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Title

AP-5.2Q TECHNICAL INFORMATION FLOW TO AND FROM THE YUCCA MOUNTAIN PROJECT TECHNICAL DATA BASE

1.0 PURPOSE AND SCOPE

1.1 This administrative procedure specifies the requirements and assigns responsibility for interaction of Yucca Mountain Project participants and others with the Project Technical Data Base. Interactions with the Technical Data Base include:

1. The identification of candidate information for inclusion in the data base.

2. The actual submission of data and supporting information.

3. Requests for the retrieval of information contained in the data base for use in project-related activities.

1.2 This document proceduralizes a very complex and, in many cases, situation-specific activity -- namely, development of the Project Technical Data Base. However, the kind of information generated by the Yucca Mountain Project is so diverse that no comprehensive step-by-step procedure can be developed a priori to cover all eventualities. Common sense, managerial discretion, and cooperation between the Data Base Administrator and the various Project participants is required.

2.0 APPLICABILITY

2.1 GENERAL APPLICABILITY

This administrative procedure applies to all Yucca Mountain Project participants.

2.2 APPLICABILITY TO EXTERNAL PARTIES

The provisions of this administrative procedure shall also apply to any party outside the Yucca Mountain Project that is authorized by the Project Manager to interact directly with the Technical Data Base. Such parties shall be treated as a Project participant with respect to the provisions of this administrative procedure, subject to any additional limitations imposed by the Project Manager.

3.0 DEFINITIONS

3.1 DATA BASE ADMINISTRATOR

The task leader at Sandia National Laboratories of the Site and Engineering Properties Data Base (SEPDB) and the Interactive Graphics Information

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System (IGIS). Should these responsibilities be held by different individuals, the appropriate terms become data base administrator of the SEPDB and of the IGIS.

3.2 INTERACTIVE GRAPHICS INFORMATION SYSTEM

3.2.1 The IGIS provides standardized computer-aided, three-dimensional modeling and mapping capabilities for the Yucca Mountain Project (Yucca Mountain Project Work Breakdown Structure Dictionary).

3.2.2 The IGIS is primarily an analysis tool for the creation, manipulation, analysis and display of graphics-based information (e.g., a base map showing location of the civil land survey grid or the locations of Project drillholes).

3.2.3 A submittal to or a request for information from the IGIS is likely to be relatively unique and will require close interaction between the data base administrator and the submitting/requesting organization. The format and types of information required for processing an IGIS submittal may vary markedly from that appropriate for the SEPDB. Procedures for creating an IGIS product will be highly situation specific and may require on-going interaction of the requestor and the Data Base Administrator. Such activities should be guided by the general requirements contained in this administrative procedure and the additional requirements contained in local operating procedures applicable to the IGIS.

3.3 PRINCIPAL INVESTIGATOR

The person who has technical responsibility for a particular technical task, especially a task that generates data for the SEPDB.

3.4 SITE AND ENGINEERING PROPERTIES DATA BASE

3.4.1 A computerized data base directed toward the storage and retrieval primarily of objective physical properties and related information derived from geotechnical and other studies of the proposed Yucca Mountain repository site. The SEPDB supports engineering design, performance assessment, and licensing.

3.4.2 The SEPDB deals principally with information that is tabular in form. Although the SEPDB is officially one of two parts of the Technical Data Base, the vast majority of references to "the data base" apply specifically to the SEPDB. In accordance with this common usage, this administrative procedure is written as though the SEPDB were the entity under discussion.

3.5 TECHNICAL DATA ADVISORY GROUP (TDAG)

The Technical Data Advisory Group consists of technical representatives from each Project participant and a QA representative. The TDAG provides advice and guidance on matters of technical data and information management. The TDAG is chaired by the Technical Data Manager.

3.6 TECHNICAL DATA BASE

One of the central sources of Project data for engineering design, performance assessment, and licensing. As the term is commonly used, the Technical Data Base consists of two components: the SEPDB and the IGIS. However, most references to the Technical Data Base apply specifically to the SEPDB.

3.7 TECHNICAL DATA MANAGER

The Yucca Mountain Project Office staff member responsible for managing technical data and information for the Project.

3.8 TECHNICAL DATA WORKING GROUP

Small, temporary, ad hoc groups composed of technical representatives from selected participant organizations convened to provide advice and guidance to the Technical Data Manager on specific data-related issues. The working groups are under the direction of the Technical Data Manager.

3.9 TECHNICAL PROJECT OFFICER (TPO)

The top management official of each Project participant, directly responsible for the activities of that participant on the Yucca Mountain Project.

4.0 RESPONSIBILITIES

4.1 PROJECT MANAGER, YUCCA MOUNTAIN PROJECT OFFICE

4.1.1 The Project Manager serves the function of TPO as described below for any interaction of the Yucca Mountain Project Office with the Technical Data Base.

4.1.2 The Project Manager also authorizes any direct interactions between parties outside the Yucca Mountain Project and the staff of the Technical Data Base, specifying any limitations or conditions applicable to that interaction.

4.2 TECHNICAL PROJECT OFFICER

4.2.1 Each TPO is responsible for identifying material as candidate information for the Technical Data Base, and for compiling and submitting that material to the Data Base Administrator. This responsibility includes all appropriate preparation, review, and archiving of relevant supporting documentation, and the satisfaction of quality assurance requirements.

4.2.2 Each TPO shall develop whatever participant-level procedures may be necessary to implement the requirements of this administrative procedure.

4.2.3 In general, any activity designated herein as a responsibility of the TPO may be assigned or delegated to others within that manager's organization as may be appropriate. However, the signing of Data Authorization Forms shall not be delegated except as may be standard practice within that organization for formal signatory authority in the absence of the TPO.

4.2.4 In cases involving the Yucca Mountain Project Office in the role of identifying, compiling, authorizing and submitting candidate information to the Technical Data Base, the Yucca Mountain Project Manager shall serve as TPO. If the Yucca Mountain Project Manager identifies an organization outside the Yucca Mountain Project as entitled to submit data to or request data directly from the Technical Data Base, a contact individual shall be identified in that organization to serve the functions of TPO for that organization.

4.3 DATA BASE ADMINISTRATOR

The Data Base Administrator is responsible for operating the Technical Data Base under the terms of this administrative procedure and other procedures appropriate to the location of the data base activity at Sandia National Laboratories. The Data Base Administrator is a member of the TDAG.

4.4 PRINCIPAL INVESTIGATOR

The principal investigator is responsible for conducting his or her activities in accordance with such job assignments and procedures as may be applicable within the relevant organization. While it is likely that many of the TPO's responsibilities for interacting with the staff of the Technical Data Base will be delegated to involved principal investigators, this administrative procedure allows each Project participant to conduct its internal operations in its own manner. Principal investigators may be requested to serve on the TDAG or on a specific technical data working group within their area of expertise.

4.5 TECHNICAL DATA MANAGER

The Technical Data Manager is responsible for managing technical data and information for the Project. He or she chairs the TDAG and establishes technical data working groups as needed to address specific issues relevant to the Technical Data Base.

4.6 TECHNICAL DATA ADVISORY GROUP

The TDAG meets on a regular basis to advise and assist the Technical Data Manager, the Data Base Administrator, and participant TPOs on matters concerning the Technical Data Base. The TDAG is the forum for reconciling differences and addressing the concerns of data providers and users.

4.7 TECHNICAL DATA WORKING GROUPS

The members of technical data working groups are responsible for addressing matters concerning technical data and information assigned to them by the Technical Data Manager, and for providing guidance and advice to the Technical Data Manager and the Data Base Administrator. Although a working group will have a specific charter, the matters anticipated include recommendations regarding the level of data reduction, format, and type of supporting information appropriate to the Technical Data Base.

5.0 PROCEDURES

5.1 IDENTIFICATION OF CANDIDATE DATA

5.1.1 The TPO of each Project participant that generates data obtained at the Yucca Mountain site, or that may be relevant to its evaluation, shall identify such data produced by their organizations as candidate information for the Yucca Mountain Technical Data Base. The identification of candidate information shall be communicated in writing to the Data Base Administrator. Consideration of material as candidate information for the Technical Data Base should be guided initially by the lists of parameters found in the Site Characterization Plan. In some cases these parameter lists may represent an inappropriate level of detail for preservation in the Technical Data Base, or the utility of the data base may be enhanced by the inclusion of material other than that described in the parameter lists.

5.1.2 The Technical Data Manager and the TDAG may become involved in the process of identifying candidate information for the Technical Data Base if requested by either the Data Base Administrator or a TPO. At the discretion of the Technical Data Manager, an ad hoc technical data working group may be convened to resolve specific technical issues. Disagreement between parties or uncertainties as to the types of data or level of detail appropriate for

inclusion in the Technical Data Base should be resolved by the Technical Data Manager and advisory groups.

5.2 SUBMISSION OF DATA TO THE TECHNICAL DATA BASE

5.2.1 The TPO of each organization that generates candidate information for the Technical Data Base shall compile that data into a format suitable for authorized submittal to the data base in cooperation and interaction with the Data Base Administrator of the Technical Data Base. The Data Base Administrator shall indicate approval of the format to be used in advance of formal authorization of the submittal.

5.2.2 In general, a four-part format is required for data submittals:

1. The parameter or value of principal interest.

2. Location and identification information.

3. Test conditions and other qualifying information.

4. Quality assurance (QA) information, including the QA level of the generating activity (or absence of a formal QA level), any published reference or other source of the data, and location/filing codes for supporting and backup information regarding the principal measurement or value.

5.2.3 A data submittal package shall consist of data and relevant supporting information for a single parameter or for a small group of closely related parameters that can be processed into the data base quickly. Large collections of highly disparate information may be rejected by the Data Base Administrator, who will provide additional guidance upon request.

5.2.4 A data submittal package shall consist of a hard copy listing suitable for submission to the appropriate local records center for inclusion in the Yucca Mountain Project records system, in a format suitable to the Data Base Administrator. Project participants may submit computer-readable copies of formal submittals to expedite the data entry process and to help eliminate the likelihood of keypunch errors. However, the authorized source of data must remain a hard-copy document suitable for entry into the Project records.

5.2.5 Compiled data shall be formally authorized by the responsible participant's TPO and transmitted as a package to the Data Base Administrator accompanied by a current-version Data Authorization Form (Exhibit 1). Authorization by the TPO implies that all appropriate preparation, review, and storage of relevant supporting records has been accomplished and that participant QA organization has ensured that all QA requirements have been met and documented.

5.2.6 A data submittal shall be compiled, authorized, and submitted to the Data Base Administrator promptly upon completion of the associated data-gathering activity. What constitutes completion of a given data-gathering activity (or phase thereof) must remain a managerial decision of the involved TPO. Such decisions should be made in light of relevant facts regarding the data acquisition effort and the Project requirement that site characterization data be made available to the Nuclear Regulatory Commission 90 days after collection. Data that result from a long-term data acquisition effort, for which the values collected at one time are essentially independent of those collected later, shall be compiled, authorized, and submitted on a periodic basis.

5.2.7 There is no requirement on the part of the Technical Data Base that information be published. TPOs should evaluate all potential submittals on a case-by-case basis with regard to the necessity/desirability of formal publication. Factors to be considered include the Project's requirement for timely release of information, the professional reputation of the principal investigator who generated the data, and the type of information involved. Publication of results as data reports containing tabulations of data but virtually no interpretation is encouraged when appropriate.

5.3 PROCESSING OF AUTHORIZED SUBMITTALS

5.3.1 The Data Base Administrator shall process suitable information into the computer data base in accordance with approved procedures.

5.3.2 The Data Base Administrator may make minor changes in format or field contents necessary for successful processing of the submittal package into the computerized data base if such changes, in his or her professional judgment, do not substantively alter the intent of the submittal. If any significant question exists as to the substantive impact of a proposed change, the issue shall be resolved through correspondence with the authorizing TPO.

5.3.3 The Data Base Administrator shall provide the authorizing TPO with a listing, printout, or plot of the information contained in the data submittal upon completion of primary processing into the data base, including usual verification of data entry.

5.3.4 The TPO shall review the listing, printout, or plot to ensure that the final format does not misrepresent the intent of the data submittal.

5.3.5 Unless the Data Base Administrator marks a submittal as having unresolved issues, the data from a particular data authorization package shall be considered available for release upon completion of processing by the staff of the Data Base Administrator.

5.4 MODIFICATION OF PREVIOUSLY SUBMITTED DATA

5.4.1 Modifications Required by the Data Base Administrator

5.4.1.1 The evolving development of the Technical Data Base at various times may require modification of previous data submittals by the Data Base Administrator. The Data Base Administrator shall have discretion to make such modifications in accordance with approved local procedures for operating the Technical Data Base. Modifications required by the Data Base Administrator are most likely to involve changes in field names or storage formats, restructuring of fields within a data base table, the addition of new fields, or the alteration of spellings and abbreviations. Alteration of a data value per se should never occur. Records of modifications required by the Data Base Administrator shall be submitted to the local records center for inclusion in the Project records system, in accordance with local procedures.

5.4.1.2 Any condition identified by the Data Base Administrator that appears to indicate a change to actual data values shall be treated on an exception basis, and shall require authorization from the TPO of the originating organization.

5.4.2 Modifications Requested by the Submitting Organization

5.4.2.1 A participant submitting data to the Technical Data Base may discover circumstances that require correction or other modification of information contained in a previous submittal. In the case of minor changes, such as the correction of isolated typographical errors, the TPO involved shall prepare a signed letter or memorandum to the Data Base Administrator stating:

1. The data authorization number of the submittal package.
2. The error(s) to be corrected.
3. The replacement information to be entered into the data base.

Exact identification of the corrected entries is essential.

5.4.2.2 If the modifications involved are extensive or major in scope, a new data submittal package shall be prepared as for an initial submittal. The Data Authorization Form (Exhibit 1) shall clearly state that the submittal is replacing a previous submittal in its entirety. The decision as to what constitutes minor corrections as opposed to extensive or major changes should be decided by the TPO in consultation with the Data Base Administrator. Removal of a portion of a data submittal will not be allowed because of the potential for error. The data authorization number associated with any data submittal package will be found on the listing provided to the TPO following initial data entry.

5.5 RELEASE AND REPORTING OF DATA FROM THE TECHNICAL DATA BASE

5.5.1 Requests for information from the Technical Data Base may be made by any person involved as a participant in the Yucca Mountain Project.

5.5.2 Parties outside the Yucca Mountain Project requesting information from the Technical Data Base shall obtain authorization from the Yucca Mountain Project Manager prior to submitting requests for information to the Technical Data Base.

5.5.3 Requests shall be submitted to the Data Base Administrator in the form of a signed work request specifying the name, address, telephone number, and Project affiliation of the requestor, and the scope of the information requested. A description of the use to which the information will be put may assist the Data Base Administrator in designing the retrieval query or modifying the specific request to better serve the requestor's ultimate purpose. A sample work request form is included as Exhibit 2. However, use of the form is not required if the written request contains the specified information.

5.5.4 The Data Base Administrator shall review, modify (after consultation with the requestor), accept, or reject the work request as appropriate.

5.5.5 The Data Base Administrator shall provide the results of queries and other activities conducted under the work request system as formal data base products. These data base products will be identified and numbered for reference purposes. The Technical Data Base will retain copies of all formal products so that any future request for a product will produce identical output.

5.5.6 Formal products of the Technical Data Base shall be hard-copy listings, reports, or plots suitable for submittal to the local records center for inclusion in the Project records system. The Data Base Administrator may provide computer-readable versions of products (magnetic tape, floppy diskette, on-line computer files, etc.) in order to meet requestor needs and to avoid reentry of information. However, for quality assurance purposes, the final verified product must remain the hard-copy original.

5.5.7 When data from the Technical Data Base are provided to parties outside the Yucca Mountain Project, the Data Base Administrator shall include the following notice in a prominent location or locations on the report and on any accompanying magnetic media.

> These data are being provided in accordance with agreements to provide data to interested parties as soon as practical after their collection. Provision of the data should not be construed as any form of endorsement

by the U.S. Department of Energy (DOE) of the application or use of the data by parties outside the DOE.

5.6 ALLOWABLE USE OF TECHNICAL DATA BASE DATA

5.6.1 Data extracted from the Yucca Mountain Project Technical Data Base may be used for any Project purpose in the same manner as data extracted from any other source.

5.6.2 Citation of formal products from the Technical Data Base may be as follows:

SEPDB (or IGIS), 19xx, Yucca Mountain Project Site & Engineering Properties Data Base (or Interactive Graphics Information System) Product No. XXX, Sandia National Laboratories, Albuquerque, N. Mex.

5.6.3 An author using data extracted from the Technical Data Base shall ascertain the applicability and usefulness of that data for his or her purpose (i.e., quality assurance and other records associated with data gathering) to the same extent that would be required of data extracted from any other source.

5.7 SUBMISSION OF RECORDS TO THE PROJECT RECORDS SYSTEM

5.7.1 The Data Base Administrator shall submit the completed data authorization package to the local records center for inclusion in the Yucca Mountain Project records system in accordance with approved operating procedures.

5.7.2 The data authorization package shall consist of:

1. The signed data authorization form.
2. The authorized submittal containing a listing of the data.
3. Any correspondence between the Data Base Administrator and the TPO regarding clarification, correction of errors, or other actions necessary for complete processing of the submittal.
4. A copy of the return listing sent to the TPO upon completion of data entry.

5.7.3 The Data Base Administrator shall submit copies of work requests and documentation logs to the local records center for inclusion in the Yucca Mountain Project records system in accordance with approved operating procedures.

5.7.4 The Data Base Administrator shall submit copies of formal data base products to the local records center for inclusion in the Yucca Mountain Project records system in accordance with approved operating procedures.

5.7.5 Each TPO shall submit all underlying QA records associated with an authorized data submittal to the appropriate local records center for inclusion in the Yucca Mountain Project records system, in accordance with approved procedures. Such records shall be assigned a coding number or other identification such that the records will be traceable from the Technical Data Base to the participants' records (and, by extension, to the Yucca Mountain Project records system).

5.8 AUTHORITY FOR AUDITING THE CONTENTS OF THE TECHNICAL DATA BASE

5.8.1 The data authorization package, including the hard-copy listing and subsequent amendments to the original package authorized by the TPO, shall be the authoritative source for auditing the contents of the SEPDB.

5.8.2 The authoritative source for auditing the contents of a particular product of the IGIS shall be the documentation log associated with the work request that created that product.

6.0 REFERENCES

AP-5.3Q, Information Flow into the Reference Information Base.

YMP/88-18 Yucca Mountain Project Technical Data Management Plan.

7.0 APPLICABLE FORMS

Data Authorization Form, N-QA-075 (Exhibit 1).

Work Request Form, N-QA-076 (Exhibit 2).

8.0 RECORDS

8.1 Records of the identification of candidate information for inclusion in the data base, the actual submission of data and supporting information to the data base, and requests for the retrieval of information contained in the data base will be submitted to the Project Records Management System through the local records center at SNL. These records shall include data authorization packages, work requests, formal data base products, and documentation logs.

8.2 The data authorization package shall include at a minimum the data authorization form; authorized submittal containing a listing of the data; any correspondence between the Data Base Administrator and the Technical Project Officer regarding clarification, correction of errors, or other actions necessary for complete processing of the submittal; and a copy of the return listing sent to the TPO upon completion of data entry.

N-QA-075

DATA AUTHORIZATION FORM

Yucca Mountain Technical Data Base

send to:

Yucca Mountain Data Base Administrator
Geoscience Analysis Division 6315
Sandia National Laboratories
Albuquerque, New Mexico 87185
telephone: (505 or FTS) 846-4922

Brief description of type of data: _____

_____

Identification numbers or codes on attached data sheets (or no. of pages): _____

Published reference containing data (if any): _____

_____

Local Records Center identification code: _____ QA Level: _____
(note: Each data value must be identified with a local records center code and QA level)

WBS Number of data-gathering activity: _____

Note: if magnetic media are submitted in addition to the formal hard-copy submittal, please attach description/instructions. Include any other instructions below (give reason for removal of previous submittal, etc).

_____

_____

_____

_____

The accompanying data were collected for the Yucca Mountain Project, and they are hereby authorized for inclusion in the Yucca Mountain Technical Data Base. All approriate review and quality assurance requirements have been met.

TPO Signature: _____ **Date:** _____

Printed: _____ **Organization:** _____

Data Base Use:
Data Authorization Number: _____ Received by: _____ date: _____

Exhibit 1. Example of Data Authorization Form.

Send to:
TECHNICAL DATA BASE ADMINISTRATOR
SANDIA NATIONAL LABORATORIES
GEOSCIENCE ANALYSIS DIVISION,6318
P.O.BOX 5800
ALBUQUERQUE,NM 87185
PHONE:(505 OR FTS)846-4822

WORK REQUEST

N-QA-076

REQUEST NUMBER: _____
DATE RECEIVED: _____
PRODUCT QA LEVEL: _____
DATA QA LEVEL: _____
RELEASE DATE: _____

TO BE COMPLETED BY REQUESTOR		
NAME:	SIGNATURE:	DATE:
ORGANIZATION:	DIVISION:	
ADDRESS:	TELEPHONE:	

TO BE COMPLETED BY DATA BASE PERSONEL

TYPE: ☐ DATA ENTRY (FORM # _____) ☐ PRODUCT REQUEST ☐ AUDIT ☐ OTHER

ACCEPTED BY:	DATE:
ASSIGNED TO:	DATE:
VERIFIED BY:	DATE:
APPROVED BY:	DATE:

WORK REQUESTED - ATTACH ADDITIONAL EXPLANATIONS, SCHETCHES AND EXAMPLE SIGNINGS, IF APPROPRIATE:	REQUESTED QA LEVEL

PRODUCT NUMBERS OR ACCESSION NUMBERS:

APPROVALS:	
DATA BASE OPERATOR:	DATE:
DATA BASE MANAGER:	DATE:
REQUESTOR:	DATE:

ORIGINAL - DBA LOG
COPY TO - REQUESTOR
FILE - 6810 4../1818../DLG/01

FORM 6000001(08/88)R0

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Exhibit 2. Example of Work Request Form.