1. PURPOSE

This program requirements document (PRD) identifies requirements and responsibilities for controlling special processes (see def.) that affect the quality of items (see def.) and services (see def.).

2. APPLICABILITY

This PRD applies to company organizations performing special processes for product acceptance (see def.) or continued service. These include processes such as welding, heat treating, brazing, chemical cleaning, soldering, bonding, and nondestructive examination. Special processes that control or verify quality shall be controlled according to the requirements of this PRD whether or not they are covered by existing codes and standards, or whether or not the quality requirements specified for an item exceed those of existing codes and standards.

Personnel performing nondestructive examination will be qualified in accordance with PRD-5072, “Personal Training and Qualification.”

3. RESPONSIBILITIES

3.1 Performing Organization

The organizations that perform special processes are responsible for ensuring that the requirements of this PRD are carried out by qualified individuals (see def.) through the use of implementing procedures (see def.) for the special processes being performed.

3.2 Technical Support Organization

The technical support organization (see def.) is responsible for ensuring that specific procedures or instructions for special processes are developed, reviewed, and approved by qualified personnel, as required by applicable codes and standards.
3.3  Cognizant Quality Engineer

The *cognizant quality engineer* (see def.) is responsible for reviewing special process procedures and work control documents that specify use of special processes to ensure:

A. Applicable quality *inspection* (see def.) points and *qualification* (see def.), *certification* (see def.) requirements (for special process procedures, equipment, and personnel) are incorporated

B. Inspections are performed, as required.

4.  REQUIREMENT

4.1  Companywide Applications

The requirements identified in this subsection meet the requirements in “Quality Assurance Requirements for Nuclear Facility Application,” American Society of Mechanical Engineers (ASME) NQA-1-2008 with Addenda through NQA-1a-2009, Department of Energy (DOE) Order (O) 414.1D, “Quality Assurance,” and the other standards listed in FWD-7, “Foreword.” These requirements apply to the entire company as defined by FWD-7.

4.1.1  Basic

4.1.1.1  Special processes that control or *verify* (see def.) quality (such as those used in welding, weld overlay, heat treating, chemical cleaning, and nondestructive examination) will be performed by qualified personnel using qualified procedures in accordance with specified requirements.

4.1.1.2  Special processes will be controlled by instructions, procedures, drawings, checklists, travelers, or other appropriate means.

4.1.1.3  Special process instructions will include or reference procedure, personnel, and equipment qualification requirements and *traceability* (see def.) between the item or product and the individual performing the special process.

4.1.1.4  Conditions necessary for accomplishing the process likewise will be included or referenced in special process instructions. These conditions will include proper equipment, controlled parameters of the process, specified environment, and *calibration* (see def.) requirements.
CONTROL OF SPECIAL PROCESSES

4.1.5 The requirements of applicable codes and standards, including acceptance criteria (see def.) for the process, will be specified or referenced in procedures or instructions.

4.1.6 For special processes not covered by existing codes and standards, or where quality requirements specified exceed those of existing codes or standards, the necessary requirements for qualification of personnel, procedures, or equipment will be specified or referenced in procedures or instructions.

4.1.7 The organization performing the special process will adhere to the approved procedures or processes.

4.2 Specific Requirements for DOE/RW-0333P Quality Assurance Requirements and Description, Applications

This subsection contains additional requirements from the Quality Assurance Requirements and Description (Department of Energy/Office of Civilian Radioactive Waste [DOE/RW] -0333P) that are specific to spent nuclear fuel and high-level waste activities as defined in FWD-7.

4.2.1 Special Processes

4.2.1.1 Processes to be controlled as special processes shall meet the following criteria:

A. The results are highly dependent on the control of the process

B. The results are highly dependent on the skill of the operator

C. Quality of the results cannot be readily determined by inspection or test of the item.

4.2.2 Personnel, Implementing Documents, and Equipment Qualification

4.2.2.1 Special process implementing documents shall include or reference:

A. Organizational responsibilities, including those for individuals or groups that are trained and qualified in QA practices and concepts, for the qualification of special process equipment and personnel.
4.2.3 Qualification and Certification of Nondestructive Examination Personnel

4.2.3.1 Personnel who perform nondestructive examinations shall be qualified in accordance with the PRD-5072, “Personnel Training and Qualification,” requirements.

5. RECORDS

5.1 Special process implementing documents will include or reference the conditions necessary for accomplishing the special process, including traceability between the item or product and the individual performing the special process.

5.2 All records designated in implementing documents as quality assurance records (see def.) will be controlled in accordance with PRD-5088, “Quality Assurance Records.”

6. DEFINITIONS

Refer to LST-199, “Quality Assurance Program Requirements Document Definitions,” in the quality assurance PRD manual for the definitions of the following terms:

acceptance
acceptance criteria
calibration
certification
cognizant quality engineer
inspection
item
procedure
qualification
qualified individual
quality assurance record
service
special process
technical support organization
traceability
verify
7. REFERENCES

ASME NQA-1-2008 with Addenda through NQA-1a-2009, “Quality Assurance Requirements for Nuclear Facility Applications,” American Society of Mechanical Engineers

DOE O 414.1D, “Quality Assurance”

DOE/RW-0333P, Quality Assurance Requirements and Description, Revision 20, Office of Civilian Radioactive Waste Management

FWD-7, “Foreword”

LST-199, “Quality Assurance Program Requirements Document Definitions”

PRD-5072, “Personal Training and Qualification”

PRD-5088, “Quality Assurance Records”