
LANL Responsible Level III	The LANL NDE Level III who is responsible for administration of the qualification and certification procedure for NDE personnel. This procedure is Attachment 1.
LANL SME Level III	The LANL NDE Level III who is responsible for development and maintenance of method-specific procedures used to perform NDE examinations.
VT	visual examination
WPA	Welding Program Administrator (LANL)

4.0 General

4.1 Responsibilities

- A. The **LANL Responsible Level III** is responsible for certification and/or approval of NDE personnel in accordance with this procedure.
- B. The **LANL SME Level III** is responsible for the development of method-specific procedures used to perform NDE examinations.
- C. The **LANL Project / Program Managers and Facility Managers** are responsible for coordination of welding and other NDE conducted in support of assigned projects, in accordance with the Administrative Control of Welding section (GWS 1-02) of this program.
- D. **Subcontractor NDE personnel** shall be qualified and certified in accordance with a Written Practice or Procedure which has been reviewed and accepted by LANL.
- E. **NDE personnel** shall be independent of production (i.e., they shall not have direct responsibility for performance or supervision of the work they are assigned to inspect/examine) and shall be certified by the Division Leader, Engineering Services, or designee, as described in Attachment 1.
- F. **NDE personnel** must perform examinations for certification using procedures approved by the appropriate LANL NDE Level III. Subcontractor personnel shall perform NDE per procedures submitted to LANL for review and acceptance prior to use. "Information only" NDE activities should be performed using a procedure when practical.
- G. **NDE personnel** must document examinations. For pressure vessels see ESM Ch 17 Procedure ITM-342-1701 or other procedures. For welding-related NDE, see GWS 1-02 (Para. 5.6, 5.8) and its Attachment 3, *Weld Inspection Record*.

NOTE: Personnel performing welding at LANL shall be qualified and certified in accordance with GWS 1-05, *Welder Performance Qualification and Certification* unless excluded or exempt in accordance with GWS 1-01 *Introduction & Scope* Para. 5.2 & or 5.3. *Guidance Note: This procedure is not applicable to welders conducting in-process inspection or visual examination of their own work.*

- H. **The LANL IBC Program** (ref. 4) uses this qualification procedure/process to maintain LANL Building Official-approved welding inspection agencies and inspection personnel.

5.0 Qualification Requirements

5.1 Vision Requirements

- A. Vision requirements are given in From FM01.

- B. *Guidance: Elimination of the need for corrective lenses due to surgery (e.g., laser vision correction) should be noted on the annual re-certification.*

5.2 Qualification and Certification

LANL personnel performing NDE for acceptance shall be qualified and certified in accordance with Attachment 1.

- A. AWS CWI and SCWI personnel require Level II examinations to perform Visual Testing (VT) of components or materials other than welds.
- B. LANL WPA or NPA shall maintain a file of qualification & certification records for LANL NDE personnel. The certification files shall be stored in the form of an electronic database. Legacy paper records are permitted, provided they are properly stored.

Internal listing available from [Ch. 13 webpage](#).

5.3 Owners Inspector

When applicable Codes or Standards specify that work be inspected by an owners representative:

Guidance Note: Several codes and standards require two levels of inspection, one by the contractor/fabricator and the other by an owner's inspector.

See GWS 1-02 Para. 5.8 Owner Inspector requirements and GWS 1-02 Attachment 4 for a list of codes and standards that require two levels of inspection.

- A. Owner Inspector personnel shall be qualified & approved by ES.
- B. Inspections shall be performed and documented as required by ES.
- C. At LANL's discretion, LANL inspectors may serve as both the manufacturer/fabricator examiner and owners inspector. *Guidance Note: Some Codes (example AWS D1.1) require that if this is exercised it must be invoked by contract with the manufacturer/fabricator.*

6.0 NDE Procedures and Performance

Certified personnel are expected to perform NDE in accordance with approved procedures. Except in cases given below, the expectation is that the procedure is followed verbatim by certified personnel:

- A. When no formal procedure exists, certified personnel should contact the LANL SME Level III for instructions. In most cases, an ASTM or similar Guide or Practice will be utilized as a guideline.
- B. Should a procedure require deviation (modification) while being used, seek permission to deviate from the SME Level III before continuing using FM02, *Procedure Deviation Approval Form*. During the examination, record the deviations in detail in the test report and/or attach form. After the examination,

promptly provided any further input to the SME Level III. *The SME Level III should revise the procedure as soon as practical.*

1. For ML-1/2 systems, deviations may require revision of the procedure prior to proceeding with the work, including any required qualification or demonstration of the procedure prior to use.
- C. NDE procedure approvals (except in-use deviations per above) shall include the author, SME Level III, and Standards Manager. Where the author and SME Level III are the same, a Verifier (independent technical review) is also required.

7.0 Attachments

Attachment 1: LANL NDE Personnel Qualification and Certification Procedure

8.0 Forms

FM01: Visual Acuity Record

FM02: Procedure Deviation Approval Form