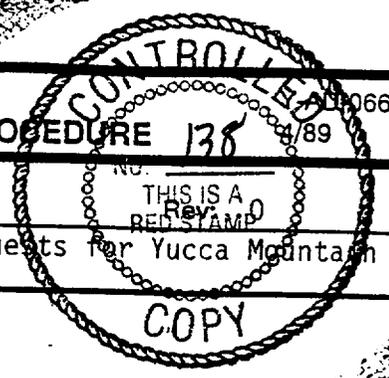


**YUCCA MOUNTAIN PROJECT  
INTERIM CHANGE NOTICE TO ADMINISTRATIVE PROCEDURE**



066

ICN Number: 1

Applies to AP Number: AP-6.4Q

Title: Procedure for the Submittal, Review, and Approval of Requests for Yucca Mountain Project Geologic Samples

**REQUIRED CHANGES:**

AP SECTION

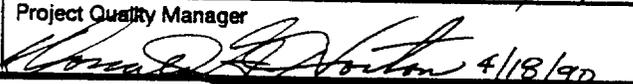
CHANGE TO

Insert at the end of the existing paragraph:

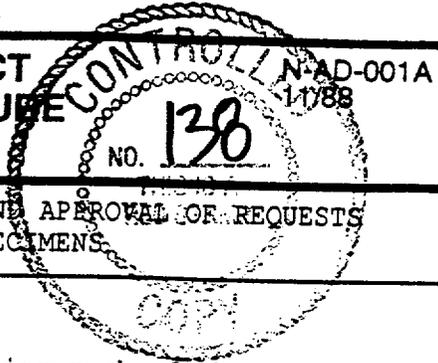
1.0

This procedure fulfills the requirements of section 8 (Identification and Control of Items, Samples and Data) and section 13 (Handling, Shipping and Storage) of the NNWSI Quality Assurance Plan, Rev. 4 as applicable to the operations and activities at the Sample Management Facility. Guidance is given for the control, identification and handling of samples and specimens.

PCB Chief 

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Supersedes N/A	Project Quality Manager  4/18/90		

# YUCCA MOUNTAIN PROJECT ADMINISTRATIVE PROCEDURE



Title AP-6.4Q PROCEDURE FOR THE SUBMITTAL, REVIEW, AND APPROVAL OF REQUESTS FOR YUCCA MOUNTAIN PROJECT GEOLOGIC SPECIMENS

## 1.0 PURPOSE AND SCOPE

Geologic specimens provide the basis for developing much of the site characterization data relative to the suitability of Yucca Mountain as a mined geologic repository for high-level radioactive waste. This procedure describes the Yucca Mountain Project Office (Project Office) requirements and responsibilities for the allocation of Yucca Mountain Project (Project) geologic specimens.

## 2.0 APPLICABILITY

This procedure applies to all geologic specimens that have been collected or are planned to be collected in support of site characterization and that will be processed by Sample Management (SM). Geologic specimens covered in this administrative procedure (AP) primarily include those obtained from boreholes and the Exploratory Shaft Facility. Surface outcrop and trench samples shall, if allocation to Principal Investigators (PIs) other than the collector is necessary, be covered by this AP.

## 3.0 DEFINITIONS

### 3.1 YUCCA MOUNTAIN PROJECT

The Project was established by the U.S. Department of Energy, Nevada Operations Office (DOE/NV) to carry out planned and systematic actions to provide sufficient information to expand the public's confidence in the suitability of a mined geologic repository that potentially may be located at Yucca Mountain, Nevada. The allocation and disposition of geologic samples must meet the requirements of 10 CFR Part 60; the Project Site Characterization Plan (SCP), Chapter 8; and the Project Quality Assurance Plan (QAP), NNWSI/88-9, Rev. 2.

### 3.2 YUCCA MOUNTAIN PROJECT OFFICE

The Project Office is assigned by DOE/NV to administer and coordinate the management and technical direction of the activities of Project Participating Organizations and Nevada Test Site (NTS) Support Contractors.

### 3.3 SAMPLE OVERVIEW COMMITTEE

The Sample Overview Committee (SOC) is a Project-level organization composed of (1) one voting member from each Participating Organization involved in the use of specimens for site investigations in support of site characterization and (2) nonvoting, advisory members from the Technical and Management

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Support Services (T&MSS) contractor SM and the Project Office Quality Assurance (QA). The SOC is responsible for ensuring that all Project Participating Organizations and outside organizations are provided with appropriate geologic specimens related to site characterization activities and that representative samples, if required by the Project Office, are retained for archiving. The SOC reviews specimen requests from various Project Participating Organizations and outside organizations and, based on present and future Project needs, makes recommendations on specimen allocations.

### 3.4 YUCCA MOUNTAIN PROJECT PARTICIPATING ORGANIZATIONS

Participating Organizations consist of the Project Office, Los Alamos National Laboratory, Lawrence Livermore National Laboratory, Sandia National Laboratories, the U.S. Geological Survey (USGS), Science Applications International Corporation (SAIC), Harza Engineering Company (Harza), Westinghouse Electric Corporation (Westinghouse), NTS Support Contractors, and any other Project contractor conducting hydrologic or geologic site investigations and designated by the Project Manager to be an SOC member.

### 3.5 TECHNICAL AND MANAGEMENT SUPPORT SERVICES CONTRACTOR

The T&MSS contractor (SAIC, Harza, and Westinghouse) provides technical operational management support to the Project Office, which includes the administrative and technical management of SM.

### 3.6 SAMPLE MANAGEMENT

T&MSS SM is the organization responsible for the collection, documentation, storage, and control of selected samples, remnants, and records. SM includes the Sample Management Facility (SMF) and Field Operations (FO). SM staff consists of management and operations personnel who ensure that SM operations and documentation satisfy applicable regulatory and quality control requirements.

### 3.7 YUCCA MOUNTAIN PROJECT SAMPLE MANAGEMENT FACILITY

The Project SMF consists of two storage and handling buildings located in Area 25 of the NTS. These buildings are where geologic samples are received, handled, transferred, processed, archived, and allocated in accordance with Project requirements. SMF personnel support the SOC by tracking and distributing specimens and documents and by generating sample status reports.

### 3.8 SAMPLES

A sample is part of a population whose properties are studied to gain information about the whole or group. Geologic, hydrologic, environmental or

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other types of examinations are conducted on samples or specimens derived from samples. Samples include core, cuttings, fluids, and any other geologic samples collected at Yucca Mountain or related field sites.

3.9 ADMITTED SAMPLES

Admitted samples are samples that are in custody at the SMF.

3.10 SPECIMEN

A specimen is a subsection or portion that has been removed from the original sample. Further splits of specimens are subspecimens.

3.11 CORE

A core is a cylindrical section of rock, or fragment thereof, taken as a sample of the interval penetrated by a core bit and brought to the surface for examination and/or laboratory analysis.

3.12 CORE EXAMINATION MEETING

A Core Examination Meeting is periodically held at the SMF during which a group of PIs may examine large intervals of core in order to select specimens.

4.0 RESPONSIBILITIES

4.1 YUCCA MOUNTAIN PROJECT MANAGER

The Project Manager is responsible for designating Participating Organizations to be represented on the SOC.

4.2 DIRECTOR OF THE PROJECT OFFICE REGULATORY AND SITE EVALUATION DIVISION

The Director of the Regulatory and Site Evaluation Division (RSED) is responsible for the technical management of site characterization activities, which includes the management of samples by SM. The RSED Director is responsible for approving or disapproving recommendations for specimen requests by the SOC and for appointing the SOC Chairman from the RSED Site Investigation Branch (SIB).

4.3 SAMPLE OVERVIEW COMMITTEE CHAIRMAN

The SOC Chairman is responsible for calling and chairing meetings of the SOC, presenting specimen requests from Participating Organizations and non-

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member organizations to the SOC where appropriate, and presenting the recommendations of the SOC to the RSED Director.

4.4 CURATOR OF THE SAMPLE MANAGEMENT FACILITY

The Curator distributes samples and specimens as directed by the RSED Director and provides the SOC with periodic updated sample status reports. The Curator ensures that records generated by this procedure are submitted to the T&MSS Local Records Center (LRC) within 10 working days.

4.5 SAMPLE OVERVIEW COMMITTEE

Members of the SOC are responsible for representing their organizations' specimen needs and requests, integrating current and future Project specimen needs, recommending resolution of conflicting specimen requests, and recommending a course of action on all specimen requests to the RSED Director.

4.6 DIRECTOR OF THE PROJECT OFFICE QUALITY ASSURANCE DIVISION

The Director of the Quality Assurance Division is responsible for appointing the QA representative to the SOC.

4.7 TECHNICAL AND MANAGEMENT SUPPORT SERVICES CONTRACTOR

The T&MSS contractor is responsible for appointing the SM representative to the SOC.

4.6 TECHNICAL PROJECT OFFICERS

The Technical Project Officer (TPO) for each of the SOC member organizations is responsible for appointing a representative to the SOC.

4.9 FIELD OPERATIONS MANAGER

The FO Manager of Sample Management for the Project Office is responsible for preparing sampling instructions based on approved Specimen Removal Requests for each borehole.

5.0 PROCEDURE

5.1 INTRODUCTION

The SOC has been established to evaluate requests for specimens with respect to current and future Project specimen plans and needs, and to ensure preservation of representative samples deemed appropriate by the RSED

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Director. This procedure establishes the method for the submittal, review, and approval of specimen requests prior to actual allocation of the specimens to Participating Organizations or outside organizations.

### 5.2 TYPES OF SAMPLES

5.2.1 Borehole samples include core, cuttings, and fluids collected at the drill site.

5.2.2 Existing core and cuttings refer to such material transferred from the USGS Core Library and Data Center, Mercury, Nevada, to the custody of the SMF during 1988-89.

5.2.3 Nonborehole samples include surface samples such as those collected from outcrops or trenches.

### 5.3 SPECIMEN REQUESTS

#### 5.3.1 Requests for Removal of Specimens at the Drill Site

5.3.1.1 Because some specimens are removed at the drill site for study, review and recommendation by the SOC for specimen requests must occur prior to the drilling of the borehole. Drill site specimens include whole core, rubble, cuttings, or borehole fluids.

5.3.1.2 Each PI (or requestor) identifies specimen needs and prepares an SOC Specimen Removal Request (SRR; Exhibit 1). The SRR shall contain specimen information, such as specimen source (e.g., borehole number, trench number), depth interval, and/or lithologic unit; the size and spacing of specimens; the title of the activity; and the Study Plan number as given in the SCP. A brief description of the type of test or analyses to be performed (e.g., thin section analysis) and any specific specimen requirements (e.g., whole core only, nonfractured) are to be included. If specimens from other intervals, units, and/or locations may be substituted for the initial request, this should be stated. Indicate whether the specimens will be available for subsequent users and what alterations, if any, will be done to it.

5.3.1.2.1 It is not possible to anticipate all the specific lithologic or structural features that may be intersected by a borehole prior to drilling. When appropriate, the PI or requestor shall indicate on the SRR those features that should be collected by the FO Geologists (e.g., specimens at color changes; specimens at, below, or above contacts; specimens from fault zones, etc.) when they are observed in samples at the drill site. The amount of specimen to be collected should be specified (e.g., a 4-inch length of core, 250 grams of cuttings, etc.).

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5.3.1.2.2 The PI or requestor sends the SRR to the SOC representative at his or her Participating Organization. Outside organizations shall send requests to the SOC Chairman.

5.3.1.3 The SOC representative for each Participating Organization reviews the SRR for completeness and forwards a copy of the SRR to the Curator. Because of the time involved in compiling the specimen needs and in reviewing and approving the requests, all requests must be submitted to the Curator by the SO representative at least one week in advance of the meeting date when the request will be considered.

5.3.1.4 The Curator compiles all the specimen/sample requests for the borehole and prepares a Sample Information Report (SIR) showing the stratigraphic distribution of specimens by PI or requestor and organization along with additional information on specimen requirements and use. A copy of the SIR, including specimen information from all the participating and outside organizations, is sent to the SOC representative at each Participating Organization and to the SOC Chairman.

5.3.1.4.1 When possible, the PIs involved, along with the SOC representative, should attempt to resolve overlapping specimen requests. Unresolved conflicting requests are reviewed by the SOC, and recommendations concerning their resolution are sent to the RSED Director.

5.3.1.5 The SOC meeting to review requests prior to the drilling of a borehole must be sufficiently in advance of the actual drilling such that the specimen requests are included in the sampling instructions prepared by the FO Manager.

5.3.1.5.1 Each SOC representative or the PI, at the discretion of the SOC representative, presents the specimen request to the SOC for action. The SOC reviews and evaluates specimen requests compiled in the SIR in the context of other specimen requests or allocations for that specimen location, the request's reasonableness in light of the investigation's nature, and the specimen requirements of the PI(s) responsible for the technical purpose of a given borehole. The original SRR (retained by the SOC representative) is either signed by the voting members of the SOC with a recommendation for approval or disapproval; or tabled. The decision is by majority vote, but dissenting opinions shall be included under Comments on the SRR.

5.3.1.5.2 Sample requests that have been disapproved may be revised and resubmitted when the deficiencies have been corrected. The SOC shall consider this request as a new request.

5.3.1.5.3 Tabled requests shall be resolved either before the borehole is drilled or at the following SOC meeting, whichever occurs first.

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5.3.1.5.4 The signed SRR shall be sent to the RSED Director for approval/disapproval.

5.3.1.6 The RSED Director shall act on the SOC's recommendations and shall, after signing the original SRR, send copies of the SRR to the appropriate PIs or requestors, SOC members, and Curator. An additional copy shall be sent to the FO Manager for inclusion of these specimen requests in the drilling instructions.

5.3.1.6.1 Disapproved requests are returned to the SOC with the reason(s) for disapproval and are handled according to Section 5.3.1.5.2.

5.3.1.7 Removal of whole core, cuttings, or fluids at the drill site is controlled by AP-6.2Q, Management and Operation of Sample Handling Activities at Borehole Sites. The sampling program to be implemented by the FO Geologists at the drill site is controlled by the requirements specified in the SRR.

5.3.2 Specimen Requests from Admitted Samples

5.3.2.1 Each PI or requestor identifies specimen needs.

5.3.2.1.1 The identification may take the form of an SRR completed and approved (in accordance with this procedure) in advance of the actual borehole drilling (e.g., a request to sample mineralized fractures, the location of which is not known prior to the examination of core). Unless there are conflicting or overlapping requests, which must be resolved in accordance with this procedure, such specimens may be released by the Curator to the requestor after the initial Core Examination Meeting. Specimens cannot be released prior to the initial Core Examination Meeting unless there is an approved SRR allowing for the removal of specimens before the core samples undergo verification by the SMF staff.

5.3.2.1.2 In some cases, a prior SRR will not be available and the PI or requestor will identify a specimen during the Core Examination Meeting or during a subsequent layout of the core. When the specimen is identified, the Curator will determine the availability of the specimen and will complete the requisite information on the SRR. This SRR shall be processed according to the steps in the following procedure.

5.3.2.2 All SRRs, when completed and signed by the PI or requestor, shall be sent to the SOC representative (or the SOC Chairman, in the case of requests from organizations external to the Project). The SRRs are reviewed for completeness by the SOC representative or SOC Chairman. A copy of the signed SRR is sent to the Curator.

5.3.2.3 The Curator prepares an SIR as described in Section 5.3.1.4. The SIR should also include information on the availability of the requested specimen

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(e.g., whether the specimen is reserved for another PI, the physical state of the sample from which the specimen will be taken, the impact on the sample inventory if the sample is allocated).

5.3.2.4 The Curator sends copies of the SIR to all of SOC representatives and to the SOC Chairman. Overlapping or conflicting requests may be resolved between the appropriate parties at this time. If there is no resolution, the conflicting requests are reviewed by the SOC, and a recommendation for resolution is sent to the RSED Director.

5.3.2.5 The SOC representative or the PI, at the discretion of the SOC representative, presents the specimen request to the SOC for action.

5.3.2.6 The SOC reviews and evaluates the specimen requests compiled in the SIR, integrates current and future specimen needs, and submits the original SRR signed by the voting members with a recommendation stating approval, disapproval, or tabling of the request to the RSED Director. Approval is based on a majority vote. Dissenting positions by any voting member of the SOC shall be recorded under SRR Comments section.

5.3.2.6.1 Disapproved requests are covered in Section 5.3.1.5.2.

5.3.2.6.2 Tabled requests shall be resolved no later than the following SOC meeting.

5.3.2.7 The RSED Director shall act on the SOC recommendation, and with approval, shall send copies of the signed SRR to the PI, SOC members, and Curator. The Curator shall allocate the specimen(s) according to procedures in AP-6.3Q, Interaction of Participants and Outside Interests with Yucca Mountain Project Sample Management.

5.3.2.7.1 Disapproved requests are returned to the SOC with the reason(s) for disapproval. Disapproved requests are handled according to Section 5.3.1.5.2.

5.3.3 Specimen Requests from Existing Samples

Existing core and cuttings transferred from the USGS Core Library and Data Center to the custody of the SMF during 1988-89 are, at this time, considered unqualified for use as primary data in site characterization. Such material may be used in prototype work or for corroborative purposes. Requests for specimens of existing core and cuttings shall follow the procedures in Section 5.3.2. Approved recipients of existing core/cuttings shall follow the procedure for unqualified specimens in AP-6.3Q.

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5.3.4 Specimen Requests from Nonborehole Samples

5.3.4.1 Nonborehole samples collected by a PI and intended for site characterization shall be documented on the Sample Collection Report in AP-6.3Q. Requests for nonborehole specimens in the custody of the SMF shall follow the procedure in Section 5.3.2.

5.3.4.2 The disposition of specimens or subspecimens in custody at the SMF is controlled by AP-6.3Q. A PI with custody of a nonborehole sample or specimen is responsible for maintaining the traceability of that sample or specimen or any subspecimen either in his/her custody or allocated to other PIs (Section VIII, QAP NNWSI/88-9). As an alternative, the PI with custody of a sample or specimen may send it to the SMF as described in AP-6.3Q. The SMF subsequently assumes responsibility for tracking the material to other PIs. When a PI assumes custody of a specimen, it is the PI's responsibility to maintain the identity of that specimen such that it can be traced back to its collection site.

5.4 OUTSIDE ORGANIZATION REQUESTS

Outside organizations (e.g., the U.S. Nuclear Regulatory Commission and the State of Nevada) shall follow the same procedures as outlined in Section 5.3. The SOC Chairman shall present these requests or, at his or her discretion, allow the requesting organization to make the presentation for the specimen allocation to the SOC. Information requested on the SRR not appropriate for outside organizations shall be marked N/A.

6.0 REFERENCES

AP-6.2Q, Management and Operation of Sample Handling Activities at Borehole Sites.

AP-6.3Q, Interaction of Participants and Outside Interests with Yucca Mountain Project Sample Management.

Project QA Plan, NNWSI/88-9, Rev. 2.

Statutory Draft, Site Characterization Plan, Chapter 8.

10 CFR Part 60, Disposal of High-Level Radioactive Wastes in Geologic Repositories.

7.0 APPLICABLE FORMS

Exhibit 1. SOC Specimen Removal Request.

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8.0 RECORDS

The Curator shall ensure that the following QA record resulting from implementation of this procedure is turned over to the appropriate LRC at least every 10 business days:

1. SOC Specimen Removal Request.

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