



Department of Energy

Washington, DC 20585

OCT 18 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 September 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 September 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, September 1993

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cc: w\enclosure
R. Dyer, 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 SEPTEMBER 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 September 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 SEPTEMBER, 1993

2.1 NEW STUDY PLAN SUBMITTALS

No Study Plans were recieved by the Project Office in September.

2.2 REVIEW COMMENTS COMPLETED

Project Office reviews were completed for two Study Plans, 8.3.1.15.1.3 R1 Laboratory Determination of the Mechanical Properties of Intact Rock and 8.3.4.2.4.4 Engineered Barrier System Field Tests, in September.

2.3 COMMENT RESOLUTION MEETINGS

No comment resolution meetings were held in September.

2.4 STUDY PLAN REVISIONS

No revisions of Study Plans to resolve reviewers comments were completed in September.

2.5 COMMENT VERIFICATION

One Study Plan, 8.3.1.2.2.6 R1 Characterization of the Yucca Mountain Unsaturated-Zone Gaseous-Phase Movement, completed verification of comment resolution in September.

2.6 STUDY PLANS APPROVALS

Four Study Plans, 8.3.1.2.2.6 R1 Characterization of the Yucca Mountain Unsaturated-Zone Gaseous-Phase Movement, 8.3.1.2.2.7 R1 Hydrochemical Characterization of the Unsaturated Zone, 8.3.1.3.5.1/2 Dissolved Species Concentration Limits and Colloidal Behavior, and 8.3.1.8.1.2 Physical Processes of Magmatism and Effects on the Potential Repository, were approved by the Project Office in September.

2.7 COMPLETED NRC REVIEWS

Two Study Plan phase I reviews, 8.3.1.17.4.3 Quaternary Faulting Within 100 Km of Yucca Mountain, Including the Walker Lane and 8.3.1.17.4.4 Quaternary Faulting Proximal to the Site Within Northeast Trending Fault Zones, were completed during September.

3.0 CURRENT STATUS OF ALL STUDY PLANS

3.1 STUDY 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
None	

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
8.3.1.2.2.8 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
8.3.1.5.1.1: Characterization of Modern Regional Climate/USGS	8/30/93
8.3.1.15.1.3 R1: Laboratory Determination of the Mechanical Properties of Intact Rock/SNL	9/23/93
8.3.1.15.1.5 R1: Excavation Investigations/SNL	5/10/93
8.3.1.17.4.12: Tectonic Models and Synthesis/USGS	7/30/93
8.3.4.2.4.4: Engineered Barrier System Field Tests/LLNL	9/10/93

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
8.3.1.8.5.2: Characterization of Igneous Intrusive Features/USGS	5/19/93
8.3.1.15.1.4: Laboratory Determination of the Mechanical 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

None

3.5 APPROVED STUDY PLANS

8.3.1.2.2.6 R1: Characterization of Gas-Phase Movement in the Unsaturated Zone/USGS	9/30/93
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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
8.3.1.2.2.7 R1: Hydrochemical Characterization of the Unsaturated Zone/USGS	9/17/93
8.3.1.2.2.9: Site Unsaturated Zone Synthesis &	7/14/93
8.3.1.3.5.1/2: Dissolved Species Concentration Limits and Colloid Behavior/LANL	9/17/93
8.3.1.3.6.2: Diffusion/LANL	8/12/93
8.3.1.8.1.2: Physical Processes of Magmatism and Effects on the Potential Repository/LANL	9/21/93
8.3.1.8.2.1: Analysis of Waste Package Rupture due to Tectonic Processes and Events/SAIC	12/23/92
8.3.1.12.2.1 R1: Meteorological Data Collection at the Yucca Mountain Site/SAIC	8/16/93
8.3.1.15.1.1 R1: Laboratory Thermal Properties/SNL	9/14/93
8.3.1.15.1.2 R1: Laboratory Thermal Expansion Testing/SNL	9/14/93
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

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 Paleocology/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
8.3.1.17.4.3: 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
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

8.3.4.2.4.3: Mechanical Properties of the Waste
Package Environment/LLNL

4/21/93

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	Response sent 9/22/93
8.3.1.2.1.4: Regional Hydrologic System Synthesis and Modeling	NRC	1	Response sent 7/23/92
	NRC	5	Response sent 8/30/93
	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	Response sent 9/3/93
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 1 NV 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 16 NV 3	Response sent 12/19/90 Response sent 10/15/90
8.3.1.17.4.4: Quaternary Faulting within NE-Trending Zones	NRC 3	In preparation
8.3.1.17.4.6: Quaternary Faulting	NRC 1 NV 14	Response sent 12/16/91 Response sent 3/8/93
8.3.1.17.4.10: Geodetic Leveling	NV 16 NRC 2	Response sent 4/9/93 Response sent 9/21/93
8.3.4.2.4.3: Characterization of the Geomechanical Attributes of the Waste Package Environment	NRC 3	Response sent 9/3/93

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 received 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/CODES	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												
	INADVER HUMAN INTRU YUC MTN EXPLO/EXT NAT RES/M&O											
63	EVAL POTENTIAL EFFECT OF EXPLOIT NAT RES ON HYDRO CHAR AT YUCCA MTN/M&O	8.3.1.9.3.2										
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 RI	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	8/9/93	8/16/93		
65	STUDIES TO PROVIDE SOIL/ROCK PROF OF POTENTIAL LOCATIONS OF SURFACE/SUBSURFACE FACILITIES/USGS	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	
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 RI	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	8/27/93	9/14/93		
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 RI	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	8/27/93	9/14/93		
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 RI	LAB DETERMIN MECH PROP INTACT ROCK/SNL	8.3.1.15.1.3	7/19/93	7/23/93	9/23/93							
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 RI	EXCAVATION INVESTIGATIONS/SNL	8.3.1.15.1.5	3/18/93	3/24/93	5/10/93							
71	IN SITU THERMOMECH PROPS/SNL	8.3.1.15.1.6										
72	IN SITU MECHANICAL PROPS/SNL	8.3.1.15.1.7										
73	IN SITU DESIG 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 RI	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 OF A MODS AT YUCCA MTN/SAIC	8.3.1.16.2.1										
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 RI	GRD MOTION FROM REG EARTHQUAKE AND UNEa/USGS	8.3.1.17.3.3.1										
83	GRD MOTION FROM REG EARTHQUAKE AND UNEa/SNL	8.3.1.17.3.3.2										
84	EFFECT LOCAL SITE GEOL ON SRFA-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 & REGENCY 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	9/2/93	

