

See enclosures
in pocket #10

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

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WM Record File
102

WM Project 11

Docket No. ✓

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LOR ✓

Reply to:

1050 East Flamingo Ave. MS-25 A11:10
Las Vegas, Nevada 89119

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M E M O R A N D U M

DATE: August 22, 1986

FOR: Robert E. Browning, Director
Division of Waste Management

FROM: Paul T. Prestholt, Sr. OR - NNWSI *PTP*

SUBJECT: NNWSI Site Report period July 18, 1986 through August
19, 1986

I. QUALITY ASSURANCE

A. All stop-work orders issued against NNWSI participants are still in force. Enclosed is a handout listing the dates stop-work orders were issued and the expected lift date. The dates are as follows:

Stop-work Order For	Date Issued	Expected lift date
USGS	Apr. 28, 1986	Sept-Nov, 1986
LANL	June 10, 1986	Sept, 1986
Sandia	June 10, 1986	Aug, 1986
LLNL	June 10, 1986	Aug. 1986

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SAIC	June 9, 1986	Sept. 1986
REECo	June 7, 1986	Sept-Nov, 1986

It seems unlikely that the August lift dates will be met.

B. Also attached is a handout on the status of the stop-work orders by organization. Listed are the conditions to resume work and the status as of the first of August. The conditions to resume work, by participant, are:

USGS

- Proposed corrective actions and schedule for correction of audit finding approved by WMPO
- QAPP revised
- Indoctrination (in QA) and training complete
- Plan to provide adequate QA coverage
- Assignment of QA levels complete and approved by WMPO

SNL

- WMPO approval of SNL QAPP QA procedures
- Assignment of QA levels with approval by WMPO

SAIC - LANL - LLNL

- Assignment of QA levels complete and approved by WMPO

REECo

- Respond to WMPO audit report
- Revise REECo QAPP to respond to audit findings; WMPO must review and approve revised QAPP
- Indoctrination and training of REECo personnel supporting NNWSI project.

C. Scientific Investigation Plans (SIP) are documents prepared by each participant to support QA level assignments for

each activity. A SIP must accompany each level assignment for WMPD review and approval. The number of SIPs required from each participant are:

SNL	39
LLNL	11
USGS	85
LANL	16
SAIC	9

The NNWSI project is expending most of its energy in writing and reviewing SIPs at the present time. Completion and approval of the SIPs (assignment and approval of QA levels) is the primary task in lifting stop-work orders.

D. The following recommendations for mini-audits that may be conducted by the NRC-WM QA section under Appendix 7, are:

- Meteorological monitoring (SAIC)
- Package Environment - static leach testing (LLNL)
- NNWSI audit and surveillance program - NNWSI system (WMPD) for assignment of QA levels
- Mineralogy - petrology (LANL)
- Seismic network monitoring - water level monitoring (USGS)
- Rock mass analysis (SNL)

The concept of holding Appendix 7 mini-audits is supported by WMPD management, including the QA organization. It is understood that a member of the State of Nevada QA organization would be a member of the audit team.

II. GEOLOGY-GEOHYDROLOGY

A. As stated above, most of the energy of the technical staffs of the participants is expended in work to lift the stop-work orders. There are, however, some "ongoing" activities. Ongoing activities are defined as "those activities begun prior to presidential approval (of candidate sites, May 28, 1986) and must be continued to avoid loss of crucial data, such as data related to transient phenomena." On-going surface-based investigations are "those investigations that began prior to presidential approval of the Yucca Mountain site and that are expected to continue unchanged during the time between approval of the site and issuance of the SCP. These are investigations to monitor transient phenomena and must continue in order to assess the suitability of the site per NWPA.

On-going hydrogeologic activities include:

- 6 drillholes (UZ holes) that are used to monitor moisture conditions in the unsaturated zone.
- 14 drillholes are monitored regularly to record fluctuations in the level of the water table
- 74 neutron holes (50' to 200' deep) are used to monitor the infiltration of precipitation in various geologic settings.
- 9 streamflow gages have been installed in dry washes at Yucca Mountain to monitor the surface water runoff that occurs during and after storms.
- 3 channel scour chains have been emplaced to measure the amount of erosion, or scour, that occurs in washes during times of heavy runoff.

- Water level and pressure measurements are being recorded continuously in the UE-25 wells in drill hole wash to evaluate barometric, tidal and other time-related effects on water levels.
- Tubing and piezometers have been installed in drillholes owned by commercial concerns who have agreed to allow the project to collect data from their wells.
- A weather station at the north end of Yucca Mountain collects precipitation for isotope analysis and records weather data to aid characterization of regional climate and storm trajectories.
- Measurements of air and soil temperature and precipitation are being made at two recharge sites.

On-going geologic activities include:

- 55 seismometers continuously record seismic data in the region around Yucca Mountain. The seismic network, developed jointly for the weapons program and the NNWSI project, extends from Caliente to Death Valley and from Tonopah to Lake Mead.
- Geodetic survey benchmarks are installed around the Yucca Mountain site to monitor present-day tectonic adjustments. A quadrilateral network has been installed across several faults near Yucca Mountain. These networks are surveyed annually.
- Seasonal soil sampling is conducted to collect data for soil modeling related to infiltration studies. Activities

include dust-trap sampling, determine field capacity of soils, and periodic measurements of carbon dioxide and soil gases.

B. A seismo-tectonic meeting was held on July 22, 1986, and a meeting on the core library problem was held on July 23, 1986. Information concerning these meetings has been given to appropriate staff. The seismo-tectonic meeting was held to prepare for a meeting with the NRC, proposed for early November, in Las Vegas.

III. ON-GOING LABORATORY WORK

A. This category pertains to on-going work in geochemistry, rock mechanics and the waste package.

- Bulk property and thermomechanical data are being collected on Topopah Spring tuffs to determine mechanical properties needed as input to repository design. Tests include heat capacity, low-strain-rate compression and creep, and tensile strength.
- Near-field geochemical tests are being conducted to characterize the time and temperature dependent conditions in the hydrologic environment immediately adjacent to the waste packages. The tests relate to rock-water interactions and to the response of the environment to the heat generated by the waste.
- Far-field geochemical tests are being conducted (1) to determine the rate of movement of radionuclides along flowpaths from the repository to the accessible environment; (2) to study the mineralogy and petrology along flowpaths; (3) to study the sorption and precipitation of radionuclides along flow paths; and (4)

to provide information on infiltration rates at Yucca Mountain.

- Bulk permeability data are being collected from Yucca Mountain core samples.

IV. ENVIRONMENTAL COMPLIANCE

A. A briefing was given on environmental compliance during the July Project Manager - TPO meeting. The handout is enclosed. Guidance from DOE-Headquarters requires that the projects comply with local and state environment protection laws so long as they are not inconsistent with the NHPA. WMPD is required:

- To comply with all Federal, State, and local environmental law during site characterization.

There may be further delays in program progress because:

- Preliminary estimates suggest that approval of critical permits by the State may not occur until early 1987.

Preliminary analysis of DOE-Headquarter guidance (Purcell's letter of July 23) calls for WMPD to meet for site characterization:

- Substantive and procedural Federal environmental requirements in Federal laws, regulations, executive orders, and DOE orders.
- State and local environmental requirements (those not waived by Congress giving Federal immunity). These will be addressed as a matter of comity, so long as they are not inconsistent with the NHPA.

The handout lists the various laws and regulations related to the above.

Six major issues needing attention by DOE were presented. They are:

- Existing structure within NVO does not recognize a need for a separate comprehensive environmental compliance function outside the weapons program.
- Health Physics and Safety and Health Division are not staffed with persons knowledgeable in NWFA/DCRWM program requirements. The support available from NVO does not allow for the comprehensive and dedicated commitment to DCRWM required to carry out the Hq. guidance.
- Creation of an environmental branch within WMPO, or NVO, seems to be urgently needed.
- The NVO-weapons program is exempted from some provisions of the Federal environmental laws by the AEC and ERDA legislation related to nuclear weapons development and testing.
- The NNWSI project is not exempted from these Federal environmental laws and regulations and has been explicitly instructed by OGR to comply with them for site characterization.
- Most of the site characterization activities through 1990 are outside the boundaries of the NTS on BLM land.

It is important for the NRC staff to be aware of the above in order to understand the possible impacts these problems may have on schedules and staffing requirements within the NNWSI.

B. On-going environmental activities include:

- 5 meteorological monitoring towers have been installed. The four 10-meter towers continuously record wind speed, wind direction, the standard deviation of wind direction, relative humidity and temperature. The 60-meter tower also records the standard deviation of vertical wind speed, net solar and terrestrial radiation, and precipitation.

V. REPOSITORY DESIGN

An Appendix 7 discussion with Bechtel and Parsons Brinkerhoff has been proposed by WMEG personnel. We are presently discussing possible dates for this interaction with WMPO and Sandia.

VI. PERFORMANCE ASSESSMENT

Nothing to report.

VII. STATE INTERACTIONS

Mr. Joseph Bunting and Nancy Still, of his staff, Mr. John Linehan and myself attended a meeting with Mr. Robert Loux and his staff of the State of Nevada Nuclear Waste Project Office in Carson City, Nevada, on August 5, 1986. A number of subjects were discussed and Ms. Still is preparing a report detailing the discussions.

Mr. Loux and his staff made two points that I feel are important for the staff to understand. They are:

1. The State considers that NRC guidance to DOE is influencing the DOE technical program too much.
2. The State wishes to be a full and complete partner in all NRC-DOE interactions. The State fears that Agreements are being entered into by the NRC and DOE that may be detrimental to the State's interests.

The staff should be aware of the above in order to better understand future developments in NRC interactions with the DOE Projects and the State.

VIII. MISCELLANEOUS

A. The quarterly Division Management-OLR meeting was held in Las Vegas during the week of July 28, 1986. On the 29th I escorted Dr. Bell, Deputy Division Director, Mr. F. R. Cook, BWIP-OLR and Dr. T. Verma, SRP-OLR to the test site. We visited "G" tunnel (a tunnel complex in tuff in Ranier Mesa) and the Yucca Mountain area. The tour was a success even though it was suggested that I didn't know the difference between basalt and tuff.

The meeting proper started after lunch on the 30th and ended in the late afternoon on the 1st. Mr. Cook kept the minutes of the meeting. If the staff is interested in what was discussed, Susan Bilhorn is the "keeper of the minutes."

B. Enclosed is a copy of the "QA Document Tracking System Procedure Report." A copy has been sent to Jim Kennedy.

Jim Kennedy requested copies of two letters from WMFO to DOE-Hq. Copies of the letters have been provided by WMFO and have been forwarded to Mr. Kennedy.

PTP:nan

cc: With enclosures:

J. J. Linehan
K. Stablein
S. Bilhorn

cc: No enclosures:

D. L. Vieth	D. M. Kunihero
F. R. Cook	G. Cook
T. Verma	J. P. Knight
J. Szymanski	N. Still
M. Glora	R. R. Loux

Enclosures:

Handout: Status of Surface-Based Investigation
Letter and info re: Correlation of Nevada Nuclear Waste
Storage Investigations Project/Nuclear Regulatory
Commission Interaction Plans and NRC Specific Concerns
Agendas: State of Nevada/NRC, 8/5/86, Carson City & NNWSI
Project Manager-Technical Project Officer Meeting,
8/6-8/86
QA Document Tracking System Procedure Report
QA Status, TPD Meeting 8/7/86
NNWSI Project Monthly Report, 6/86

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STATUS OF SURFACE-BASED INVESTIGATIONS

Enclosures for the dir. 8/22/86
Memo to: R. Browning
From: P. Prestholt
Subject: NWSI site Report period
July 18, 1986 - 8/19/86
NM# 102

1. STOP WORK ORDERS
2. ENVIRONMENTAL COMPLIANCE
3. LAND ACCESS
4. STUDY PLANS

no longer in
existence

SBIP = Surface activities during
site characterization

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PROJECT****STOP WORK ORDERS**

**STOP-WORK ORDERS HAVE BEEN ISSUED TO PROJECT PARTICIPANTS,
SO THE SCHEDULE REFLECTED BY THE NETWORKS IS UNCERTAIN.**

<u>STOP WORK ORDER FOR</u>	<u>DATE ISSUED</u>	<u>EXPECTED LIFT DATE</u>
USGS	APRIL 28, 1986	SEPT-NOV 86
LOS ALAMOS	JUNE 10, 1986	SEPT. 86
SANDIA	JUNE 10, 1986	AUG. 86
LLNL	JUNE 10, 1986	AUG. 86
SAIC	JUNE 9, 1986	SEPT. 86
REECO	JUNE 7, 1986	SEPT-NOV 86

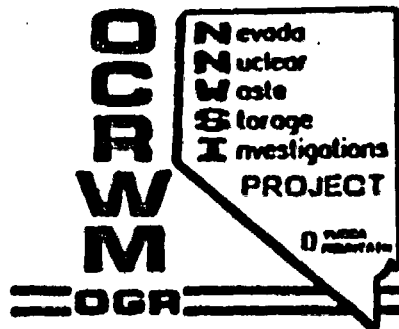
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ENVIRONMENTAL COMPLIANCE

FURTHER DELAYS IN THE PROGRAM ARE EXPECTED IN ORDER TO IMPLEMENT INSTRUCTIONS REGARDING ENVIRONMENTAL COMPLIANCE.

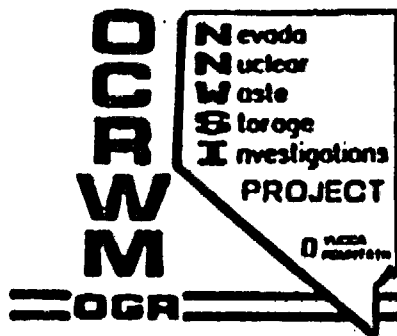
- o A LETTER FROM PURCELL DATED JULY 23, 1986 REQUIRES THAT THE PROJECT COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS DURING SITE CHARACTERIZATION.
- o PRELIMINARY ESTIMATES SUGGEST THAT APPROVAL OF CRITICAL PERMITS BY THE STATE MAY NOT OCCUR UNTIL EARLY 1987.



ENVIRONMENTAL COMPLIANCE

PRELIMINARY ANALYSIS OF PURCELL'S LETTER OF JULY 23 CALLS FOR WMPO TO MEET FOR SITE CHARACTERIZATION

- A) SUBSTANTIVE AND PROCEDURAL FEDERAL ENVIRONMENTAL REQUIREMENTS IN FEDERAL LAWS, REGULATIONS, EXECUTIVE ORDERS AND DOE ORDERS.
- B) STATE AND LOCAL ENVIRONMENT REQUIREMENTS (THOSE NOT WAIVED BY CONGRESS GIVING FEDERAL IMMUNITY). THESE WILL BE ADDRESSED AS A MATTER OF COMITY, SO LONG AS THEY ARE NOT INCONSISTENT WITH NWPA.



ENVIRONMENTAL LAWS

CLEAN AIR ACT

CLEAR WATER ACT

RESOURCE CONSERVATION AND RECOVERY ACT

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND
LIABILITY ACT

TOXIC SUBSTANCES CONTROL ACT

SAFE DRINKING WATER ACT

OCCUPATIONAL HEALTH AND SAFETY ACT

NOISE CONTROL ACT

FLOOD PLAIN/WETLANDS

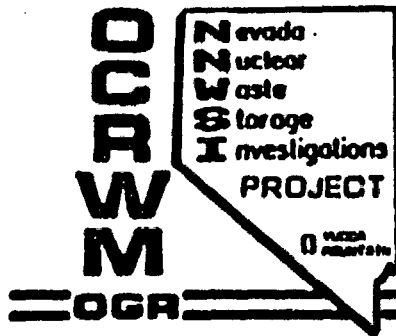
ENDANGERED SPECIES

FISH AND WILDLIFE

WILD AND SCENIC RIVERS

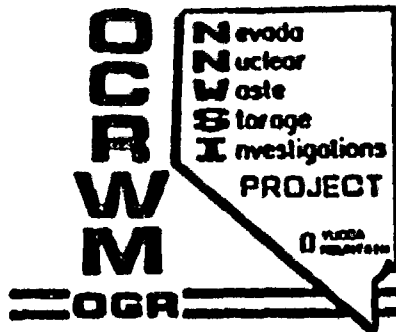
COASTAL ZONE MANAGEMENT

HISTORIC PRESERVATION



MAJOR ISSUES NEEDING ATTENTION

- EXISTING STRUCTURE WITHIN NVO DOES NOT NOW RECOGNIZE A NEED FOR A SEPARATE COMPREHENSIVE ENVIRONMENTAL COMPLIANCE FUNCTION OUTSIDE OF THE WEAPONS PROGRAM.
- HEALTH PHYSICS AND SAFETY AND HEALTH DIVISION ARE NOT STAFFED WITH PERSONS KNOWLEDGEABLE IN NWPA/OCRWM PROGRAM REQUIREMENTS. THE SUPPORT AVAILABLE FROM NVO DOES NOT ALLOW FOR THE COMPREHENSIVE AND DEDICATED COMMITMENT TO OCRWM REQUIRED TO CARRY OUT THE HQ GUIDANCE.
- CREATION OF AN ENVIRONMENTAL COMPLIANCE BRANCH WITHIN WMPO, OR NVO, SEEMS TO BE URGENTLY NEEDED.



MAJOR ISSUES NEEDING ATTENTION

- THE NVO-WEAPONS PROGRAM IS EXEMPTED FROM SOME PROVISIONS OF THE FEDERAL ENVIRONMENTAL LAWS BY THE AEC AND ERDA LEGISLATION RELATED TO NUCLEAR WEAPONS DEVELOPMENT AND TESTING.
- THE NNWSI PROJECT IS NOT EXEMPTED FROM THESE FEDERAL ENVIRONMENTAL LAWS AND REGULATIONS AND HAS BEEN EXPLICITLY INSTRUCTED BY OGR TO COMPLY WITH THEM FOR SITE CHARACTERIZATION.
- MOST OF THE SITE CHARACTERIZATION ACTIVITIES THRU 1990 ARE OUTSIDE THE BOUNDARIES OF NTS (I.E., BLM).

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STUDY PLANS

NO STUDY PLANS EXIST NOW, BUT THEY ARE EXPECTED TO BE AVAILABLE WHEN THE SCP IS ISSUED. IN ORDER TO INITIATE ACTIVITIES BEFORE ISSUANCE OF THE SCP, STUDY PLANS MUST BE PREPARED IN CONSULTATION WITH THE STATE AND THE NRC.

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

SCP _____ *

Permits _____ *

Field Activities:

• Ongoing _____

- Study Plans _____ *

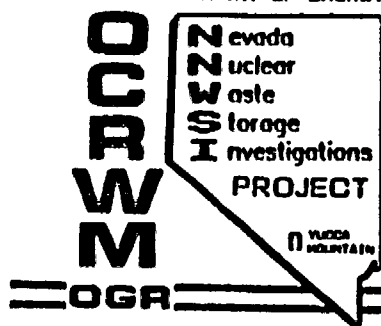
• New: Pre-SCP _____ *

- Study Plans _____ *

• New: Post-SCP _____ *

- Study Plans _____ * - - - - -

~ 90%
Permits



LETTER REPORT TO STATE

o INITIAL DIRECTION:

PROVIDE SUMMARY OF ONGOING AND PLANNED SITE CHARACTERIZATION ACTIVITIES BETWEEN PRESIDENTIAL APPROVAL OF CANDIDATE SITES (MAY 28, 1986) AND ISSUANCE OF SCP (DECEMBER, 1986).

- ONGOING ACTIVITIES ARE THOSE BEGUN PRIOR TO PRESIDENTIAL APPROVAL AND MUST BE CONTINUED TO AVOID LOSS OF CRUCIAL DATA, SUCH AS DATA RELATED TO TRANSIENT PHENOMENA.
- PLANNED ACTIVITIES ARE THOSE THAT WILL BE INITIATED AFTER PRESIDENTIAL APPROVAL.

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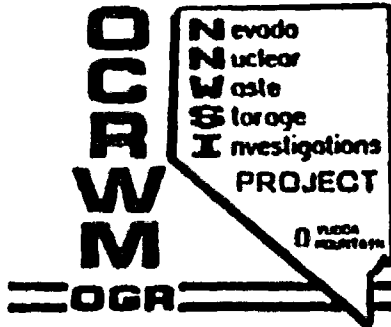
LETTER REPORT TO STATE (CONT.)

o NEW DIRECTION:

PROVIDE SUMMARY OF ONLY THE ONGOING ACTIVITIES.

- ASSUMES THAT ALL PLANNED ACTIVITIES WILL BEGIN AFTER ISSUANCE OF THE SCP.

(AND AFTER STUDY PLANS AND PERMITS ARE IN PLACE)



SURFACE-BASED INVESTIGATIONS

1. ON-GOING SURFACE-BASED INVESTIGATIONS

THOSE INVESTIGATIONS THAT BEGAN PRIOR TO PRESIDENTIAL APPROVAL OF THE YUCCA MOUNTAIN SITE AND THAT ARE EXPECTED TO CONTINUE UNCHANGED DURING THE TIME BETWEEN APPROVAL OF THE SITE AND ISSUANCE OF THE SCP. THESE ARE INVESTIGATIONS TO MONITOR TRANSIENT PHENOMENA AND MUST CONTINUE IN ORDER TO ASSESS THE SUITABILITY OF THE SITE PER NWPA.

2. PLANNED SURFACE-BASED INVESTIGATIONS

NEW INVESTIGATIONS THAT ARE SCHEDULED TO BEGIN AFTER ISSUANCE OF THE SCP.

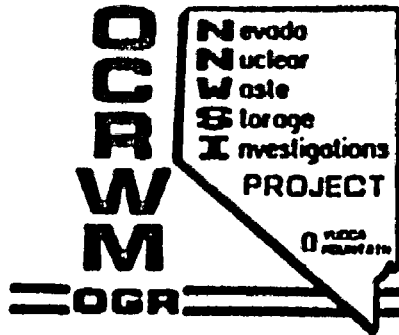
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ON-GOING SURFACE-BASED INVESTIGATIONS

- o HYDROLOGIC ACTIVITIES
- o GEOLOGIC ACTIVITIES
- o ENVIRONMENTAL ACTIVITIES
- o LABORATORY WORK RELATED TO SURFACE-BASED ACTIVITIES

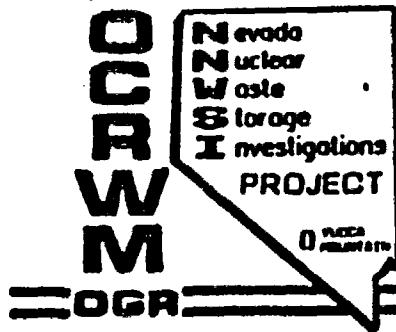


ON-GOING HYDROLOGIC ACTIVITIES

- o 6 DRILLHOLES ARE USED TO MONITOR MOISTURE CONDITIONS IN THE UNSATURATED ZONE.
- o 14 DRILLHOLES ARE MONITORED REGULARLY TO RECORD FLUCTUATIONS IN THE LEVEL OF THE WATER TABLE.
- o 74 NEUTRON HOLES (50' TO 200' DEEP) ARE USED TO MONITOR THE INFILTRATION OF PRECIPITATION IN VARIOUS GEOLOGIC SETTINGS.
- o 9 STREAMFLOW GAGES HAVE BEEN INSTALLED IN DRY WASHES AT YUCCA MOUNTAIN TO MONITOR THE SURFACE WATER RUNOFF THAT OCCURS DURING AND AFTER STORMS.
- o 3 CHANNEL SCOUR CHAINS HAVE BEEN EMPLACED TO MEASURE THE AMOUNT OF EROSION, OR SCOUR, THAT OCCURS IN WASHES DURING TIMES OF HEAVY RUNOFF.

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- o WATER LEVEL AND PRESSURE MEASUREMENTS ARE BEING RECORDED CONTINUOUSLY IN THE UE-25 WELLS IN DRILL HOLE WASH TO EVALUATE BAROMETRIC, TIDAL, AND OTHER TIME-RELATED EFFECTS ON WATER LEVELS.
- o TUBING AND PIEZOMETERS HAVE BEEN INSTALLED IN DRILLHOLES OWNED BY COMMERCIAL CONCERNS, WHO HAVE AGREED TO ALLOW THE PROJECT TO COLLECT DATA FROM THEIR WELLS.
- o A WEATHER STATION AT THE NORTH END OF YUCCA MOUNTAIN COLLECTS PRECIPITATION FOR ISOTOPE ANALYSIS AND RECORDS WEATHER DATA TO AID CHARACTERIZATION OF REGIONAL CLIMATE AND STORM TRAJECTORIES.
- o MEASUREMENTS OF AIR AND SOIL TEMPERATURE AND PRECIPITATION ARE BEING MADE AT TWO RECHARGE SITES.



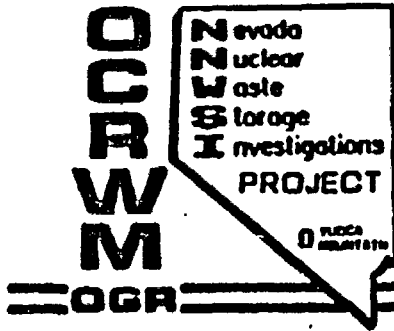
ON-GOING GEOLOGIC ACTIVITIES

- o 55 SEISMOMETERS CONTINUOUSLY RECORD SEISMIC DATA IN THE REGION AROUND YUCCA MOUNTAIN. THE SEISMIC NETWORK, DEVELOPED JOINTLY FOR THE WEAPONS PROGRAM AND THE NNWSI PROJECT, EXTENDS FROM CALIENTE TO DEATH VALLEY AND FROM TONOPAH TO LAKE MEAD.
- o GEODETIC SURVEY BENCHMARKS ARE INSTALLED AROUND THE YUCCA MOUNTAIN SITE TO MONITOR PRESENT-DAY TECTONIC ADJUSTMENTS. A QUADRILATERAL NETWORK HAS BEEN INSTALLED ACROSS SEVERAL FAULTS NEAR YUCCA MOUNTAIN. THESE NETWORKS ARE SURVEYED ANNUALLY.
- o SEASONAL SOIL SAMPLING IS CONDUCTED TO COLLECT DATA FOR SOIL MODELING RELATED TO INFILTRATION STUDIES. ACTIVITIES INCLUDE DUST-TRAP SAMPLING, DETERMINING FIELD CAPACITY OF SOILS, AND PERIODIC MEASUREMENTS OF CARBON DIOXIDE AND SOIL GASES.

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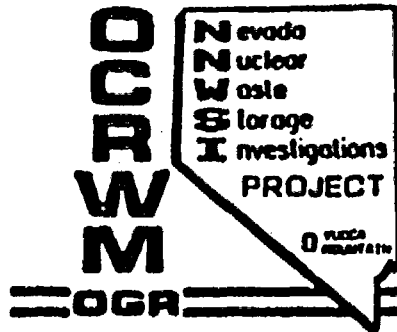
ON-GOING ENVIRONMENTAL ACTIVITIES

- o 5 METEOROLOGICAL MONITORING TOWERS HAVE BEEN INSTALLED. THE FOUR 10-METER TOWERS CONTINUOUSLY RECORD WIND SPEED, WIND DIRECTION, THE STANDARD DEVIATION OF WIND DIRECTION, RELATIVE HUMIDITY, AND TEMPERATURE. THE 60-METER TOWER ALSO RECORDS THE STANDARD DEVIATION OF VERTICAL WIND SPEED, NET SOLAR AND TERRESTRIAL RADIATION, AND PRECIPITATION.



ON-GOING LABORATORY WORK
RELATED TO SURFACE-BASED ACTIVITIES

- o BULK PROPERTY AND THERMOMECHANICAL DATA ARE BEING COLLECTED ON TOPOPAH SPRING TUFFS TO DETERMINE MECHANICAL PROPERTIES NEEDED AS INPUT TO REPOSITORY DESIGN. TESTS INCLUDE HEAT CAPACITY, LOW-STRAIN-RATE COMPRESSION AND CREEP, AND TENSILE STRENGTH.
- o NEAR-FIELD GEOCHEMICAL TESTS ARE BEING CONDUCTED TO CHARACTERIZE THE TIME AND TEMPERATURE DEPENDENT CONDITIONS IN THE HYDROLOGIC ENVIRONMENT IMMEDIATELY ADJACENT TO THE WASTE PACKAGES. THE TESTS RELATE TO ROCK-WATER INTERACTIONS AND TO THE RESPONSE OF THE ENVIRONMENT TO THE HEAT GENERATED BY THE WASTE.



ON-GOING LABORATORY WORK RELATED TO SURFACE-BASED ACTIVITIES (CONT.)

- o FAR-FIELD GEOCHEMICAL TESTS ARE BEING CONDUCTED (1) TO DETERMINE THE RATE OF MOVEMENT OF RADIONUCLIDES ALONG FLOWPATHS FROM THE REPOSITORY TO THE ACCESSIBLE ENVIRONMENT; (2) TO STUDY MINERALOGY AND PETROLOGY ALONG FLOW PATHS; (3) TO STUDY THE SORPTION AND PRECIPITATION OF RADIONUCLIDES ALONG FLOW PATHS; AND (4) TO PROVIDE INFORMATION ON INFILTRATION RATES AT YUCCA MOUNTAIN.

- o BULK PERMEABILITY DATA ARE BEING COLLECTED FROM YUCCA MOUNTAIN CORE SAMPLES.



Science Applications International Corporation

L86-LIC-DMD-48

August 8, 1986

Dr. Donald L. Vieth, Director
Waste Management Project Office
U.S. Department of Energy
Nevada Operations Office
P.O. Box 14100
Las Vegas, NV 89114

ACTION _____

CC: VIETH

CC: BLANCHARD

CC: SEYMANKI

CC: LEWIS

CC: _____

CC: _____

REC'D IN WMPO

8/12/86

Subject: Correlation of Nevada Nuclear Waste Storage Investigations (NNWSI)
Project/Nuclear Regulatory Commission Interaction Plans and NRC
Specific Concerns

Dear Dr. Vieth:

The NRC has indicated (Enclosure 2) that they have six broad areas of Pre-Site Characterization Plan (SCP) concerns. They have suggested interactions to address specific concerns in these areas. Enclosure 1 correlates specific NRC concerns with the NNWSI Project's Plan for interaction with the NRC.

Enclosure 2 was provided by NRC at the June 12, 1986 Management Meeting with the NNWSI Project. It contains the specific concerns and the NRC recommended interactions ("actions"). The NNWSI Project developed an interaction plan based on 1) the completion of reviewed SCP chapters and 2) known issues. These interactions are shown in Enclosure 1. Enclosure 1 also cross references the specific concerns of the NRC from Enclosure 2. This cross referencing demonstrates that all NRC specific concerns are included in the NNWSI Project Interaction Plan.

In addition, note that 1) as a result of the discussions at the TPO meeting of August 7, 1986, the dates and locations of the meetings are specified in the Plan, and 2) some of the interactions are at multiple locations.

A letter transmitting this schedule to James P. Knight at DOE/HQ is being prepared.

Dr. Donald L. Vieth
L86-LIC-DMD-48
August 8, 1986
Page Two

Please contact D. M. Dawson, at 5-0079, if you have questions on this subject.

Sincerely,

SCIENCE APPLICATIONS
INTERNATIONAL CORPORATION



M. D. Voegele
Technical Director
Technical Programs Division

MDV:DMD:gjj

Enclosures:
As stated

cc w/encs:

J. S. Szymanski, WMPO, DOE/NV
M. B. Blanchard, WMPO, DOE/NV
R. A. Levich, WMPO, DOE/NV
M. Glora
C. Pflum
R. West
R. May
D. Jorgenson
M. Teubner
J. Younker
J. Donnell
Project File 1.2.5.2.1.1.8.1

cc w/o encs:

M. Spaeth/W. Macnabb/W. Devlin
J. LaRiviere/R. Sweeney
S. Klein/S. Metta
M. Foley

SUBJECT (in order of priority)	INTERACTION TYPE	NRC CONCERN	NRC ACTION	REMARKS	DATE/LOCATION	PREREQUISITES	DAYS OF MEETING	RESPONSIBLE
Performance Assessment Program Plan (Chapter 8.3.5)	App. 7	IIa,b	IIa 1,2,3,4 IIb 1		Oct. 28-30 Las Vegas		2/23	Blanchard/ Livingston Bingham
Geology (Chapter 1)/Site Program (Chapter 8.3.1)	App. 7	Ia 1,2,3,5,6 Ic Id	Ia1 Site visit Ia2 USGS visit-5/T Data Ic1 USGS visit-mapping Ic2 Iib1 Iib2		Oct. 28-1-Las Vegas Includes Site visit and one day USGS		2/25	Blanchard/ Clanton Raup
Hydrology (Chapter 3)/Climatology and Meteorology (Chapter 5)/Leachemistry (Chapter 4)	App. 7	IIa 1-8 IIb 1,2 VIa 1,2 VIc 1,2,3 VID	VIb1 Los Alamos VIc1 Los Alamos VIc2 VID1 Los Alamos		Nov. 2-7 Las Vegas 1 day Los Alamos		2/26	Blanchard/ Clanton Dudley Wilson Voegele DePorter
Geoengineering (Chapter 2)/Conceptual Design of the Repository (Chapter 6)/Repository Program (Chapter 8.3.2)/Seal System Program (Chapter 8.3.3)	App. 7	Vc 1,2,3	Vc 1,2	Future App. 7 visits and Mtg TBD	Nov 18,19 Las Vegas		1/2	Zvada Tillerson Nimick
Waste Package (Chapter 7)/Waste Package Program (Chapter 8.3.4)	App. 7	IVa 1 IVb 1,2 IVc IVd IVe 1,2,3,4	IVa 1 IVb 1 IVc 1,2 IVd 1	PNL visits TBD LLNL visits TBD	Nov. 18,19 Las Vegas	*Waste Package Definitions (Stein)	2/2	Skousen Ramsputt DePorter/ Staff - Support at Meeting
Seismic/Tectonics	Meeting	Ia 4	Ia 3		Nov. 3,4 Las Vegas	*Approval of methodology by HQ Document to NRC	2/2	Blanchard/ Szymanski Yunker Fraser Raup Subramanian
Exploratory Shaft Testing	Meeting	Vb 1,2,3	Vb 1 VIa 1		Jan. 13-15 Las Vegas	*Approval of Construction Phase Tests (ESTP) by HQ *SCP 8.3 *Study Plan Peer Review	2/3	Vieth/ Blanchard Amudt Blaylock
Exploratory Shaft Design and Construction	Meeting	Va 1,2,3	Va 1,2		Jan. 20-22 Las Vegas	*Approval of Construction Phase Tests by HQ *Title I Design Approval by HQ *Revised Performance Analysis Study *Q-List/QALAS *B/BS Mtg. Commitments Satisfied	1/3	Irby Merson Fernandez
Mineral Deposits	Meeting	Ib 1,2,3	Ib 1 Ib 2	Seismic/Tectonic mtg. too early to include this topic	Feb. Wk 2 3,4 (2 days) Las Vegas	*Approval of Plan by HQ	2/2	Livingston Stuckless Mallison
Core & Sample Control	App. 7	Id	Id 1-procedures	Audit Attendance TBD	Dec. (7) (2 days) Las Vegas			

ENCLOSURE 2

I. Pre-SCP Areas of Concern in Geology/Geophysics

- a. ~~Seismotectonics~~: Fault activity and its significance in terms of siting and designing a HLW repository. It affects pre-closure and post-closure. Pre-closure--surface facilities and operations; retrievability. Post-closure--waste isolation (container rupture); change in pathways to water table and accessible environment.

1. ° Existence and significance of faults showing Quaternary movement.
2. ° Potential significance of detachment faulting.
3. ° Regional and local stress distribution and relationship to faulting/seismicity at Y.M.
4. ° Approaches to interpreting seismotectonic data relative to siting and designing a repository at Y.M.
5. ° Subsurface structure of Jackass Flats and Crater Flat (Mine Mountain Fault continuation; caldera or not; regional stress distribution).
6. ° Volcanic hazards--potential for and significance of.

Actions: 1 Appendix 7 visit to site to see field evidence on faulting and tectonics--Aug/Sept.

2 Appendix 7 visit to USGS to review seismotectonic data and mapping--Aug.

3 Meeting to reach agreement on approach to seismotectonic data.

b. Vein Deposits: Origin and Significance.

1. ° Possible that hot corrosive fluids could contact the waste package and perhaps also more readily dissolve the waste.
2. ° Possible host for precious metal deposits (an area that we are concerned NNWSI Project is overlooking).
3. ° Possible that they are a result of perched water tables that could cause problems during excavations for surface or subsurface facilities.

Actions: 1 App. 7 visit (maybe combined with one of the seismotectonics

2 App. 7 visits) to see plan before it goes to peer review group.

3 Meeting 1/87 to reach agreement on plan.

c. Erosion: threat to waste isolation.

Action: 1 App. 7 visit to USGS by Purcell to look at Quaternary mapping.

2 Discussion at surface investigations plan meeting.

d. Licensing usability of geologic data, especially core.

Action: 1.attendance at pre-startup audits; review of new procedures.

II. Pre-SCP Areas of Concern in Hydrology

a. Unsaturated Zone

1. ° Vertical flux of water
2. ° Fracture flow--amount and significance
3. ° Degree and variability of saturation
4. ° Possibility of permeability and capillary barriers between tuff units
5. ° Air entrapment as a possible barrier to downward flow
6. ° Possibility of free drainage in the host rock
7. ° Possibility of perched water, at structural features or otherwise
8. ° Ranges of hydrologic parameters

b. Saturated Zone

1. ° Limitations in understanding of 3-D distribution of hydrologic parameters;
2. ° Limitations in understanding of flow system boundaries

Actions 1. App. 7 visit to USGS to get familiar with the program.
2. Meeting to address problematic areas in surface investigations plans identified in App. 7 visit or otherwise.

III. Pre-SCP Areas of Concern in Performance Assessment

a. ° Performance Allocation--Approach and Implementation

- Actions: 1. Briefing at NRC on performance assessment program, spotlighting performance allocation;
2. App. 7 visit to SNL to fill gaps in our knowledge of program;
 3. Meeting on performance allocation approach;
 4. At a time closer to release of the SCP, a meeting on performance allocation as implemented for the entire repository (natural and engineered systems).

b. ° Use of Expert Judgment Where Quantitative Approaches Cannot Be Used

Action: 1. App. 7 visit (perhaps combined with one mentioned above) to exchange ideas on application of this approach prior to when NNWSI uses it in connection with the vein deposits.

IV. Pre-SCP Areas of Concern in Waste Package

a. Susceptibility of austenitic stainless steel to non-uniform corrosion mechanisms

Action: 1. App. 7 visit to LLNL to review program (pre-end of summer), with the possibility of a followup meeting (early 1987).

b. Spent fuel cladding as potential barrier:

1. ° Long term integrity;
2. ° potential contribution of partially breached fuel cladding as barrier to reduce radionuclide releases.

Action: 1. App. 7 visit to PNL to review work on cladding (Fall, 1986);
2. Meeting to focus on and resolve issues arising from App. 7 visit

c. Status of NNWSI spent fuel programs; identification of areas needing further consideration for developing compliance with EBS release rate criterion.

Action: 1. App. 7 visit to PNL (see fuel cladding App. 7) to review work on spent fuel;
2. Meeting to focus on and resolve issues arising from App. 7 visit

d. Waste package performance assessment--direction of efforts.

Action: 1. Combine with App. 7 visit above to LLNL or get a briefing at NRC, possibly followed by an App. 7 visit to LLNL on this topic.

e. GENERIC WASTE PACKAGE MEETING TOPICS MENTIONED BY TIM JOHNSON:

1. ° Extrapolation methodology for performance prediction;
2. ° Substantially complete containment;
3. ° Definition of engineered barrier system;
4. ° Reasonable assurance.

V. Pre-SCP Areas of Concern in Rock Mechanics/Design

a. Resolution of items remaining in way of shaft construction

1. ° Open items from Aug. 1985 ES Design/Construction meeting;
2. ° Revised performance analysis;
3. ° Open items from NRC formal comments on response to Coplan 1983 letter

- Action: 1. App. 7 visit to LANL or on-site contractors to review ESF drawings, specifications, and calculations (Summer, 1986);
2. ESF meeting to close out open items and to review status of designs and strategy.

b. Exploratory Shaft Testing in Selected Areas:

1. ° Coupled effects--kinds of tests, duration, scale.
2. ° Representativeness and key rock mechanics/design parameters.
3. ° Flexibility of repository block (space problem of situating repository in the present repository block)--can block be expanded?

- Action: 1. App. 7 visit to LANL or Las Vegas to look over ESTP (?)
2. ESTP meeting to review strategy, rationale, testing--Fall, 1986

c. Selected Aspects of Repository Design:

1. ° Stability of repository (will their minimal support system be adequate, especially when heated?);
2. ° Seismic/fault design criteria;
3. ° NNWSI retrieval strategy.

- Action: 1. App. 7 visits to Parsons-Brinckerhoff and to Bechtel to review design, drawings, specifications, and calculations for repository surface and subsurface facilities--summer 1986 and every few months thereafter.
2. Repository Design Meeting to review status of repository conceptual design and to resolve issues from App. 7 visits.

VI Pre-SCP Areas of Concern in Geochemistry

a. Characterization of groundwater in unsaturated zone

1. ° chemistry and variability in chemistry;
2. ° age of groundwater;

- Action: 1. discussion of testing during ESTP meeting and possibly Surface investigations meeting.

b. Solubility of key radionuclides

- Action: 1. App. 7 visit to LANL to see solubility experiments

c. Radionuclide mobility at Yucca Mountain:

1. ° Determination of radionuclide sorption;
2. ° Status, role, and application of matrix diffusion for characterization of radionuclide mobility;
3. ° Conceptual model of radionuclide transport at Yucca Mountain.

Action: 1 App. 7 visit (combined with solubility) to LANL in Aug-Sept.
2 Meeting in Oct-Nov time frame

d. Stability of potentially sorptive minerals under expected repository conditions at Yucca Mountain

Action: 1. App. 7 visit mentioned above might include examination of LANL experiments in this area.

**AGENDA
STATE OF NEVADA/NRC
8/5/86, CARSON CITY, NV**

- 1. Status of Licensing Support System/Negotiated Rulemaking**
- 2. Issue Resolution During Pre-Licensing**
- 3. Establishment of Local Public Document Rooms**
- 4. Quality Assurance**

CONFIDENTIAL

AGENDA **NNWSI PROJECT MANAGER-TECHNICAL PROJECT OFFICER MEETING**

N-AD-028
6/86

LOCATION: 101 Convention Center Drive
Room 450
Las Vegas, Nevada

PAGE: 1 of 3

DATE: August 6-8, 1986

- Subject to Change. -

TIME	WHAT	HOW	WHO	EXPECTED OUTCOME	REF. MATERIAL & COMMENTS
Wednesday, August 6					
7:30 - 7:40	Review Day's Agenda.	Go over day's agenda.	Joy/Don/TPOs	Agree to agenda and proposed outcomes.	Agenda faxed 7/31/86
7:40 - 7:45	May and June PM-TPO Minutes.	Amend and/or approve May and June Minutes.	Joy/Don/TPOs		
7:45 - 5:00	<u>Schedule Replanning</u>				
(Working Lunch)	o Assumptions.	Review list of assumptions; discuss.	Don/TPOs/Planners	Agree to assumptions needed for replanning.	
	o Major Milestones.	Identify Major Milestones for Master Schedule.	Don/TPOs	Agree to list of Milestones.	
	o Time Frame Options.	Discuss options for replanning network.	Don/TPOs	Agree to a realistic time frame for schedule.	
	o Network Logic.	Discuss how to follow through to refine network logic and logic disconnects on master network.	Don/TPOs/Planners	Agree to commit to meetings with SAIC planners to resolve logic problems.	
	o Create new network.	Plot major milestones, discuss, adjust.	All involved	Develop realistic network for Project.	
5:00 - 5:30	Next steps for network.	Evaluate what's left to be done, discuss when and how to finish network.	Don/TPOs	Identify scope of work left to do, agree to next steps and timing.	

AGENDA

NNWSI PROJECT MANAGER-TECHNICAL PROJECT OFFICER MEETING

N-AD-028
6/86

LOCATION: 101 Convention Center Drive
Room 450
Las Vegas, Nevada

PAGE: 2 of 3

DATE: August 6-8, 1986

TIME	WHAT	HOW	WHO	EXPECTED OUTCOME	REF. MATERIAL & COMMENTS
Thursday, August 7					
7:30 - 7:40	Day's Agenda.	Review agenda/outcomes.	Joy	Agree to agenda and outcomes.	
7:40 - 8:15	Action Items.	Review action items log.	Joy/Don/TPOs	Agree to completions, deletions, new dates, etc.	
8:15 - 9:00	FYIs.				
9:00 - 11:15	FY 87 Budget (Break at 9:45)	Discuss budget allocations at WBS level 4; discuss development of P & S account level budgets.	Don/TPOs/ Alan	Arrive at or near identification of exact budget numbers for FY '87; agree to next steps necessary to get a baselineable budget.	
11:15 - 12:15	Lunch				
12:15 - 1:15	NRC Workshop/Appendix 7 meetings.	Discuss and establish firm schedule or set a course to define a final schedule.	Don/TPOs/ Mike/Dave	Reach agreement on final schedule or agree to next steps to finalize one.	Letter sent Don to TPOs dated 7/28/86.
1:15 - 2:30	QA Update.	Present status of SWOs; discuss what remains to be done and determine a schedule when we can go back to work.	Don/TPOs/ Steve/Stan	Agree to items that must still be done, agree to schedule for lifting SWO.	
2:30 - 3:45	SCP Update.	Mini Agenda to come	Max/Jean,		
3:45 - 4:30	Seismic/Tectonic Position Paper.	Present status of position paper.	Jean		

AGENDA

NNWSI PROJECT MANAGER-TECHNICAL PROJECT OFFICER MEETING

N-AD-028
6/86

LOCATION: 101 Convention Center Drive
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Las Vegas, Nevada

PAGE: 3 of 3

DATE: August 6-8, 1986

TIME	WHAT	HOW	WHO	EXPECTED OUTCOME	REF. MATERIAL & COMMENTS
Thursday August 7 (continued)					
4:30 - 5:30	EXECUTIVE SESSION Retreat Issues	Discuss what we're going to do to follow up.	Don/TPOs/Joy	Agree to steps needed to resolve retreat issues.	

Friday August 8					
7:30 - 10:00	ES QA Level Assignments	Review all QALAs for ES activities.	Dennis/Don/TPOs	Understand status of QALAs for L .	
10:00 - 10:15	Break				
10:15 - 11:00	CCB		Chuck/Don/TPOs		
11:00 - 12:00	Data Base	Present status of TUFF Data Base and RIB; discuss	Scott/Don/TPOs	Understand status of data base.	
12:00 - 1:00	Lunch				
1:00 - 2:15	Study Plan Content.	Discuss and resolve what content of study plans will be so they are consistent throughout Project.	Don O./Jean/TPOs	Resolve and agree to study plan content.	
2:15 - 3:15	Planning Documents.	Review schedule and discuss problem areas.	Don/TPOs	Agree to schedule for completion of all plans.	
3:15 - 3:30	Action Items. Next Meeting Agenda.	Review action items. List agenda items; discuss whether technical presentations can be done.	Joy/Don/TPOs	Agree to due dates, responsible parties, and action. Agree to tentative agenda items.	

QA STATUS

TPO MEETING

AUGUST 7, 1986

USGS STOP WORK ORDER STATUS

CONDITIONS TO RESUME WORK:

- 0 PROPOSED CORRECTIVE ACTIONS AND SCHEDULE FOR CORRECTION OF AUDIT FINDING APPROVED BY WMPO .
- 0 QAPP REVISED
- 0 INDOCTRINATION AND TRAINING COMPLETE
- 0 PLAN TO PROVIDE ADEQUATE QA COVERAGE
- 0 ASSIGNMENT OF QA LEVELS COMPLETE AND APPROVED BY WMPO

STATUS:

- 5/2/86: USGS REQUESTED EXTENSION TO 6/6/86 FOR SUBMITTAL OF ACTIVITIES TO CONTINUE
- 6/9/86: WMPO APPROVES EXTENSION TO 6/11/86 BASED ON TELECONFERENCE WITH USGS
- 6/24/86: USGS IDENTIFIES ACTIVITIES WHICH SHOULD CONTINUE. NINE OF THE 32 ACTIVITIES IDENTIFIED WERE ACCEPTABLE TO WMPO FOR CONTINUANCE
- 0 NO RESPONSE TO THE NCRS ISSUED AS A RESULT OF SURVEILLANCE 86-23 (DUE 7/3/86)
- 0 NO RESPONSE TO NCRS FROM PREVIOUS SURVEILLANCE ACTIVITIES
- 0 NO PROPOSED CORRECTIVE ACTION TO AUDIT FINDING (DUE 30 DAYS AFTER ISSUE ON 6/13)
- 0 A REVISED QAPP WAS RECEIVED BY WMPO ON 7/17. REVIEW EXPECTED TO BE COMPLETED BY 8/20/86
- 0 NO QA LEVEL ASSIGNMENTS
- 0 SAMPLE HANDLING FACILITY PROBLEMS STILL NOT RESOLVED

SNL STOP WORK ORDER STATUS

CONDITIONS TO RESUME WORK:

- 0 WMPO APPROVAL OF SNL QAPP QA PROCEDURES
- 0 ASSIGNMENT OF QA LEVELS WITH APPROVAL BY WMPO

STATUS:

- 0 RESPONDED TO NCR ON 7/21/86, CORRECTIVE ACTION ACCEPTABLE TO WMPO
- 0 IDENTIFIED ACTIVITIES WHICH SHOULD CONTINUE 7/22/86, WHICH WERE APPROVED BY WMPO
- 0 SOME QA LEVEL ASSIGNMENTS HAVE BEEN RECEIVED BY WMPO
- 0 REVIEW OF SNL QAPP IS IN PROCESS

SAIC/LANL/LLNL STOP WORK ORDER STATUS

CONDITION TO RESUME WORK:

- 0 ASSIGNMENT OF QA LEVELS COMPLETE AND APPROVED BY WMPO

STATUS:

SAIC:

- 0 RECEIVED RESPONSE TO NCR ON 6/17/86, CORRECTIVE ACTION ACCEPTABLE TO WMPO
- 0 *All* SOME QA LEVEL ASSIGNMENTS HAVE BEEN RECEIVED BY WMPO

LLNL:

- 0 IDENTIFIED ACTIVITIES WHICH SHOULD CONTINUE ON 6/16/86 WHICH WERE APPROVED BY WMPO
- 0 RESPONDED TO NCR ON 7/25/86, WMPO IN PROCESS OF REVIEWING PROPOSED CORRECTIVE ACTION

LANL:

- 0 IDENTIFIED ACTIVITIES WHICH SHOULD CONTINUE ON 6/23/86. ALL ACTIVITIES ACCEPTABLE TO WMPO EXCEPT ONE
- 0 NO RESPONSE TO NCR
- 0 SOME QA LEVEL ASSIGNMENTS RECEIVED BY WMPO

REECO STOP WORK ORDER STATUS

CONDITION TO RESUME WORK:

- 0 RESPOND TO WMPO AUDIT REPORT
- 0 REVISE REECO QAPP TO RESPOND TO AUDIT FINDINGS; WMPO MUST REVIEW AND APPROVE REVISED QAPP
- 0 INDOCTRINATION AND TRAINING OF REECO PERSONNEL SUPPORTING NNWSI PROJECT

STATUS:

- 0 RESPONDED TO AUDIT FINDING ON 7/21. WMPO IN PROCESS OF REVIEWING PROPOSED CORRECTIVE ACTIONS
- 0 TRAINING UNDERWAY FOR REECO PERSONNEL

STATUS OF OALA REVIEW AND APPROVAL

Organization	Number of SIPs Required	Number of SIPs Currently Being Reviewed	Number of SIPs Approved	Number of SIPs for which Comments were Made	Expected Completion Date of all SIPs
SNL	39		15	10	9/1
LLNL	11	1	2		?
USGS	85	1*			11/1
LANL	16	5	1	2	9/30
SAIC	9	7		15	9/15

*Submitted for review of format only

RECOMMENDATION FOR APPENDIX 7 NRC AUDITS

0	METEOROLOGICAL MONITORING (SAIC)	OCT 86
0	PACKAGE ENVIRONMENT/STATIC LEACH TESTING (LLNL)	NOV 86
0	NNWSI AUDIT AND SURVEILLANCE PROGRAM/NNWSI SYSTEM (WMPO) FOR ASSIGNMENT OF QA LEVELS	DEC 86
0	MINEROLOGY/PETROLOGY (LANL)	JAN 87
0	SEISMIC NETWORK MONITORING/WATER LEVEL MONITORING (USGS)	FEB 87
0	ROCK MASS ANALYSIS (SNL)	FEB 87

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QA DOCUMENT TRACKING SYSTEM
PROCEDURE REPORT

Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
F&S	QAP-1.1(N)	2	ORGANIZATION	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-10.1(N)	2	SOURCE INSPECTION	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-10.2(N)	2	QUALITY ASSURANCE SURVEILLANCE OF NEUTRON HOLE DRILLING PROGRAMS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-10-02, REV. 0
F&S	QAP-11.1	0	PROCEDURE FOR PERMEABILITY TESTS OF UNDERGROUND HOLES	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-11.4	0	PROCEDURE FOR SURVEILLANCE OF SEISMIC TESTING ACTIVITIES	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-12.1	0	CALIBRATION PROCEDURE	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-13.1	0	HANDLING STORAGE AND SHIPMENT	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-14.1	0	INSPECTION, TEST AND OPERATING STATUS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-15.2(N)	1	REPORTING NONCONFORMANCES ON THE NMWSI PROJECT	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-16.1(N)	2	CORRECTIVE ACTION PROCEDURE	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-17.1	0	QUALITY ASSURANCE RECORDS PROCEDURE	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-18.1(N)	2	AUDIT PROCEDURE	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-18.2(N)	1	QUALIFICATION AND CERTIFICATION OF AUDITORS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-2.1(N)	2	QUALITY ASSURANCE PROGRAM	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-2.2(N)	1	INDOCTRINATION AND TRAINING OF QUALITY ASSURANCE PERSONNEL	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-2.3(N)	1	PREPARATION OF QUALITY ASSURANCE PROCEDURES	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-3.1(N)	1	ENGINEERING DRAWINGS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0

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QA DOCUMENT TRACKING SYSTEM
PROCEDURE REPORT

Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
F&S	QAP-3.2(N)	2	ENGINEERING SPECIFICATIONS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-5.1	1	INSTRUCTIONS, PROCEDURES AND DRAWINGS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-6.1	1	DOCUMENT CONTROL	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-7.1	1	SUPPLIER SURVEY	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-7.2(N)	1	SURVEILLANCE INSPECTION REQUIREMENT	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-8.1	1	IDENTIFICATION AND CONTROL OF ITEMS	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAP-9.1(N)	1	CONTROL OF PROCESSES	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QAPP-002	1	QUALITY ASSURANCE PROGRAM PLAN FOR THE NMWSI PROJECT	JB-411 11/27/85	NVO-196-17, REV. 3 SOP-02-01, REV. 0
F&S	QRP-1	0	NMWSI QUALITY ASSURANCE RECORDS PROCEDURE	JB-601 2/10/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0

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QA DOCUMENT TRACKING SYSTEM
PROCEDURE REPORT

Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
HSN		0	QA MANUAL	5/6/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1

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QA DOCUMENT TRACKING SYSTEM
PROCEDURE REPORT

Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
LANL	NNWSI-QP-01	0	QUALITY ASSURANCE PROGRAM PLAN FOR NNWSI	WMPO-1471 8/29/85	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-02	10	QUALITY ASSURANCE PROGRAM INDEX	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-03	6	DOCUMENT CONTROL PROCEDURE	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-04	2	HANDLING, STORAGE AND SHIPPING PROCEDURE	WMPO-905 5/7/85	NVO-196-17, REV. 3 SOP-01-01, REV. 0
LANL	TWS-MSTQA-QP-06	2	NNWSI PROCUREMENT PROCEDURES	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-07	0	PROCEDURE FOR TECHNICAL REVIEW OF PUBLICATIONS	WMPO-905 5/7/85	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-08	3	PERSONNEL CERTIFICATION PROCEDURE FOR NNWSI	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-10	0	DOCUMENT CONTROL OF THE EXPLORATORY SHAFT TEST PLAN	WMPO-905 5/7/85	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-11	1	NNWSI SURVEILLANCE PROCEDURE	WMPO-1705 7/17/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LANL	TWS-MSTQA-QP-12	0	NNWSI RECEIVING INSPECTION PROCEDURE	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-14	1	RESEARCH AND DEVELOPMENT (EXPERIMENTAL) PROCEDURE	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-15	0	CALIBRATION CONTROL	WMPO-1705 7/17/86	NVO-196-17, REV. 4
LANL	TWS-MSTQA-QP-16	0	NNWSI CONTROL OF NONCONFORMANCES	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-18	1	ASSIGNMENT OF QUALITY LEVELS FOR LOS ALAMOS NNWSI ACTIVITIES AND ITEMS	WMPO-905 7/17/86	NVO-196-17, REV. 4
LANL	TWS-MSTQA-QP-18	0	ASSIGNMENT OF QUALITY LEVELS FOR LOS ALAMOS NNWSI PROJECT ACTIVITIES & ITEMS	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0
LANL	TWS-MSTQA-QP-19	0	NNWSI CHANGE REQUESTS	WMPO-1403 6/12/86	NVO-196-17, REV. 3 SOP-02-01, REV. 0

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LLNL	033-NNWSI-P.1.0	1	ORGANIZATION	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.15.	0	NONCONFORMANCE	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.16.	0	CORRECTIVE ACTION	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.17.	0	QUALITY ASSURANCE RECORDS	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.18.	1	AUDITS	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.2.0	0	ASSURANCE	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.4.0	1	PROCUREMENT DOCUMENT CONTROL	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-P.6.0	1	DOCUMENT CONTROL	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NNWSI-P21B	0	QUALIFICATION OF PERSONNEL	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NNWSI-R.10.	0	INSPECTION	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.11.	1	TEST CONTROL		
LLNL	033-NNWSI-R.13.	0	HANDLING, STORAGE, AND SHIPPING	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.14.	0	INSPECTION, TEST, AND OPERATING STATUS	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.3.0	0	DESIGN CONTROL	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.6.0	0	DOCUMENT CONTROL	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.7.0	1	CONTROL OF PURCHASED MATERIALS, EQUIPMENT, AND SERVICES	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NNWSI-R.8.0	0	IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS	WMPO-1218 7/8/85	NVO-196-17, REV. 3

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LLNL	033-NMWSI-R.9.0	0	CONTROL OF PROCESSES	WMPO-1218 7/8/85	NVO-196-17, REV. 3
LLNL	033-NMWSI-R21A	0	TRAINING	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P.5.0	1	INSTRUCTIONS, PROCEDURES, DRAWINGS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P17.0	1	QUALITY ASSURANCE RECORDS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P17.1	0	RECEIPT AND REVIEW OF QA RECORDS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P17.2	0	IDENTIFICATION AND INDEXING OF QA RECORDS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P17.3	0	STORAGE OF QA RECORDS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P18.0	2	AUDITS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P18.2	0	QUALIFICATION OF AUDIT PERSONNEL	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P5.1	0	PREPARATION OF TECHNICAL PROCEDURES	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P5.2	0	REVIEW AND APPROVAL OF TECHNICAL PROCEDURES	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	033-NMWP-P6.1	1	ISSUE OF CONTROLLED DOCUMENTS	WMPO-1518 6/24/86	NVO-196-17, REV. 4 SOP-02-01, REV. 1
LLNL	C	1	TERMS AND DEFINITIONS	WMPO-1218 7/8/85	NVO-196-17, REV. 3

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REECO	568-DOC-115	3	QUALITY ASSURANCE PROGRAM PLAN FOR THE NMWSI PROJECT	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 1.0	0	ORGANIZATION	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 10.0	0	INSPECTION	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 11.0	0	TEST AND EXPERIMENT CONTROL	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 12.0	0	CONTROL OF MEASURING AND TEST EQUIPMENT	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 13.0	0	HANDLING ,SHIPPING AND STORAGE	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 14.0	0	INSPECTION ,TEST AND OPERATING STATUS	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 15.0	0	CONTROL OF NONCONFORMING ITEMS	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 16.0	0	CORRECTIVE ACTION	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 17.0	0	QUALITY ASSURANCE RECORDS	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 18.0	0	AUDITS	WMPO-285 11/20/85	NVO 196-17, REV. 3
REECO	NQP 2.0	0	QUALITY ASSURANCE PROGRAM	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 3.0	0	DESIGN CONTROL	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 4.0	0	PROCUREMENT DOCUMENT CONTROL	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 5.0	0	INSTRUCTIONS PROCEDURES AND DRAWINGS	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 6.0	0	DOCUMENT CONTROL	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 7.0	0	CONTROL OF PURCHASED ITEMS AND SERVICES	WMPO-285 11/20/85	NVO-196-17, REV. 3

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REICO	NQP 8.0	0	IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, COMPONENTS AND SAMPLES	WMPO-285 11/20/85	NVO-196-17, REV. 3
REECO	NQP 9.0	0	CONTROL OF PROCESSES	WMPO-285 11/20/85	NVO-196-17, REV. 3

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SAIC					
SAIC	A 13	N/A	CORPORATE PURCHASING INSTRUCTIONS FOR PURCHASE REQUESTS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 14	N/A	CORPORATE PURCHASING INSTRUCTIONS FOR PURCHASE ORDERS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 15	N/A	CORP. PURCHASING INSTR. FOR PROCESSING CHANGES OR CANCELLATIONS TO PROs & POs	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 22	N/A	CORP. PURCHASING INSTR. FOR PREPARATION AND PROCESSING OF REQUESTS FOR QUOTATION	JB-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 23	N/A	CORPORATE PURCHASING INSTRUCTIONS FOR SUBCONTRACT	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 31	N/A	CORPORATE PURCHASING INSTRUCTIONS FOR SUBCONTRACT DOCUMENTATION REQUIREMENTS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	A 39	N/A	CORPORATE PURCHASING INSTRUCTIONS FOR ADMINISTRATION OF POs AND SUBCONTRACTS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	AP 1.16	0	T&MSS MASTER PROJECT FILE DESCRIPTION AND CONTROL	6/27/85	
SAIC	AP 2.1	N/A	TASK PLANNING AND REVIEW	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	AP 2.3	N/A	INDEPENDENT REVIEW AND PEER REVIEW	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	AP 3.1	N/A	TRAINING AND ORIENTATION OF T&MSS STAFF	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	B 18	N/A	USE OF CONSULTANTS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	B 3	N/A	EMPLOYMENT RECORDS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QAP 2.3	0	T&MSS AUDITOR QUALIFICATION	6/27/85	
SAIC	QAPP-1	2	T&MSS QUALITY ASSURANCE PROGRAM PLAN	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 10.1	1	TEST/EXPERIMENT CONTROL	WMPO-1006 6/27/85	NVO-196-17, REV. 3

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Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
SAIC	QP 12.1	1	CONTROL OF MEASURING AND TEST EQUIPMENT	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 13.1	1	CONTROL OF HANDLING, STORAGE AND SHIPPING	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 14.1	1	CONTROL OF INSPECTION, TEST AND OPERATING STATUS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 15.1	1	CONTROL OF NONCONFORMING ITEMS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 16.1	1	CORRECTIVE ACTION	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 17.1	1	QUALITY ASSURANCE RECORDS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 18.1	1	AUDITS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 2.2	2	INDOCTRINATION AND TRAINING OF PERSONNEL PERFORMING QUALITY RELATED FUNCTIONS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 2.3	1	AUDITOR QUALIFICATION	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 2.4	1	ASSIGNMENT OF QUALITY LEVELS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 3.1	1	DESIGN CONTROL	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 3.2	1	USE AND CONTROL OF COMPUTER PROGRAMS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 4.1	1	PROCUREMENT DOCUMENT CONTROL	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 5.1	1	INSTRUCTIONS, PROCEDURES, AND DRAWINGS	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 6.1	1	DOCUMENT CONTROL	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 7.1	1	CONTROL OF PURCHASED ITEMS AND SERVICES	WMPO-1006 6/27/85	NVO-196-17, REV. 3
SAIC	QP 8.1	1	IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS	WMPO-1006 6/27/85	NVO-196-17, REV. 3

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SAIC	QP 9.1	1	CONTROL OF PROCESSES	WMPO-1006 6/27/85	NVO-196-17, REV. 3

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USGS	NMWSI-USGS-QAPP	2	QUALITY ASSURANCE PROGRAM PLAN	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 1.01	0	QUALITY ASSURANCE ORGANIZATION PROCEDURE	WMPO-1807 9/27/86	NVO-196-17, REV. 3
USGS	QMP 10.01	0	SURVEILLANCE PROCEDURE	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 11.01	0	PREPARATION AND ISSUANCE OF TENTATIVE TECHNICAL PROCEDURES	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 12.01	0	INSTRUMENT CALIBRATION	WMPO-1807 9/27/86	NVO-196-17, REV. 3
USGS	QMP 15.01	0	PROCEDURE FOR CONTROL OF NONCONFORMING ITEMS	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 16.01	0	CONTROL FOR CORRECTIVE ACTION PROCEDURE	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 17.01	0	QUALITY ASSURANCE RECORDS MANAGEMENT	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 18.01	0	AUDITING PROCEDURE	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 2.01	0	MANAGEMENT ASSESSMENT OF THE NMWSI USGS QUALITY ASSURANCE PROGRAM	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 2.02	0	INDOCTRINATION AND TRAINING	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 2.03	0	CERTIFICATION OF USGS TECHNICAL PERSONNEL FOR THE NMWSI PROJECT	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 2.04	0	CERTIFICATION OF FENIX AND SCISSON GEOLOGISTS	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 2.05	0	QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 3.01	0	PROCEDURE FOR IDENTIFICATION OF RESEARCH/EXPERIMENTAL ACTIVITIES	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 3.02	0	USGS QA LEVELS ASSIGNMENT PROCEDURE	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 3.04	0	TECHNICAL REVIEW OF NMWSI PUBLICATIONS OF THE US GEOLOGICAL SURVEY	WMPO-1807 9/27/85	NVO-196-17, REV. 3

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USGS	QMP 3.05	0	WORK REQUEST FOR NTS CONTRACTOR SERVICES(CRITERIA LETTER)	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 4.01	0	PROCUREMENT DOCUMENT CONTROL	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 5.01	0	PREPARATION OF TECHNICAL PROCEDURES	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 6.01	0	DOCUMENT CONTROL	WMPO-1807 9/27/85	NVO-196-17, REV. 3
USGS	QMP 8.01	0	IDENTIFICATION AND CONTROL OF GEOLOGIC AND HYDROLOGIC SAMPLES	WMPO-1807 9/27/85	NVO-196-17, REV. 3

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W	1-1N	B	ORGANIZATION	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-1N	A	INSPECTION PLANNING	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-2N	A	STANDARD INSPECTION TOOLS, GAUGES AND EQUIPMENT	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-3N	A	MATERIALS OVERCHECK	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-4N	B	INSPECTION AT WTSD - NEVADA OPERATIONS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-5N	A	RELEASE OF ITEMS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	10-6N	A	STATISTICAL PLANNING, ANALYSIS AND CONTROL	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	11-1N		TEST CONTROL	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	12-1N		CALIBRATION AND CONTROL OF MEASURING AND TEST EQUIPMENT	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	12-2N	B	CALIBRATION AND CONTROL OF INSPECTION DEVICES	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	13-1N	B	HANDLING, STORAGE, AND SHIPPING	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	14-1N	A	INSPECTION, TEST, AND OPERATING STATUS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	15-1N	A	CONTROL OF NONCONFORMING ITEMS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	15-2N	A	VARIATION REQUEST	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	15-3N	A	STOP WORK ORDERS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	15-5N		NNWSI NONCONFORMANCE CONTROL SYSTEM	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	16-1N	B	CORRECTIVE ACTIONS (INTERNAL)	WMPO-1263 7/24/85	NVO-196-17, REV. 3

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W	16-2N	A	CORRECTIVE ACTIONS (SUPPLIERS)	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	18-1N	E	INTERNAL AUDITS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-1N	A	QUALITY ASSURANCE PROGRAM	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-2N	A	PREPARATION AND CONTROL OF QUALITY METHODS AND PROCEDURES	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-3N	A	TASK QUALITY CLASSIFICATIONS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-4N	A	QUALIFICATION OF QUALITY ASSURANCE PROGRAM AUDIT PERSONNEL	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-5N	A	QUALIFICATION OF INSPECTION AND TEST PERSONNEL	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-6N	A	TRAINING, QUALIFICATION AND CERTIFICATION OF PERSONNEL IN NON DESTRUCTIVE EXAM.	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	2-7N		NRMSI QUALITY CLASSIFICATION SYSTEM	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	3-1N		DESIGN CONTROL	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	3-2N	A	DRAWING AND SPECIFICATION REVIEW	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	4-1N	A	PREPARATION, CONTENT, AND CONTROL OF PROCUREMENT DOCUMENTS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	5-1N	A	INSTRUCTION, PROCEDURE AND DRAWINGS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	6-1N	A	Document Control	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	6-2N		DOE/NV APPROVAL OF QUALITY RELATED DOCUMENTS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	7-1N		QUALITY SURVEYS, EVALUATIONS, AUDITS AND SURVEILLANCE OF SUPPLIES	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	7-2N		APPROVAL REQUESTS	WMPO-1263 7/24/85	NVO-196-17, REV. 3

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W	7-3N		SOURCE INSPECTION	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	7-4N		CONTROL OF PURCHASED ITEMS AND SERVICES	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	8-1N	A	IDENTIFICATION AND CONTROL OF ITEMS	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	9-1N	B	CONTROL OF SPECIAL PROCESSES	WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-132	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-301	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-305	3		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-306	3		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-308	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-310	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-311	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-321	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-325	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-430	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-431	0		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-620	3		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-652	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3

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QA DOCUMENT TRACKING SYSTEM
PROCEDURE REPORT

Organization	Document Number	Revision	Document Name	Approved	Bases of Approval
W	WN-DPN-730	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-811	1		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-DPN-830	2		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WN-P-002	8		WMPO-1263 7/24/85	NVO-196-17, REV. 3
W	WISD-TME 046		WESTINGHOUSE NMMSI QUALITY ASSURANCE PLAN	WMPO-1263 7/24/85	NVO-196-17, REV. 3