



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

JUN 16 1986

MEMORANDUM FOR:

Robert E. Browning, Director
Division of Waste Management

FROM:

Tilak R. Verma, Senior On-Site
Licensing Representative
Salt Repository Project (SRP)

SUBJECT:

SRP SITE REPORT FOR THE MONTH OF MAY,
1986

86 JUN 30 P3:12

1. SHAFT DESIGN: During the week of May 5, 1986, I attended (as an NRC Observer) a SRP Working Group Meeting on "Shaft Design Guide". The meeting was held at Morrison-Knudsen Engineers, Inc., Boise, Idaho. The meeting participants included technical staff from SRPO, ONWI, Fluor, Morrison-Knudsen, and Parsons Brinckerhoff/PB-KBB. A copy of the agenda (Attachment 1) and a list of attendees (Attachment 2) are provided for your information. MK and PB/PB-KBB, each had prepared their own working draft of the Shaft Design Guide and made the drafts available to the attendees before coming to the meeting. Discussions at the meeting were conducted at a high professional and technical level. Some of the understandings reached by the working group are summarized below:

- The shafts shall be designed using past shaft design/construction experience with numerical analysis used for design verification.
- The shaft design guide shall specify the rigor of design to be used for an item placed on the Q-list. The current design assumptions for items assumed to be on the Q-list shall be identified in an Appendix.
- A clarification of the development of design as covered in sections of the outline is:

- Section 7 - Applicable Concepts:
- o Identify concepts alternatives
 - o Tentative selection of concepts
 - o Initial qualitative evaluation and analysis of concepts

- Section 8 - Selected Loads:
- o Load derivation
 - o Load contributions

- Section 9 - Design Dimensioning:
- o Identify a dimensioned concept and perform quantitative analysis

WM Record File
106

WM Project 16
Docket No.

PDR ✓
LPDR (5)

Distribution: *Linahan
*S. Bilhorn *Coplan *Kenney
*REB *MSB *JOE *JIG *DRM
*MRK *B. JOHNSON *Jus 45

1383

Section 10 - Design Verification

- d. An integrated topic outline was developed by discussions and review during the course of the meeting and will be used to complete the outline.
- e. The working group agreed to collectively evaluate numerical models for evaluation and their acceptability in the month of June.
- f. Seismic Analysis section of the shaft design guide will be handled separately during the May 16, 1986 meeting at Fluor in Irvine, California.
- g. It is agreed that the objective of the guide is to produce common shaft configurations to aid in licensing. The guide will unify the approach and methods used to achieve this objective. Where shaft configurations are different, the differences will be explainable based on the shaft design guide (e.g., data and/or requirements).

An agreed upon Integrated Topical Outline of the Shaft Design Guide is attached (Attachment No. 3).

On Friday, May 9, 1986, I visited with M-K and learned about the status of some tasks they are currently working on. Some of these tasks are Vertical Emplacement and Horizontal Emplacement, both for SCP-CDR, Shaft Relocation Study, Source Terms, Retrievability Strategy Paper, and Sensitivity Analyses.

2. WASTE PACKAGE:

- 1. I have received a draft copy of the Waste Package Program Plan. The plan gives descriptions of scope, requirements and performance allocation strategy, reference waste package conceptual design and also provides details of planned waste package testing program. The draft document is available in my office for review (under Appendix-7) by John Voglewede and his team.
- 2. ONWI has developed source terms for use by ORNL for shielding analyses. These source terms will be used to calculate doses around the waste.
- 3. PNL has prepared a data report on "Corrosion Results Obtained From Excess Salt Corrosion Test Matrix 1". It includes results from tests run on the A216 steel container reference material at 150C for 3 months.

4. Some other PNL documents, related to their waste package program, are also available in draft form. These documents are:
 - (i) "Thermochemical data needs for high-level waste disposal in salt repositories",
 - (ii) "Test Plan for investigating the difference in Uranium Release Values between Spent Fuel and UO_2 "
 - (iii) "Test plan to address the possible effects of Hydrogen Pressure on corrosion of mild steels in brine," and
 - (iv) "Selection of Alternative Materials for the Waste Package Container".

3. GEOCHEMISTRY

1. Bendix Field Engineering Corporation has prepared a draft report on "Determination of Bromide in Brine Samples by Differential Pulse Polarography".
2. Paul Knauth of Arizona State University has prepared a draft topical report on "Detection of Brine Pockets in Salt: Water Halo Experiment". The final document will be issued in the form of a Technical Memorandum.
3. A joint meeting of the Engineering Review Group and the Geologic Review Group (GRG) was held here in Columbus during May 14-16, 1986. The topics for discussion were quality and quantity of brines and their movement in salt at the Deaf Smith County site.
4. I have received a draft report from TBEG on "Organic Geochemistry of the Pennsylvanian and Lower Permian, Palo Duro Basin, Texas."
5. Geochemistry Panel reviewed the "Geochemistry Program Plan" in a meeting here in Columbus. Walt Kelly attended the meeting as an NRC observer (under Appendix-7). Walt found the meeting very useful. I have received a draft of recommendations made by the Panel. I will be discussing these recommendations along with ONWI's response with Walt.

4. HYDROLOGY:

1. SRPO is in the process of transferring Intera's groundwater model code, SWENT to the State of Mississippi's geotechnical contractor (A.D. Little) for their use.

2. Hydrology of the Deaf Smith County site was discussed at a joint meeting of the ERG and GRG. These groups have made recommendations for the Hydrology Study Plans to characterize the groundwater flow system at the site. I will get a draft of these recommendations and will discuss these with Ross.

5. GEOLOGY-GEOPHYSICS:

1. I have received draft activity plans for ESF design data activities for the Deaf Smith County site. The plans are prepared by SWEC. A meeting was held between SRPO, ONWI, SWEC, TBEG and PB/PB-KBB to discuss these activity plans.
2. A meeting was held at Fluor's office to discuss the seismic criteria of Shaft Design Guide. A group of eminent consultants is assisting SRP to develop a position on seismic criteria. I have obtained a list of these eminent consultants.
3. I have received the following backup material that relates to the "Hypothetical Data Base":
 - Copies of the Generalized Hypothetical Core Log at ESF Locations
 - SWEC's Reference Stratigraphy at the Deaf Smith site
 - Geotechnical Data Base Values and Ranges for Young's Modulus (Static), Sonic Velocity and Bulk Density.

6. QUALITY ASSURANCE:

1. Effective May 25, 1986, Jerry Reese was selected as the Branch Chief for the SRPO Quality Assurance Branch. The QA Branch has two technical staff members, Bill Sidle and Dennis Anderson. Reese also has two CER technical staff available to his Branch in the QA area.
2. SRP QA Managers' meeting was held at Parsons Brinckerhoff/PB-KBB's office in Houston, Texas on May 13-15, 1986. The SRP managers also toured the Houston Lighting and Power South Texas Project Nuclear Power Plant located in Bay City, Texas.
3. A QA audit of SAIC, Columbus, Ohio, was conducted by SRPO and ONWI QA staff. No findings were issued. SAIC assists SRPO and ONWI in the area of Waste Package.
4. I have received a tentative schedule for SRPO and ONWI QA audits through the end of this fiscal year. (Attachment IV).

5. A "Status Report on Quality Assurance Activities of all SRPO Contractors" is attached for your information (Attachment V).

7. MISCELLANEOUS:

1. Dr. Hermann Gies, a representative from the Federal Republic of Germany Institute fur Tieflagerung (Institute for Underground Storage) visited SRP for three to four weeks. His primary interests are geochemistry and in-situ testing with particular emphasis on radiation damage in rock salt. Dr. Gies gave an overview of West German Waste Program to the SRP technical staff here in Columbus. He also visited with me and we had discussions about NRC's Licensing role.
2. A charter has been drafted for a Permitting Task Force to be composed of representatives from all SRPO branches, ONWI, PB/PB-KBB, P-R, and Fluor. The purpose of this group is to assure the coordination and integration of all efforts toward compliance with regulatory requirements.
3. Two French visitors, Cecile Izabel from the French Ministry of Industry and Pierre Excalier des Orres from the French Atomic Energy Commission/Institute for Nuclear Safety met with SRPO and ONWI staff to exchange information on nuclear waste management activities.

Tilak R. Verma
Tilak R. Verma
Senior On-Site
Licensing Representative
Salt Repository Project

NRC:TRV:max:1340JD

Enclosures:
As Stated

cc: M. Bell
J. Bunting
J. Greeves
J. Linehan
P. Justus
R. Johnson
S. Bilhorn
P. Prestholt
R. Cook
J. Knight, DOE-HQ
J. Neff, SRPO
A. Avel, SRPO
G. Appel, SRPO
S. Frishman, TX

ATTACHMENT-I

SHAFT DESIGN GUIDE AGENDA

DATE: May 6-8, 1986

PARTICIPATING ORGANIZATIONS:

PLACE: Morrison-Knudsen Engineers, Inc.
M-K Plaza IV, Seventh Floor
Boise, Idaho

DOE/ONWI
Fluor Technology, Inc.
Morrison-Knudsen Engineers, Inc.
Parsons Brinckerhoff/PB-KBB

MEETING OBJECTIVES

- o Briefly present A/E's Shaft Design Guide drafts
- o Agree upon common outline
- o Discuss and resolve key content issues or define actions needed to resolve them
- o Establish actions and responsibilities to permit guide to be completed and submitted for SRPD approval by 6/30/86

May 6

8:00-8:30 AM Introduction

8:30-9:15 AM Brief Presentation of PB/PB-KBB Design Guide Draft

9:15-10:00 AM Brief Presentation of MKE Design Guide Draft

10:00-10:15 AM Break

10:15-11:45 AM Review DOE/ONWI Shaft Design Guide Outline and Agree Upon Basic Section Content and Purpose

11:45-12:45 PM Lunch

12:45-3:00 PM Content Discussion/Resolution/Assignments
Section 1.0 Introduction
Section 5.0 Design Data Base

3:00-3:15 PM Break

3:15-4:30 PM Content Discussion/Resolution/Assignments
Section 6.0 Sources of Shaft Lining Loads

4:30-5:00 PM Summarize Discussion of the Day

May 7

8:00-10:00 AM Content Discussion/Resolution/Assignments
Section 2.0 Legal and Programmatic Regulations
Section 3.0 Licensing, Programmatic Regulations

10:00-10:15 AM Break

AGENDA (CON'T.)

10:15-11:45 AM Content Discussion/Resolution/Assignments
Section 4.0 Quality Assurance Regulations (and other
Design Criteria*)

11:45-12:45 PM Lunch

12:45-3:00 PM Content Discussion/Resolution/Assignments
Section 7.0 Design Approach (and Engineering
Design Procedure*)

3:00-3:15 PM Break

3:15-4:30 PM Content Discussion/Resolution/Assignments
Section 7.0 Design Approach (and Engineering
Design Procedures*) (con't.)

4:30-5:00 PM Summerize Discussions of the Day

May 8

8:00-10:00 AM Content Discussion/Resolution/Assignments
Section 8.0 Design Analysis Methodology

10:00-10:15 AM Break

10:15-11:45 AM Content Discussion/Resolution/Assignments
Section 8.0 Design Analysis Methodology
(con't.)
Section 9.0 Effects of Proposed Construction
Methods on Lining Design

11:45-12:45 PM Lunch

12:45-3:00 PM Content Discussion/Resolution/Assignments
Section 9.0 Effects of Proposed Construction
Methods on Lining Design (con't.)

3:00-3:15 PM Break

3:15-4:30 PM Contenty Discussion/Resolution/Assignments
Section 10.0 Performance Monitoring
Section 11.0 Conclusions and Recommendations

4:30-5:00 PM Summerize Discussions of the Day

ATTACHMENT 2

SHAFT DESIGN GUIDE INTEGRATION MEETING
(May 6-8, 1986) MAY 6, AM

NAME	SIGNATURE	ORG.
JOHN WEARING	J. Wearing	MKE
Ron Whiten	R. Whiten	MKE
WITOLD OSTROWSKI	W. Ostrowski	MKE
D. Ross Doman	D. Ross Doman	BPMD-DNWI
HENRI KOZA	Henri Koza	FLUOR
TOM ANDERSON	Thomas Anderson	FLUOR
R. S. SAUNDERS	R. S. Saunders	MKE
J. E. O'Rourke	J. E. O'Rourke	PB-KBB/WCC
J. MICHEL BENOIT	J. Michel Benoit	MKE
MAHMOOD MIRZA	M. Mirza	PB/PB-KBB
B.R. Chytrowski	B.R. Chytrowski	ONWI
K.K. BHATTACHARYA	K.K. Bhattacharya	FLUOR/MKE
M. M. COMAR	M. Comar	ONWI
Teek Verma	Teek R. Verma	NRC (Observer)
JANE POWELL	Jane Powell	DOE-SRPO
John Tinucci	John Tinucci	SAIC
Georges Robin	Georges Robin	M-KE
RANDY ESSEX	Randy Essex	WCC/FLUOR
S.A.G. POPPER	S.A.G. Popper	PB/PB-KBB
Heinz Link	Heinz Link	PB/PB-KBB/TINUCI
Günter Matthes	G. Matthes	PB/PB-KBB

IVO A. LANGE
Paul McKie
DICK SNEU

No Lange
Paul McKie
~~Paul McKie~~ *Paul McKie*

PB/PB-KBB
MRE
FLOR

Attachment **3**

SHAFT DESIGN GUIDE

INTEGRATED TOPICAL OUTLINE

(Agreed Upon at May 6-8, 1986 Meeting)

FRONT COVER

PROJECT REVIEW APPROVAL SHEET

NOTICE TO READER

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16. LIST OF CONTRIBUTORS



ATTACHMENT IV

Department of Energy
Chicago Operations Office
Salt Repository Project Office
505 King Avenue
Columbus, Ohio 43201-2693

January 7, 1986

All SRPO Chiefs

SUBJECT: QA AUDITS, JANUARY-SEPTEMBER, 1986

Attached is a tentative schedule for SRPO and ONWI QA audits for the remainder of this fiscal year. Please review the schedule and identify audits in which you or your staff would like to participate. When I have received your inputs, I will select participants based upon consolidations of the desires of all Chiefs.

T.J. Reese
Chief
Quality Assurance
Salt Repository Project Office

SRPO:TJR:max:0789C

Enclosure:
As Stated

cc: J. Neff, SRPO
R. Wunderlich, SRPO
D. Anderson, SRPO

QA# 045-86

CONTRACTOR AUDIT SCHEDULE
JANUARY - SEPTEMBER 1986

Page 1 of 2
January 3, 1986

CONTRACTOR	SCOPE	FORECAST DATE	QA TEAM MEMBERS	TECHNICAL SPEC.
Fluor Audit (Follow-up)	Conceptual Design of a Nuclear Waste Repository in Salt	01/22/86	TJ Reese	
Battelle Columbus Lab.	Chemical Seal Ring Characterization & Leaching Experiment	01/30/86	HP Nunes, GM Ember	
Bendix-GJO	Geochemical Assistant Project	02/04-05/86	HP Nunes, GM Ember	
✓ Argonne National Lab.	Technical Assistant & Peer Review	<u>02/11-12/86</u>	HL Rogell, BL Sachs	
<u>ORNL</u>	Adjoint Sensitivity Modeling	<u>02/27-28/86</u>	SB Ailes, JJ George	
<u>USGS</u>	Geologic Exploration & Technical Displacement Joint SRP-CPO Audit	<u>03/04-05/86</u>	TJ Reese, B Kehew, EA Patzer	
LLNL	<i>Procurement QA School</i> EQ3/EQ6 Model Development	<i>3/10-12/86</i> 04/08-09/86	SB Ailes, GM Ember	
LBL	<i>Lead Auditor School</i> Lab Analysis & Test for Radionuclide Solubility in Brines	<i>4/7-11/86</i> 04/10-11/86	SB Ailes, GM Ember	
Brookhaven National Lab.	Salt Radiations Effect	04/10-11/86	HP Nunes, BL Sachs	
✓ <u>PB/PB-KBB</u>	ESF Design	<u>04/15-16/86</u>	TJ Reese, IJ Lefman — <i>8a</i>	
✓ <u>Earth Technology</u>	GPM for Southern Region and GPM for OCRD Activities	<u>04/28-30/86</u>	HG Kitchen, HP Nunes	
NUS	RPM - Bedded Salt	04/16-17/86	HL Rogell, GM Ember	
<u>Stone & Webster Eng. Co.</u>	GPM - Permian	<u>05/13-15/86</u>	HP Nunes, IJ Lefman	

CONTRACTOR AUDIT SCHEDULE
JANUARY - SEPTEMBER 1986

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January 3, 1986

CONTRACTOR	SCOPE	FORECAST DATE	QA TEAM MEMBERS	TECHNICAL SPEC.
✓ University of Minnesota	Rock Mechanics Lab Test and Analysis	<u>05/20-21/85</u>	C Williams, GH Ember	
Intera Technologies	Performance Assessment Program Activities	05/20-21/85	SB Ailes, JJ George	
<u>Woodward-Clyde Corp.</u> <u>Bechtel</u>	GPM-Joint ONWI/OCRD RPM	06/03-04/86 06/05-06/86	ML Rogell, HG Kitchen ML Rogell	
<u>Fluor</u>	Repository Design	<u>07/08-10/86</u>	TJ Reese, IJ Lefman	
<u>Golder</u> ✓	In Situ Test - ONWI, GPM - OCRD	<u>07/15-17/86</u>	JJ George, HG Kitchen	
<u>RE/SPEC</u> ✓	Rock Mechanic Analysis Lab Test	<u>08/05-07/86</u>	ML Rogell	
<u>ONWI</u>	Project Integ. for SRPO	<u>08/19-22/86</u>	TJ Reese & DOE	
<u>Parsons-Redpath</u>	Construction Management ESF	<u>09/09-11/86</u>	TJ Reese, JJ George	
Pacific Northwest Lab.	Performance Assess Models; Waste Package Program	09/22-26/86	TJ Reese, B Ailes, IJ Lefman, HP Hunes	

Approved by: _____ Date _____
ONWI Quality Assurance Manager

Approved by: _____ Date _____
BPMQ Quality Assurance Dept. Manager

**CONTRACTOR SURVEILLANCE SCHEDULE
JANUARY - SEPTEMBER 1986**

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January 3, 1986

CONTRACTOR	SCOPE	FORECAST DATE	QA TEAM MEMBERS	TECHNICAL SPEC.
Ebasco	LPM	06/11/86	CH Ember, IJ Lefman	
SAIC	Support of Performance Assessment Sealing Materials	08/12-13/86	SB Alles	
GE	Waste Package Design and Construction	07/29-30/86	HP Hunes	
HEDL	Salt Examination	09/26/86	TJ Reese, HP Hunes	

Approved by: ONWI Quality Assurance Manager Date

Approved by: BPHD Quality Assurance Dept. Manager Date

STATUS REPORT ON QUALITY ASSURANCE ACTIVITIES OF SRP CONTRACTORS

Page 1 of 3

CONTRACTOR AGREEMENT NO.	SCOPE OF WORK	SRPO QA SPECIF. DATED	CONTRACTOR SUBMITTALS		STATUS OF SRPO AUDIT	COMMENTS
			QA MANUAL/PLAN	IMPLEMENTING PROCEDURES		
ARGONNE NAT'L LAB. (ANL) 109-ENG-38-109	Technical Assistance-General	September, 1985	Not required	Not required	Audit scheduled for 7/86	Scope of work required only the performance of technical reviews
	Technical Reviews-Salt Host Rock	April, 1985	Not required	Reviewed 11/85-comments noted see "comments"	--	Resubmittal of revised procedures due 04/86
	Peer Reviews Multidisciplinary	April, 1985	2nd draft plan submittal recvd in review process	2nd drafts recvd 04/18/86 - in review process	Audit scheduled for 7/86	
BENDIX/GRAND JUNCTION OFFICE DE-AC07-76GJ01664	Chemical Hydrology Studies	January, 1984 See "comments"	Manual (Rev.5) appvd 01/86 for plan(Rv.2) see "comments"	Not received	03/86 Audit performed-5 findings identified	SRPO QA Specif. dtd January, 1986, recvd but not yet transmitted - QA plan(rev 2) in effect; Rv.3 expected by 06/86
BROOKHAVEN NAT'L LAB (BNL) DE-AC02-76CH00016	Radiation effects on rock salt	July, 1985	Plan(Rv.C)approvd 03/86	Reviewed & Approved	Audit scheduled for 6/86	FTPA work anticipated completion by 09/86
FLUOR TECH. INC. DE-AC02-83MH46656	Repository Design	January, 1986 See "comments"	Manual(Rv.2) apprvd 1/86	Reviewed & Approved	01/86 follow-up audit performed-closed out 9/85 audit	SRPO QA specif. requires reformatting anticipate issue by 07/86
WESTINGHOUSE/HEDL DE-AC06-76FF02170	Remote Handling & robotics	March, 1986	--	--	--	Not released by SRPO for work. New contract
	Salt - CHIT	November, 1985	Not received	Not received	Not yet scheduled	New contract

STATUS REPORT ON QUALITY ASSURANCE ACTIVITIES OF SRP CONTRACTORS

Page 2 of 3

CONTRACTOR AGREEMENT NO.	SCOPE OF WORK	SRPO QA SPECIF. DATED	CONTRACTOR SUBMITTALS		STATUS OF SRPO AUDIT	COMMENTS
			QA MANUAL/PLAN	IMPLEMENTING PROCEDURES		
	Waste Package Studies	November, 1985 see "comments"	New contract-not yet received	New contract-not yet received	Audit scheduled for 9/86	SRPO QA Specif. dtd March, 1986 re... but not yet transmitted - new contract
LAWRENCE BERKELEY LAB (LBL) DE-AC03-765F00098	Radionuclide solubility in brines	September, 1985 see "comments"	Plan(Rv.0)condit. appvd 11/85-see "comments"	--	Audit scheduled for 6/86	SRPO QA specif. requires revision for FY87 work-QA plan(Rv.1) submittal schedule unknown
LAWRENCE LIVERMORE NAT'L. LAB. (LLNL) W-7405-ENG-48	EQ3/EQ6 model development	May, 1985 - see "comments"	Draft plan unac- ceptable-10/85 notified 03/86	Received for review	Audit scheduled for 9/86	SRPO QA Specif. requires revision for FY87 work-resubmittal of QA Plan anti- pated by 05/86
OAK RIDGE NAT'L LAB (ORNL) DE-AC05-840R21400	Sensitivity Modeling	November, 1985	Plan(Rv.)recvd 04/86-in review process-see "comments"	--	Audit scheduled for 7/86	QA Plan review to be completed by 05/86.
OAK RIDGE OPERA- TIONS (SAIC) DE-AC05-810R20837	Horizontal waste package emplacement	August, 1985	Plan approved 02/07/86	--	Audit scheduled for 5/86	Work activities are essentially complete
PACIFIC NORTHWEST LAB (PNL) DE-AC06-76RL01830	Commercial waste pkg program	October, 1985	Plan CT-45,Rv 5 approved 3/86	Received & approved	09/85 audit per- formed-2 findings 3 observ.s-partial responses recvd	
	Defense waste characteriz. tests in salt	October, 1985	Not received to date		Not currently scheduled	
	Materials Characteriz. center(MCC) support	March, 1986 see "comments"	Plan NWTP-1(Rv.0) approved 04/86	Reviewed & approved	Not currently scheduled	SRPO QA Specif. requires revision in FY87 work

STATUS REPORT ON QUALITY ASSURANCE ACTIVITIES OF SRP CONTRACTORS

Page 3 of 3

CONTRACTOR AGREEMENT NO.	SCOPE OF WORK	SRPO QA SPECIF. DATED	CONTRACTOR SUBMITTALS		STATUS OF SRPO AUDIT	COMMENTS
			QA MANUAL/PLAN	IMPLEMENTING PROCEDURES		
PARSONS REDPATH (P-R) DE-AC02-83CH10125	Performance assessment	March, 1986 see "comments"	Plan G0-30(Rev.0) approved 01/86	Reviewed & Approved	Audit scheduled for 9/86	SRPO QA Specif. dtd January, 1986 requires revision for FY87 work
	Construction manager	Not issued	Plan(dtd 05/85) rejected 01/86 see "comments"	Not received	10/85 audit performed- 2 findings 3 observ.'s responses (dtd) 03/86 unacceptable	SRPO QA Specif.(dtd January 1986) requires revision(reformatting) QA Plan revision to be submitted by 06/86
PARSONS BRINKERHOFF/ (PBB/PB-KBB)PB-KBB DE-AC-97-86MM46664	Design of exploratory shaft facility	September, 1982 SOW	Plan ES07-01 (Rv.3) approved 10/85. Revised plan to revised spec due 6/86	Reviewed & Approved	4/86 Audit performed-4 findings - 1 observation	SRPO QA Specif(dtd January 1986) requires revision (reformatting)
TEXAS BUREAU OF ECONOMIC GEOLOGY (TBEG) DE-AC97-83MM46651	Geological Studies	11/82 SOW	Plan Rv. 5 approved 1/86	--	Audit scheduled for 6/86	
U.S. GEOLOGICAL SURVEY (USGS) DE-AI97-84MM46658	Radiation effects on salt	July, 1985	Plan reviewed & comments re- turned 11/85 see "comments"	Same as for QA Plan - see "comments"	Audit scheduled for 7/86	Revised QA Plan/procedures expected with FY87 SOW-no signed agreement with USGS for FY86 work activities