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**SUPPLEMENTAL QUALITY ASSURANCE REQUIREMENTS**

**SUPPLEMENT No. 7**

**PEER REVIEW**

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**U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
Office of Geologic Repositories**

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## SUPPLEMENTAL QUALITY ASSURANCE REQUIREMENTS

## PEER REVIEW

## 1.0 GENERAL

This Supplement provides amplified requirements for the control of peer reviews. It supplements the OGR QA Plan and ANSI/ASME NQA-1-1983 (Basic Requirement 3 and Supplement 3S-1). The requirements in this Supplement are to be used in conjunction with the requirements specified or referenced in the governing QA plans and procedures.

## 2.0 PURPOSE

The purpose of this Supplement is to specify requirements for the control of peer reviews conducted for geologic repository projects.

## 3.0 SCOPE

The requirements of this Supplement are applicable to all peer reviews related to quality levels 1 or 2 items or activities. This includes peer reviews conducted by the U.S. Department of Energy (DOE), participating organizations and their contractors, and other participating government agencies and their contractors. These requirements are applied to the site characterization activities supporting a geologic nuclear waste repository including the programs associated with the waste form and waste package. Peer reviews should not be confused with technical reviews as defined below.

## 4.0 DEFINITIONS

4.1 Peer Review - A documented critical review (as described in the NRC QA Review Plan, Appendix A, Section 3.8) performed by personnel who are independent of those who performed the work but who have technical expertise at least equivalent to those who performed the original work. Peer reviews are in-depth, critical reviews and evaluations of documents, material or data that require interpretation or judgment to verify or validate assumptions, plans, results or conclusions or when the conclusions, material or data contained in a report go beyond the existing state of the art.

4.2 Technical Review - A documented traceable review performed by qualified personnel who are independent of those who performed the work but who have technical expertise at least equivalent to those who performed the original work. Technical reviews are in-depth, critical reviews, analyses and evaluations of documents, material or data that require technical verification and/or validation for applicability, correctness, adequacy and completeness.

## 5.0 REQUIREMENTS

### 5.1 General

Peer reviews are required for activities that support a license application and involve use of data collection or analysis procedures and methods that are untried or beyond the state of the art or where detailed technical criteria and requirements do not exist or are being developed. Other instances where a peer review should be considered in lieu of a technical review include situations in which: (1) analytical modeling techniques are (or will be) applied to a range of conditions outside of their normally accepted boundaries, (2) data collection results are not predictable with a high degree of certainty, (3) activities are not feasibly repeatable, or (4) data collection was performed prior to formal quality assurance provisions being established or data was collected in nonconformance with established quality assurance provisions.

### 5.2 Peer Review Group Selection

Each organization responsible for establishing a peer review program shall document procedures which define the selection process for a peer review group. The peer review group shall be comprised of individual(s) who have qualifications at least equivalent to those required for performance of the original work and who are independent of performing the work being reviewed. The peer reviewer's qualifications shall be documented and verified by the organization requesting the peer review.

### 5.3 Performance

Peer reviews shall address the following areas as applicable:

- (a) validity of basic assumptions or functional requirements.
- (b) appropriateness of methodology.
- (c) logic of methodology.
- (d) verification of calculations or computer software.

Peer reviews shall be conducted in accordance with written procedures that shall address the following:

- (a) The review process and reviewer responsibilities.
- (b) Handling of comment resolution.
- (c) Reporting minority positions.
- (d) Involvement of the QA organization.
- (e) Changes to previously peer-reviewed documents.
- (f) Rereview of revised documents.
- (g) Records of the review.

Rereview of previously peer-reviewed documents shall be performed whenever the technical content or results presented in the documents are significantly revised.

5.4 Records

Peer review records shall include personnel qualifications of the reviewers, results of the review, and disposition or replies to reviewer comments. The peer review records shall be retained commensurate with the retention requirements of the data or document which they support.