FEB 12 1988

Mr. Carl P. Gertz, Director
Waste Management Project Office
U.S. Department of Energy
M/S 523
Las Vegas, NV 89109

Dear Mr. Gertz:

This letter is to confirm the on-site visit related to the DOE/NNWSI seismic monitoring program which was agreed to with you and your staff over the past few weeks. The general aspects of this activity, which have been tentatively agreed to in discussions with your staff and mine, are discussed in the NRC plan for this visit (Enclosure A) and a point paper summarizing the visit (Enclosure B). These enclosures also identify the preparation activities which need to be completed. Enclosure C is a list of items the staff would expect to find at a seismic monitoring data acquisition node.

Mr. Joe Holonich of my staff will be the NRC lead for the site visit and Paul Prestholt, NRC's on-site representative, will coordinate the on-site arrangements and preparations with you and your staff.

Sincerely,

/S/

B. J. Youngblood, Chief
Operations Branch
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosures:
As stated

cc: R. Stein, DOE/HQ
R. Loux, State of Nevada
M. Glora, SAIC

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ENCLOSURE A

PLAN FOR ON-SITE VISIT RELATED TO THE DOE/NNWSI SEISMIC MONITORING PROGRAM

1.0 OBJECTIVE/SCOPE

For the NRC technical and QA staff reviewers to develop an understanding of the ongoing DOE/NNWSI seismic (earthquake) monitoring program.

2.0 APPROACH AND ACTIVITIES

As noted above, the purpose of this activity is for gaining an understanding of the ongoing program. It is not an audit or an indepth technical review. Accordingly, no significant preparations such as reviews of documents before the visit are required. The NRC staff's technical and programmatic background should be adequate.

This on-site technical visit will focus on developing an understanding of DOE's ongoing seismic monitoring program for the technical and QA staff through 2-3 days of on-site activities. (It needs to be determined whether the review can be conducted only at USGS in Denver or whether a visit to the Yucca Mt. site or DOE NNWSI offices is also needed). Activities include 1) a brief DOE program overview presentation; 2) informal discussions with DOE/DOE contractor staff; 3) preliminary reviews of selected DOE documents, data, and data records; 4) observations of instrumentation and data collection and processing activities, and 5) providing DOE with a verbal summary of activities. Preparations before the review should focus on: 1) reading pertinent information in the CDSCP; 2) identifying topics for the DOE presentation; 3) identifying individuals and documents to be available on-site; and 4) preparing questions to be used as general guidance during the visit. Follow-up to the visit include 1) briefing NRC management, and 2) transmitting to DOE a trip report of the on-site visit.

3.0 ORGANIZATION AND RESPONSIBILITIES

Project Manager: coordinates preparations, leads on-site visit, and coordinates follow-up at NRC HQ.
On-site Representative: coordinates on-site arrangements and preparations with DOE and participates in on-site visit.
Technical and QA Reviewers: conduct review in their areas of expertise.
Section Leaders: review staff members input for preparation of questions for on-site visit.

4.0 SCHEDULE

Preparation period: February 15 - 27, 1988
On-site visit: February 29 - March 4, 1988
Follow-up period: March 7 - 11, 1988

5.0 RESOURCE ESTIMATES AND PPSAS/TAC NOS.

Resource estimates are as follows:

Project Manager		
	Preparation	3 staff days
	On-site visit*	3-5 days
	Follow-up	1 staff days
Technical Reviewer		
	Preparation	2 staff days
	On-site visit*	3-5 staff days
	Follow-up	1 staff days
QA Reviewer		
	Preparation	2 staff days
	On-site visit*	3-5 staff days
	Follow-up	1 staff days

(* includes time and travel)
PPSAS and TAC numbers to use are:

Project manager and technical staff - PPSAS No. 411661 Review Site Characterization Data and Analysis-Tuff; TAC No. L60029 Seismic Monitoring on-site technical visit.
QA staff - PPAS No. 411511 Develop and Review QA Program Documents - Tuff; TAC No. L60030 Seismic Monitoring on-site technical QA visit.

6.0 PRODUCTS

1. Schedule of on-site activities, briefing topics, list of participants, list of documents.

2. Questions for on-site visit.

3. Trip report:
   The trip report should include a brief description of daily activities, list of DOE staff and contractors contacted with topics discussed, list of documents reviewed, DOE presentation handouts/viewgraphs and NRC observations that may be appropriate for future follow-up.

ENCLOSURE B

SUMMARY POINTS REGARDING ON-SITE VISIT RELATED TO DOE/NNWSI SEISMIC MONITORING PROGRAM

OBJECTIVE

For the NRC technical and QA staff reviewers to develop an understanding of the ongoing DOE/NNWSI Seismic Monitoring Program.

ACTIVITIES

1. Brief DOE overview presentation on seismic monitoring program.
2. Informal discussions with DOE/DOE contractor staff.
3. Reviews of selected DOE documents, data, and data records.
4. Observations of instrumentation and data collection/processing activities.
5. Provide DOE a summary of the visit.

PREPARATIONS

1. Agree on visit objective and activities above.
2. Identify and agree with DOE on schedule of activities, including location.
3. Identify and agree on DOE/DOE contractors available for informal discussion.
4. Identify and agree on list of documents and data available for on-site staff visit.
5. Identify and agree on topics for overview presentation.

SCHEDULE:

February 29 - March 4, 1988

LOCATION:

USGS Offices, Denver, Colorado and Yucca Mt. site, Nevada.

NRC ATTENDEES:

Joseph Holonich, Senior Project Manager,

Paul Prestholt, On-site Representative,

Linda Riddle, QA staff,

Micheal Blackford, Technical Lead

ENCLOSURE C

ELEMENTS OF A SEISMIC MONITORING DATA ACQUISITION NODE

General items:

- Overall description, in both text and figures, of the data acquisition system including seismic station configuration, telemetry links, and type(s) of seismometers, signal amplification and, if applicable, transmission equipment, and data acquisition and recording equipment
- Data acquisition and recording equipment, if seismic data are telemetered to the node, otherwise data playback and recording equipment
- Equipment for temporary seismic stations and a description of procedures for the deployment of temporary stations in the event of significant earthquakes or other seismic events in the network vicinity
- Data storage facility including a description the data management system and the means used to preserve the quality of the seismograms
- Overall description, in both text and figures, of the data analysis system including a description of the data processing stream from raw data to determined earthquake parameters, the data processing equipment, the earthquake parametric data archival procedures, and the capability to demonstrate the system

Data acquisition items:

- Description of data acquisition system including the seismometer response to ground motion and the passbands of the amplification, transmission, acquisition, and recording equipment
- Description of logging procedures for modifying the data acquisition system including changes to the seismic and telemetry network configurations, equipment replacements, and changes in seismic station sensitivities
- Procedures to logs of data acquisition system outages including periods of seismic station and telemetry inoperation and data losses at the node due to failures of the acquisition or recording equipment or failures in the data storage system
- Logs of data acquisition system maintenance

Data analysis items:

- If the data acquisition system is an event-only acquisition system, a description of the algorithm and its threshold parameters used for the detection and analysis of seismic events

- o Description of playback and recording procedures for data acquired from event-only acquisition systems and their demonstration capability
- o Descriptions of the crustal and attenuation models used to determine the location and size of the earthquakes respectively
- o If appropriate, a description of procedures for the routine determination of earthquake mechanisms including demonstration capability

Data reporting items:

- o Overall description of data reporting procedures including the periodic reporting of data acquisition system operations and seismic data analysis
- o Description of the capabilities and procedures for either real-time or periodic data exchange with the operators of other seismic networks whose data would augment the data acquisition system

OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER FOR: Mr. Carl P. Gertz, Director
Waste Management Project Office
U.S. Department of Energy
M/S 523
Las Vegas, NV 89109

FROM: B. J. Youngblood, Chief
HLOB/DHLWM/NMSS

SUBJECT: CONFIRMATION OF THE ON-SITE TECHNICAL REVIEW OF THE DOE/NNWSI SEISMIC MONITORING PROGRAM AGREEMENT

DATE: FEB 12 1988

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ETana	JHolonich	PJustus
RBlackferd	LRiddle	

CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE
HLOB/ RJohnson:vkg	RCJ	2/12/88
HLOB/ JHolonich	JH	2/12/88
HLOB/ JLinehan		2/12/88
HLOB/ BJYoungblood		2/12/88