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Salt Repository Project Office
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June 18, 1986

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Mr. John J. Linehan
Section Leader, Salt Section
Repository Projects Branch
Division of Waste Management, MS 623-SS
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Linehan:

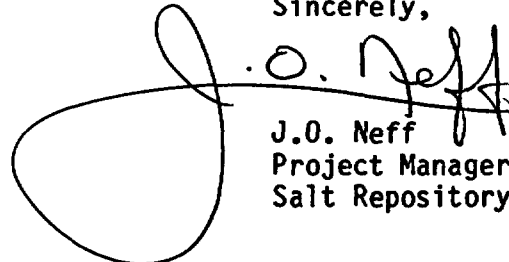
SUBJECT: TRANSMITTAL OF JUNE 9-10, 1986 SRP/NRC MANAGEMENT MEETING SUMMARY

The purpose of this letter is to transmit the attached SRP/NRC Management Meeting Summary and supporting material from the management meeting which took place in Columbus on June 9 and 10, 1986.

We feel that the meeting was successful and would like to stress the importance of these meetings and their attendance by NRC, DOE and the states.

If there are any questions concerning the attached material, please contact Mr. Andrew Avel of my staff.

Sincerely,



J.O. Neff
Project Manager
Salt Repository Project Office

SRPO:APA:max:1287JD

Enclosure:
As Stated

cc: L. Olson, DOE-RL, w/encl.
D. Vieth, DOE-NV, w/encl.
J. Knight, DOE-HQ, w/encl.
J. VanVliet, ONWI, w/encl.
J. Maynard, ONWI, w/encl.
R. Johnson, NRC, w/encl.
T. Verma, NRC, w/encl.

WM Record File

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WM Project 16

Docket No.

PDR ✓

LPDR ✓ (5)

Distribution:

Linehan
R. Johnson
(Return to WM, 623-SS)

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SUMMARY OF
SRP/NRC MANAGEMENT MEETING

DATE/LOCATION

June 9-10, 1986
SRPO Offices
Columbus, OH

ATTENDEES

A list of attendees is shown on Attachment 1.

BACKGROUND

The meeting followed the topics identified on the agenda (Attachment 2). Copies of viewgraphs and handouts from SRPO presentations are given in Attachment 3 and NRC presentations in Attachment 4. These attachments are labeled with the corresponding agenda topic for convenient reference.

OBSERVATIONS AND AGREEMENTS

This meeting summary has blended the observations of all parties together with the corresponding agreements where they were made. This presentation is intended to provide a clearer, and unfragmented summary of what transpired during the meeting for each major agenda item. Explicit reference is made to those parties making observations and agreements. A line in the right margin has been added to highlight the agreements.

SRPO/NRC MANAGEMENT MEETING SUMMARY

1. SRPO Organization

SRPO presented an overview diagram and explanation of the reorganized Salt Repository Project Office. The major changes included two new branches: Licensing and Systems, and Site Office. These new branches reflect increasing project activities and emphasis on licensing and anticipated site characterization. A review of the branches, branch personnel, and responsibilities was presented. (See Attachment 3 for more specific information.)

2. NRC/Waste Management Organization

The NRC presented a description of its Waste Management Organization. As a matrix organization, the Repository Projects branch directs and integrates various repository related activities with support provided by the Geotechnical, Engineering, and Policy and Program Control branches. Technical support is also provided at present by numerous technical assistance contractors. Current plans are also to begin gaining additional support during FY 87 from a Federally Funded Research and Development Center (FFRDC). Also involved with NRC program are the offices of Executive Legal Director, Inspection and Enforcement, and Research along with the Advisory Committee on Reactor Safeguards. The regional offices are not involved during the prelicensing period. (See Attachment 4 for more information.)

3. Status of Timely Release of SRP Data

In response to an NRC observation in the January, 1986 NRC/DOE waste package meeting summary concerning the need for more timely release of documents, SRPO explained that the need for a number of internal reviews and resolutions often accounts for the time needed before publication of final documents. SRPO reconfirmed earlier agreements with NRC to provide NRC with draft reports upon NRC written request or explain in a letter why a specific report cannot be provided. Furthermore, SRPO will continue to make draft reports available upon request to NRC's OR for his review and review by NRC staff and contractors on Appendix 7 assignments.

SRPO also presented a summary of their current data base management plans. The systems as described, would make data (currently being collected, such as waste package testing data, or data collected in the future) available in a timely manner both in an online and report format (see Attachment 3 for specific information).

SRPO agreed with the NRC request to provide at an appropriate time a training [REDACTED] briefing to the NRC salt team members on the revisions to the various SRP data bases and mechanisms for making data available.

4. Planning and Conducting Meetings

SRPO proposed a generic agenda for conducting management meetings (see Attachment 3). NRC agreed that such a generic agenda should be used for NRC/SRPO management meetings. NRC suggested that DOE change Item III to "Summary of Activities (NRC)" and add another item titled "Evaluation of Items in the site-specific Procedural Agreement" so that the performance of NRC/SRPO interactions can be evaluated. NRC will also provide any additional suggestions for revising the standard agenda in time for use in the next management meeting. The States agreed to changing "Special Topics (SRPO/NRC)" to "Special Topics (SRPO/NRC/States)".

NRC and SRPO agreed that efforts should be made to schedule the quarterly management meetings as stated in the Procedural Agreement and that the next meeting would be scheduled for September.

NRC and SRPO agreed that all technical meetings should focus on identifying and working toward resolving specific concerns or open items. This either includes reaching agreement, or agreeing to needed follow-up activities, or identifying areas of disagreement and needed follow-up. Technical meetings should not be used for information exchange on a broad range of topics. NRC suggested that pre-meeting material developed by either party should be prepared to facilitate discussions and reaching agreements. NRC noted that this was done with success in the NRC and DOE/HQ meetings on retrievability and most recently in the May meeting on

SCP level of detail. In the SCP meeting, NRC discussed their comments on a DOE-HQ position statement provided as pre-meeting material and reached agreements on wording changes.

In discussions on the need for upper management involvement in technical meetings or in the agreements from such meetings, NRC mentioned that there have been discussions between DOE/HQ and NRC on the need to involve the upper management from both parties with the technical meeting agreements. Currently, the Director of NRC's Division of Waste Management reviews the meeting summary and discusses the meeting with NRC staff involved immediately after the meeting. NRC and DOE/HQ should develop a mechanism for assuring upper level management concurrence in meeting agreements, either prior to the conclusion of the meeting or shortly thereafter.

NRC suggested that the meeting summary provide an accurate reflection of what transpired to a reader reviewing the summary. It was agreed that concerns brought up in the meeting summary would be clearly and specifically worded and linked with agreed to follow-up activities.

The State of Texas representative agreed with the NRC's suggestion that draft agendas for management and technical meetings should be discussed with the State to get their suggestions before the final agenda is released. Such interaction is critical if State concerns are to be properly considered. NRC and SRPO agreed that such State coordination would be done.

SRPO agreed with NRC that the preparation of the meeting summary should involve as few people as possible in the actual reading, discussing, and signing of the meeting summary. Also, NRC preferred that each party's observations should not be subject to debate or negotiation unless there are significant factual errors or ambiguities.

The State of Texas representative agreed with the NRC suggestion for the State to write up their own observations and agreements as needed. This would release either NRC or DOE from summarizing State concerns and thereby avoiding the potential for not accurately or completely documenting the true concerns expressed by the State position along with those of NRC and SRPO on the major concerns addressed in technical meetings. However, the States noted that it was their position that silence by States in the minutes does not mean concurrence with observations, agreements, and open items.

For technical areas or topics on which NRC needs an overview of the SRPO program by SRPO prior to determining the need for and topics for technical meetings, NRC proposed the mechanism of briefings. Briefings would be for selected topics and would consist of a one or two hour presentation to the NRC salt team by one or two SRPO or SRPO contractor technical staff. Only questions for clarification would be entertained. Briefings would be open, announced, and an agenda provided as for technical meetings. Summaries would be prepared and consist of an attendees list, agenda and copies of viewgraphs presented. These summaries would be distributed in

the same manner as technical meeting summaries. Such briefings would be expected to be similar to the briefing DOE-HQ has recently given the NRC staff on the decision aiding methodology used to support site recommendations. SRPO recognized the value of briefings, but indicated that DOE-HQ would need to agree to such a concept. NRC agreed to discuss the briefing concept with DOE-HQ.

5. Planning and Conducting Appendix 7 Assignments

In response to NRC's presentation concerning periodic assignments of technical staff to the NRC OR's office under Appendix 7 of the Procedural Agreement, (see Attachment 4) DOE-HQ commented that they had not envisioned Appendix 7 to allow for short-term "trips" to the OR's office. Rather, they considered it allowed only for long-term assignments. DOE-HQ intends to reserve judgement at this time on this item until they better understand how NRC intends to implement the Appendix 7 assignment. NRC indicated that such assignments were envisioned at the time of development of Appendix 7 and that the activities to be conducted during such assignments fall within the scope of Appendix 7 activities. This topic will be discussed at a proposed meeting between NRC and DOE-HQ on the implementation of Appendix 7 of the Procedural Agreement. Both SRPO and Texas supported the concept of such assignments for the purposes discussed (see Attachment 4); however, SRPO like DOE-HQ questioned if the mechanism fits under Appendix 7 or if a revision to the Procedural Agreement is needed. The State of Texas representative also indicated that they

anticipate having a similar mechanism. NRC and SRPO agreed that until concerns with Appendix 7 assignments are resolved by DOE-HQ and NRC that assignment of staff to the OR's office would continue, but that attendance at SRPO meetings as observers under Appendix 7 would be determined on a case-by-case basis. The States agreed that for current working purposes it is sufficient to receive NRC Trip Reports when completed following Appendix 7 assignments. In addition, the NRC OR agreed to provide States with copies of his monthly reports when issued.

NRC agreed to give SRPO a list of NRC staff and contractors who might participate in an Appendix 7 assignment. NRC, however, noted that this list might not be complete and that in some cases additional staff might be identified for specific assignments.

6. Licensing Significance of NRC Documents

At SRPO's request NRC presented its views on the licensing significance of various NRC documents (see Attachment 4). Official NRC positions are considered to be guidance to DOE on what the staff believes will be an acceptable alternative to show compliance with some aspect of 10 CFR 60. SRPO should consider this guidance but should determine and defend its own program approach to demonstrating compliance with 10 CFR 60.

7. NRC Plans

NRC presented its five year plan and status of both generic and site-specific planning efforts (see Attachment 4). The two most significant goals of the five year plan are establishing 1) an aggressive program focused on activities necessary to provide sufficient licensing guidance to DOE and sufficient interaction with DOE, States, Indian Tribes, and other agencies in order to identify licensing open items and begin the process of resolving them and 2) an aggressive program that strives to assure a formal resolution of licensing open items prior to the licensing hearing, to the extent practicable. The NRC also explained that they intend to use generic and site technical positions as a mechanism to obtain consensus and ultimately agreements from all parties on mechanisms for resolution of various open items before licensing (see Attachment 4). This approach would result in agreements at the NRC staff level, but would not preclude litigation of these topics during the licensing hearing process. In addition, NRC believes that meeting minutes may have equal regulatory and/or licensing significance as technical positions.

The States made the observation that the NRC objective of emphasizing issue resolution in technical meetings appears to be approaching a compromise of the requirement that pre-licensing consultation constitutes "informal conference." States expressed the opinion that the process of issue resolution should not become an effort to limit licensing issues during a later licensing proceeding. Furthermore, the SCP (and update) -

SCA (and update) process should serve as the primary vehicle (as opposed to technical meetings) for the NRC to explore and document its specific interests and concerns regarding the DOE planning and progress in site characterization. The States also observed that the NRC should be attempting to understand the DOE technical program and plans, and convey its regulatory interests and concerns in response to DOE information and documentation and should not attempt to direct DOE's program response to the stated concerns. Guidance from the NRC is appropriate, but it should be confined to NRC regulatory expectations rather than being a vehicle for directing or suggesting DOE plans or activities. As a follow-up NRC needs to clarify its position, in detail, regarding its goal of early "identification" and "resolution" of issues or open items.

The near-term objective of the NRC site-specific activities is to 1) work toward resolution of specific concerns with SRPO and 2) develop more detailed NRC SCP review capability in selected, significant areas of concern. A preliminary list of concerns was presented (see Attachment 4). These concerns are broad in nature at this time and more specific concerns will be developed and provided to SRPO and the State when they are available. The States agreed to provide NRC with any additional State concerns in writing as soon as possible for NRC consideration.

The NRC also presented and discussed a proposed list of topics for technical meetings and Appendix 7 assignments for the next one year period assuming a June, 1987 SCP release date (see Attachment 4). This list

includes a total for all eight technical areas of nine technical meetings, sixteen Appendix 7 assignments for data/document reviews and discussions, four site visits (under Appendix 7 assignments) and an undetermined number of Appendix 7 assignments to observe various SRPO meetings. This total amounts to generally one technical meeting per year per discipline, two Appendix 7 assignments for data/document reviews and discussions with others and site visits and observing meetings.

NRC stated that the proposed time periods for various interactions assumed a June 1987 SCP release date and the need for NRC to develop a better understanding of DOE's program through briefings and Appendix 7 assignments over roughly the next six months before technical meetings begin and continue for the following six months. NRC also indicated that obtaining feedback on revised SRPO schedules for the SCP and pre-SCP milestones will assist in eventually agreeing to dates for technical meetings which will be both timely and productive.

The States observed that the NRC should pace its activities relative to SRPO plan development. There are disadvantages to substantive technical exchange if it occurs either too early or too late in the DOE planning process. It is suggested that for the current DOE planning status, a combination of "briefings" and Appendix 7 activities may be the most appropriate format for interaction relative to those specific topics that are not sufficiently advanced by DOE to lead to productive Technical Meetings. In response to this observation, the NRC OR observed that in

his view the SRP is progressing at a fairly advanced level of development in areas such as test plans and procedures, ESF design, and SCP conceptual design. Therefore, the technical meetings proposed by NRC in Attachment 4 seem reasonably timed from NRC's view.

NRC agreed to further consult with DOE and the States as work progresses on the implementation of the five year plan. This meeting was the first time NRC presented to SRPO the generic and site-specific planning activities and the preliminary selected concern.

SRPO's preliminary feedback on NRC's proposed technical meetings and Appendix 7 assignments was that the interactions were ambitious and might be difficult to support given the schedules for preparing the SCP. NRC would like a commitment from SRPO and DOE-HQ on what level of consultation with NRC, DOE will be able to support during the pre-SCP time period.

SRPO agreed to review the lists of preliminary significant concerns, proposed technical meeting topics and time frames, and Appendix 7 assignments. SRPO also agreed to provide NRC with comments concerning these interactions that have been coordinated with DOE-HQ. NRC would like the comments to also include areas of concern where SRPO needs pre-SCP site specific guidance from NRC so that NRC guidance can be considered by SRPO in preparing their SCP and study plans for studies to be conducted before SCP issuance.

Finally, SRPO expressed the desire to have early consultations with NRC and the State before the SCP. However, SRPO needs to consult with DOE-HQ regarding what kinds of interactions with NRC are appropriate at this time.

8. SRP Plans

SRPO presented some results of the SRP Technical Planning Committee (see Attachment 3 for further information). In place of an overview on the surface based testing, SRPO referred to Attachment 3 and Chapter 4 of the final Environmental Assessments for the current plans.

The DOE Surface Based Test Plan approach is understood by the States to be a program management tool, and is not intended to be reflective of a performance oriented approach to planning. The status of the SBTP is uncertain in the hierarchy of plans. The States observed that DOE's plans must appear in a format that is amenable to state evaluation from the perspective of specific and comprehensive performance evaluation relative to applicable regulations and standards.

SRPO identified some of their key pre-SCP milestones (see Attachment 3) and explained that the schedules shown would be revised over the next few months. It is expected that the milestones and their sequencing will not change. Additional milestone information is contained in the SRPO networks. NRC expressed their interest in obtaining a copy of these networks to assist the NRC staff in understanding the SRPO program and

independently determining appropriate types and timing of interactions. Appropriate timing for interactions is important so that NRC input will not become available after final decisions are made by SRPO. NRC will request the networks in a letter.

SRPO did not provide a list of topics for technical meetings at this time but mentioned that their topics were for the most part the same as the NRC topics. As was noted above in No. 5, SRPO agreed to provide NRC with comments that have been coordinated with DOE-HQ.

Robert L. Johnson 6/12/86

for John J. Linehan, NRC/WMRP

J.O. Neff 6/12/86

J.O. Neff, DOE/SRPO

Robert L. Johnson 6/12/86

Robert L. Johnson, NRC/WMRP

Gordon Appel 6/12/86

Gordon Appel, DOE/SRPO

ATTENDEES 6-9-86

<u>NAME</u>	<u>AFFILIATION</u>
Gordon Appel	
Andrew Avel	
Robert L. Johnson	
Teek Verma	
Susan W. Zimmerman	
Don Christy	
Bob Wunderlich	
H. Mark Blauer	
Jim Van Vliet	
Edward Regnier	
Wayne A. Carbiener	
Frank C. Hood	
Sam Basham	iager
Steve Frishman	
Jan Perttu	

ATTENDEES 6-10-86

<u>Name</u>	<u>Organization</u>	<u>Telephone</u>
Gordon Appel	DOE-CH/SRPO	
Jim Van Vliet	Battelle/ONWI	
H. Mark Blauer	Battelle/ONWI	
T. Baillieul	DOE-CH/SRPO	
R.K. Kennedy	Battelle/ONWI	
Steve Goldberg	BPMD Legal Dept.	
Edward Regnier	DOE-HQ	
Andrew Avel	DOE-CH/SRPO	
Jeff Neff	DOE-CH/SRPO	
Teek Verma	NRC-SRP	
John Linehan	NRC-DWM	
Susan Zimmerman	NWPO-Texas	
Steve Frishman	NWPO-Texas	
Don Christy	NWP-MS	
Jan Perttu	Utah	
Robert Johnson	NRC/WMRP	

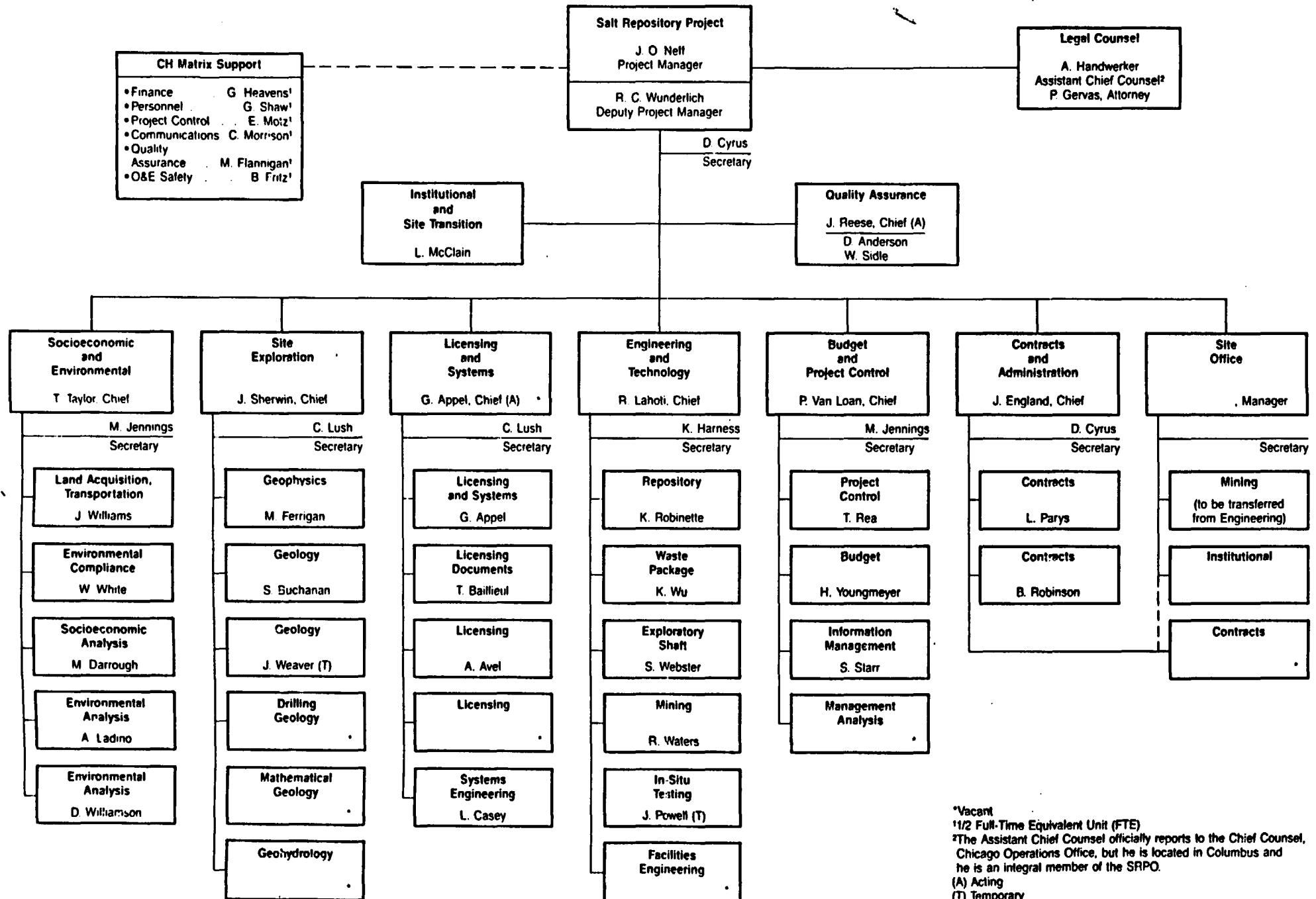
Agenda for NRC/DOE-SRPO Management Meeting June 9-10, 1986 Columbus, Ohio

20 min.	Introductions	A. Avel (SRPO Chairperson)
	Opening Remarks	R. Johnson
	Objectives	A. Avel R. Johnson
20 min.	SRPO Organization	G. Appel
20 min.	NRC/Waste Management Organization	NRC
60 min.	Status of Timely Release of SRP Data Waste Package Testing Data Other Testing Data	A. Avel
120 min.	Planning and Conducting Meetings Management Meetings Technical Meetings	NRC/DOE
30 min.	Planning and Conducting Appendix 7 Assignments	NRC
30 min.	Licensing Significance of NRC Documents	NRC
60 min.	NRC Plans Summary of 5 Year Plan Status of Generic Planning Status of Site Specific Project Planning	NRC
	Summary Preliminary Significant Issues Technical Meeting Topics Appendix 7 Assignments	
90 min.	SRP Plans SRP Technical Planning Committee - Summary Surface Based Testing Overview Identification of Pre-SCP Milestones Topics for Pre-SCP Meetings	SRPO G. Appel J. Sherwin A. Avel A. Avel
	Preparation of Meeting Summary	

**U.S. DEPARTMENT OF ENERGY
CHICAGO OPERATIONS OFFICE
SALT REPOSITORY PROJECT OFFICE**

ATTACHMENT 3

SRPO Organization



1.3.5.2 Licensing

Andy Avel

- Licensing Management and Integration**
- Regulatory Compliance**
- NRC Interactions**

Tom Baillieul

- Site Characterization Plan (SCP)**
- Site Characterization Progress Reports**
- License Application (GIR/SAR)**

1.3.1 Systems

Leslie Casey

1.3.1.1 Management and Integration

1.3.1.2 Systems Engineering

1.3.1.3 Technical Data Base Management

The Branch's responsibility in this area is the identification of the project's requirements and development of the procedures and/or process to enter material in the data base(s). It is the responsibility of the Budget and Project Control Branch (S. Starr) to manage the implementation and maintenance of the actual data base systems.

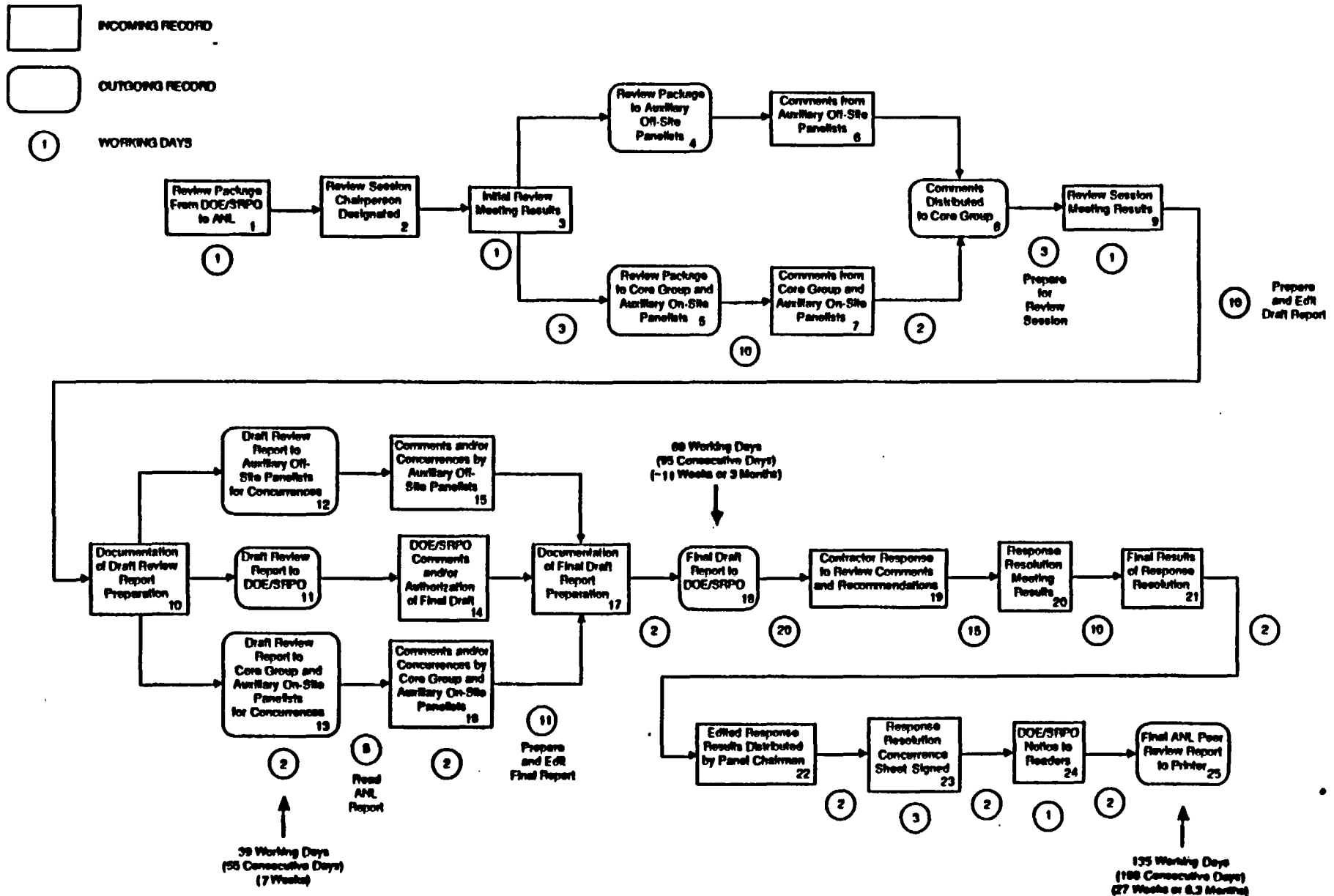
Gordon Appel

1.3.1.4 System Performance Assessment

REFERENCE CONCEPTUAL DESIGN REPORT
BMI-ONWI-517

WTSD-TME-001 ISSUED	AUGUST 1983
DESIGN REVIEW - (ONWI)	MAY 1984
DESIGN REVIEW COMPLETION REPORT	AUGUST 1984
WTSD REVISES TME-001 (2 MO.)	
WTSD-TME-001 REV. A ISSUED	NOVEMBER 1984
ANL/DOE/HQ REVIEW COMPLETED	MARCH 1985
ONWI/SRPO/ANL MEETING	JULY 1985
RESOLUTION OF ANL COMMENTS	SEPTEMBER 1985
CHANGES SENT TO WTSD	OCTOBER 1985
WTSD APPROVES CHANGES TO TME-001 REV. A	DECEMBER 1985
BMI/ONWI-517 ISSUED	FEBRUARY 1986

QA DOCUMENTATION AND ELAPSED TIME (IN WORKING DAYS) REQUIRED TO PEER REVIEW AN ONWI DOCUMENT AND SEND AN ARGONNE REPORT TO PRINTER



Field Data Analysis System Computerized

- **Raw, unanalyzed field and laboratory data**
- **Accessible on-line terminal to NRC, State, SRPO, DOE-HQ, DOE-CHO, Contractors**
- **Data Sets can be downloaded into analysis software packages**
- **Output**
 - **Data Reports**
 - **Hard copy printouts**
 - **On-line screens**

SRP Technical Data Base Computerized

Scope

- **70 topical areas covering:**
 - **Environmental Data**
 - **Socioeconomic Data**
 - **Geotechnical Data**
 - **Waste Package Data**
 - **ESF Data**
 - **Repository Data**
 - **Transportation Data**

SRP Technical Data Base Computerized

Content

- **Controlled Data (baseline)**
- **Licensing Data**
- **Preliminary Data**
- **References to sources of data (for each value)**
 - **Report Number**
 - **Report Title**
 - **Page Reference**

SRP Technical Data Base Computerized

Access

- **On - line via remote terminal**
 - **NRC**
 - **State**
 - **SRPO**
 - **Primes**
 - **Subcontractors**

Release of Field Test Data to the NRC

- **Timely Availability**
 - **On-line via Field Data Analysis System**
 - **Data reports on monthly and quarterly schedule**
- **Data Formats**
 - **On-line screens and hard copy printouts**
 - **Data reports**
 - **Magnetic tapes**

Proposed Management Meeting Agenda

- I. INTRODUCTIONS (ALL)**
 - DOE, NRC, States and Public**
- II. SUMMARY STATUS OF PROJECT (SRPO)**
 - A. Recent Accomplishments**
 - B. Current Activities**
 - C. Future Activities**
 - D. Potential Problems of Regulatory Significance**
- III. SUMMARY OF REVIEW ACTIVITIES (NRC)**
 - A. Recent Accomplishments**
 - B. Current Activities**
 - C. Future Activities**
 - D. Potential Problems**
- IV. TECHNICAL MEETING STATUS (SRPO/NRC)**
 - A. Recap of Recent Meetings**
 - Commitments/action items**
 - B. Scoping of Near-Term Meetings**
 - C. Review of Meeting List**
- V. SPECIAL TOPICS (SRPO/NRC)**
- VI. PREPARATION OF MEETING SUMMARY**

Proposed Pre-SCP Milestones Systems

- **System engineering management plan baselined. (8/86)**
- **Project requirements document baselined. (9/86)**
- **System description document to HQ (10/86)**

Proposed Pre-SCP Milestones Waste Package

- **Start ACD. (6/86)**
- **Initiate fabrication and welding studies. (7/86)**
- **Receive report on metal barrier degradation processes. (8/86)**
- **Receive detailed test plan for West Valley testing. (12/86)**
- **Complete PA of SCP package design. (12/86)**
- **Receive detailed test plans for spent fuel testing. (2/87)**
- **Receive test plans for integrated testing. (3/87)**

Proposed Pre-SCP Milestones Repository

- **Begin SCP CD. (10/85)**
- **Begin development of equipment requirements. (5/86)**
- **Begin ACD. (6/86)**
- **Receive SCP CDR. (9/86)**
- **Complete repository subsystem descriptions. (2/87)**
- **Complete rock mechanics field/lab testing for SCP. (3/87)**
- **Begin preparation of prototype equipment designs. (8/87)**

Proposed Pre-SCP Milestones Site

- **Begin drilling and testing EDBH. (10/86)**
- **Obtain permits for site characterization wells. (10/86)**
- **Approve surface-based test plan for surface-based site characterization. (12/86)**
- **Completion of six exploratory shaft monitoring wells. (2/87)**
- **Complete EDBH. (2/87)**
- **Complete regional CDP seismic reflection survey. (2/87)**
- **Complete four stratigraphic drill holes. (4/87)**

Proposed Pre-SCP Milestones Regulatory

- **Begin ESEP. (3/86)**
- **Begin writing SCP. (4/86)**
- **Complete statutory compliance plan. (7/86)**
- **Issue SCP to public. (4/87)**
- **Complete EIS prescoping plan. (4/87)**

Proposed Pre-SCP Milestones Exploratory Shaft

- **Complete ESF Title I design. (1/86)**
- **Complete ESF Title I design review. (4/86)**
- **Start preparation of ES Title II design. (4/86)**
- **Begin ES permit process (including permit application submittal). (4/86)**
- **Start design, procurement, and installation ESF long lead equipment. (4/86)**
- **Begin ES land acquisition. (7/86)**
- **Complete preparation of underground ES test plan. (8/86)**
- **Complete preparation of shaft test plan. (9/86)**
- **Begin mining subcontract procurement. (3/87)**
- **Issue approved construction designs on all contract packages. (3/87)**

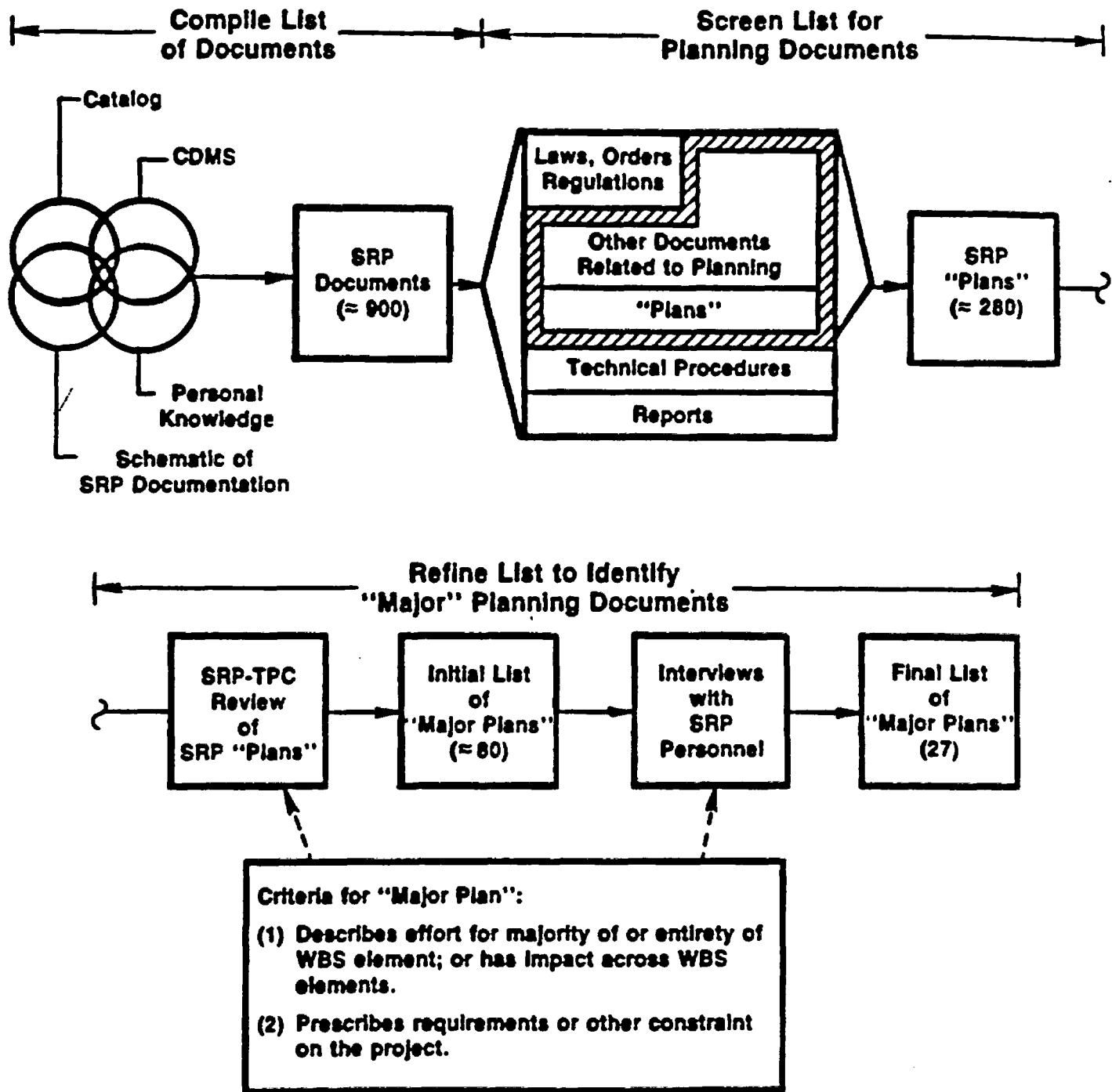


FIGURE 1-1. ILLUSTRATION OF COMMITTEE PROCESS TO IDENTIFY MAJOR PLANS

Table 1-1. List of "Major" SRP Plans

CDMS Identification	General to the Salt Repository Project
D*	SRP Project Management Plan
1136	SRP Systems Engineering Management Plan
1194	System Requirements Specifications
1421/2928	Issue Hierarchy & Data Needs/Issue Resolution Strategies (2)
2116	Regulatory Compliance Plan
1335	Performance Assessment Plan
1375	Site Characterization Plan
1547	Environmental, Socioeconomic Evaluation Plan
2250	Land Acquisition Plan
I*	SRP Quality Assurance Plan
A*	Public Participation Plan
2940	Site Specific Statutory Compliance Plan
	Relate to Specific Project Areas
2260	Exploratory Shaft Final Preliminary Designs Title I
1595	Underground Test Plan
1597	Waste Package Program Plan
2326	Waste Package Design Specifications
1625	Salt Repository Program Plan
1348	Repository Subsystem Design Requirements
2413	Sample Management Plan
2588/2602/2711/2641/2664	Geoscience Discipline Plans (5)
1479	Surface Based Test Plan
2132	Environmental Requirements Document
Numerous	Environmental Study Plans (14)
1317	Socioeconomic Program Plan
B*	EIS Pre-Scoping Analysis Plan
2263	EIS Implementation Plan
2959	Impacts, Methods, and Standards Document

*Temporary identification given by the Committee to document not currently contained in the CDMS.

Reference: "Interim Status Report", Ad-Hoc SRP Technical Planning Committee, January 6, 1986.

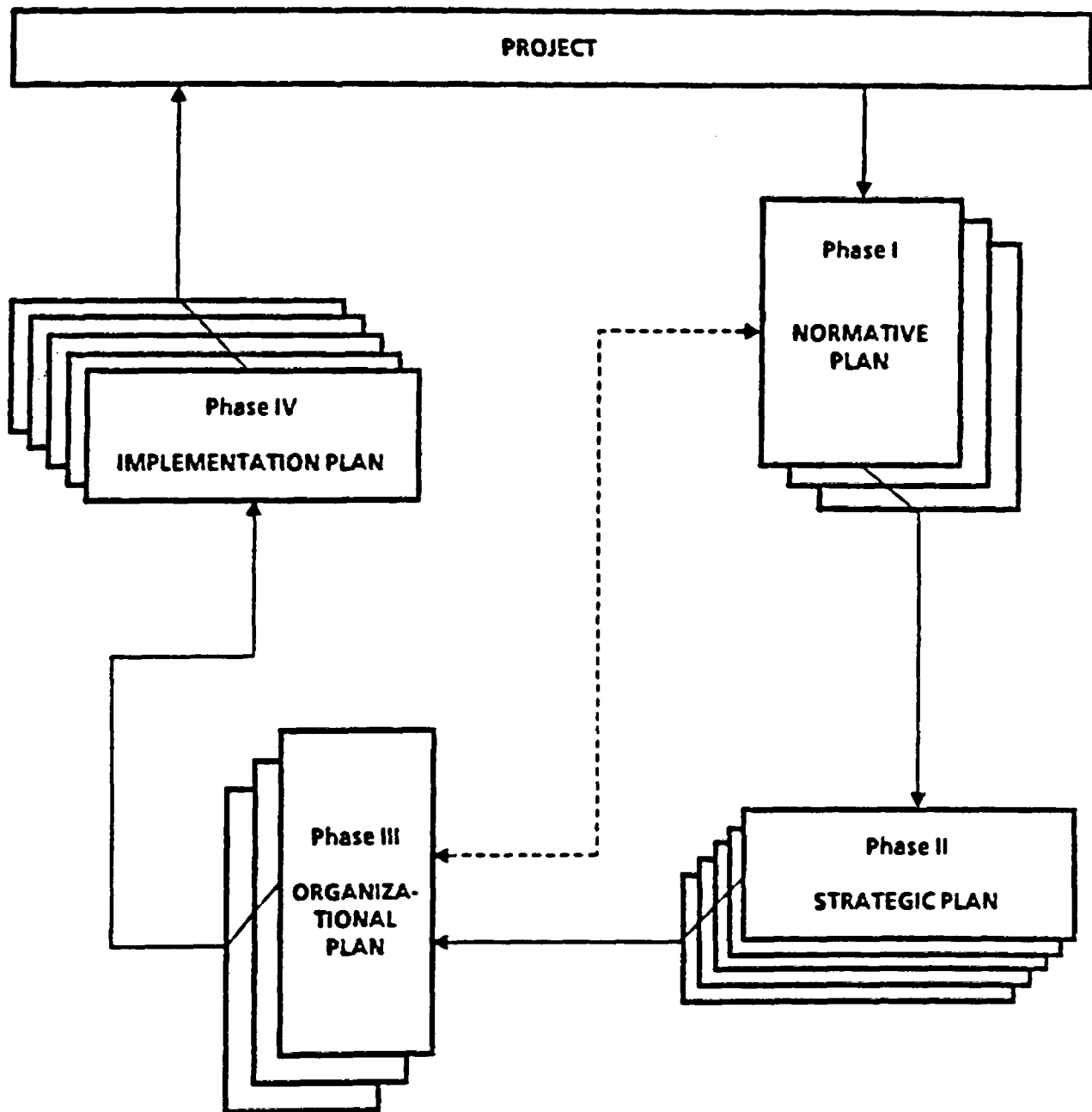


FIGURE 2-1. A GENERAL PLANNING PROCESS

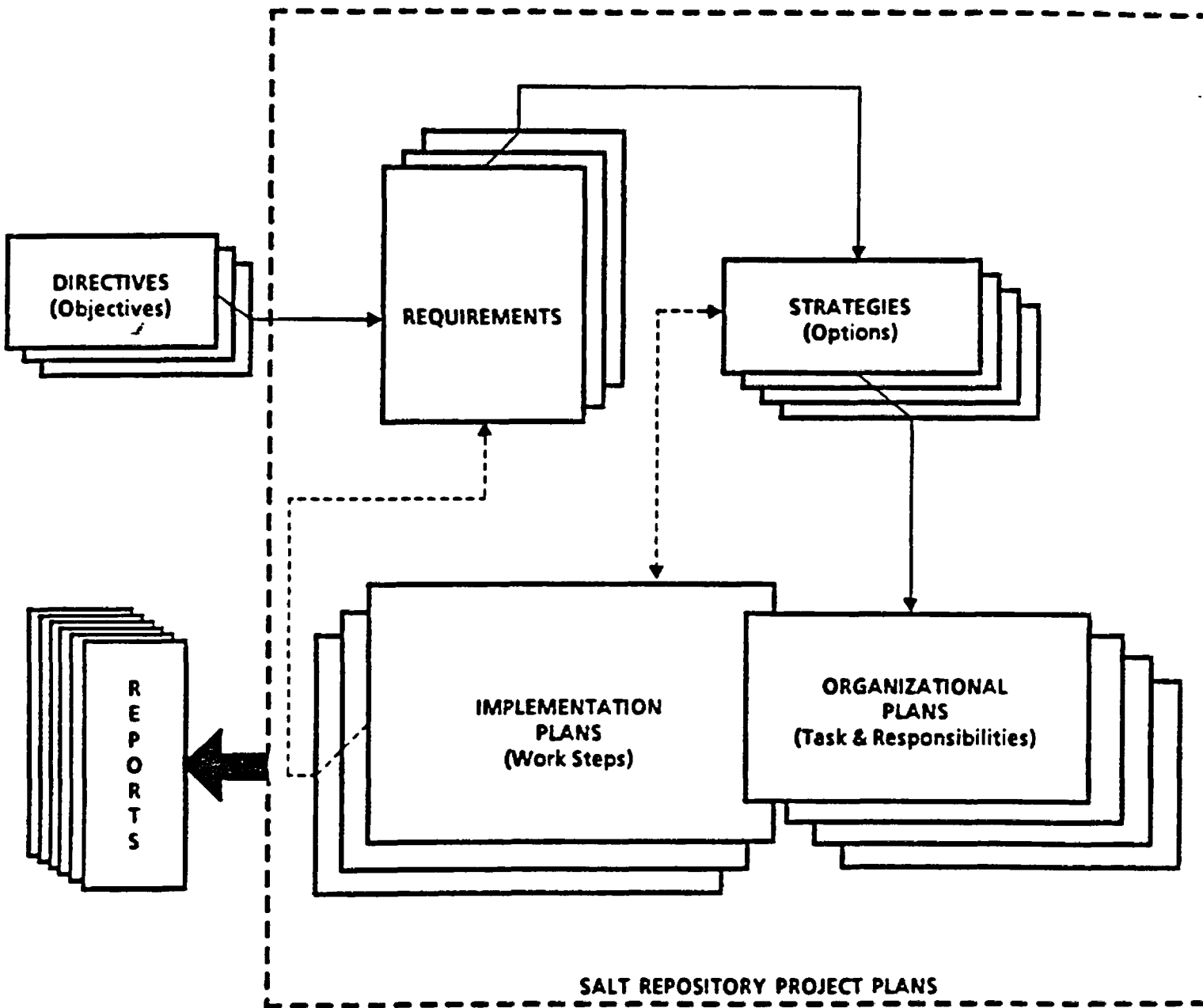
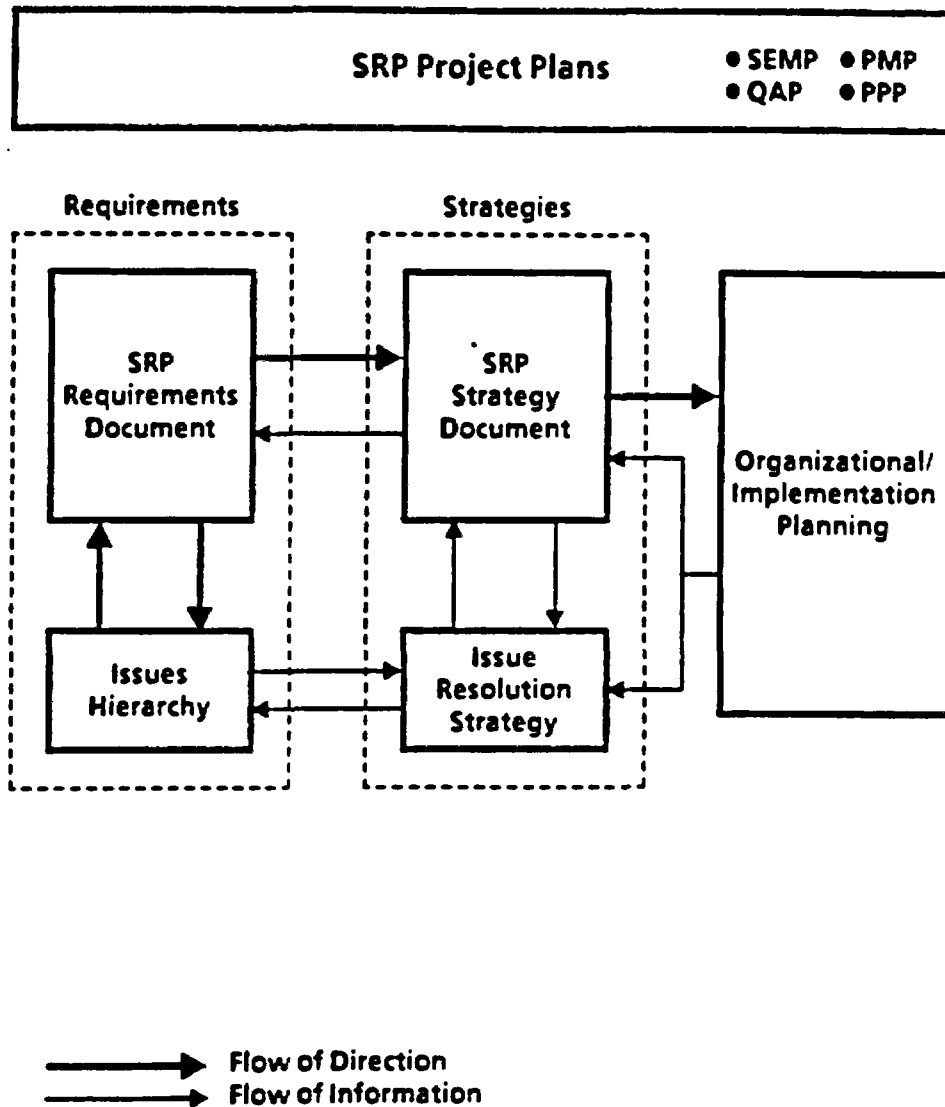


FIGURE 2-2. SRP PLAN STRUCTURE

TABLE 2-1. PREFERRED POSITIONS OF THE 27 SRP "MAJOR" PLANS

● The Project Management Plan ● The QA Plan ● The Public Participation Plan ● The Systems Engineering Management Plan				Report
Requirements	Strategies	Organizational /Implementation		
● Salt Requirement Specification ● Waste Package Design Requirements ● Repository Subsystem Design Requirements ● Environmental Requirement Document ● Issue Hierarchy and Data Needs	● Exploratory Shaft Final Preliminary Designs, Title I ● Regulatory Compliance Plan ● Site specific Statutory Compliance Plan ● Impacts, Methods, and Standard Document ● Issue Resolution Strategies	● Performance Assessment Plan ● Waste Package Program Plan ● Discipline Plans ● Socioeconomic Program Plan ● Salt Repository Program Plan ● Land Acquisition Plan	● Sample Management Plan ● Surface Based Test Plan ● Environmental Study Plans ● Underground Test Plan	● SCP ● E/SEP ● EIS Imp. ● EIS Prescp.



Note: Refer to Figure 3-4 to clarify interaction between SRP Requirements and SRP Strategy

FIGURE 3-7. RELATIONSHIPS BETWEEN REQUIREMENTS, STRATEGIES, AND ISSUES

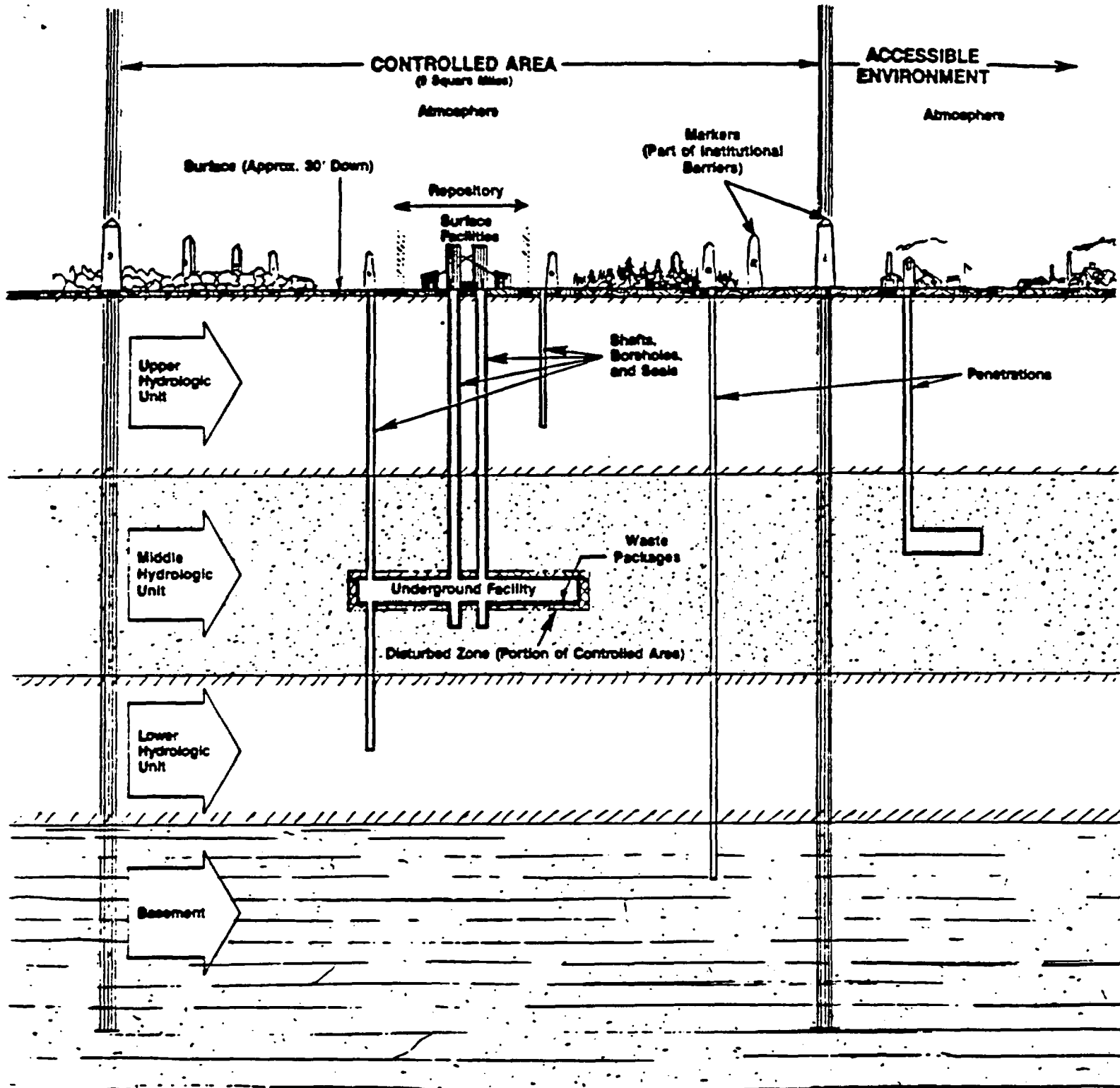


FIGURE 3-2: COMPONENTS OF NATURAL SYSTEMS AND ENGINEERED SYSTEMS

1.0 SRP - MGDS Preclosure and Postclosure (On Site)								2.0 SRP - MGDS Interfaces (Off Site)				
Institutional Barriers 1.4	Waste Packages 1.3		Repository (Geologic Repository Operations Area) 1.2				Site (Controlled Area) 1.1		Accessible Environment 2.1	Societal (Public) 2.2	Transportation 2.3	Waste Source 2.4
	Waste form	Container	Mining	Waste Handling	Monitoring and Confirmation	Support	Surface	Subsurface				

* The structure of the OGR-GR has been maintained as the top structure of the SRP-RD except for the formatting difference related to time phases. Each functional requirement statement will carry a designation of its applicable program time phase (i.e., Preclosure - Development and Evaluation, Construction or Operation, and Postclosure - Closure).

Figure 1. SRP Requirements* Structure

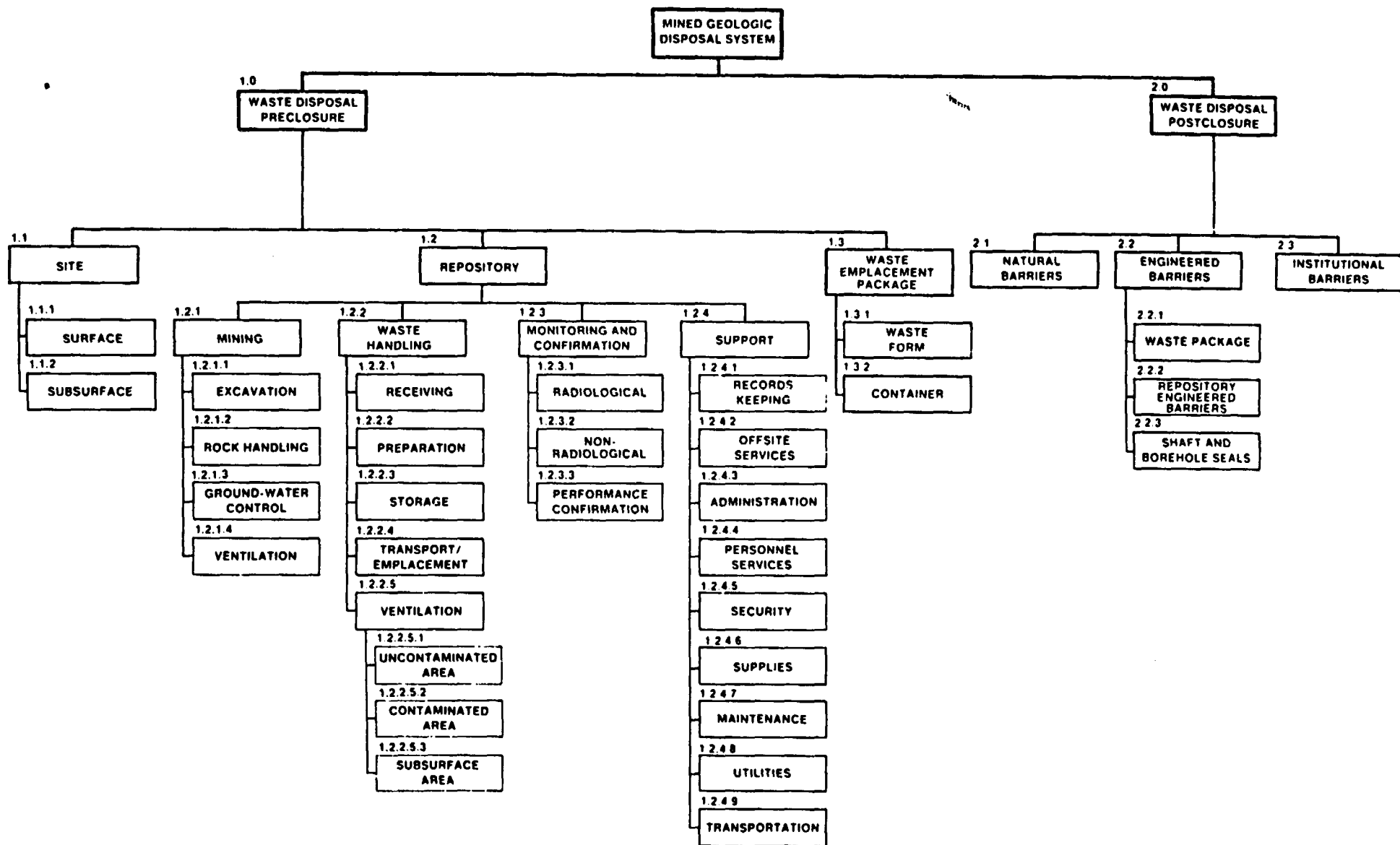
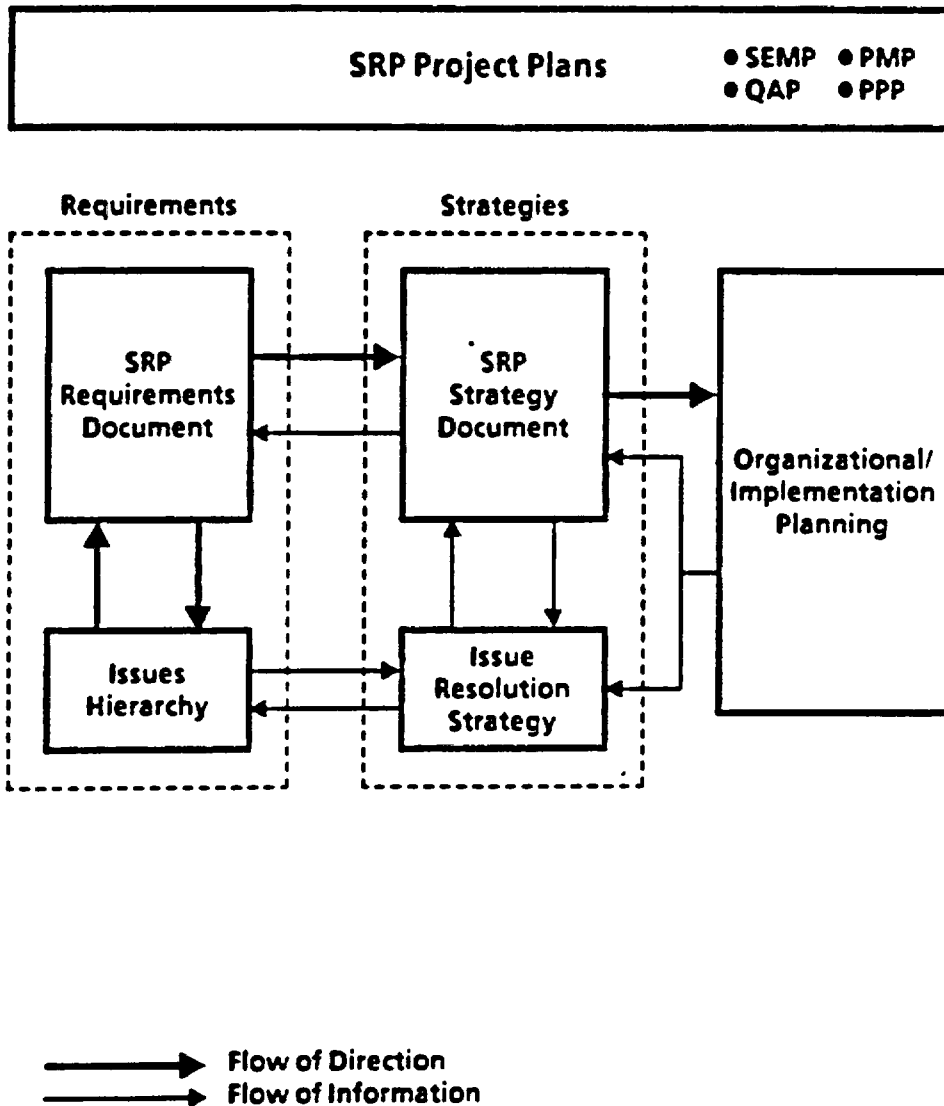


FIGURE 5
PRECLOSURE AND POSTCLOSURE MGDS



Note: Refer to Figure 3-4 to clarify interaction between SRP Requirements and SRP Strategy

FIGURE 3-7. RELATIONSHIPS BETWEEN REQUIREMENTS, STRATEGIES, AND ISSUES

1.1.2.3.3 SHAFT AND BOREHOLE SEALS

1.1.2.3.3-1

GR Ref: 2.2.3

Subparts are: 1.1.2.3.3.1 EMPLACEMENT SYSTEM
1.1.2.3.3.2 SEAL MATERIALS
1.1.2.3.3.3 MONITORING DEVICES

DEFINITION:

Systems of devices, mechanisms, or materials utilized or emplaced in shafts and boreholes to retard flow of liquid or gas through the original opening.

APPLICABLE LEGAL AUTHORITIES:

- o Clean Water Act
 - Texas Water Code, Chapters 27 and 28
 - Texas Mined or Drilled Shaft Act

FUNCTIONAL REQUIREMENTS:

1. To provide for water-tightness of shaft operational liner seals.
2. To eliminate pathways that would compromise the ability of the MGOS to meet postclosure performance criteria.
3. To allow performance confirmation testing to be accomplished during the operational phase of the GROA.

PERFORMANCE CRITERIA:

- 1(a). Shaft and borehole seals shall prevent water inflows from adversely affecting normal or emergency operations in the shafts and subsurface areas.
- (b). Shaft and borehole seals shall, in addition, be designed to ensure that any water reaching the shaft station areas in the host rock through seal leakage will be saturated in sodium chloride.
- (c). The materials and installation methods used shall allow for potential variations in stress, temperature, geochemical conditions and other anticipated processes or conditions.
- (d). The installation of operational seals shall not preclude nor represent a significant adverse effect on the ability to eventually install postclosure seals. In the event removal of operational seal components is required to facilitate installation of postclosure seals, such a removal shall be based on reasonable available technology.
- (e). Operational seals shall comply with pertinent provisions of the referenced applicable legal authorities to ensure that water-bearing units within Hydrostratigraphic Units A and B are not allowed to commingle or cross-communicate.
- (f). Special Design Conditions: (TBD)

1.1.2.3.3-2

2. Seals for shafts and boreholes shall be designed so that following permanent closure they do not become pathways that compromise the geologic repository's ability to meet the performance objectives for the period following permanent closure (10 CFR 60.134(a)). In furtherance of this requirement, postclosure seals will:
 - (a). Prevent the intrusion of water into the underground facility.
 - (b). Ensure that any water that does reach the underground facility by way of shaft seal areas is, upon arrival, saturated in sodium chloride.
 - (c). Be comprised of multiple, and possibly alternating, layers of various materials of varying solubility, permeability, and density.
 - (d). Be designed to achieve a radionuclide migration rate through the seal zones that is, under anticipated processes and events, less than a small fraction (TBD) of the total allowable MGOS release under 40 CFR 191.
- 3(a). During the early or developmental stages of construction, a program for in situ testing of borehole and shaft seals shall be conducted (10 CFR 60.142(a)).
- (b). The testing shall be initiated as early as is practicable (10 CFR 60.142(b)).
- (c). Test sections shall be established to test the effectiveness of borehole and shaft seals before full-scale operation proceeds to seal boreholes and shafts (10 CFR 60.142(d)).

CONSTRAINTS:

- A. General guidance for the conduct of in situ performance confirmation programs is found in Section 1.1.2.2.4.3. Governing regulations are found in 10 CFR 60, Subpart F.

INTERFACE CONTROLS: (TBD)

ASSUMPTIONS:

- A. Postclosure seal design will assume the operational liner will not be removed.

CROSS REFERENCES:	GR Section 2.2.3 design geochemistry liners	materials Ogallala/Dockum shaft Texas Mined or Drilled Shaft Act
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EFFECTIVE DATE:	Rev. 0 Rev. 1	11/10/85 7/06/85	baselined added cross-reference, P.C.2(d)
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Table 3-1. Comparison of Requirements Specification
And Issues Hierarchy

	Requirements Specification	Issue Hierarchy
Requirement in Laws, Orders, and Regulations	DOE Order 4700	None
Tie to Baseline	Generic Requirements OGR-SEMP	SCP Annotated Outline (Chapter 8)
Major Source Document	Generic Requirements	Mission Plan Issues
Structure	Subsystem Definition Functional Requirements Performance Criteria Constraints	Key Issue Issue Information Need Data Need
Companion Documents	System Description Interface Definition Bases for Design	Performance Allocation Issue Resolution Strategy
Timeframe	Full MGDS life cycle	Site Characterization
Purpose	Establish Requirements for Characterization and Design Activities	Assist in SCP Preparation

Reference Component No. 1.1.2.3.3

Component Name: Shaft & Borehole Seals

Specific Requirement/Criteria Number: Performance Criteria 1(e)

Requirement: Operational seals shall comply with pertinent provisions of the referenced applicable legal authorities to ensure that water-bearing units within Hydrostratigraphic Units A and B are not allowed to commingle or cross-communicate.

- Strategy:**
1. Obtain Texas Water Commission approval of design in conjunction with formal application for permits for all shafts.
 2. Exercise Option 1 for exploratory shafts only, use similar technology for repository shafts without separate state reviews.
 3. Obtain recommendations from Texas DWR informally without filing for permit.
 4. No specific action -- proceed with design without interruption.

Preferred Option: 2

- | | | |
|---------------------|---|--------------|
| Step/Action: | 1. Document analysis of specific legal requirements | WBS 5 |
| | 2. Prepare design based on results of Step 1 | WBS 6 |
| | 3. Obtain repository review/concurrence of 2 | WBS 1,4,6 |
| | 4. Compile and submit permit application | WBS 5, legal |
| | 5. Model and analyze seal performance in reference stratigraphy | WBS 1 |
| | 6. Obtain and maintain permit | WBS 5, legal |

Rationale/Reference: "Site Compliance Analysis #47-2", McCutchen, Malone, & Chen, July, 1986 - ONWI O/TM 475

Cross-References: Issue 1.7.9.A.B.

Incorporated into Lower Level Requirement:	Yes	No	Location:	1.1.3.3.3.1.2
				1.1.2.3.3.1.1
				1.1.2.3.4.5.6
				2.4.7.12

Effective Date/Revision History:

Rev. 0	2/84	baselined
Rev. 1	11/85	changed option
Rev. 2	2/86	added performance modeling to steps

FIGURE 3-6. SAMPLE STRATEGY

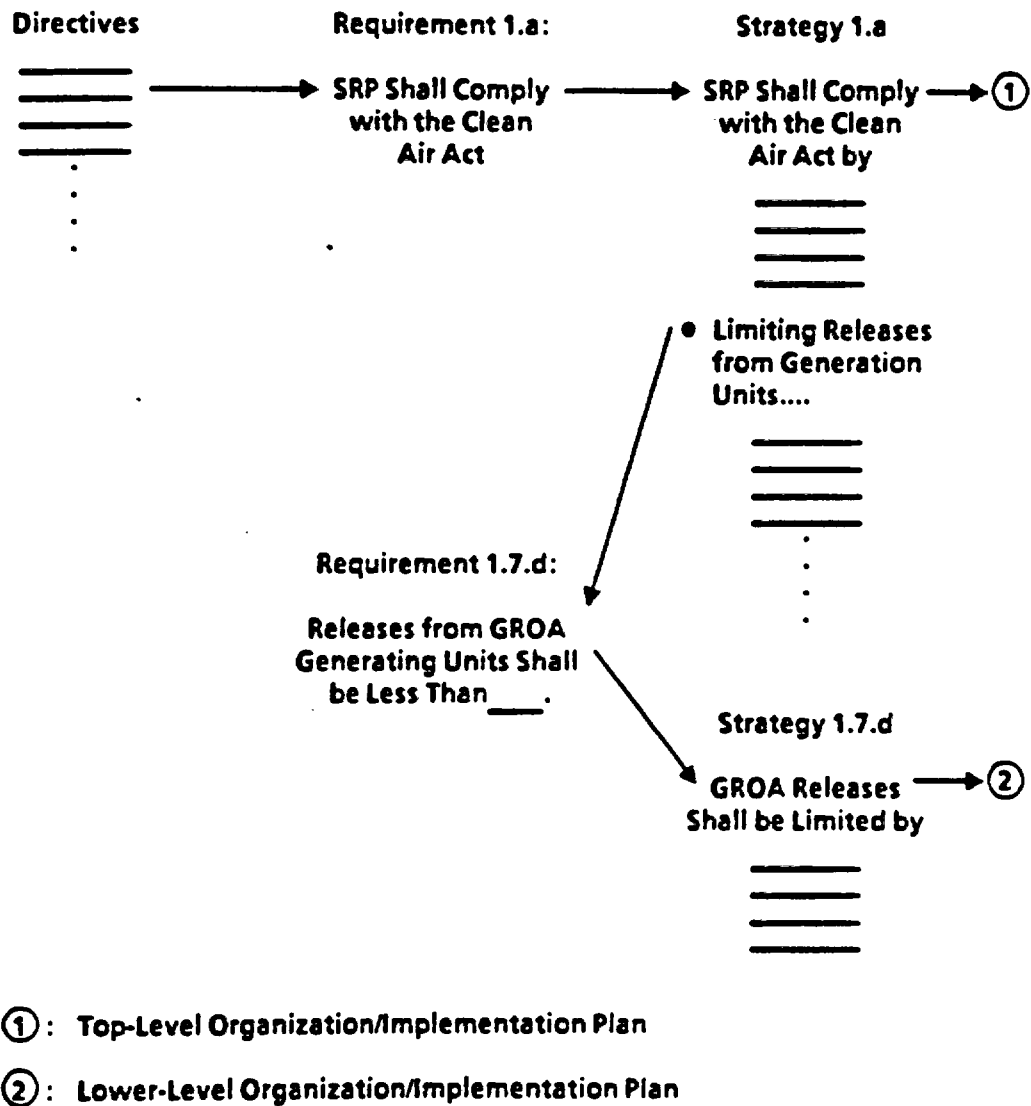
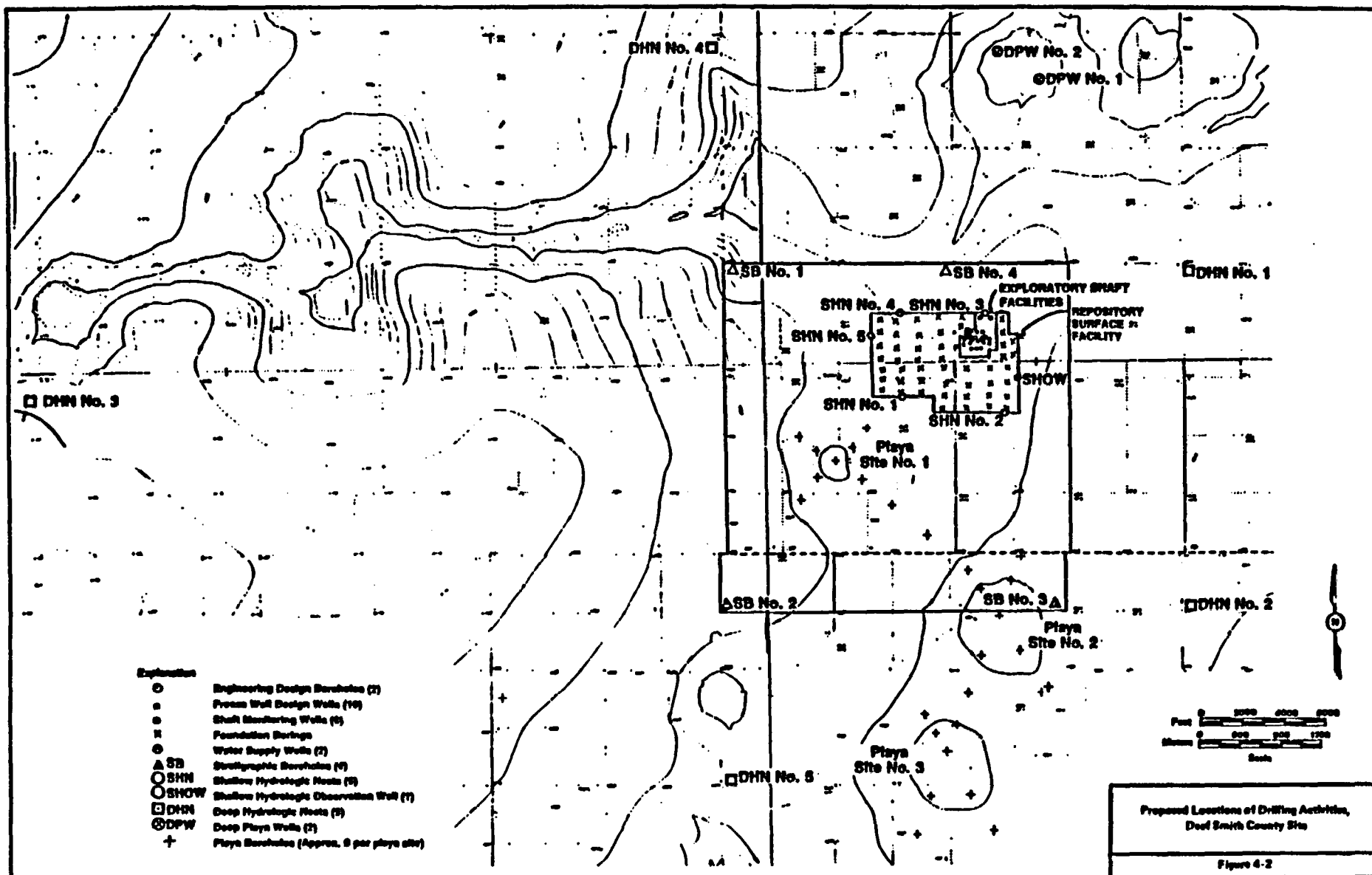


FIGURE 3-4. EXAMPLE OF INTERRELATIONSHIP BETWEEN SRP REQUIREMENTS AND STRATEGY

Surface Based Testing Overview

A larger reproduction of this figure appears at the back of this volume.



ESF DESIGN FIELD ACTIVITIES

QUANTITY	ITEM/ACTIVITY	LOCATION	NETWORK DATES	NETWORK NODES
2	REFLECTION AND REFRACTION SEISMIC SURVEYS	EXPLORATORY SHAFT	8/27/86-9/24/86 8/27/86-10/10/86	312-229 - 312-232 312-239 - 312-242
2	ENGINEERING DESIGN BORE- HOLES (EDBHs)	WITHIN ESF AREA	10/30/86-2/05/87 10/30/86-2/05/87	315-335 - 314-345 315-335 - 315-360
6	ES MONITORING	WITHIN 200 FEET OF EDBHs	1/30/87 2/27/87	315-439 315-442
50	ESF FOUNDATION HOLES	ESF AREA AND ACCESS ROUTES	1/30/87 3/27/87	315-389 315-396

**OTHER SITE CHARACTERIZATION FIELD ACTIVITIES
(PERMIAN REFERENCE)**

QUANTITY	ITEM/ACTIVITY	LOCATION	NETWORK DATES	NETWORK NODES
1	GEOLOGIC MAPPING	9 SQUARE MILES AND BEYOND	12/22/86-4/24/87	312-105 - 312-110
3	SHALLOW HYDRO CLUSTERS	GENERALLY WITHIN 9 SQUARE MILES	1/23/87-6/29/87 " " " "	315-685 - 315-700 315-695 - 315-710 315-690 - 315-705
4	STRATIGRAPHIC WELLS	MINIMUM 800 FT BEYOND UNDERGROUND LAYOUT	1/23/87-4/10/87 " " " " " "	315-415 - 315-430 315-420 - 315-435 315-425 - 315-440 315-417 - 315-418
3	DEEP HYDRO CLUSTERS	2 AT 1 MILE BEYOND SITE 1 AT 6 MILES BEYOND SITE	1/29/87-6/29/87 " " " "	315-515 - 315-530 315-520 - 315-535 315-525 - 315-540
400	REPOSITORY AND ACCESS FOUNDATION	WITHIN AND ADJACENT TO REPOSITORY FACILITIES AND ACCESS	6/13/88-9/27/88 3/10/89-9/12/89	315-007 - 315-009 315-016 - 315-017

**OTHER SITE CHARACTERIZATION FIELD ACTIVITIES
(PERMIAN REFERENCE)**

QUANTITY	ITEM/ACTIVITY	LOCATION	NETWORK DATES	NETWORK NODES
1	3-D SEISMIC SURVEY	ENTIRE 9 SQUARE MILE	12/22/86-2/20/87	312-170 - 312-175
-	CDP SEISMIC SURVEYS	SITE AND REGIONAL INVESTIGATIONS	12/22/86-2/20/87	312-016 - 312-017
1	GRAVITY, MAGNETIC AND RESISTIVITY SURVEYS	ENTIRE 9 SQUARE MILES	12/22/86-3/20/87 12/22/86-2/20/87 12/22/86-2/20/87	312-186 - 312-187 312-190 - 312-195 312-206 - 312-207
35	ESF MONITORING WELLS; NEAR SURFACE AQUIFERS	WITHIN ESF AREA	12/31/86-2/27/87	315-027 - 315-029
-	PLAYA BORINGS	WITHIN 9 SQUARE MILES	12/31/86-1/29/87	315-915 - 315-925
-	PLAYA TRENCHES	WITHIN 9 SQUARE MILES	12/31/86-1/29/87	315-920 - 315-922

**OTHER SITE CHARACTERIZATION FIELD ACTIVITIES
(PERMIAN REFERENCE)**

QUANTITY	ITEM/ACTIVITY	LOCATION	NETWORK DATES	NETWORK NODES
2	SHALLOW HYDRO CLUSTERS	WITHIN 9 SQUARE MILES	1/23/87-6/29/87 " "	315-815 - 315-825 315-820 -315-830
2	DEEP HYDRO CLUSTERS	1 MILE BEYOND SITE	10/29/87-4/21/88 " "	315-615 - 315-625 315-620 - 315-630
180	REPOSITORY MONITORING WELLS: NEAR SURFACE AQUIFERS	WITHIN REPOSITORY FACILITIES AREA	6/20/88-12/27/88	315-047 - 315-049
-	MICROSEISMIC MONITORING NETWORK	PANHANDLE AREA	DURATION OF PROGRAM	312-210 - 312-235

DIVISION OF WASTE MANAGEMENT

Director
Robert E. Browning
Deputy Director
Michael J. Bell

On-Site Licensing Representatives
BWIP (Cook)
NTS (Prestholt)
SALT (Verma)

REPOSITORY
PROJECTS
BRANCH
(Miller)
(Linehan, Acting)

BWIP Projects
Section
(Kennedy)

NTS Project
Section
(Coplan)

SALT Project
Section
(Linehan)

Regulation &
Environmental
Section
(Boyle)

ENGINEERING
BRANCH
(Barrett)
(Greeves)

Materials
Engineering
Section
(Johnson)

Mining,
Geoengineering
Facility Design
Section
(Greeves)
(Tokar)

Rock Mechanics
Section
(Nataraja)

GEOTECHNICAL
BRANCH
(Knapp)(Justus,
Acting)

Hydrology
Section
(Fliegel)

Geology/
Geophysics
Section
(Justus) (Trapp,
Acting)

Geochemistry
Section
(Starmer)
(Jackson)

POLICY AND
PROGRAM CONTROL
BRANCH
(Bunting)

Policy
Section
(Surmeier)

Program Planning
Section
(Altomare)

Integration
Section
(Kearney)(Giarratana, Acting)

Program Control
and Analysis
Section
(Mattson)

LOW-LEVEL & URANIUM
PROJECTS BRANCH
(Higginbotham)
(Knapp)

Low-Level Projects
Section
(Jackson)
(Starmer)

Uranium Recovery
Projects Section
(Martin)

ATTACHMENT 4
NRC/Waste Management Organization

U.S. NUCLEAR REGULATORY COMMISSION

ORGANIZATION CHART

DIVISION OF WASTE MANAGEMENT

Directs the NRC's principle licensing and regulation activities associated with the management and disposal of nuclear waste and spent fuel involving waste facilities and waste materials licensed under the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974; the National Environmental Policy Act of 1969; and the Remedial Action Program under the Uranium Mill Tailings Radiation Control Act of 1978. As Program Area Manager for the Waste Management Program Area, the Director establishes and achieves agency goals and objectives for the program, ensuring that the program contains the necessary agency-wide components; resolves differences of opinion among supporting offices concerning resources or scope and direction of the program; and ensures that program plans, PPGP writeups, and program area briefings reflect agency perspective and adequately treat the contributions of supporting offices.

Director
Deputy Director

Robert E. Browning
Michael Bell

Low-Level Waste and Uranium Recovery Projects Branch

Directs NRC program for licensing the disposal of low-level radioactive waste; plans and directs the process for safety and environmental evaluation of applications for licenses and license amendments for low-level radioactive waste disposal facilities, and applications for approval of low-level waste-related topical reports; issues and amends or recommends denial of licenses for operation of low-level radioactive waste disposal facilities; issues and amends or denies approvals of topical reports; provides technical support to Agreement States to assist them in regulating low-level waste disposal facilities under their jurisdiction. Directs NRC program for licensing uranium recovery operations; provides programmatic and other guidance for licensing functions carried out by NRC's Uranium Recovery Field Office for activities under its geographical jurisdiction; issues and amends or recommends denial of licenses for uranium recovery operations not under the jurisdiction of the NRC Uranium Recovery Field Office. Evaluates and concurs for the NRC with the Department of Energy's Remedial Action Plans for cleanup of specific inactive uranium mill tailings sites and contaminated vicinity properties. Develops program procedures and guidance and assists in or initiates the development of standards and guides for the regulation of low-level radioactive waste disposal and uranium recovery operations.

Chief **Malcolm Knapp**

Geotechnical Branch

Directs and manages the program necessary for technical review and evaluation of the acceptability of proposed and operational low-level and high-level waste disposal and uranium recovery sites with respect to geology, geophysics, geochemistry, and hydrogeology. Develops evaluation and assessment methodologies and computer programs for geological systems. Identifies specific information needs, data gathering strategies and methods needed to obtain acceptable licensing data in above technical areas. Maintains cognizance of DOE repository programs addressing these areas. Identifies areas in which geological, geophysical, geochemical, or hydrogeological methodology needs further research and development and assists in developing programs to fill these needs. Directs technical assistance contracts and consultants in support of above functions. Prepares technical positions and other guidance documents in these areas.

Chief **Philip Justus (Acting)**

Repository Projects Branch

Directs safety and environmental review of license applications and prelicensing activities for high-level waste repositories. Manages high-level waste repository projects, and special high-level waste projects as assigned by the Director. Implements NRC/DOE Procedural Agreement governing prelicensing consultations. Maintains cognizance of DOE repository programs and coordinates repository activities for all NRC offices. Coordinates development, validation, and application of performance assessment methods for conducting licensing reviews. Prepares recommendations to the Commission on proposed DOE repository siting guidelines; reviews DOE guidelines implementation. Provides input to the preparation, promulgation and amendment of regulations as required for high-level waste disposal. Manages NRC staff prelicensing consultation and guidance activities aimed at identifying licensing information needs. Manages preparation and publication of format and content guides and review plans, and both generic and site specific technical guidance documents that are not covered by the technical branches. Establishes specific guidance on, and conducts reviews of, DOE overall quality assurance programs.

Chief **John Linehan (Acting)**

Policy and Program Control Branch

Serves as NRC focal point for programmatic and resource coordination for all NRC activities under the Nuclear Waste Policy Act of 1982 (NWPA), and interfacing with DOE planning and scheduling to implement NWPA. Directs and manages NRC review of DOE Mission Plan and Project Decision Schedule for HLW, spent fuel storage, MRS and subsequent updates as specified in NWPA Sections 114(e) and 301. Develops technical positions and manages rulemaking on financial requirements to implement NWPA Sections 151(a) and (c). Manages and directs Division responsibilities for state and tribal participation in waste management activities in accordance with 10 CFR Part 60 and the NWPA. Provides program area planning, integration, budgeting, control and quality assurance programs for the high-level, low-level and uranium recovery programs throughout NRC. Chairs and coordinates activities of Waste Management Review Group. Performs independent technical assessment of NRC waste management programs to ensure that long lead time items necessary for licensing are underway and progressing in timely fashion. Provides policy analysis and program evaluation assistance to Director/Deputy Director, WM, in developing strategies and responses on implementation of NRC WM programs. Develops and operates the WM document control center and services PDRs and LPDRs.

Chief **Joseph O. Bunting**

Engineering Branch

Directs and manages the program necessary for technical review and evaluation of the acceptability of proposed and operational low-level and high-level waste disposal and uranium recovery sites with respect to engineering and materials science areas, including: waste form and packing, engineered barriers, facility design, mining and geoengineering. Develops evaluation and assessment methodologies and computer programs for engineered systems. Identifies specific information needs, data gathering strategies and methods needed to obtain acceptable licensing data in these areas. Maintains cognizance of DOE repository programs addressing above technical areas. Identifies areas in which engineering methodology needs further research and development and assists in developing programs to fill these needs. Directs technical assistance contracts and consultants in support of above functions. Prepares technical positions and other guidance documents in these areas.

Chief **John T. Greenes (Acting)**

CURRENT NRC SALT TEAM CONTRACTOR SUPPORT

Geology/Geophysics

**Weston Geophysical
Lawrence Livermore Laboratory**

Hydrology

**Roy Williams Associates
Nuclear Waste Consultants**

Geochemistry

**Oak Ridge National Laboratory
Sandia National Laboratory**

Waste Package

**National Bureau of Standards
Aerospace (near completion)
Brookhaven National Laboratory (near completion)**

Design/Rock Mechanics

**Itasca
Bureau of Mines
Engineers International**

Performance Assessment

Sandia National Laboratory

Planning and Conducting Appendix 7 Assignments

HIGHLIGHTS OF APPENDIX 7 SITE ASSIGNMENTS

- o Appendix 7 of the Procedural Agreement "will govern interaction between the NRC OR, including any NRC personnel assigned to the OR,..."
- o NRC staff and contractors assigned to OR's office are provided same access to information, meetings and DOE project personnel as the OR.
- o Staff/contractors assigned to OR to supplement his capability
- o Appendix 7 assignments provide timely access to information to aid in identifying potential licensing concerns early.
- o Used for:
 - gathering and exchanging information
 - reviewing documents and data
 - observing activities and meetings
 - providing preliminary comments on DOE activities to aid in early identification of potential licensing concerns
 - describing existing positions/policies (considered un official)
- o Not used for:
 - resolving issues
 - replacement of open and documented technical meetings
 - establishing new agency position/policy or revising existing ones
 - presenting NRC positions or policy statements
 - directing DOE/DOE contractor work
- o OR and technical staff plan, conduct, and coordinate with DOE
- o OR concurs on trip report before transmittal to NRC PM, PDR, and DOE



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 27 1986

MEMORANDUM FOR: All Waste Management Staff

FROM: R.E. Browning, Director
Division of Waste Management

SUBJECT: APPENDIX 7 SITE ASSIGNMENTS

The enclosed procedure is to be followed by NRC staff in conducting site assignments under Appendix 7 of the DOE/NRC Site Specific Procedural Agreement.

Drafts of this procedure were distributed to WMGT, WMEG, WMPC, WMRP, and the ORs for review and comment. The enclosed procedure has been revised to address questions/concerns raised in staff comments on the draft procedure.

If you have questions concerning this subject, please contact Chad Glenn at ext.# 74608.

Robert E. Browning

Robert E. Browning, Director
Division of Waste Management

Enclosure:
1. Appendix 7 Site Assignments

Appendix 7 Site Assignments

Introduction

On June 14, 1985, the NRC and DOE signed an Appendix 7 agreement (Enclosure 1) to the DOE/NRC Site Specific Procedural Agreement (SSPA)¹. Appendix 7 sets forth the guidelines governing the interaction between the NRC On-Site Representative (OR), NRC staff assigned to the OR's office, and DOE project, contractor, and subcontractor personnel who interface with the OR. In addition to providing a framework for these interactions, this agreement furnishes NRC staff assigned to the OR's office with a unique opportunity to visit the site or related facility, either individually or in small groups, to informally review activities, and gather or exchange information and preliminary concerns about site activities. Under this appendix, NRC staff assigned to the OR's office are provided the same access to information, meetings, and DOE project personnel as the OR. The purpose of this procedure is to provide information for NRC staff about the nature, scope, and implementation of Appendix 7 site assignments. This procedure will be revisited periodically, and revised as needed, to guide NRC staff activities related to Appendix 7 site assignments.

The SSPA, in recognizing that identifying potential licensing concerns at an early time is dependent upon NRC staff remaining current on data and information being developed by DOE investigations, provides NRC timely access to DOE information. Due to the location, form, and large volume of this information, it is not readily distributed or disseminated. As a result, the SSPA provides for NRC to have ORs stationed at DOE projects. Furthermore, it sets up additional points of contact to assure effective exchange of information. The NRC and DOE have assigned designated points of contact to represent each technical area within each project. Routine telephone communications between these contacts provide a means for prompt information exchange. In addition to maintaining these contacts, it is necessary that the NRC technical staff be provided direct access (as needed) to pertinent DOE information. Appendix 7 site assignments provide this access, allowing the NRC staff the opportunity to inspect and review documents, and offer preliminary comment on DOE activities to facilitate the early identification of potential licensing concerns for timely staff resolution.

1 Site Specific Procedural Agreement implements Section 6 of the DOE/NRC Procedural Agreement which requires that project-specific agreements, tailored to the specific project and reflecting differences in sites and project organizations, be negotiated to implement the principles established in the Procedural Agreement.

The NRC/DOE Procedural Agreement calls for formal consultation between the NRC and DOE on a schedule which will assure that "discussion will be held sufficiently early so that any changes that NRC comments may entail can be duly considered by DOE in a manner not to delay DOE activities". Identifying when such consultation should occur to meet this mandate requires the kind of direct access to information that Appendix 7 site assignments by NRC staff can provide.

The DOE/NRC Procedural Agreement assures that States and Tribes have an opportunity to participate in consultations between the DOE and NRC on potential high level waste licensing issues. The principles of the agreement are aimed at assuring that such consultations are open and that States and Tribes are aware of when they occur. Nothing in the Appendix 7 agreement is intended to abrogate these principles. Appendix 7 site assignments are principally information gathering activities with some discussion permitted between the DOE and NRC staff to assure that there is a useful information exchange. They are not intended to be, nor can they be allowed to become, a circumvention of the formal consultation principles of the DOE/NRC Procedural Agreement.

Objective and Scope

Appendix 7 site assignments are not "meetings" within the context of either the NRC/DOE Procedural Agreement or the SSPA; therefore an agenda and meeting notes are not appropriate. Similarly, formal notice to the general public, States and Tribes is not required.

Apart from these differences, other important distinctions exist between an Appendix 7 site assignments and "meetings". First, during an Appendix 7 assignment, communication/discussion should be confined to the preliminary exchange of information. These activities should not involve negotiation towards reaching agreement with DOE/DOE contractors relative to: validity of data, interpretations, methods and procedures, future test plans, or official agency positions. Such discussion should be deferred until an appropriate meeting with DOE is scheduled. Second, these interactions are intended to assist in the preliminary identification of potential licensing concerns; they are not conducted for the purpose of resolving issues. Meetings are the appropriate forum for progressing towards the resolution of issues. Third, unlike meetings, Appendix 7 site assignments are informal activities involving no formal presentations.

In accord with the SSPA, "technical communications are intended solely for the exchange of information and ideas by NRC and DOE personnel involved in the various technical areas relating to site information programs for potential repository sites. Individuals participating in such communications have no authority to present official NRC or DOE positions or to make official policy

statements on behalf of either NRC or DOE". Appendix 7 site assignments are not intended to establish new agency positions/policies, or revise existing ones. Existing positions/policies may be described or discussed during these interactions; however, statements made concerning them should be considered unofficial. Furthermore, NRC staff or contractors involved in these interactions have no authority to direct DOE/DOE Contractors to perform any work. Any NRC recommendation involving additional work for DOE/DOE contractors must be formally presented in writing to DOE through the NRC Division of Waste Management.

NRC staff (assigned to the OR's office) are afforded access to the site, research facilities, and other contractor/subcontractor areas to observe testing or other data gathering activities in progress as part of site characterization and site investigations. This includes access to DOE/DOE contractor personnel, draft documents, and meetings. The details regarding this access are discussed in items #1,2,3,4, and 7 of Appendix 7. Involved staff should refer to all provisions of Appendix 7 before planning an Appendix 7 site assignment to gain a familiarity with the access permitted and constraints imposed by this agreement. Questions regarding Appendix 7 should be directed to either the WMRP Project Manager (PM) or the OR. Significant questions or concerns that arise as a result of these interactions should be reported to the cognizant OR. The PM will assist the OR in assuring that the appropriate NRC and DOE management are informed of potential licensing concerns as soon as practical.

NRC staff interested in an Appendix 7 site assignment have the initial responsibility of identifying their purpose and specific information need, and making this need known to the PM. The OR may also recommend that NRC staff consider such an assignment in response to ongoing DOE site activities. The PM, OR, staff lead, and Section Leader(SL) from the appropriate discipline then consult on the timing, need, and usefulness of the assignment before making firm arrangements with DOE. The OR should be consulted in deciding whether the purpose of the visit is best accomplished through an Appendix 7 site assignment or some other form of interaction (i.e., meeting, data review, conference call, etc.). Once the assignment is approved by the PM and OR, the OR contacts the responsible DOE/DOE contractor personnel, and coordinates with the appropriate NRC/DOE staff in making the necessary arrangements. Concurrently, the NRC staff lead completes the Appendix 7 Checklist² (Enclosure 2) and passes it onto

-
- 2 The checklist is a planning sheet used to summarize essential information for an Appendix 7 site assignment. It lists the purpose, specific data/information to be examined, and identifies the NRC lead and participants. The statement of purpose should be clear, well focused, and strong enough to warrant such a assignment.

the PM for transmittal to the OR. The OR will then forward the checklist to the appropriate DOE/DOE contractor personnel to further clarify the specific purpose of the assignment so DOE can effectively prepare for the activity. Logistical details for NRC staff are worked out between the staff lead and the OR. After completion of the assignment, the NRC staff lead briefs the NRC project team, and completes a trip report to document pertinent information regarding the assignment. A copy of the checklist should be included as an attachment to this report.

Steps For Conducting An Appendix 7 Site Assignment:

	<u>Responsibility</u>
1. Obtain agreement of PM and OR 3 wks. before assignment ³	Staff Lead
2. Notify DOE/DOE contractors 2 wks. before assignment	OR
3. Fill out checklist and transmit to OR and DOE/DOE contractors 2 wks. before assignment	Staff Lead/PM/OR
4. To extent practical, submit initial draft of trip report to OR for review and comment before leaving the site	Staff Lead
5. Brief NRC project team after assignment	Staff Lead
6. Complete trip report 2 wks. after assignment	Staff Lead
7. Forward trip report to PM through OR	Staff Lead

Documentation:

WM Policy #3 requires that all trips with licensees, contractors, and other groups be documented and a copy of the report be distributed to the official record files (now maintained by the WM Docket Control Center) and the Public Document Room (PDR). In addition to providing a means for informing NRC management and staff, this documentation also serves in disseminating pertinent information regarding the trip to interested States, Tribes and members of the general public. The NRC DWM has adopted a standard Trip Report (Enclosure 3) to record relevant information concerning these activities.

The NRC staff lead for the Appendix 7 site assignment is responsible for completing the trip report, and forwarding it through the OR to their PM 2 weeks after the trip. When practical, the staff lead develops a draft of the report while on assignment for review and comment by the OR. Before issuing the trip report, the staff lead transmits the report to the OR for concurrence. The easiest method of obtaining the OR's concurrence is by phone, in which case, the staff

3 Lead times are targets which may be compressed under appropriate circumstances (e.g., sitting in on DOE meetings called on short notice; visiting the OR office to view documents received on short notice).

lead reads the complete report to the OR, resolves any outstanding concern(s), and concurs for the OR by initialing and dating the trip report on the OR's behalf. The trip report is then forwarded to the PM and routed to the PDR through routine correspondence procedures. The PM will assure that copies of the final trip report are distributed to the OR, and appropriate management at DOE headquarters and project offices.

In keeping with the preliminary nature of these interactions, the trip report should be descriptive rather than interpretative. This report should be used to document significant observations, not conclusions. Statements by individual participants, or direct quotes from draft or other documents that have not been released by DOE should not be included in the trip report.

Draft documents made available by DOE for NRC examination during such assignments may not be retained for NRC headquarter's use unless they have been released by DOE. Any such document that DOE has released for NRC staff retention should be attached to the trip report. Likewise, hardcopy material that NRC has provided to DOE, along with any documents generated by NRC in the course of the visit (apart from personal notes) should also be attached to the final trip report. Field photos taken by or for NRC staff relating to site investigations must be documented by attaching a log of such photos to the trip report. Negatives for these photos are retained in NRC's Docket Control Center.

NRC contractors accompanying NRC headquarter's staff on such assignments may have a contractual obligation to submit a report to the NRC contract manager. This report should not be confused with, or attempt to duplicate NRC's trip report; there is only one NRC trip report completed for each Appendix 7 site assignment. Before conducting such an assignment, the NRC contract manager should clarify any uncertainties that their contractor might have regarding the content of a contractor's trip report. During the assignment, NRC contractors should discuss their observations, recommendations, or problems encountered with the NRC staff lead for possible incorporation into the NRC trip report. If an NRC contractor has further observations or recommendations, they should be documented separately in their report; however, contractors trip reports for Appendix 7 site assignments will normally consist of a brief statement describing the purpose of the trip and extent of their participation. After the contract manager receives their contractor's trip report, a copy of the report should be forwarded to the PM and OR for their information. The NRC contract manager is responsible for assuring that their contractor is familiar with, and functions within, the scope of the Appendix 7 agreement and this procedure.

APPENDIX 7

**AGREEMENT CONCERNING THE NRC ON-SITE REPRESENTATIVE (OR)
FOR THE REPOSITORY PROJECTS
DURING SITE INVESTIGATION AND CHARACTERIZATION**

The purpose and objective of the on-site representative (OR), as identified in item 1. of the Procedural Agreement*, is to serve as a point of prompt informational exchange and consultation and to preliminarily identify concerns about investigations relating to potential licensing issues.

This appendix is intended to supplement the base agreement and to detail the guidelines which will govern interaction between the NRC OR, including any NRC personnel assigned to the OR, and DOE contractor personnel (prime and sub) involved in the project. Any interactions between the OR and DOE, its contractors, or subcontractors identified in this appendix will not constitute "meetings" within the intent of item 2. of the Procedural Agreement and therefore will not require the preparation of written reports and will not be subject to State/Tribal and public notification and participation or scheduler requirements of item 2. of the Procedural Agreement. The interactions of the OR with DOE and its contractors and subcontractors are not intended to interfere with or replace other channels of NRC/DOE communications and procedures for information release identified in sections 2., 3.A, and 3.B. of the base agreement and sections 2., 3. and 7. of the Procedural Agreement.

The following points are agreed to:

1. The OR can attend any meetings on-site or off-site dealing with technical questions or issues related to work required as part of site characterization and site investigation (e.g., any items to be covered in Site Characterization Plans under the Nuclear Waste Policy Act) following notification of the cognizant DOE project representative responsible for the meeting as discussed below. Such notification shall be by memorandum, telephone or personal contact and will be given at least 24 hours in advance where DOE has provided adequate prior notification to the OR. The meetings may involve solely DOE or solely DOE's contractors (prime and sub) or any combination of DOE with their contractors.

*"Procedural Agreement between the U.S. Nuclear Regulatory Commission and the U.S. Department of Energy Identifying Guiding Principles for Interface During Site Investigation and Site Characterization" (48 FR 38781, 8/25/83) herein referred to as the Procedural Agreement.

If objections to the OR attendance are voiced for any reason, the reason should be specified. Such objections will be infrequent and will be exceptions to the rule. If the OR does not agree with the objection to his attendance, it will be raised to a higher management level for resolution. If resolution cannot be achieved, the OR will not attend the meeting in question.

2. The OR may communicate orally (in person or by phone) with the project participants (persons) employed by DOE, DOE's prime contractors or the prime's subcontractors, on-site or off-site providing that the following procedures are followed. If practicable, the OR shall arrange for all individual sessions with prime contractor and subcontractor staff by contacting first the DOE and DOE contractor personnel identified in Appendices 1, 2 and 3 of the base agreement, or if they cannot be contacted, the proper prime contractor section or department manager or proper DOE Team Leader. As a minimum, the OR will give timely notification of all such sessions to the above individuals. The OR will avoid discussions with personnel when it would appear to disrupt their normal duties and will schedule a discussion period at a mutually convenient time. The OR will keep DOE or cognizant DOE prime contractor supervisory personnel informed of near term (approximately 1 week) areas for intended review and the project participants who may be contacted. It is the option of DOE or the person contacted by the OR as to whether or not a supervisor or third party is to be present. No record of these discussions is required, however questions that are raised or other issues that arise as a result of the above interactions will be reported to the NRC Division of Waste Management and to the cognizant DOE project personnel by the OR as soon as practical.
3. DOE project office(s), DOE prime contractors and their subcontractors will provide the OR access to records which would be generally relevant to a potential licensing decision by the Commission as follows. Upon request by the OR, the DOE or the DOE contractor or subcontractor shall provide copies of any records of raw data provided that the quality assurance checks specified in section 3.a of the Procedural Agreement have been performed. Records which document the analysis, evaluation, or reduction of raw data or contain information deduced by reason will be made available to the OR, after the documentation has been peer reviewed by the prime contractor, and cleared and approved by DOE. Records shall be available for review, but not to copy or to receive a copy for retention, at any stage of completion.

4. Drafts of documents required by the Nuclear Waste Policy Act of 1982, such as the EA, and SCP, which have not been approved by DOE, will not be provided to the OR without DOE approval. Documents of this type may be made available by DOE, but not the DOE contractor. Any such documents made available are for the use of the OR and shall not be placed in any NRC public document room.
5. The OR does not have the authority to direct DOE, their contractors or subcontractors to perform any work. Any formal identification of questions or issues for investigation by DOE that could result in contractor or subcontractor work must be formally presented to DOE through the NRC Division of Waste Management in writing.
6. The OR will attend on-site meetings upon request by the DOE project office or prime contractor on-site whenever possible. The OR will provide any records which would normally be available under 10 CFR Part 2.790 of the Commission's regulations to project participants upon request to copy. If convenient, copies of such records will be provided by the OR.
7. The OR shall be afforded access to the site, research facilities, and other contractor and subcontractor areas to observe testing or other data gathering activities, in progress, as part of site characterization and site investigation subject to compliance with the applicable requirements for identification, and applicable access control measures for security, radiological protection and personnel safety, provided that such access shall not interfere with the activities being conducted by DOE or its contractors (see point 6 above) and that any discussions conducted during such access shall comply with point 2 above.

Such access shall be allowed as rapidly as it is for DOE or DOE contractor employees upon display of an appropriate access identification badge, or, if badging is not possible for national security reasons, upon prior notification to DOE or cognizant contractor supervisory personnel (by memorandum, telephone or personal contact). When an access identification badge is available to DOE or DOE's contractors and subcontractors on a routine basis, it shall be made available to the OR upon completion of the required security clearances and appropriate radiological and personnel safety training. DOE will ensure that any training required is provided to the OR.

8. The OR and DOE will make arrangements which allow for at least weekly information exchanges to discuss pending DOE plans and program status, and any problem areas requiring attention of either or both parties.
9. DOE and NRC will assure that all of its employees and contractors (prime and sub) involved in the repository projects observe applicable provisions of this appendix. This appendix will be distributed by DOE and NRC to all project specific prime contractors and subcontractors.

FOR DOE:

Ralph Stein

DATE: 6/14/85

FOR NRC:

RSB

DATE: 6/14/85

NRC CHECKLIST FOR APPENDIX 7 SITE ASSIGNMENT

Project: _____

Itinerary:

Purpose:

Specific Information To Be Examined:

NRC Staff Lead: _____

On-Site Representative: _____

NRC/NRC Contractor Participants:

Signature/Date:

Staff Lead _____
Project Manager _____

NRC FORM 602
0-71

U.S. NUCLEAR REGULATORY COMMISSION

TRIP REPORT

TO:

TRAVELER

F
R
O
M

BRANCH

PLACES VISITED

DATES OF TRIP

PERSONS CONTACTED

PURPOSE OF TRIP

ACCOMPLISHMENTS

PROBLEMS ENCOUNTERED

PENDING ACTIONS

RECOMMENDATIONS

SIGNATURE - TRAVELER

DATE

LICENSING SIGNIFICANCE OF NRC DOCUMENTS

- o Requirements
 - NRC regulations - 10CFR60, etc.
- o Official NRC positions, guidance, comments, agreements
 - **Regulatory Guides (e.g. 4.17 SCP Standard Format/Content)**
 - Generic Technical Positions (GTP)
 - Site Technical Positions (STP)
 - Standard Review Plans (SRP)
 - NRC/DOE Technical Meeting Summaries
 - Letters to DOE (e.g., DEA comments)
- o Individual staff observations or views - inputs considered in developing positions, comments, agreements
 - OR monthly reports
 - Trip reports from Appendix 7 assignments
 - Staff memoranda (including team products)
- o Contractor observations or views - inputs considered in developing positions, comments, agreements
 - Contractor letter reports
 - NUREG/CR
- o Papers published in journals or proceedings of various society meetings
 - Present a full range of information from summarizing NRC positions to expressing preliminary staff views

EARLY IDENTIFICATION AND CLOSURE OF LICENSING OPEN ITEMS

JOHN LINEHAN
BRIAN THOMAS

NRC Plans -
Summary of 5 Year Plan
Status of Generic Planmin

FIVE YEAR PLAN - HIGH LEVEL WASTE REPOSITORY PROGRAM

GOALS AND OBJECTIVES.

- AGGRESSIVE PROGRAM FOCUSED ON ACTIVITIES NECESSARY TO PROVIDE SUFFICIENT LICENSING GUIDANCE TO DOE AND SUFFICIENT INTERACTION WITH DOE, STATES, INDIAN TRIBES, AND OTHER AGENCIES IN ORDER TO IDENTIFY LICENSING OPEN ITEMS AND BEGIN THE PROCESS OF RESOLVING THEM.
- AGGRESSIVE PROGRAM THAT STRIVES TO ASSURE A FORMAL RESOLUTION OF LICENSING OPEN ITEMS PRIOR TO THE LICENSING HEARING, TO THE EXTENT PRACTICABLE.
- DEVELOP AN INDEPENDENT TECHNICAL CAPABILITY TO REVIEW DOE'S LICENSE APPLICATION WITHIN A 3-4 YEAR TIME FRAME.
- IDENTIFY AND ELIMINATE, TO THE EXTENT POSSIBLE, IMPEDIMENTS TO MEETING NRC'S STATUTORY TIME FRAME FOR LICENSE PROCEEDING AND IDENTIFY AND IMPLEMENT EFFICIENCIES IN THE LICENSING PROCESS.

KEY ELEMENTS OF THE FIVE YEAR PLANNING APPROACH

- o PROACTIVE AS OPPOSED TO REACTIVE.
- o FOCUS THE PROGRAM ON THE KEY LICENSING DECISIONS THAT MUST BE MADE WITH RESPECT TO 10 CFR 60 PERFORMANCE OBJECTIVES AND SITING AND DESIGN CRITERIA.
- o OPEN AND DOCUMENTED PROCESS FOR DEVELOPMENT OF GUIDANCE AND EARLY IDENTIFICATION, PRIORITIZATION AND RESOLUTION OF OPEN ITEMS.
- o PROVISION FOR EARLY AND FULL INVOLVEMENT WITH DOE, STATES, INDIAN TRIBES.
- o DEVELOPMENT OF A FORMAL MECHANISM FOR IMPLEMENTATION.

DEVELOP SYSTEMATIC APPROACH FOR DEVELOPMENT OF GUIDANCE
AND FOCUSING PROGRAM ON EARLY IDENTIFICATION AND CLOSURE OF OPEN ITEMS

- o OPEN ITEM IDENTIFICATION AND PRIORITIZATION.
- o DEVELOP MECHANISM TO FOCUS DEVELOPMENT OF GUIDANCE AND NRC/DOE INTERACTIONS ON FORMAL CLOSURE OF OPEN ITEMS.

OPEN ITEM IDENTIFICATION AND PRIORITIZATION

- o GENERIC COMPLIANCE DEMONSTRATION ISSUES
- o SITE SPECIFIC OPEN ITEMS
- o CONSULT WITH DOE, STATES, AND TRIBES
- o PRIORITIZATION
 - DETERMINE WHERE GUIDANCE AND WORK ON OPEN ITEM RESOLUTION IS MOST NEEDED
 - MOST CONTENTIOUS OPEN ITEMS
 - CRITICAL TO EARLY PHASES OF PROGRAM
 - LONG-LEAD TIME ITEMS
 - TIMING WITH RESPECT TO OVERALL PROGRAM SCHEDULES

MECHANISMS FOR FORMAL CLOSURE

- o FOCUS NRC/DOE INTERACTIONS ON RESOLUTION OF OPEN ITEMS
 - AGREE ON CONSULTATION POINTS
DOE, STATES, AND TRIBES
 - DEVELOP AGENDAS THAT FOCUS ON DEVELOPMENT OF APPROACHES FOR RESOLVING ISSUES
 - EFFECTIVE STATE AND TRIBAL PARTICIPATION
 - MINUTES THAT REFLECT PROGRESS TOWARDS OPEN ITEM RESOLUTION, AGREEMENTS, DISAGREEMENTS, AND IDENTIFY ACTIVITIES NEEDED TO ACHIEVE RESOLUTION

MECHANISMS FOR FORMAL CLOSURE (CONTINUED)

- o FORMAL AND DOCUMENTED TECHNICAL POSITIONS.
 - MECHANISM TO ESTABLISH AND DOCUMENT CONSENSUS ON AGREEMENTS REACHED AT MEETINGS
 - VENTILATE POSITIONS TO ESTABLISH TECHNICAL CONSENSUS
 - PEER REVIEW
 - PUBLIC COMMENT
 - TARGET GROUPS
 - DOCUMENT CONSENSUS/AGREEMENTS IN FINAL TECHNICAL POSITIONS
 - DOE, STATES, AND TRIBES
 - TYPES OF TECHNICAL POSITIONS
 - STRATEGIES - DEVELOP CRISP BASELINE/GROUND RULES.
E.G., HYDROLOGIC TESTING
 - METHODOLOGIES - IMPLEMENTATION OF EPA STANDARD.

MECHANISMS FOR FORMAL CLOSURE (CONTINUED)

o RULEMAKING

- IDENTIFY TOPICS FOR RULEMAKING

- CRITERIA

- RIPE, WELL VENTILATED, MATURE
 - MOST CONTENTIOUS
 - LONG LEAD TIME

- POSSIBLE TOPICS

- DISTURBED ZONE
 - METHODOLOGY FOR IMPLEMENTATION OF EPA STANDARD

DEVELOPMENT OF INDEPENDENT TECHNICAL REVIEW CAPABILITY

o ESTABLISH REVIEW CRITERIA AND REVIEW APPROACH

- FOR EACH COMPLIANCE DEMONSTRATION ISSUE
- FOR VARIOUS PHASES OF THE PROGRAM

SCP
SCP UPDATES
LICENSE APPLICATION

o MODELING STRATEGY DOCUMENT

GENERIC TECHNICAL POSITIONS
AS OF 04/24/86

	<u>DRAFT</u>	<u>FINAL</u>
o GTP ON PERFORMANCE CONFIRMATION	TBD	TBD
o CONFIGURATION MANAGEMENT FOR CONCEPTUAL DESIGN	TBD	TBD
o QUALIFICATION OF EXISTING DATA	TBD	TBD
o PEER REVIEW	TBD	TBD
o GTP ON DOCUMENTATION OF COMPUTER CODES	---	6/83
o MODELING STRATEGY DOCUMENT FOR HLW PERFORMANCE ASSESSMENT	---	7/84
o GTP ON SCLIPILITY	---	11/84
o GTP ON BOREHOLE AND SHAFT SEALS	6/84	2/86
o LICENSING ASSESSMENT METHODOLOGY FOR HLW GEOLOGIC REPOSITORIES	7/84	5/86
o GTP ON PERFORMANCE ASSESSMENT	8/84	4/86
o GTP ON IN-SITU TESTING DURING SITE CHARACTERIZATION	10/84	12/85
o GTP ON WASTE PACKAGE RELIABILITY	11/84	12/85
o GTP ON DESIGN INFORMATION; NEEDS IN SITE CHARACTERIZATION PLANS	4/85	12/85
o GTP ON SORPTION	1/86	'86
o GTP ON INTERPRETATION AND IDENTIFICATION OF DISTURBED ZONE	7/86	TBD
o GTP ON GROUNDWATER TRAVEL TIME AND DISTURBED ZONE	7/86	'86
o GTP ON STRUCTURES, SYSTEMS AND COMPONENTS IMPORTANT TO SAFETY AND BARRIERS IMPORTANT TO WASTE ISOLATION	7/86	'87
o GTP ON SEISMO-TECTONIC EVALUATION METHODOLOGY	8/86	'87
o TECHNICAL POSITIONS ON SELECTED QA IMPLEMENTATION ISSUES	2-9/86	TBD

MAR 07 1986

MEMORANDUM FOR: Malcolm R. Knapp, Chief
Geotechnical Branch, DWM

John T. Greeves, Chief
Engineering Branch, DWM

FROM: John J. Linehan, Acting Chief
Repository Project Branch, DWM

SUBJECT: IMPLEMENTATION OF FIVE YEAR PLAN

DISTRIBUTION
WM S/F
WMRP r/f
NMSS r/f
CF
REBrowning
MJBell
JBunting
MRKnapp
JTGreeves
JLinehan & r/f
RRBoyle
SCoplan
JKennedy
RCook
PPrestholt
TVerma
JGiarratana
PDR
PHildenbrand
RJohnson
KStablein

On January 29, 1986, WM presented a briefing to Mr. Davis on the Division's HLW Strategic Plan for the next five years. The Five-Year Plan, as approved by Mr. Davis, is attached. The plan sets forth the major goals and actions for the Division in the HLW area and focuses on the formal resolution of licensing issues.

In order to begin implementing the plan, it is necessary that work plans be developed that detail the process for formal resolution of the specific compliance demonstration issues (key licensing findings that must be made by NRC) contained in 10 CFR Part 60. Each work plan should include all activities related to resolution of the issue in question (e.g., development of GTP's; development of review capability for SCP's, bi-annual SCP updates and license application, including development or use of models and codes; and any direct interactions with DOE, States, Tribes and peer review groups needed to support these activities) and a schedule for completion, as required, prior to the submittal by DOE of the license application in 1991. Also, each work plan should provide milestones intended to assure that products are well scoped out and coordinated at both staff and management levels at an early stage and throughout product development and that in all activities, appropriate attention is paid to technical integration throughout. The first activity under the WMRP systems integration task will be one of assuring that appropriate interfaces are maintained in these work plans. The required work plans and lead responsibility are as follows:

Work Plan

Lead Responsibility

- | | |
|---|---------------|
| 1) Pre-Closure Protection Against Exposures and Releases | John Greeves |
| 2) Retrievability | John Greeves |
| 3) Containment of HLW within Waste Packages | John Greeves |
| 4) Radionuclide Release Rate from Engineered Barrier System | John Greeves |
| 5) Pre-Waste Emplacement Groundwater Travel Time | Malcolm Knapp |
| 6) Post-Closure Groundwater Protection | Malcolm Knapp |
| 7) Post-Closure Individual Protection | Malcolm Knapp |

- Guatemala 0-3-4-4-0**

OFC : WMPR : KLB : : : : :

HLW 5-YR PLAN/DUP

- 1 -

DIVISION OF WASTE MANAGEMENT
HIGH-LEVEL WASTE PROGRAM
FIVE-YEAR PLAN
FY86-FY90

MISSION:

NRC's mission in the National High-Level Waste Program is derived from the Nuclear Waste Policy Act of 1982 (NWP). A key element of the NWP is to have the first licensed geologic repository available to begin permanent disposal of spent fuel and high-level waste by 1998. As directed by the NWP, DOE has lead responsibility for siting, designing, constructing, and operating the repository, with full participation by affected States and Indian Tribes. NRC is responsible for licensing the repository (its construction and operation) in accordance with its licensing criteria contained in 10 CFR Part 60. According to the NWP, NRC must reach a licensing decision within 3-4 years of receipt of DOE's license application, during which time NRC will be on the critical path of the national program. According to DOE's latest published estimates, a license application for the first repository (out of two currently planned) will be submitted to NRC in 1991 and the repository will begin accepting high-level waste in 1998, the date specified by the NWP. The major parties to the NRC licensing hearing will be the NRC, DOE, the host State and affected Indian Tribes.

As part of its mission to license the repository, NRC's activities in the next five years will be based on developing licensing guidance for DOE; resolving, to the extent practicable, licensing issues prior to the hearing; developing the staff's independent licensing assessment capability; and identifying and implementing ways to make the licensing process more efficient. All of NRC's activities will be carried out in an open manner, assuring the necessary interaction with affected States, Indian Tribes and other agencies.

MAJOR FIVE-YEAR GOALS:

In five years from now, NRC's high-level waste program should be in a position whereby all necessary licensing guidance has been provided to DOE; major licensing issues have been adequately ventilated among all parties involved and resolved, to the extent practicable; and the NRC staff has the technical competence and ability to conduct a thorough review of DOE's licensing

application and complete its licensing hearings within the mandated 3-4 year time frame. In order to achieve this strategic position within five years, NRC has the following major goals:

1. Develop and maintain an aggressive program focused on activities necessary to provide sufficient licensing guidance to DOE and sufficient interaction with DOE, States, Indian Tribes, and other agencies in order to identify licensing issues and begin the process of resolving them.
2. Develop and maintain an aggressive program that strives to assure the formal resolution of licensing issues prior to the licensing hearing, to the extent practicable.
3. Develop the staff's technical capability to review DOE's licensing application within a 3-4 year time frame and to adequately defend NRC's position on all licensing issues.
4. Identify and eliminate, to the extent possible, impediments to meeting NRC's statutory time frame for completing its licensing proceeding and identify and implement efficiencies in the licensing process.

OVERALL FIVE-YEAR STRATEGY

- o Focus the program on the key licensing decisions that must be made with respect to 10 CFR 60 performance objectives and siting and design criteria.
- o At least 70% of the staff's effort will be devoted to the formal resolution of licensing issues and in developing an independent capability to conduct the licensing review and hearing within the NWPA-mandated 3-4 year time frame.
- o In the event of year-to-year schedule delays in the DOE program (e.g., in the issuance of Site Characterization Plans), NRC resources devoted to activities dependent on DOE's schedule (no more than 30% of the staff's effort) will be freed up and diverted to formal issue resolution.

ACTION PLANS:

GOAL 1: Provide sufficient licensing guidance to DOE so that its license application will be complete, comprehensive, and of high quality and assure sufficient interaction with DOE, States, Indian Tribes, and other involved agencies in order to identify licensing issues and initiate their resolution.

Action Plans:

- A. Provide guidance to DOE and identify licensing issues through reviews of site characterization plans, environmental assessments, and other DOE plans and reports (generic and site-specific).
- B. Provide guidance to DOE on an acceptable quality assurance program and conduct audits of DOE's implementation of its quality assurance program.
- C. Provide guidance to DOE on format and content of license application documents.
- B. Review DOE's site characterization activities at the three candidate sites.
- C. Initiate resolution of licensing issues, both generic and site-specific, through documented technical meetings, workshops and data reviews.
- D. Maintain continuing liaison with State and Tribal representatives to keep them informed of NRC activities.
- E. Develop and implement specific processes and procedures to permit affected States and Indian Tribes to participate, as appropriate, in the NRC pre-licensing and licensing processes, without adversely affecting schedules and responsibilities.

GOAL 2: Develop and maintain an aggressive program that strives to assure the formal resolution of licensing issues prior to the licensing hearing, to the extent practicable.

Action Plans:

- A. Continue the development of staff technical positions (generic and site-specific) on acceptable methods, tests, and design characteristics for meeting Part 60 performance objectives and siting and design criteria.
- A. Establish and implement a procedure and process for formally resolving site characterization and licensing issues through rulemaking or other feasible alternatives.
- B. Establish and implement a procedure and process for systematically managing and tracking the identification and resolution of licensing issues.
- C. Establish and maintain a priority list and schedule of issues to be resolved through rulemaking or other formalized process.
- D. Implement rulemaking or other formalized process for selected, prioritized issues.

GOAL 3: Develop the staff's technical capability to review DOE's licensing application within a 3-4 year time frame and to adequately defend NRC's position on all licensing issues.

Action Plans:

- A. Ensure that the technical staff remains abreast of developments in the disciplines involved in high-level waste disposal.
- B. Review and verify existing models and codes for assessing long-term performance of a geologic repository system and its subsystems, in relation to Part 60 performance objectives and EPA standards.
- C. Develop selected models and codes for assessing long-term performance.
- D. Develop a standard review plan(s) for NRC's licensing review.

GOAL 4: Identify and eliminate, to the extent possible, impediments to meeting NRC's statutory time frame for completing its licensing review and hearing and identify and implement efficiencies in the licensing process.

Action Plans:

- A. Systematically examine NRC's licensing process to identify impediments.
- B. Work with DOE to develop an integrated network of a Licensing Information Management System to support NRC, DOE, States and Tribes during discovery; and establish a system for interim use.
- C. Establish a Federally Funded R&D Center to alleviate contractor conflict of interest with the DOE program and to assure continuity in technical expertise
- D. Review NRC's current system for handling allegations and adapt it to NRC's NHPA program, for both pre-licensing and post-licensing application.

ASSUMPTIONS:

- o Resources will be available to carry out NRC's responsibilities under the NWPA.
- o A license application to construct a high-level waste repository will be submitted in 1991.
- o In the event of year-to-year schedule delays by DOE, NRC will still be required by the NWPA to complete its licensing review and hearing within 3-4 years.
- o The high-level waste program will continue to be highly contentious.

MAJOR LICENSING ISSUES:

o Performance Issues

Before Permanent Closure:

- safe emplacement of HLW
- retrievability of HLW

After Permanent Closure:

- containment of HLW within waste packages
- release rate of radionuclides from engineered barrier system
- pre-waste emplacement groundwater travel time

o Site Issues

- geology
- waste package
- hydrology
- geochemistry
- design/rock mechanics
- environment
- performance assessment
- quality assurance

o Institutional/Policy Issues

- State/Tribal
- public

1986 HIGH-LEVEL WASTE SITE-SPECIFIC/PROJECT PLANNING

DEVELOPMENT OF 1986 HLW SITE-SPECIFIC/PROJECT PLAN

The 1986 HLW site-specific/project plan should be developed in the following manner. Using the broad and specific objectives, general planning assumptions and project planning assumptions provided identify for each project and discipline area* a plan which consists of the following:

- 1) Significant issues to focus pre-SCP activities (specific objective 1)
- 2) Activities/Products for each significant issue (developed from specific objectives 2-10)
- 3) Identify the specific objectives which the activity/products support
- 4) Lead staff member
- 5) Support staff members
- 6) Contractor support
- 7) General schedule of activities/products

The attached standard format (Enclosure 1) is a convient way to show the above seven planning items. Enclosure 2 illustrates on hypothetical example of how the format could be used to present planning items. The plan should identify all the significant issues and associated activities and products that should be done to support the objectives.

*Discipline areas include: geology/geophysics, hydrology, geochemistry, waste package, design/rock mechanics, environment, performance assessment/integration, and quality assurance.

Planning is expected to be conducted in three steps: 1) explanation of planning approach to section leaders and teams; 2) informal discussions and development of the above seven planning items (including integration with generic items and project items in other disciplines) by team members, in consultation with PM's, SL's, and; 3) meeting for each discipline with team members, SL, PM, for agreement on each discipline plan (i.e., seven planning items).

Planning steps should start the first week of March and agreement meetings should be held during the third and fourth weeks of March.

BROAD OBJECTIVES

1. Prepare for and review the FEA
2. Prepare for SCP review.

SCP preparations, including interactions with DOE should not be to review, comment or agree with the entire SCP in draft form before it is released. NRC will conduct it's comprehensive review of the SCP and supporting information when the SCP is released, in subsequent SCP updates and ongoing reviews during site characterization. SCP preparations should consist primarily of selective reviews for chosen significant issues where early NRC attention and initiation of issue resolution is judged to be needed in order to prevent major changes or delays in DOE's program because of NRC comment. Significant issues can include such items as 1) topics for which there is contention or disagreement between parties (e.g., NRC/DOE, DOE/states, technical community, etc.), 2) topics with associated long lead times, 3) topics central to the performance of a site, or 4) topics with associated testing/analysis or construction methodologies that are unique and new.

SPECIFIC OBJECTIVES

Review FEA

1. Prepare to review FEA following FEA Review Plan
2. Review FEA and prepare comments following FEA Review Plan

Prepare for SCP Review

1. Identify significant issues related to characterization of the site and SCP designs (see broad objective 2)
2. Identify, review and comment on new data/analyses results from DOE/OCRWM programs and determine if there are any new issues
3. Identify, review and determine applicability to site characterization and significant issues of existing and new data and information from non OCRWM programs (e.g., WIPP, foreign, state, and industry)

4. For significant issues related to testing/analysis strategies for characterizing a site, develop and reach agreement with DOE on technical position (e.g., BWIP STP 1.1 on Hydrologic Testing) and develop internal review criteria.
5. For significant issues related to design, develop and reach agreement with DOE on technical positions and develop internal review criteria.
6. Review and comment as needed on field and lab test plans/procedures for studies to be conducted/initiated before SCP release and review (e.g., SRP Surface-based Test Plan, SRP/PNL waste package lab testing)
7. Develop staff assessment capabilities for reviewing SCP information on key issues (e.g., develop range of conceptual models, scenarios, develop capability to review numerical models/codes, and develop/apply independent analytical or numerical modeling methods)
8. Review and comment as needed on preliminary SCP material provided by DOE and at DOE request (e.g., issues heirarchy and associated information needs list, preliminary performance allocations, and draft test plans. Attention to issues/information needs and performance allocation may be necessary to do before full attention is given to test plans)
9. Support external QA activities (e.g., observe DOE audits, prepare for and conduct NRC audits)
10. Conduct technical meetings, appendix 7 visits and prepare letters to DOE needed to support the above objectives.
11. Interact with NRC's on-site representative and DOE's points of contact to the extent needed to support the above objectives.
12. Conduct routine project activities (see list on Enclosure 2) considering that all of these are necessary to support activities related to the above objectives.

GENERIC PLANNING ASSUMPTIONS

1. Current FEA release date is April 1986, therefore preparations to review the FEAs should be completed by April 30, 1986.
2. FEA review period will be two months during the April to July time frame. No pre-SCP interactions will occur during the two month review period.
3. Current SCP release dates are:

BWIP - December 1986

NNWSI - December 1986

Salt - April 1987 (one year after recommendation of the site)

4. Pre-SCP activities should focus on the Hanford, Yucca Mt., and Deaf Smith sites unless DOE recommendations change these sites

PROJECT SPECIFIC PLANNING ASSUMPTIONS (example)

1. During the March to May time period SRPO will be completing their project planning and redirection activities. During this time period they will not request meetings with NRC. Also during this time period they will be

completing their planning networks including identifying milestones and schedules and SRPO/NRC interactions.

2. Two meetings that SRPO may request before other meetings will be on SRPO's issue hierarchy and data needs and draft performance allocations for the site. These will not occur before summer.
3. During the March and April time period the salt team should focus its activities on:
 - a. refinement of our own plans based on review of SRPO networks, review of draft documents while on Appendix 7 visits to Columbus. Each technical lead and others as appropriate should arrange an Appendix 7 visit to Columbus.
 - b. prepare for FEA review - complete preparations by April 30.
4. During the May and June time period the salt team should focus its activities on a scoping review of non-OCRWM programs (e.g., WIPP, West Germany, etc.).

1986 HLW SITE-SPECIFIC/PROJECT PLAN

PROJECT:

DISCIPLINE:

PAGE:

Significant
Issue

Specific
objective No

Activity / Product

Lead
Staff

Support
Staff

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PROJECT :
DISCIPLINE :
PAGE :

Schadstoffe

[illegible]

1986 HLW SITE-SPECIFIC/PROJECT PLAN

PROJECT:

DISCIPLINE:

PAGE:

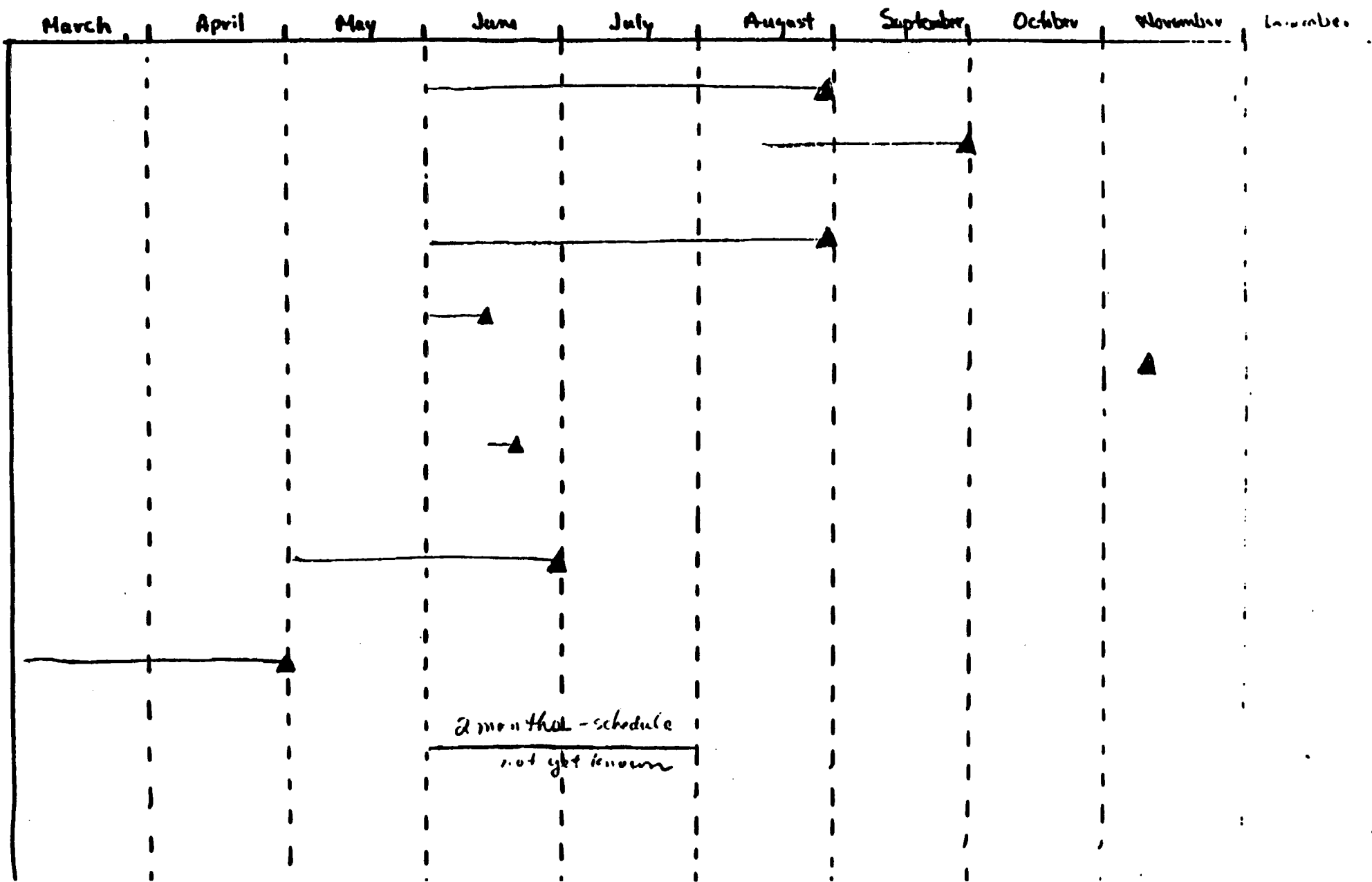
HYPOTHETICAL EXAMPLE

Significant Issue	Specific objective No	Activity / Product	Lead Staff	Support Staff	Support Contractor
0 Dissolution	SCP 4, 7	1.1 Develop range of conceptual models for & kinetic features of post-fire Solvent Extraction	Trapp	1	
	SCP 4, 7, 10	1.2 Technical meeting with SHP. 1 to agree range of conceptual models	Trapp	1	
	SCP 3	1.3 Develop information requirements	Trapp	1	
	SCP 2	1.4 Review/comment on OHSI KAN Form	Trapp		
	SCP 8	1.5 Review/comment on SHP 15th Edition / data needs for design	Trapp	1	
	SCP 2, 10	1.6 App. 7 report to review design and data	Trapp		
1.0 ----- 2.0 -----					
3.0 General SHP Review Prop	SCP 3	4.1 Product sampling review of 100 tonnes (program of water, etc)	Trapp	1	
4.0 FEA Review	FEA 1	5.1 FEA volume preparation	Trapp		
	FEA 2	5.2 Review FEA's	Trapp		

PROJECT :
DISCIPLINE :
PAGE :

Example Schedule

▲ product
— activity

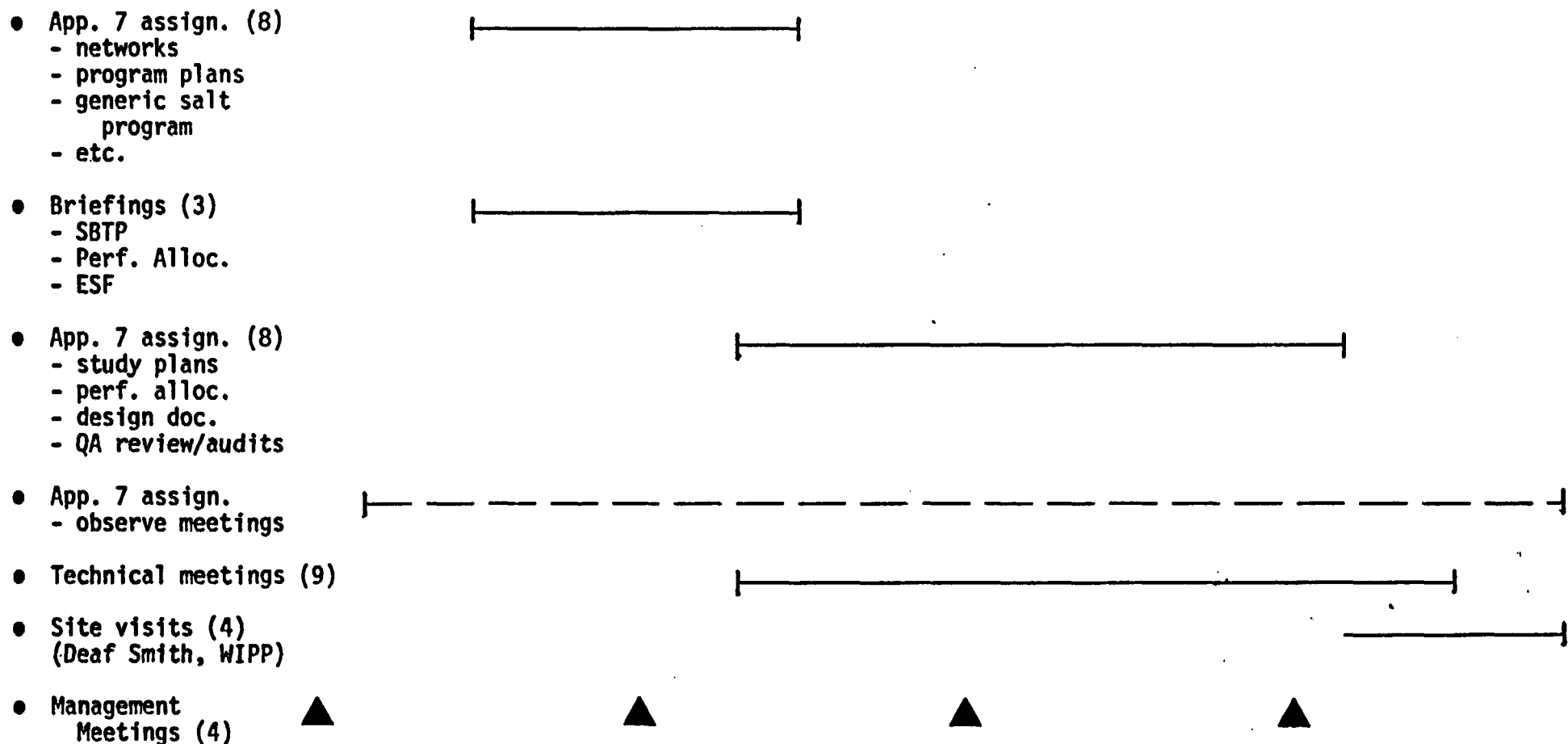


ROUTINE WORK

1. Search, acquire, and place in DCC any non OCRWM new documents relevant to the project. Note that under the RP document review procedure OCRWM documents are distributed from DOE directly to NRC's Docket Control Center.
2. Maintain cognizance of new data (by using DOE data inventories and/or NRC data inventories, NRC OR and DOE points of contact).
3. Conduct scoping reviews of each new document (see document review procedure).
4. Maintain cognizance of key project activities, products, milestones, meetings (project or DOE, industry, State, other federal, foreign society) program changes, etc., using aids such as SRP/ONWI Catalogue, DOE planning documents, NRC/DOE technical contacts, OR's, society meeting lists).
5. Identify and recommend to PM new activities/products or changes to ongoing work with emphasis on identifying where timely guidance is needed to DOE.
6. Work with PM, SL to plan activities/products as needed.
7. Provide PM, OR, and team periodic work status reports as needed.
8. Attend weekly team meetings.
9. Respond to quick turn-around requests from PM of about 2 hours or less.
10. Maintain cognizance of NRC/RES projects relevant to project technical area of responsibility.
11. TA contractor interactions.

PRELIMINARY/GENERAL SCHEDULE FOR NRC REVIEW PREPARATIONS FOR THE DEAF SMITH SITE SCP

JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY



Assumed DOE release of
Deaf Smith SCP



NRC Plans - Status of Site Specific Planning

PRELIMINARY SELECTED CONCERNS
FOR NRC PRE-SCP REVIEW PREPARATIONS

Geology

Structural discontinuities

Geologic conditions supporting hydrogeologic conditions important to ES construction/sealing (emphasis on Dockum Fm)

Geologic conditions of Lower San Andres Unit 4 (host rock)

Dissolution features and potential for future dissolution

Hydrology

Hydrogeologic conditions related to groundwater flow paths, velocities, and mechanisms important to repository performance

Hydrogeologic conditions important to ES construction/sealing

Hydrogeologic conditions important to waste package design and performance

Geochemistry

Geochemical conditions important to waste package environment

Brine migration

Chemical composition of water contacting the waste package

Geochemical conditions important to transport in farfield

Chemical composition (pH and redox)

Rock/water interactions (mineral solubility, sorption)

Thermodynamic data

Waste Package

Waste package environment

Thermal effects

Radiation effects

Mechanical effects

Waste package corrosion

Radionuclide release from waste form and waste package

Rock mechanics/design

Thermomechanical effects on the host rock and disturbed zone

Performance of shafts, boreholes, and all seals

Retrievability

Repository design assumptions

Stability and maintainability of openings

Repository ventilation

MANAGEMENT AND TECHNICAL MEETINGS AND BRIEFING

Geology

Surface-based test plan overview (briefing) - August

Surface-based test plan - selected geologic studies (technical meeting) - December

Hydrology

Surface-based test plan overview (briefing) - August

Alternative conceptual models of the groundwater flow system (technical meeting) - November

Surface-based test plan - selected hydrogeologic studies (technical meeting) - January

Geochemistry

Brine migration (technical meeting) - February

Waste Package

Selected waste package issues (technical meeting) - April

Rock mechanics/design

Exploratory shaft facility overview (briefing) - September

Duration of underground testing (briefing) - September

Exploratory shaft facility (technical meeting) - November

Underground test plan - selected studies (technical meeting) - February

Repository design (technical meeting) - March

Performance Assessment

Status of implementation of performance allocation (briefing) - August

Performance allocation (technical meeting) - October

Project Management

Quarterly management meetings - June, September, December, March

APPENDIX 7 ASSIGNMENTS

Geology

Review (overview) networks, SBTP, study plans, reference geology for ESF design, TBEG plans, generic salt programs

Review selected draft geologic study plans in detail, released proprietary seismic data

Site visit

Observe selected SRP meetings

WIPP visit

Hydrology

Review (overview) networks, SBTP, study plans, reference hydrogeology for ESF design, TBEG plans, generic salt programs, performance allocation

Review selected draft hydrogeologic study plans in detail, specific performance allocation

Site visit

Observe selected SRP meetings

Geochemistry

Review (overview) networks, revised geochemistry program plan, waste package program plan, TBEG plans, generic salt programs

Review selected draft geochemistry study plans in detail, specific performance allocation

Observe selected SRP meetings

WIPP visit

Waste Package

Review (overview) networks, waste package program plan, generic salt programs, performance allocation; detailed review of PNL data and laboratory test plans/procedures

Review selected study plans

Review waste package conceptual design and material selection documents

Observe selected SRP meetings

Rock Mechanics

Review (overview) networks, revised underground test plan, generic salt programs, reference information for ESF design, performance allocation (how much testing is enough)

Review ESF design, construction, sealing documents

Review selected draft study plans

Review conceptual repository design and retrievability documents

Observe selected SRP meetings

WIPP visit

Performance assessment

Review networks, revised performance assessment plan, performance allocation, generic salt programs

Observe selected SRP meetings

Quality Assurance

Determine QA schedules and contractor/subcontractor activities

Review PNL waste package laboratory test plans/procedures documentation (support of waste package Appendix 7)

Review ESF design documents (support ESF design Appendix 7)

Review geology study plans (pre-SCP) documentation (support geology study plan Appendix 7)

Pre-SCP-audit of PNL waste package laboratory test program

Pre-SCP audit of ESF design activities

Pre-SCP audit of geologic portion of surface based testing program

Observe selected SRPO QA audits, readiness reviews, DOE audits of SRPO

Environment/Socioeconomics

Reviews (overview) networks, program plans

Site visit

Observe selected SRP meetings

Project Management

Review selected program documents, networks (associated with quarterly management meetings)

Observe selected SRP meetings

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