

NUCLEAR WASTE MANAGEMENT PROGRAM  
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Subject: INSPECTION

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## 1.0 GENERAL REQUIREMENTS

Measures are established by the responsible technical management to provide inspections required to verify conformance of an engineered item to specified requirements. These measures provide for: (1) inspections to be performed in accordance with written procedures by qualified personnel who did not perform the work being evaluated; (2) criteria for determining when inspections are required or how and when inspections are to be performed; (3) sampling methodology, if used; (4) the identification of mandatory hold points; and (5) identification of inspections requiring special expertise. The results of all inspection activities are documented by the inspecting organization. The requirements of this section apply to engineered items and do not apply to scientific investigation activities.

## 2.0 PERSONNEL

### 2.1 REPORTING INDEPENDENCE OF PERSONNEL

Inspections are performed by personnel who do not report directly to the immediate supervisor(s) who is/are responsible for performing the activity being inspected. If these personnel are not part of the formal QA organization, they have sufficient authority, access to work areas, and organizational freedom to (1) identify quality problems; (2) initiate, recommend, or provide solutions to quality problems through designated channels; (3) verify implementation of solutions; and (4) assure that further processing, delivery, installation or use is controlled until proper disposition of a nonconformance, deficiency, or unsatisfactory condition has occurred. When the persons who perform the inspection activities are not part of the formal QA organization (i.e., part of line management), then the quality assurance organization overviews and monitors the inspection activity.

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## 2.2 QUALIFICATION

Each person who verifies conformance of work activities for purposes of acceptance is qualified to perform the assigned inspections or tests. The qualification of personnel performing inspection and test activities are certified in writing. Personnel selected to perform inspection and test activities have the experience or training commensurate with the scope, complexity, or special nature of the activities. Personnel are indoctrinated as to the technical objectives and requirements of the applicable codes and standards and the QA program elements that are employed.

## 3.0 INSPECTION HOLD POINTS

Mandatory inspection or witness hold-points are established by the responsible technical management as necessary. When such hold or witness points are established, work may not proceed without the specific consent of the responsible representative. These hold or witness points are indicated in appropriate documents controlling the activity. Consent to waive any specified hold or witness point is documented before work can be continued beyond the designated hold or witness point.

## 4.0 INSPECTION PLANNING

Planning for inspection activities is accomplished and documented via inspection procedures, instructions, or checklists. Inspection procedures, instructions, or checklists provide for the following:

- o Identification of characteristics and activities to be inspected.
- o A description of the method of inspection.
- o Identification of the individuals or groups responsible for performing the inspection operation.
- o Acceptance and rejection criteria.
- o Identification of required procedures, drawings, and specifications and revisions.
- o Recording inspector or data recorder and the results of the inspection operation.
- o Specifying necessary measuring and test equipment including accuracy requirements.

## 4.1 SAMPLING

When sampling is used to verify acceptability of a group of items, the sampling procedures is based on recognized standard practices.

## 5.0 IN-PROCESS INSPECTION

Inspection of items in-process or under construction are performed for work activities where necessary to verify quality. If inspection of processed items is impossible or disadvantageous, indirect control by monitoring of processing methods, equipment, and personnel is provided.

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## 5.1 COMBINED INSPECTION AND MONITORING

Where a combination of inspection and process monitoring methods is used, it is performed in a systematic manner to assure that the specified requirements for control of the process and quality of the item are being achieved throughout the duration of the process. Both inspection and process monitoring are provided when other techniques cannot provide adequate control.

## 5.2 CONTROLS

Where required, controls are established and documented for the coordination and sequencing of activities at established inspection points during successive stages of the conducted process or construction.

## 6.0 FINAL INSPECTION

Final inspection includes a records review of the results and resolution of nonconformance identified by prior inspections. The final inspection is planned to reach a conclusion regarding conformance of the item to specified requirements.

### 6.1 INSPECTION REQUIREMENTS

Completed items are inspected for completeness, markings, calibration, adjustments, protection from damage, or other characteristics as required to verify the item's quality and conformance to specified requirements. If not previously examined, then quality records are examined for adequacy and completeness.

### 6.2 ACCEPTANCE

The item's acceptance is documented and approved by identified authorized personnel.

### 6.3 MODIFICATIONS, REPAIRS, OR REPLACEMENTS

Modifications, repairs, or replacements of items performed subsequent to final inspection require reinspection or retests, as appropriate, to verify acceptability.

## 7.0 IN-SERVICE INSPECTION

Required in-service inspection of structures, systems, or components is planned and executed by or for the organization responsible for operation.

### 7.1 METHODS

Inspection methods are established and executed to verify that the characteristics of an item continue to remain within specific limits.

Inspection methods include evaluation of performance capability of essential emergency and safety systems and equipment, verification of calibration and integrity of instruments and instrument systems, and verification of maintenance, as appropriate.

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## 8.0 QUALIFICATION REQUIREMENTS

Appendix C of this document defines the requirements for the qualification of inspection and test personnel who perform inspection and testing to verify conformance to specified requirements for the purpose of acceptance. Appendix D defines the requirements for qualification of nondestructive examination personnel.

## 9.0 RECORDS

The following are the requirements for inspection records which are retained in accordance with 033-YMP-R 17.

### 9.1 INSPECTION RECORDS

As a minimum, inspection records identify the following:

- o Item or activity.
- o The date of the inspection.
- o Name of individual performing the inspection.
- o Name or names of personnel contacted during the inspection.
- o A description of the type of observation (method of inspection).
- o Inspection criteria including identification of drawing, specification, etc. (and applicable revision).
- o Equipment used during the inspection.
- o Evidence as to the acceptability of the results.
- o Acceptance statement.
- o References to information on action taken in connection with conditions adverse to quality, nonconformances and/or actions taken to resolve any discrepancies.

### 9.2 PERSONNEL QUALIFICATION RECORDS

Records of personnel qualification are established and maintained. The actual examinations used to qualify personnel are retained as part of the record files.