Department of Energy
Washington, DC 20585

AUG 1 9 1993

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 Report for the month of July 1993. 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 July 1993, 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 Ms. Sheila Long at 202-586-1447.

Sincerely,

Dwight E. Shelor
Associate Director for
Systems and Compliance
Office of Civilian Radioactive
Waste Management

Enclosure:
Status Report for Study
Plans, July 1993

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cc: w\enclosure
C. Gertz, YMPO
R. Loux, State of Nevada
T. Hickey, Nevada Legislative Commission
D. Bechtel, Las Vegas, NV
Eureka County, NV
Lander County, Battle Mountain, NV
P. Niedzielski-Eichner, Nye County, NV
W. Offutt, Nye County, NV
L. Bradshaw, Nye County, NV
C. Schank, Churchill County, NV
F. Mariani, White Pine County, NV
V. Poe, Mineral County, NV
J. Pitts, Lincoln County, NV
J. Hayes, Esmeralda County, NV
B. Mettam, Inyo County, CA
C. Abrams, NRC

MONTHLY STUDY PLAN STATUS
FOR JULY 1993

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 July 1993. 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 JULY, 1993

2.1 NEW STUDY PLAN SUBMITTALS

One new Study Plan, 8.3.4.2.4.4 Engineered Barrier System Field Tests, and one major revision, 8.3.1.15.1.3 R1 Laboratory Determination of the Mechanical Properties of Intact Rock, were recieved by the Project Office in July.

2.2 REVIEW COMMENTS COMPLETED

Project Office reviews were completed for one Study Plan, 8.3.1.17.4.12 ~~Tectonic~~ Models and Synthesis, in July.

2.3 COMMENT RESOLUTION MEETINGS

One comment resolution meetings, for Study Plan 8.3.1.2.2.4 R2 Characterization of the Yucca Mountain Unsaturated Zone in the ESF, wase held in July.

2.4 STUDY PLAN REVISIONS

No revisions of study plans to resolve reviewers comments were completed in July.

2.5 COMMENT VERIFICATION

One Study Plan, 8.3.1.12.2.1 R1 Meteorological Data Collection at the Yucca Mountain Site, completed verification of comment resolution in July.

2.6 STUDY PLANS APPROVALS

Two study plans, 8.3.1.2.2.9 Site Unsaturated Zone Modeling and Synthesis and 8.3.1.17.3:5 Ground Motion at the site from controlling seismic events, were approved by the Project Office in July.

2.7 COMPLETED NRC REVIEWS

One study plan phase I review, 8.3.1.4.3.1 Systematic Acquisition of SiteSpecific Subsurface Information, was completed during July.

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
8.3.1.5.1.1: Characterization of Modern Regional Climate/USGS	6/24/93
8.3.1.15.1.3 R1: Laboratory Determination of the Mechanical Properties of Intact Rock/SNL	7/19/93
8.3.4.2.4.4: Engineered Barrier System Field Tests/LLNL	7/9/93

3.2 STUDY PLANS IN REVISION

The following study plans are being revised by the authors in response to comments.

Title/Organization	Comments Transmitted to PI
8.3.1.2.2.4 R2: Characterization of the Yucca Mountain Unsaturated Zone in the ESF/USGS	5/12/93
8.3.1.2.2.6 R1: Characterization of Gas-Phase Movement in the Unsaturated Zone/USGS	6/8/93
8.3.1.2.2.8 R1: Fluid Flow in Unsaturated, Fractured Rock/USGS	2/8/93

8.3.1.3.1.1: Groundwater Chemistry Model/LANL	5/6/92
8.3.1.3.4.1/8.3.1.3.4.3: Batch Sorption Studies/ Development of Sorption Models/LANL	2/18/93
8.3.1.3.6.1: Dynamic Transport Column Experiments/LANL	6/25/93
8.3.1.15.1.5 R1: Excavation Investigations/SNL	5/10/93
8.3.1.17.4.12: Tectonic Models andSynthesis/USGS	7/30/93

3.3 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
8.3.1.8.1.2: Physical Processes of Magmatism and Effects on the Potential Repository/LANL	6/2/93
8.3.1.8.5.2: Characterization of Igneous Intrusive Features/USGS	5/19/93
8.3.1.15.1.1 R1: Laboratory Thermal Properties/SNL	4/8/93
8.3.1.15.1.2 R1: Laboratory Thermal Expansion Testing/SNL	4/8/93
8.3.1.15.1.4: Laboratory Determination of the Mechanicqal Properties of Fractures/SNL	4/20/93
8.3.1.15.2.2: Characterization of Site Ambient Thermal Conditions/USGS	5/19/93

3.4 BEING PREPARED FOR PROJECT OFFICE APPROVAL

8.3.1.2.2.7 R1: Hydrochemical Characterization of the Unsaturated Zone/USGS	6/30/93
8.3.1.3.6.2: Diffusion/LANL	6/28/92
8.3.1.12.2.1 R1: Meteorological Data Collection at the Yucca Mountain Site/SAIC	7/29/93

3.5 APPROVED STUDY PLANS

None

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
8.3.1.2.2.9: Site Unsaturated Zone Synthesis &	7/14/93
8.3.1.8.2.1: Analysis of Waste Package Rupture due to Tectonic Processes and Events/SAIC	12/23/92
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
8.3.1.17.3.5: Ground Motion at the Site from Controlling Seismic Events/USGS	6/29/93
8.3.1.17.4.3: Quaternary Faulting within 100 km of Yucca Mountain, including the Walker Lane/USGS	2/9/93

8.3.1.17.4.4: Quaternary Faulting Proximal to the Site within NE Trending Fault Zones/USGS	5/18/93

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	5/6/92
8.3.1.2.2.1: Characterization of Unsaturated Zone Infiltration/USGS	5/31/91
8.3.1.2.2.2 R1: Water Movement Test/LANL	4/8/93
8.3.1.2.2.3: Characterization of Percolation in the Unsaturated Zone--Surface Based Study/USGS	3/26/92
8.3.1.2.2.4 R1: Characterization of the Yucca Mountain Unsaturated Zone/USGS	3/5/93
8.3.1.2.2.5: Diffusion Tests in the ESF/LANL	1/19/93
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
8.3.1.2.2.8: Fluid Flow in Unsaturated, Fractured Rock	1/28/93
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
8.3.1.2.3.2: Characterization of the Saturated Zone Hydrochemistry	1/4/93
8.3.1.2.3.3: Site Saturated Zone Hydrologic Synthesis and Modeling/USGS	6/16/93
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
8.3.1.3.4.2: Biological Sorption and Transport/LANL	3/25/93
8.3.1.3.7.1: Retardation Sensitivity Analysis/LANL	1/19/93
8.3.1.4.2.1: Characterization of Vertical and Lateral Distribution of Stratigraphic Units in the Site Area/USGS	12/14/92
8.3.1.4.2.2 R2: Characterization of Structural Features within the Site Area/USGS	2/8/93
8.3.1.4.3.1: Systematic Acquisition of Site-Specific Subsurface Information/SNL	1/11/93
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
8.3.1.5.2.1.1 R2: Characterization of Quaternary Regional Hydrology/USGS	6/24/93

8.3.1.5.2.2: Characterization of Future Regional Hydrology due to Climate Change	4/5/93
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
8.3.1.9.2.1: Natural Resource Assessment of Yucca Mountain, Nye County/USGS	3/16/93
8.3.1.9.2.2: Water Resource Assessment for Yucca Mountain/SAIC	5/4/92
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
8.3.1.15.1.8: In Situ Design Verification	4/15/93
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	5/18/92
8.3.1.17.3.4: Effects of Local Site Geology on Surface and Subsurface Ground Motions/USGS	6/8/92
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
8.3.1.17.4.5: Detachment Faults at or Proximal to Yucca Mountain/USGS	2/1/93
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
8.3.1.2.1.3 Regional Groundwater Flow System	NV	55	In preparation
8.3.1.2.1.4: Regional Hydrologic System Synthesis and Modeling	NRC	1	Response sent 7/23/92
	NRC	5	In preparation
	NV	18	Response sent 4/2/93
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
8.3.1.2.2.7: Hydrochemical Characterization of the Unsaturated Zone	NV	27	Response sent 2/18/93
8.3.1.2.2.8: Fluid Flow in Unsaturated, Fractured Rock	NRC	2	Response sent 5/27/93
8.3.1.2.3.1.1-6: Characterization of the Site Saturated Zone Ground Water Flow System	NRC	2	Response sent 9/14/92
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
	NV	12	Response sent 2/24/93

Study Plan	Source & No. of Comments		Status
8.3.1.4.2.1: Characterization of Vertical and Lateral Distribution of Stratigraphic Units within the Site Area	NRC	3	Response sent 3/22/93
	NRC	2	In Preparation
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
8.3.1.5.2.1:Quaternary Regional Hydrology R2	NRC	3	In Preparation
8.3.1.8.1.1: Probability of Volcanic Eruption Penetrating the Repository	NV	9	Response sent 7/19/92
	NRC	13	Response sent 3/9/93
8.3.1.8.5.1: Characterization of Volcanic Features	NV	5	Response sent 8/23/91
	NRC	3	Response sent 7/24/91
8.3.1.9.2.2: Water Resource Assessment of Yucca Mountain	NRC	1	Response sent 6/29/92
	NV	24	Response sent 4/22/93
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	Response sent 8/31/92
	NV	10	Response sent 8/21/92
8.3.1.16.1.1: Characterization of Flood Potential	NV	9	Response sent 6/6/91
	NRC	1	Telecon resolution 6/17/91
8.3.1.17.3.1: Relevant Earthquake Sources	NRC	1	Response sent 8/15/92
	NV	32	Response sent 4/21/93

Study Plan	Source & No. of Comments		Status
8.3.1.17.3.4: Effect of Local Site Geology on Surface and Subsurface Motion	NRC NV	1 25	Response sent 9/4/92 Response sent 4/27/93
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 NV	16 3	Response sent 12/19/90 Response sent 10/15/90
8.3.1.17.4.6: Quaternary Faulting	NRC NV	1 14	Response sent 12/16/91 Response sent 3/8/93
8.3.1.17.4.10: Geodetic Leveling	NV	16	Response sent 4/9/93
8.3.4.2.4.3: Characterization of the Geomechanical Attributes of the Waste Package Environment	NRC	3	In preparation

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
	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
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	4/6/93
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 O	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	4/8/93	
6 R1	WATER MOVEMENT TEST/LANL, REV 1	8.3.1.2.2.2	10/17/91	NA	5/12/92		12/10/92	2/4/93	2/10/93	2/19/93	4/8/93	DEFERRED
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/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	2/9/89	3/5/93	
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	12/11/92	12/18/92	12/19/92	1/5/93	1/14/93	1/21/93	3/5/93	
8 R2	CHAR YUC MTN UNSAT ZONE-ESF INVEST/USGS (.10)	8.3.1.2.2.4	3/16/93	3/24/93	5/12/93	7/21/93						
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	1/19/93	DEFERRED
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
10 R1	CHAR GAS-PHASE MOVEMENT IN UZ/USGS	8.3.1.2.2.6	4/6/93	4/20/93	6/8/93							
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	2/8/93	N/A	3/31/93	6/30/93				
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	1/28/93	NONE
12 R1	FLUID FLOW IN UNSAT, FRAC ROCK/USGS	8.3.1.2.2.8	12/1/92	12/2/92	2/8/93							
13	SITE UZ MODELING & SYNTHESIS/USGS	8.3.1.2.2.9	1/25/91	NA	2/27/92	N/A	4/19/93	6/14/93	7/1/93	7/14/93		
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	DEFERRED
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	1/4/93	NONE
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	1/14/93	1/28/93	6/16/93	DEFFERRED
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/LLNL	8.3.1.3.3.1										
22	KINETICS AND THERMODYN OF MIN EVOL/LANL	8.3.1.3.3.2										
23	CONCEPTUAL MODEL OF MINERAL EVOL/LANL	8.3.1.3.3.3										
24	BATCH SORPT STUDIES AND DEVEL SORPT MODELS/LANL	8.3.1.3.4.1/3	10/28/92	11/4/92	2/18/93							
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	12/24/92	3/25/93	DEFERRED
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	3/10/93	3/22/93	6/25/93							
28	DIFFUSION/LANL	8.3.1.3.6.2	7/24/89	8/9/89	5/10/90	8/30/90	12/4/92	6/28/93				
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	1/19/93	NONE
30	DEMON APPLI LAB DATA TO REPOS TRANS CALC/LANL	8.3.1.3.7.2										
31	GASEOUS RAD TRANS CALCS AND MEASURE/LANL	8.3.1.3.8.1										

#	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
	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
32	CHAR VERT/LAT DIST STRAT UNITS SITE AREA/USGS	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	12/14/92	DEFERRED
33	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	2/8/93	
33 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	2/8/93	
33 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	12/14/92	12/18/92	12/22/92	1/6/93	2/8/93	DEFERRED
34	THREE-DIMENSIONAL GEOLOGIC MODEL/USGS	8.3.1.4.2.3										
35	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	1/11/93	7/19/93	
36	THREE-DIMENSIONAL ROCK CHAR MODELS/SNL	8.3.1.4.3.2										
37	CHAR MODERN REGIONAL CLIMATE/USGS	8.3.1.5.1.1	6/24/93	6/25/93								
38	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
39	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	
40	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
41	PALEOCLIM-PALEOENVIRO SYNTHESIS/USGS	8.3.1.5.1.5										
42	CHAR FUTURE REG CLIMATES AND ENVIRONS/SNL	8.3.1.5.1.6										
43	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
43 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	12/31/92	6/24/93	
44	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	12/24/92	4/5/93	DEFERRED
45	DISTRIB AND CHAR PRESENT AND PAST EROSION/USGS	8.3.1.6.1.1										
46	INFLU FUT CLI COND ON LOC & RATES OF ERO/USGS	8.3.1.6.2.1										
47	EVAL EFFECT OF FUT TECT ON ERO AT YUC MTN/USGS	8.3.1.6.3.1										
48	DEV TOPICAL RPT EFFECTS OF ERO ON THE HYDRO,	8.3.1.6.4.1										
	GEOCHEM, AND ROCK CHAR AT YUCCA MTN/USGS											
49	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
50	PHYSICAL PROCESSES OF MAGMATISM AND EFFECTS/LANL	8.3.1.8.1.2	10/21/92	10/26/92	1/14/93	N/A	6/2/93					
51	ANAL WST PKG RUP DUE TO TECT PROC & EVENT/USGS	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	12/23/92		
52	ANAL EFFECTS OF TECT PROC & EVENT ON AVE PERC FLUX	8.3.1.8.3.1										
	RATES OVER REPOS/USGS											
53	ANAL EFF OF TECT PROC&EVENT CHGS WTR TBLE ELV/USGS	8.3.1.8.3.2										
54	ANAL EFF OF TECT PROC & EVENT ON LOCAL FRAC PERM	8.3.1.8.3.3										
	AND EFFECTIVE POROSITY/USGS											
55	ANAL EFF TECT PROC&EVENT ON RK GEOCHEM PROP/USGS	8.3.1.8.4.1										
56	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
57	CHAR IGNEOUS INTRUSIVE FEATURES/USGS	8.3.1.8.5.2	10/13/92	10/16/92	2/19/93	N/A	5/19/93					
58	INVEST FOLDS IN MIOCENE AND YNG RKS OF REG/USGS	8.3.1.8.5.3										
59	EVAL NAT PROC THAT COULD AFFECT LG TERM SURVIVABIL	8.3.1.9.1.1										
	SURFACE MARKER SYS AT YUCCA MTN/M&O											
60	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	12/17/92	3/16/93	
61	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	
62	EVAL DATA NEEDED TO SUPP ASSESS LIKLIHOOD FUT	8.3.1.9.3.1										

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
	INADVER HUMAN INTRU YUC MTN EXPLO/EXT NAT RES/M&O											
63	EVAL POTENTIAL EFFECT OF EXPLOIT NAT RES ON HYDRO	8.3.1.9.3.2										
	CHAR AT YUCCA MTN/M&O											
64	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
64 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	7/29/93				
65	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											
66	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	
66 R1	LAB THERMAL PROPERTIES/SNL	8.3.1.15.1.1	11/3/92	11/9/92	12/10/92	2/10/93	4/8/93	8/3/93				
67	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	
67 R1	LAB THERMAL EXPANSION TESTING/SNL	8.3.1.15.1.2	11/3/92	11/9/92	2/3/93	2/10/93	4/8/93	8/3/93				
68	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	
68 R1	LAB DETERMIN MECH PROP INTACT ROCK/SNL	8.3.1.15.1.3	7/19/93	7/23/93								
69	LAB DETERMIN MECH PROP FRACTURES/SNL	8.3.1.15.1.4	10/23/91	2/5/92	5/12/92	N/A	4/20/93					
70	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	
70 R1	EXCAVATION INVESTIGATIONS/SNL	8.3.1.15.1.5	3/18/93	3/24/93	5/10/93							
71	IN SITU THERMOMECH PROP/SNL	8.3.1.15.1.6										
72	IN SITU MECHANICAL PROP/SNL	8.3.1.15.1.7										
73	IN SITU DESIGN VERIFICATION/SNL	8.3.1.15.1.8	3/20/90	4/12/90	10/10/91	NA	11/23/92	1/12/93	2/3/93	2/8/93	4/15/93	NONE
74	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	
74 R1	CHAR SITE AMBIENT STRESS CONDITIONS/SNL (.1)	8.3.1.15.2.1										
75	CHAR SITE AMBIENT THERMAL COND/USGS	8.3.1.15.2.2	10/13/92	10/16/92	2/19/93	N/A	5/19/93					
76	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
77	LOC OF ADEQ WATER SUPPLY CONST OPER, CLOS, DECOMM	8.3.1.16.2.1										
	OF A MGDS AT YUCCA MTN/SAIC											
78	DETERMINE PRECLOS HYDRO COND UZ YUCCA MTN/USGS	8.3.1.16.3.1										
79	POTENTIAL FOR ASH FALL AT SITE/LANL	8.3.1.17.1.1										
80	FAULTING POTENTIAL AT REPOSITORY/SNL	8.3.1.17.2.1										
81	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	
82	UNDERGROUND NUCLEAR EXPLOSION SOURCES/SNL	8.3.1.17.3.2										
83 R1	GRD MOTION FROM REG EARTHQUAKE AND UNEs/USGS	8.3.1.17.3.3.1										
83	GRD MOTION FROM REG EARTHQUAKE AND UNEs/SNL	8.3.1.17.3.3.2										
84	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
85	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	6/29/93	7/9/93	7/19/93		
86	PROBABILISTIC SEISMIC HAZARD ANALYSES/SNL	8.3.1.17.3.6										
87	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
88	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
89	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	12/28/92	1/21/93	2/9/93		

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
90	QUAT FAULT PROXIMAL TO SITE W/IN NE-TREND	8.3.1.17.4.4	8/3/92	8/5/92	9/25/92	NA	10/26/92	2/24/93	3/18/93	5/18/93		
	FAULT ZONES/USGS											
91	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	2/1/93	NONE
92	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
93	SUBSUR GEOMET AND CONCEALED EXTEN OF QUAT FAULTS	8.3.1.17.4.7										
	AT YUCCA MTN/USGS											
94	STRESS FIELD WITHIN/PROX TO SITE AREA/USGS	8.3.1.17.4.8										
95	TECT GEOMORPH YUCCA MTN REG/USGS	8.3.1.17.4.9										
96	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
97	CHAR REG LATERAL CRUSTAL MOVEMENT/USGS	8.3.1.17.4.11										
98	TECTONIC MODELS AND SYNTHESIS/USGS	8.3.1.17.4.12	4/30/93	5/4/93	7/30/93							
99	SEAL MATERIAL PROPERTIES DEVELOPMENT/SNL	8.3.3.2.2.1										
100	CHAR CHEM AND MIN CHANGES POSTEMPLAC ENVIRO/LLNL	8.3.4.2.4.1										
101	HYDRO PROP OF WASTE PKG ENVIRO/LLNL	8.3.4.2.4.2										
102	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	12/11/92	12/31/92	4/21/93	
103	ENG BARRIER SYSTEM FIELD TESTS/LLNL	8.3.4.2.4.4	7/9/93	7/14/93								
104	EFFECTS MAN-MADE MATERIALS ON WATER CHEMISTRY/LLNL	8.3.4.2.4.5										

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
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	4/6/93
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	4/8/93	
6 R1	WATER MOVEMENT TEST/LANL, REV 1	8.3.1.2.2.2	10/17/91	NA	5/12/92		12/10/92	2/4/93	2/10/93	2/19/93	4/8/93	DEFERRED
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/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	2/9/89	3/5/93	
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	12/11/92	12/18/92	12/19/92	1/5/93	1/14/93	1/21/93	3/5/93	
8 R2	CHAR YUC MTN UNSAT ZONE-ESF INVEST/USGS (.10)	8.3.1.2.2.4	3/16/93	3/24/93	5/12/93	7/21/93						
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	1/19/93	DEFERRED
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
10 R1	CHAR GAS-PHASE MOVEMENT IN UZ/USGS	8.3.1.2.2.6	4/6/93	4/20/93	6/8/93							
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	2/8/93	N/A	3/31/93	6/30/93				
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	1/28/93	NONE
12 R1	FLUID FLOW IN UNSAT, FRAC ROCK/USGS	8.3.1.2.2.8	12/1/92	12/2/92	2/8/93							
13	SITE UZ MODELING & SYNTHESIS/USGS	8.3.1.2.2.9	1/25/91	NA	2/27/92	N/A	4/19/93	6/14/93	7/1/93	7/14/93		
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	DEFERRED
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	1/4/93	NONE
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	1/14/93	1/28/93	6/16/93	DEFFERRED
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/LLNL	8.3.1.3.3.1										
22	KINETICS AND THERMODYN OF MIN EVOL/LANL	8.3.1.3.3.2										
23	CONCEPTUAL MODEL OF MINERAL EVOL/LANL	8.3.1.3.3.3										
24	BATCH SORPT STUDIES AND DEVEL SORPT MODELS/LANL	8.3.1.3.4.1/3	10/28/92	11/4/92	2/18/93							
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	12/24/92	3/25/93	DEFERRED
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	3/10/93	3/22/93	6/25/93							
28	DIFFUSION/LANL	8.3.1.3.6.2	7/24/89	8/9/89	5/10/90	8/30/90	12/4/92	6/28/93				
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	1/19/93	NONE
30	DEMON APPLI LAB DATA TO REPOS TRANS CALC/LANL	8.3.1.3.7.2										
31	GASEOUS RAD TRANS CALCS AND MEASURE/LANL	8.3.1.3.8.1										

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
32	CHAR VERT/LAT DIST STRAT UNITS SITE AREA/USGS	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	12/14/92	DEFERRED
33	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	2/8/93	
33 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	2/8/93	
33 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	12/14/92	12/18/92	12/22/92	1/6/93	2/8/93	DEFERRED
34	THREE-DIMENSIONAL GEOLOGIC MODEL/USGS	8.3.1.4.2.3										
35	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	1/11/93	7/19/93	
36	THREE-DIMENSIONAL ROCK CHAR MODELS/SNL	8.3.1.4.3.2										
37	CHAR MODERN REGIONAL CLIMATE/USGS	8.3.1.5.1.1	6/24/93	6/25/93								
38	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
39	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	
40	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
41	PALEOCLIM-PALEOENVIRO SYNTHESIS/USGS	8.3.1.5.1.5										
42	CHAR FUTURE REG CLIMATES AND ENVIRONS/SNL	8.3.1.5.1.6										
43	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
43 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	12/31/92	6/24/93	
44	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	12/24/92	4/5/93	DEFERRED
45	DISTRIB AND CHAR PRESENT AND PAST EROSION/USGS	8.3.1.6.1.1										
46	INFLU FUT CLI COND ON LOC & RATES OF ERO/USGS	8.3.1.6.2.1										
47	EVAL EFFECT OF FUT TECT ON ERO AT YUC MTN/USGS	8.3.1.6.3.1										
48	DEV TOPICAL RPT EFFECTS OF ERO ON THE HYDRO,	8.3.1.6.4.1										
	GEOCHEM, AND ROCK CHAR AT YUCCA MTN/USGS											
49	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
50	PHYSICAL PROCESSES OF MAGMATISM AND EFFECTS/LANL	8.3.1.8.1.2	10/21/92	10/26/92	1/14/93	N/A	6/2/93					
51	ANAL WST PKG RUP DUE TO TECT PROC & EVENT/USGS	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	12/23/92		
52	ANAL EFFECTS OF TECT PROC & EVENT ON AVE PERC FLUX	8.3.1.8.3.1										
	RATES OVER REPOS/USGS											
53	ANAL EFF OF TECT PROC&EVENT CHGS WTR TBLE ELV/USGS	8.3.1.8.3.2										
54	ANAL EFF OF TECT PROC & EVENT ON LOCAL FRAC PERM	8.3.1.8.3.3										
	AND EFFECTIVE POROSITY/USGS											
55	ANAL EFF TECT PROC&EVENT ON RK GEOCHEM PROP/USGS	8.3.1.8.4.1										
56	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
57	CHAR IGNEOUS INTRUSIVE FEATURES/USGS	8.3.1.8.5.2	10/13/92	10/16/92	2/19/93	N/A	5/19/93					
58	INVEST FOLDS IN MIOCENE AND YNG RKS OF REG/USGS	8.3.1.8.5.3										
59	EVAL NAT PROC THAT COULD AFFECT LG TERM SURVIVABIL	8.3.1.9.1.1										
	SURFACE MARKER SYS AT YUCCA MTN/M&O											
60	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	12/17/92	3/16/93	
61	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	
62	EVAL DATA NEEDED TO SUPP ASSESS LIKLIHOOD FUT	8.3.1.9.3.1										

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
	INADVER HUMAN INTRU YUC MTN EXPLO/EXT NAT RES/M&O											
63	EVAL POTENTIAL EFFECT OF EXPLOIT NAT RES ON HYDRO	8.3.1.9.3.2										
	CHAR AT YUCCA MTN/M&O											
64	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
64 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	7/29/93				
65	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											
66	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	
66 R1	LAB THERMAL PROPERTIES/SNL	8.3.1.15.1.1	11/3/92	11/9/92	12/10/92	2/10/93	4/8/93	8/3/93				
67	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	
67 R1	LAB THERMAL EXPANSION TESTING/SNL	8.3.1.15.1.2	11/3/92	11/9/92	2/3/93	2/10/93	4/8/93	8/3/93				
68	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	
68 R1	LAB DETERMIN MECH PROP INTACT ROCK/SNL	8.3.1.15.1.3	7/19/93	7/23/93								
69	LAB DETERMIN MECH PROP FRACTURES/SNL	8.3.1.15.1.4	10/23/91	2/5/92	5/12/92	N/A	4/20/93					
70	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	
70 R1	EXCAVATION INVESTIGATIONS/SNL	8.3.1.15.1.5	3/18/93	3/24/93	5/10/93							
71	IN SITU THERMOMECH PROP/SNL	8.3.1.15.1.6										
72	IN SITU MECHANICAL PROP/SNL	8.3.1.15.1.7										
73	IN SITU DESIGN VERIFICATION/SNL	8.3.1.15.1.8	3/20/90	4/12/90	10/10/91	NA	11/23/92	1/12/93	2/3/93	2/8/93	4/15/93	NONE
74	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	
74 R1	CHAR SITE AMBIENT STRESS CONDITIONS/SNL (.1)	8.3.1.15.2.1										
75	CHAR SITE AMBIENT THERMAL COND/USGS	8.3.1.15.2.2	10/13/92	10/16/92	2/19/93	N/A	5/19/93					
76	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
77	LOC OF ADEQ WATER SUPPLY CONST OPER, CLOS, DECOMM	8.3.1.16.2.1										
	OF A MGDS AT YUCCA MTN/SAIC											
78	DETERMINE PRECLOS HYDRO COND UZ YUCCA MTN/USGS	8.3.1.16.3.1										
79	POTENTIAL FOR ASH FALL AT SITE/LANL	8.3.1.17.1.1										
80	FAULTING POTENTIAL AT REPOSITORY/SNL	8.3.1.17.2.1										
81	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	
82	UNDERGROUND NUCLEAR EXPLOSION SOURCES/SNL	8.3.1.17.3.2										
83 R1	GRD MOTION FROM REG EARTHQUAKE AND UNEs/USGS	8.3.1.17.3.3.1										
83	GRD MOTION FROM REG EARTHQUAKE AND UNEs/SNL	8.3.1.17.3.3.2										
84	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
85	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	6/29/93	7/9/93	7/19/93		
86	PROBABILISTIC SEISMIC HAZARD ANALYSES/SNL	8.3.1.17.3.6										
87	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
88	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
89	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	12/28/92	1/21/93	2/9/93		

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	NRC & NV COMMENTS TABULATED IN SECTION 4.3											
90	QUAT FAULT PROXIMAL TO SITE W/IN NE-TREND	8.3.1.17.4.4	8/3/92	8/5/92	9/25/92	NA	10/26/92	2/24/93	3/18/93	5/18/93		
	FAULT ZONES/USGS											
91	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	2/1/93	NONE
92	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
93	SUBSUR GEOMET AND CONCEALED EXTEN OF QUAT FAULTS	8.3.1.17.4.7										
	AT YUCCA MTN/USGS											
94	STRESS FIELD WITHIN/PROX TO SITE AREA/USGS	8.3.1.17.4.8										
95	TECT GEOMORPH YUCCA MTN REG/USGS	8.3.1.17.4.9										
96	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
97	CHAR REG LATERAL CRUSTAL MOVEMENT/USGS	8.3.1.17.4.11										
98	TECTONIC MODELS AND SYNTHESIS/USGS	8.3.1.17.4.12	4/30/93	5/4/93	7/30/93							
99	SEAL MATERIAL PROPERTIES DEVELOPMENT/SNL	8.3.3.2.2.1										
100	CHAR CHEM AND MIN CHANGES POSTEMPLAC ENVIRO/LLNL	8.3.4.2.4.1										
101	HYDRO PROP OF WASTE PKG ENVIRO/LLNL	8.3.4.2.4.2										
102	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	12/11/92	12/31/92	4/21/93	
103	ENG BARRIER SYSTEM FIELD TESTS/LLNL	8.3.4.2.4.4	7/9/93	7/14/93								
104	EFFECTS MAN-MADE MATERIALS ON WATER CHEMISTRY/LLNL	8.3.4.2.4.5										