Department of Energy
Washington, DC 20585

DEC 24 1992

Mr. Joseph J. Holonich, Director
Repository Licensing & Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Holonich:

This letter transmits the Yucca Mountain Site Characterization Project Office (YMPO) Monthly Study Plan Status for the month of November 1992. This report summarizes review and approval status of Site Characterization Plan study plans for the Yucca Mountain Site Characterization Project. This summary includes the major accomplishments in the process of developing study plans for the month of November 1992, and the current status of all study plans that are currently planned or in review at the YMPO, the Office of Civilian Radioactive Waste Management, and the U.S. Nuclear Regulatory Commission.

If you have any questions, please contact Mr. Chris Einberg of my office at 202-586-8869.

Sincerely,

Linda J. Desell

for John P. Roberts
Acting Associate Director for
Systems and Compliance
Office of Civilian Radioactive
Waste Management

Enclosure:
Status Report for Study
Plans, November 1992

102.8
WM-11
NH03

cc: w\enclosure
C. Gertz, YMPO
R. Loux, State of Nevada
T. Hickey, Nevada Legislative Commission
M. Baughman, Lincoln County, NV
J. Bingham, Clark County, NV
B. Raper, Nye County, NV
P. Niedzielski-Eichner, Nye County, NV
G. Derby, Lander County, NV
P. Goicoechea, Eureka, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
E. Wright, Lincoln County, NV
J. Pitts, Lincoln County, NV
R. Williams, Lander County, NV
J. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, CA
C. Abrams, NRC

1.0 INTRODUCTION

The following report summarizes the status of review and approval of Site Characterization Plan (SCP) study plans for the Yucca Mountain Project. Table 1 provides a summary status of all study plans that are currently planned or in review at the Yucca Mountain Site Characterization Project Office (Project Office), the Office of Civilian Radioactive Waste Management (OCRWM), and the U.S. Nuclear Regulatory Commission (NRC).

Section 2 of this report provides the major accomplishments in the process of developing study plans for the month of NOVEMBER 1992. Section 3 summarizes the status of all study plans in the review process at the Project Office. Section 4 summarizes the status of study plan reviews that have been completed by the NRC and the State of Nevada.

2.0 STUDY PLAN HIGHLIGHTS FOR THE MONTH OF NOVEMBER, 1992

2.1 NEW STUDY PLAN SUBMITTALS

No new study plans were recieved by the Project Office in November.

2.2 REVIEW COMMENTS COMPLETED

No Project Office reviews were completed in November.

2.3 COMMENT RESOLUTION MEETINGS

No comment resolution meetings were held in November.

2.4 STUDY PLAN REVISIONS

Three revisions of existing study plans were recieved by the Project Office in November, 8.3.1.4.2.2 R2 Characterization of Structural Features within the Site Area, 8.3.1.15.1.1 R1 Laboratory Thermal Properties and 8.3.1.15.1.2 R1 Laboratory Thermal Expansion Testing. These revisions were prepared in order to accommodate the changes in the ESF configuration.

2.5 COMMENT VERIFICATION

Two Study Plans, 8.3.1.15.1.8 In-Situ Design Verification and 8.3.1.17.4.4 Quaternary Faulting Proximal to the Site within Northeast Trending Fault Zones, were returned to reviewers to verify the resolution of their comments and one Study Plan, 8.3.4.2.4.3 Geomechanical Attributes of the Waste Package Environment, completed verification of comment resolution in November.

Enclosure

2.6 STUDY PLANS APPROVALS

Five study plans, 8.3.1.3.4.2 Biological Sorption and Transport, 8.3.1.5.2.1 R2 Characterization of Quaternary Regional Hydrology, 8.3.1.5.2.2 Characterization of Future Regional Hydrology Due to Climate Change, 8.3.1.8.2.1 Analysis of Waste Package Rupture Due to Tectonic Processes and Events and 8.3.1.9.2.1 Natural Resource Assessment of Yucca Mountain, Nye County were approved by the Project Office in November.

2.7 COMPLETED NRC REVIEWS

No study plan phase I review were completed during November.

3.0 CURRENT STATUS OF ALL STUDY PLANS

3.1 PLANS IN REVIEW

The following study plans have not yet completed the screening and technical reviews by the Project Office.

Identification/Organization	Date Draft Transmitted
8.3.1.3.4.1/8.3.1.3.4.3: Batch Sorption Studies/ Development of Sorption Models/LANL	10/28/92
8.3.1.4.2.2 R2: Characterization of Structural Features within the Site Area/USGS	11/18/92
8.3.1.8.1.2: Physical Processes of Magmatism and Effects on the Potential Repository/LANL	10/21/92
8.3.1.8.5.2: Characterization of Igneous Intrusive Features/USGS	10/13/92
8.3.1.15.1.1 R1: Laboratory Thermal Properties/SNL	11/3/92
8.3.1.15.1.2 R1: Laboratory Thermal Expansion Testing/SNL	11/3/92
8.3.1.15.2.2: Characterization of Site Ambient Thermal Conditions/USGS	10/13/92

3.2 STUDY PLANS AWAITING COMMENT RESOLUTION MEETINGS

Comments have been transmitted to the authors, and the Project Office is awaiting notification that the author is ready for a comment resolution meeting or notification that proposed resolutions have been agreed upon between the PI and reviewers without the need for a meeting.

Identification/Organization	Date Comments Sent to PI
8.3.4.2.4.1: Characterization of Chemical and Mineral Changes in the Postemplacement Environment/LLNL	03/13/90
8.3.4.2.4.2: Hydrologic Properties of the Waste Package Environment/LLNL	03/23/90

3.3 STUDY PLANS IN REVISION

3.3.1 Comment Resolution Meetings have been held, and the following study plans are being revised by the authors in response to comments.

Title/Organization	Comment Resolution Meeting Date
8.3.1.3.3.2/8.3.1.3.3.3: Kinetics and Thermodymanics of Mineral Evolution/Conceptual Model of Mineral Evolution/LANL	03/14/90
8.3.1.3.6.1: Dynamic Transport Column Experiments/LANL	08/29/90
8.3.1.3.6.2: Diffusion/LANL	08/30/90

3.3.2 No Comment Resolution meeting is required, and the following study plans are being revised by the authors in response to comments.

Title/Organization	Comments Transmitted to PI
8.3.1.2.2.2 R1: Water Movement Test/LANL	05/12/92
8.3.1.3.1.1: Groundwater Chemistry Model/LANL	05/6/92

8.3.1.5.1.6: Characterization of Future Regional and Environment	01/30/92
8.3.1.12.2.1 R1: Meteorological Data Collection at the Yucca Mountain Site/SAIC	06/17/92
8.3.1.15.1.4: Laboratory Determination of the Mechanicqal Properties of Fractures/SNL	05/12/92
8.3.1.2.2.9: Site Unsaturated Zone Modeling and Synthesis/USGS	02/27/92
8.3.1.17.3.3.2: Ground Motion from Regional Earthquakes and UNEs/SNL	02/27/92

3.4 STUDY PLANS IN VERIFICATION AUDIT

The following study plans are being audited by reviewers to verify that comments have been satisfactorily responded to.

Identification/Organization	Date Draft Transmitted
8.3.1.3.5.1/2: Dissolved Species Concentration Limits and Colloid Behavior/LANL	10/21/92
8.3.1.15.1.8: In Situ Design Verification	11/23/92
8.3.1.17.4.4: Quaternary Faulting Proximal to the Site within NE Trending Fault Zones/USGS	10/26/92
8.3.1.17.3.5: Ground Motion at the Site from Controlling Seismic Events/USGS	04/14/92
8.3.1.17.4.3: Quaternary Faulting within 100 km of Yucca Mountain, including the Walker Lane/USGS	09/22/92

3.5 BEING PREPARED FOR PROJECT OFFICE APPROVAL

8.3.1.2.3.3: Site Saturated Zone Hydrologic Synthesis and Modeling/USGS	10/19/92

8.3.1.4.3.1: Systematic Acquisition of Site-Specific Subsurface Information/SNL	09/04/92
8.3.4.2.4.3: Mechanical Properties of the Waste Package Environment/LLNL	11/17/92

3.6 APPROVED STUDY PLANS

8.3.1.3.4.2: Biological Sorption and Transport/LANL	11/25/92
8.3.1.5.2.1.1 R2: Characterization of Quaternary Regional Hydrology/USGS	11/10/92
8.3.1.5.2.2: Characterization of Future Regional Hydrology due to Climate Change	11/10/92
8.3.1.8.2.1: Analysis of Waste Package Rupture due to Tectonic Processes and Events/SAIC	11/16/92
8.3.1.9.2.1: Natural Resource Assessment of Yucca Mountain, Nye County/USGS	11/06/92

4.0 STUDY PLANS IN REVIEW AT NRC AND THE STATE OF NEVADA

4.1 NRC ACCEPTANCE REVIEW

The following study plans are in Phase 1 review at the NRC.

Identification/Organization	Transmittal Date
8.3.1.2.2.1 R1: Characterization of Unsaturated Zone Infiltration/USGS	06/1/92
8.3.1.2.2.2: Water Movement Tracer Tests/LANL	02/09/89
8.3.1.2.2.4(.4, .5, .7, .8, .9): Characterization of the Yucca Mountain Unsaturated Zone Percolation--Exploratory Shaft Facility Study/USGS	02/09/89
8.3.1.2.2.5: Diffusion Tests in the ESF/LANL	06/8/92
8.3.1.2.2.8: Fluid Flow in Unsaturated, Fractured Rock	09/01/92
8.3.1.2.3.2: Characterization of the Saturated	06/5/92

Zone Hydrochemistry

8.3.1.3.7.1: Retardation Sensitivity Analysis/LANL	09/01/92
8.3.1.4.2.1: Characterization of Vertical and Lateral Distribution of Stratigraphic Units in the Site Area/USGS	06/22/92
8.3.1.4.2.2(except .3 & .5): Characterization of Structural Features within the Site Area/USGS	02/09/89
8.3.1.4.2.2(3. & .5): Characterization of Structural Features within the Site Area/USGS	06/15/92
8.3.1.15.1.1: Laboratory Thermal Properties	01/25/91
8.3.1.15.1.2: Laboratory Thermal Expansion Testing/SNL	10/04/90
8.3.1.15.1.3: Laboratory Determination of the Mechanical Properties of Intact rock	06/21/91
8.3.1.15.1.5: Excavation Investigations/SNL	02/09/89
8.3.1.15.2.1.2: Characterization of Site Ambient Stress Conditions/USGS	02/09/89
8.3.1.17.4.5: Detachment Faults at or Proximal to Yucca Mountain/USGS	08/12/92

4.2 STUDY PLANS ACCEPTED BY THE NRC

The following study plans have been accepted by the NRC.

Identification/Organization	Acceptance Date
8.3.1.2.1.1: Characterization of the Meteorology for Regional Hydrology and Meteorological Monitoring/USGS	10/21/91
8.3.1.2.1.2: Characterization of Run-off and Streamflow/ USGS	08/14/92
8.3.1.2.1.3: Characterization of the Regional Ground-Water Flow System/USGS	10/4/91
8.3.1.2.1.4: Regional Hydrologic Synthesis and Modeling	05/6/92
8.3.1.2.2.1: Characterization of Unsaturated Zone Infiltration/USGS	05/31/91
8.3.1.2.2.3: Characterization of Percolation in the Unsaturated Zone--Surface Based Study/USGS	03/26/92
8.3.1.2.2.6: Characterization of Gaseous-Phase Movement in the Unsaturated Zone	10/07/91
8.3.1.2.2.7: Hydrochemical Characterization of the Unsaturated Zone/USGS	05/01/92
8.3.1.2.3.1.1-6: Characterization of the Site Saturated Ground-Water Flow System	12/06/91
8.3.1.2.3.1.7: Testing of the C-Hole Site with Reactive Tracers	12/06/91
8.3.1.3.2.1: Mineralogy, Petrology, and Chemistry of Transport Pathways/LANL	03/13/91
8.3.1.3.2.2: History of Mineralogic and Geochemical Alteration of Yucca Mountain	04/27/92
8.3.1.5.1.2: Paleoclimate Study: Lake, Playa, and Marsh Deposits	04/27/92

8.3.1.5.1.3: Climatic Implications of Terrestrial Paleoecology/USGS	09/03/92
8.3.1.5.1.4: Analysis of the Paleoenvironmental History of the Yucca Mountain Site	12/06/91
8.3.1.5.2.1: Characterization of the Quaternary Regional Hydrology/USGS	06/08/90
8.3.1.8.1.1: Probability of Magmatic Disruption of the Repository/LANL	10/5/91
8.3.1.8.5.1: Characterization of Volcanic Features/LANL	08/20/90
8.3.1.9.2.2: Water Resource Assessment for Yucca Mountain/SAIC	05/4/92
8.3.1.12.2.1: Meteorological Data Collection at the Yucca Mountain Site	11/12/91
8.3.1.14.2: Studies to Provide Soil and Rock Properties of Potential Locations of Surface and Subsurface Facilities	01/24/92
8.3.1.16.1.1: Characterization of Flood Potential of the Yucca Mountain Site/USGS	05/08/91
8.3.1.17.3.1: Relevant Earthquake Sources	05/18/92
8.3.1.17.3.4: Effects of Local Site Geology on Surface and Subsurface Ground Motions/USGS	06/8/92
8.3.1.17.4.1: Historical and Current Seismicity/USGS	05/14/91
8.3.1.17.4.2: Evaluating the Location and Recency of Faulting Near Prospective Surface Facilities/SNL	03/16/90
8.3.1.17.4.6: Quaternary Faulting Within the Site Area/USGS	10/3/91
8.3.1.17.4.10: Geodetic Leveling/USGS	10/4/91

4.3 COMMENTS ON APPROVED STUDY PLANS

The following approved study plans have been the subject of written comments by the NRC and the State of Nevada. The status of the responses to these comments is given below.

Study Plan	Source & No. of Comments		Status
8.3.1.2.1.1: Characterization of the Meteorology for Regional Hydrology and Meteorological Monitoring	NV	10	Response sent 7/13/92
8.3.1.2.1.2: Regional Surface Water Run-Off and Streamflow	NV	7	Response sent 8/20/91
	NRC	2	Response sent 11/05/92
8.3.1.2.1.4: Regional Hydrologic Synthesis and Modeling	NRC	1	Response sent 7/23/92
8.3.1.2.2.6: Characterization of Gas Phase Movement in the Unsaturated Zone	NRC	1	Response sent 7/23/92
	NV	16	Response sent 7/27/92
8.3.1.2.3.1.1-6: Characterization of the Site Saturated Zone Ground Water Flow System	NRC	2	In preparation
8.3.1.2.3.1.7: Testing of the C-Hole Site with Reactive Tracers	NRC	2	Response sent 9/14/92
8.3.1.3.2.1: Mineralogy, Petrology and Chemistry Along Transport Pathways	NRC	6	Response sent 10/29/91
8.3.1.5.1.4: Analysis of the Paleoenvironmental History of the Yucca Mountain Site	NRC	1	Response sent 9/16/92
8.3.1.5.2.1: Quaternary Regional Hydrology	NRC	9	Response sent 12/19/90
	NV	10	Response sent 9/19/91

Study Plan	Source & No. of Comments	Status
8.3.1.8.1.1: Probability of Volcanic Eruption Penetrating the Repository	NV 24 NRC 13	Response sent 7/19/92 In preparation
8.3.1.8.5.1: Characterization of Volcanic Features	NV 5 NRC 3	Response sent 8/23/91 Response sent 7/24/91
8.3.1.9.2.2: Water Resource Assessment of Yucca Mountain	NRC 1	Response sent 6/29/92
8.3.1.12.2.1: Meteorological Data Collection at the Yucca Mountain Site	NV 5	Response sent 2/13/92
8.3.1.14.2: Studies to Provide Soil and Rock Properties for Potential Locations of Surface Facilities	NRC 1 NV 10	Response sent 8/31/92 Response sent 8/21/92
8.3.1.16.1.1: Characterization of Flood Potential	NV 9 NRC 1	Response sent 6/6/91 Telecon resolution 6/17/91
8.3.1.17.3.1: Relevant Earthquake Sources	NRC 1	Response sent 8/15/92
8.3.1.17.3.4: Effect of Local Site Geology on Surface and Subsurface Motion	NRC 1	In preparation
8.3.1.17.4.1: Historic and Current Seismicity	NRC 3	Telecon resolution 8/15/91
8.3.1.17.4.2: Location and Recency of Faulting Near Prospective Surface Facilities	NRC 16 NV 3	Response sent 12/19/90 Response sent 10/15/90
8.3.1.17.4.6: Quaternary Faulting	NRC 1	Response sent 12/16/91

LEGEND FOR TABLE 1

Submit to YMP	Gives the actual date of the submission of the draft study plan.
Screening Review Complete	Date that screening review was recieved by the Project Office. Screening reviews were not done for some study plans submitted early in the process. These are indicated by the word "None". Revs. 2 & 3 of AP-1.10Q did not require a screening review. Plans reviewed under Rev. 2 & 3 are indicated by "NA".
Comments to PI	Date that review comments were transmitted to the Principal Investigator for review.
Comment Resol. Meeting	Date that comment resolution meeting to agree on proposed comment resolutions was completed. An "N/A" indicated that a comment resolution meeting was not required.
PI Revision Complete	Date that revised study plan that responds to Project Office and Headquarters comments is submitted to the Project Office.
Verify Comm. Res.	Date that the verification of actual dispositions of comments is completed by reviewers.
PO Approve	Date that Project Office approves the plan.
Submit To NRC	The date that the study plan is submitted to the NRC for review.
NRC Phase 1 Review	Date that NRC Acceptance and Start-Work Reviews are completed.
NRC Phase 2 Review	Date that NRC Detailed Technical Reviews are completed or note that none will be completed or the review will be deferred.

#	SP NAMES/CODE	SP NUMBER	SUBMIT TO YMP	SCREENING REVIEW COMPLETE	COMMENTS TO PI	COMMENT RESOL MEETING	PI REVISION COMPLETE	VERIFY COMMENT RESOL	PO APPROVE	SUBMIT TO NRC	NRC PHASE I REVIEW	NRC PHASE II REVIEW
1	CHAR OF MET FOR REG HYDRO AND MET MONITOR/USGS	8.3.1.2.1.1	6/26/90	6/27/90	10/1/90	11/9/90	11/9/90	2/25/91	3/13/91	6/21/91	10/21/91	NONE
2	CHAR RUNOFF AND STREAMFLOW/USGS	8.3.1.2.1.2	3/27/89	NA	10/17/89	2/28/90	3/22/90	7/17/90	8/21/90	10/4/90	5/14/91	8/14/92
3	CHAR OF REG GRD W FLOW SYSTEM/USGS	8.3.1.2.1.3	3/1/90	3/14/90	7/3/90	8/23/90	9/17/90	10/19/90	1/18/91	2/15/91	10/4/91	NONE
4	REG HYDRO SYS SYN AND MODELING/USGS	8.3.1.2.1.4	6/6/90	6/29/90	3/14/91	NA	5/8/91	10/2/91	12/18/91	1/15/92	5/6/92	
5	CHAR UNSAT ZONE INFILTRATION/USGS	8.3.1.2.2.1	3/9/90	3/14/90	7/3/90	9/12/90	9/17/90	10/15/90	1/18/91	3/1/91	5/31/91	NONE
6	WATER MOVEMENT TEST/LANL, REV 0	8.3.1.2.2.2	9/23/87	N/A	COMPLETE	10/23/87	10/30/87	1/9/89	11/9/89	2/9/89	DEFERRED	
6 R1	WATER MOVEMENT TEST/LANL, REV 1	8.3.1.2.2.2	10/17/91	NA	5/12/92							
7	CHAR PERCOL IN UZ-SURFACE BASED STUDY/USGS	8.3.1.2.2.3	8/12/88	NA	1/23/89	1/30-31/89	2/20/90	1/9/91	04/08/91	5/10/91	3/26/92	
8	CHAR YUC MTN PERCO UNSAT ZONE-ESF INVEST/USGS (.4,.5,.7,.8,.9)	8.3.1.2.2.4	9/9/87	NA	12/7/88	10/19/87	1/4/89	1/9/89	1/09/89	2/9/91	DEFERRED	
8 R1	CHAR YUC MTN UNSAT ZONE-ESF/USGS (.4,.5,.7,.8)	8.3.1.2.2.4	12/4/92	12/9/92								
8 R2	CHAR YUC MTN PERCO UNSAT ZONE-ESF INVEST/USGS (.1,.2,.3,.6,.10)	8.3.1.2.2.4										
9	DIFFUSION TESTS IN ESF/LANL	8.3.1.2.2.5	11/1/88	11/18/88	2/28/90	8/28/90	6/11/91	1/24/92	4/22/92	6/8/92		
10	CHAR GAS-PHASE MOVEMENT IN UZ/USGS	8.3.1.2.2.6	6/12/89	7/14/89	3/9/90	5/24/90	5/24/90	04/03/91	6/11/91	6/24/91	10/07/91	NONE
11	HYDROCHEM CHAR OF UZ/USGS	8.3.1.2.2.7	10/24/88	11/4/88	3/8/89	3/29-31/89	6/27/89	4/10/90	9/18/90	5/8/91	5/1/92	DEFERRED
11 R1	HYDROCHEM CHAR OF UZ/USGS	8.3.1.2.2.7	12/1/92	12/2/92								
12	FLUID FLOW IN UNSAT, FRAC ROCK/USGS	8.3.1.2.2.8	9/7/90	10/3/90	5/01/91	NA	11/26/91	5/28/92	8/12/92	9/1/92		
12 R1	FLUID FLOW IN UNSAT, FRAC ROCK/USGS	8.3.1.2.2.8	12/1/92	12/2/92								
13	SITE UZ MODELING & SYNTHESIS/USGS	8.3.1.2.2.9	1/25/91	NA	2/27/92							
14	CHAR SITE SAT ZONE GRD W FLOW SYS/LANL (.7)	8.3.1.2.3.1	2/8/88	NA	7/15/89	9/1-2/89	11/16/89	1/--/90	2/22/90	4/6/90	12/6/91	DEPERRED
15	CHAR SITE SAT ZONE GRD W FLOW SYS.USGS (.1-.6)	8.3.1.2.3.1	5/31/89	6/15/89	11/1/89	4/4-17/90	5/18/90	10/15/90	2/13/91	3/7/91	12/6/91	DEFERRED
14 R1	CHAR SITE SAT ZONE GRD W FLOW SYS/LANL (.8)											
16	CHAR SAT ZONE HYDROCHEM/USGS	8.3.1.2.3.2	3/28/90	5/9/90	11/27/90	5/21-22/91	11/27/91	3/11/92	4/22/92	6/5/92		
17	SAT ZONE HYDRO SYSTEM SYNTH AND MODELING/USGS	8.3.1.2.3.3	9/4/90	10/12/90	8/30/91	N/A	3/31/92	10/19/92				
18	GROUND-WATER CHEMISTRY MODEL/LANL	8.3.1.3.1.1	3/15/91	NA	5/6/92							
19	MIN, PET, CHEM OF TRANSPORT PATHWAYS/LANL	8.3.1.3.2.1	1/22/88	5/24/88	7/13/88	8/4-5/88	12/23/88	9/12/89	6/13/89	11/30/89	8/20/90	3/13/91
20	HIST OF MIN AND GEOCHEM ALT OF YUCCA MTN/LANL	8.3.1.3.2.2	3/28/88	NA	5/25/89	6/1/89	6/13/91	9/23/91	12/18/91	1/31/92	4/27/92	DEFERRED
21	NAT ANLOG HYDROTHERM SYS IN TUFF/LANL	8.3.1.3.3.1										
22	KINETICS AND THERMODYN OF MIN EVOL/LANL	8.3.1.3.3.2	2/23/89	3/1/89	11/1/89	3/14/90						
22	CONCEPTUAL MODEL OF MINERAL EVOL/LANL	8.3.1.3.3.3	2/23/89	3/1/89	11/1/89	3/14/90						
24	BATCH SORPT STUDIES AND DEVEL SORPT MODELS/LANL	8.3.1.3.4.1/3	10/28/92	11/4/92								
25	BIOLOGICAL SORPTION & TRANSPORT/LANL	8.3.1.3.4.2	12/12/88	1/5/89	3/12/90	6/21/90	8/28/91	12/7/91	11/25/92			
26	DISSOLVED SPECIES CONC LIMITS AND COLLOID BEH/LANL	8.3.1.3.5.1/2	9/7/90	NA	11/8/91	NA	10/21/92					
27	DYNAMIC TRANSPORT COLUMN EXPERIMENTS/LANL	8.3.1.3.6.1	7/24/89	8/9/89	5/24/90	8/29/90						
28	DIFFUSION/LANL	8.3.1.3.6.2	7/24/89	8/9/89	5/10/90	8/30/90	12/4/92					
29	RETARDATION SENSITIVITY ANALYSIS/LANL	8.3.1.3.7.1	12/14/88	2/8/89	3/12/90	7/31/90	6/18/91	7/28/92	8/11/92	9/1/92		
30	DEMON APPLI LAB DATA TO REPOS TRANS CALC/LANL	8.3.1.3.7.2										

#	SP NAMES/CODE	SP NUMBER	SUBMIT TO YMP	SCREENING REVIEW COMPLETE	COMMENTS TO PI	COMMENT RESOL MEETING	PI REVISION COMPLETE	VERIFY COMMENT RESOL	PO APPROVE	SUBMIT TO NRC	NRC PHASE I REVIEW	NRC PHASE II REVIEW
31	GASEOUS RAD TRANS CALCS AND MEASURE/LANL	8.3.1.3.8.1										
32	CHAR VERT/LAT DIST STRAT UNITS SITE AREA/USGS (.1,.2,.4)	8.3.1.4.2.1	4/12/90	5/10/90	2/8/91	12/20/91	2/3/92	4/30/92	6/9/92	6/22/92		
32 R1	CHAR VERT/LAT DIST STRAT UNITS SITE AREA/USGS (.3,.5)	8.3.1.4.2.1										
34	CHAR STRUCTURAL FEATURES W/IN SITE AREA/USGS	8.3.1.4.2.2	9/4/87	NA	Done	10/22/87	4/13/88	2/3/89	2/03/89	2/9/89	DEFERRED	
34 R1	2 MORE ACTIVITIES (.3,.5)/USGS	8.3.1.4.2.2	2/27/90	3/22/90	8/21/90	6/13/91	7/29/91	2/10/92	4/22/92	6/15/92		
34 R2	CHAR STRUCTURAL FEATURES W/IN SITE AREA/USGS	8.3.1.4.2.2	11/18/92	11/19/92	12/1/92	12/4/92						
35	THREE-DIMENSIONAL GEOLOGIC MODEL/USGS	8.3.1.4.2.3										
36	SYST ACQ SITE-SPEC SUBSURF INFO/SNL	8.3.1.4.3.1	3/27/90	4/13/90	10/2/90	7/1/92	7/28/92	9/4/92	12/8/92			
37	THREE-DIMENSIONAL ROCK CHAR MODELS/SNL	8.3.1.4.3.2										
38	CHAR MODERN REGIONAL CLIMATE/USGS	8.3.1.5.1.1										
39	PALEOCLIM STUDY: LAKE, PLAYA, MARSH DEPS/USGS	8.3.1.5.1.2	10/25/90	NA	3/27/91	NA	5/9/91	10/25/91	10/31/91	12/6/91	4/27/92	DEFERRED
40	CLIMATIC IMPLICATION TERREST PALEOECOLOGY/USGS	8.3.1.5.1.3	2/11/91	NA	6/25/91	NA	DONE	12/11/91	1/17/92	6/5/92	8/27/92	
41	ANALYSIS PALEOENVI HIST YUCCA MTN REGION/USGS	8.3.1.5.1.4	3/30/90	4/13/90	8/13/90	10/9-11/90	10/24/90	1/9/91	5/29/91	6/24/91	12/06/91	DEFERRED
42	PALEOCLIM-PALEOENVIRO SYNTHESIS/USGS	8.3.1.5.1.5										
43	CHAR FUTURE REG CLIMATES AND ENVIRONS/SNL	8.3.1.5.1.6	6/7/91	7/10/91	1/30/92	N/A						
44	CHAR OF THE QUATERNARY REG HYDRO/USGS (.3,.4,.5)	8.3.1.5.2.1	1/26/88	NA	12/9/88	12/20/88	5/15/89	6/8/89	6/08/89	7/10/89	11/24/89	6/08/90
44 R2	CHAR OF THE QUATERNARY REG HYDRO/USGS (.1)	8.3.1.5.2.1	9/25/90	NA	8/8/91	NA	3/31/92	8/10/92	11/10/92			
45	CHAR FUTURE REG HYDRO DUE TO CLI CHANGES/USGS	8.3.1.5.2.2	1/16/91	NA	8/7/91	NA	5/1/92	7/14/92	11/10/92			
46	DISTRIB AND CHAR PRESENT AND PAST EROSION/USGS	8.3.1.6.1.1										
47	INFLU FUT CLI COND ON LOC & RATES OF ERO/USGS	8.3.1.6.2.1										
48	EVAL EFFECT OF FUT TECT ON ERO AT YUC MTN/USGS	8.3.1.6.3.1										
49	DEV TOPICAL RPT EFFECTS OF ERO ON THE HYDRO,	8.3.1.6.4.1										
	GEOCHEM, AND ROCK CHAR AT YUCCA MTN/USGS											
50	PROB MAGMATIC ERUPT PENETRATE THE REPOS/LANL	8.3.1.8.1.1	3/29/89	4/5/89	9/12/89	9/28/89	6/19/90	9/10/90	9/19/90	3/5/91	10/5/91	7/10/92
51	PHYSICAL PROCESSES OF MAGMATISM AND EFFECTS/LANL	8.3.1.8.1.2	10/21/92	10/26/92								
52	ANAL WST PKG RUP DUE TO TECT PROC & EVENT/SAIC	8.3.1.8.2.1	12/15/89	1/31/90	10/30/90	11/20/91	12/10/91	8/11/92	11/16/92			
53	ANAL EFFECTS OF TECT PROC & EVENT ON AVE PERC FLUX	8.3.1.8.3.1										
	RATES OVER REPOS/USGS											
54	ANAL EFF OF TECT PROC&EVENT CHGS WTR TBLE ELV/USGS	8.3.1.8.3.2										
55	ANAL EFF OF TECT PROC & EVENT ON LOCAL FRAC PERM	8.3.1.8.3.3										
	AND EFFECTIVE POROSITY/USGS											
56	ANAL EFF TECT PROC&EVENT ON RK GEOCHEM PROP/USGS	8.3.1.8.4.1										
57	CHAR OF VOLCANIC FEATURES/LANL	8.3.1.8.5.1	12/14/88	1/17/89	6/20/89	7/12/89	1/2/90	3/15/90	4/18/90	5/15/90	8/20/90	3/18/91
58	CHAR IGNEOUS INTRUSIVE FEATURES/USGS	8.3.1.8.5.2	10/13/92	10/16/92								
59	INVEST FOLDS IN MIOCENE AND YNG RKS OF REG/USGS	8.3.1.8.5.3										
60	EVAL NAT PROC THAT COULD AFFECT LG TERM SURVIVABIL	8.3.1.9.1.1										
	SURFACE MARKER SYS AT YUCCA MTN/M&O											
61	NAT RES ASSESS YUCCA MTN, NYE COUNTY/USGS	8.3.1.9.2.1	7/13/90	8/16/90	1/7/91	NA	1/13/92	9/28/92	11/6/92			

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62	WATER RES ASSESS YUCCA MTN, NV/SAIC	8.3.1.9.2.2	10/6/89	1/30/90	8/15/90	5/9/91	12/26/90	6/13/91	8/26/91	9/20/91	5/4/92	
63	EVAL DATA NEEDED TO SUPP ASSESS LIKLIHOOD FUT	8.3.1.9.3.1										
	INADVER HUMAN INTRU YUC MTN EXPLO/EXT NAT RES/M&O											
64	EVAL POTENTIAL EFFECT OF EXPLOIT NAT RES ON HYDRO	8.3.1.9.3.2										
	CHAR AT YUCCA MTN/M&O											
65	METEOROLOGICAL DATA COLLECT YUCCA MTN SITE/SAIC	8.3.1.12.2.1	9/28/90	NA	2/4/91	2/25/91	2/21/91	2/26/91	3/20/91	5/16/91	11/12/91	NONE
65 R1	METEOROLOGICAL DATA COLLECT YUCCA MTN SITE/SAIC, REV 1	8.3.1.12.2.1	3/31/92	4/21/92	6/17/92	NA	12/2/92					
66	STUDIES TO PROVIDE SOIL/ROCK PROP OF POTENTIAL	8.3.1.14.2	7/15/91	7/23/91	8/11/91	NA	8/21/91	9/22/91	10/01/91	10/16/91	1/24/92	
	LOCATIONS OF SURFACE/SUBSURFACE FACILITIES/USGS											
67	LAB THERMAL PROPERTIES/SNL	8.3.1.15.1.1	3/17/88	NA	11/1/89	12/5/89	3/16/90	5/23/90	10/21/90	1/25/91	DEFERRED	
67 R1	LAB THERMAL PROPERTIES/SNL	8.3.1.15.1.1	11/3/92	11/9/92								
68	LAB THERMAL EXPANSION TESTING/SNL	8.3.1.15.1.2	12/1/88	12/20/88	Done	8/1/89	11/20/89	5/23/90	8/21/90	10/4/90	DEFERRED	
68 R1	LAB THERMAL EXPANSION TESTING/SNL	8.3.1.15.1.2	11/3/92	11/9/92								
69	LAB DETERMIN MECH PROP INTACT ROCK/SNL	8.3.1.15.1.3	2/8/88	NA	7/6/88	7/7/88	11/29/88		5/21/91	6/21/91	DEFERRED	
70	LAB DETERMIN MECH PROP FRACTURES/SNL	8.3.1.15.1.4	10/23/91	2/5/92	5/12/92							
71	EXCAVATION INVESTIGATIONS/SNL	8.3.1.15.1.5	3/26/87	NA	Done	6/9/87	9/1/87	5/27/88	1/09/89	2/9/89	DEFERRED	
72	IN SITU THERMOMECH PROP/SNL	8.3.1.15.1.6										
73	IN SITU MECHANICAL PROP/SNL	8.3.1.15.1.7										
74	IN SITU DESIGN VERIFICATION/SNL	8.3.1.15.1.8	3/20/90	4/12/90	10/10/91	NA	11/23/92					
75	CHAR SITE AMBIENT STRESS CONDITIONS/USGS (.2)	8.3.1.15.2.1	9/22/87	NA	Done	12/4/87	2/23/88	2/9/89	1/11/89	2/9/89	DEFERRED	
75 R1	CHAR SITE AMBIENT STRESS CONDITIONS/SNL (.1)	8.3.1.15.2.1										
76	CHAR SITE AMBIENT THERMAL COND/USGS	8.3.1.15.2.2	10/13/92	10/16/92								
77	CHAR OF FLOOD POTENTIAL YUCCA MTN SITE/USGS	8.3.1.16.1.1	3/30/89	5/2/89	10/13/89	4/18/90	4/27/90	8/6/90	9/17/90	10/11/90	5/8/91	NONE
78	LOC OF ADEQ WATER SUPPLY CONST OPER, CLOS, DECOMM	8.3.1.16.2.1										
	OF A MGDS AT YUCCA MTN/SAIC											
79	DETERMINE PRECLOS HYDRO COND UZ YUCCA MTN/USGS	8.3.1.16.3.1										
80	POTENTIAL FOR ASH FALL AT SITE/LANL	8.3.1.17.1.1										
81	FAULTING POTENTIAL AT REPOSITORY/SNL	8.3.1.17.2.1										
82	RELEVANT EARTHQUAKE SOURCES/USGS	8.3.1.17.3.1	8/1/90	8/22/90	12/28/90	NA	5/1/91	11/15/91	12/18/91	1/16/92	5/18/92	
83	UNDERGROUND NUCLEAR EXPLOSION SOURCES/SNL	8.3.1.17.3.2										
84	GRD MOTION FROM REG EARTHQUAKE AND UNEs/USGS	8.3.1.17.3.3.1										
85	GRD MOTION FROM REG EARTHQUAKE AND UNEs/SNL	8.3.1.17.3.3.2	8/1/90	8/10/90	2/27/92	NA						
86	EFFCT LOCAL SITE GEOL ON SRF&SUBSRF MOTION/USGS	8.3.1.17.3.4	7/6/90	7/23/90	1/23/91	NA	4/16/91	8/26/91	11/14/91	12/4/91	6/8/92	NONE
87	GRD MOTION AT SITE FROM CONTROL SEIS EVENT/USGS	8.3.1.17.3.5	10/4/90	NA	2/27/92	NA	4/14/92					
88	PROBABILISTIC SEISMIC HAZARD ANALYSES/SNL	8.3.1.17.3.6										
89	HISTORICAL AND CURRENT SEISMICITY/USGS	8.3.1.17.4.1	10/17/89	10/25/89	4/30/90	6/20/90	7/6/90	9/4/90	9/17/90	10/22/90	5/14/91	NONE
90	LOC & RECENCY OF FAULT NEAR PROSPEC SUR FACIL/USGS	8.3.1.17.4.2	12/6/88	12/14/88	Done	1/19/89	2/16/89	6/21/89	5/22/89	7/10/89	11/24/89	3/16/90
91	QT FLT 100KM YUCCA MTN, INCL WALKER LANE/USGS	8.3.1.17.4.3	3/25/92	4/6/92	6/17/92	N/A	9/22/92					

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92	QUAT FAULT PROXIMAL TO SITE W/IN NE-TREND FAULT ZONES/USGS	8.3.1.17.4.4	8/3/92	8/5/92	9/25/92	NA	10/26/92					
93	DETACH FAULTS AT OR PROX TO YUCCA MTN/USGS	8.3.1.17.4.5	5/1/90	5/9/90	5/21/91	2/6/92	3/25/92	6/9/92	7/20/92	8/12/92		
94	QUAT FAULTING W/IN SITE AREA/USGS	8.3.1.17.4.6	10/14/88	NA	Done	4/13/89	5/25/89	10/11/90	1/23/91	2/19/91	10/3/91	NONE
95	SUBSUR GEOMET AND CONCEALED EXTEN OF QUAT FAULTS AT YUCCA MTN/USGS	8.3.1.17.4.7										
96	STRESS FIELD WITHIN/PROX TO SITE AREA/USGS	8.3.1.17.4.8										
97	TECT GEOMORPH YUCCA MTN REG/USGS	8.3.1.17.4.9										
98	GEODETIC LEVELING/USGS	8.3.1.17.4.10	3/30/90	4/19/90	8/8/90	9/20/90	9/21/90	10/15/90	1/18/91	2/14/91	10/4/91	NONE
99	CHAR REG LATERAL CRUSTAL MOVEMENT/USGS	8.3.1.17.4.11										
100	TECTONIC MODELS AND SYSTHESIS/USGS	8.3.1.17.4.12										
101	SEAL MATERIAL PROPERTIES DEVELOPMENT/SNL	8.3.3.2.2.1										
102	CHAR CHEM AND MIN CHANGES POSTEMPLAC ENVIRO/LLNL	8.3.4.2.4.1	11/6/87	NA	3/13/90							
103	HYDRO PROP OF WASTE PKG ENVIRO/LLNL	8.3.4.2.4.2	8/2/88	NA	3/23/90							
104	MECH ATTRIBUTES OF WASTE PKG ENVIRO/LLNL	8.3.4.2.4.3	6/28/89	7/11/89	3/13/90	7/8/91	9/27/91	11/17/92				
105	ENG BARRIER SYSTEM FIELD TESTS/LLNL	8.3.4.2.4.4										
106	EFFECTS MAN-MADE MATERIALS ON WATER CHEMISTRY/LLNL	8.3.4.2.4.5										