



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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M E M O R A N D U M

DATE: September 12, 1988

FOR: John J. Linehan, Acting Chief, Operations Branch  
Division of High-Level Waste Management

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

SUBJECT: NNWSI Site Report for the month of August, 1988

I. QUALITY ASSURANCE

A. This office was asked to follow-up on the DOE investigation of allegations concerning the Yucca Mountain Project (YMP - formerly the NNWSI) QA program by Mr. Sam Singer, a former Quality Assurance (QA) Engineer employed by Science Applications International Corporation (SAIC). A draft report (enclosed) concerning the allegations prepared by Mr. James Blaylock, DOE - Yucca Mountain Project Office (DOE-YMPO) was obtained.

The allegations concerned the following four issues:

8809200033 880916  
PDR WASTE  
WM-11 PDC

- Audit Report 86-6 of the YMPO
- Geologic core samples
- J-13 water samples
- Mineral survey of Yucca Mountain.

The enclosed report contains details of the above areas of concern including back-up data that supports the YMPO position concerning the allegations.

In his cover letter, Mr. Blaylock states:

"In summary, I feel that this response to the allegations is suitable to refute all questions/concerns dealing with the QA aspects brought forth as noted."

At present, there is no agreement between NRC and DOE concerning the documentation and investigation of allegations.

A final report is in preparation and will be forwarded to the NRC when it is finished.

B. During the week of August 22, Reynolds Electric Engineering Company (REECO) was audited by YMPO. NRC and Nevada State personnel observed the audit. The following was prepared by Mr. John Gilray, a member of the NRC audit observation team:

"As a result of DOE/YMPO team audit of REECO, the staff has concluded that the overall audit was effective in that it resulted in identifying significant weaknesses in REECO's QA program procedures particularly in the lack of providing clear definition of how to implement the QA program. The DOE/YMPO audit team concluded that these deficiencies are of such a magnitude that REECO is not yet ready to work on quality level 1 or 2 category work. The staff did however find some shortcomings

in the DOE/YMPO audit process (noted below) which if corrected would enhance the overall audit process.

"Since REECo presently has very little on-going activity associated with the High-Level Waste (HLW) Program, especially in the Quality Level 1 and 2 category, the DOE/YMPO audit concentrated mainly in the documented QA program area and those work areas which have been preparing for future HLW work. These areas included the welding lab, the calibration lab, the records area and procurement area. Overall the audit team adequately audited and evaluated these areas and determined that the labs and records area were being controlled in an acceptable manner and were staffed with competent personnel. The procurement area was found by the audit team to be weak in the selection and control of suppliers.

"1. Observation: The DOE audit plan identified 8 areas of the 18 sections of Appendix B which would not be audited or evaluated since no work was being performed in these areas. This gave the impression that the QA program procedures pertaining to these 8 areas also would not be audited or evaluated. The staff however believed these QA procedures should be part of the audit. In discussing this concern with the audit team it was brought to our attention that in preparing for the audit these procedures were indeed part of the audit and that they were reviewed and evaluated along with others that made up the REECo QA program.

Recommendation: The audit plans in the future should describe all pertinent activities and findings in preparing for the audit to allow for a better understanding of all aspects of the audit process.

"2. Observation: One of the 8 areas excluded from the audit was corrective action. The staff pointed out to the audit team that since the last audit of REECo (No. 87-10) identified deficiencies, it would be meaningful to audit REECo's corrective action process in resolving these deficiencies. The team's

rationale for not including this area in their audit was that they had discussed these deficiencies with the YMPO responsible QA Engineer for assuring proper close out of these deficiencies and concluded that they were properly and adequately closed out with the exception of one which is still open. The team did however, after expressing our concern, evaluate REECO's corrective actions in closing this open item and determined that the proposed corrective actions and process was acceptable.

Recommendation: Future audit plans should assure they include the auditing of those areas where ongoing activity is taking place or where activities have recently taken place.

3. Observation: It was observed that while the DOE/YMPO audit team was correctly identifying weaknesses in the documented training and qualification program they did not intend to interview REECO staff members to determine if indeed they were knowledgeable of the NNWSI QA program control and their assigned tasks and that they were experienced and qualified to carry out their assignment. The NRC staff discussed this observation with the audit team and pointed out how the audit could be more effective by evaluating performance in conjunction with programmatic auditing. Later it was observed that the team expanded their audit by evaluating the performance of personnel to determine the extent of their knowledge, experience and qualifications through interviews. This concept of evaluating performance in conjunction with programmatic audits was further discussed with the audit team and a point made that an NRC training program has been developed introducing this concept in the NRC inspection and audit process of nuclear operating facilities. It was also noted that a similar course is available to the industry.

Recommendation: The audit process should evaluate the performance of work in conjunction with the programmatic aspects of audits in order to provide a more complete perspective and

comparison of the quality of program controls (paper) versus the output product (hardware, data).

"4. Observation: It was noted that DOE/YMPO was auditing REECO's QA program and procedures which were previously reviewed and found acceptable by DOE/YMPO. The results of this audit correctly determined these procedures to be significantly deficient but the audit team gave no mention that these procedures had been previously approved. Reporting this would assist interested parties in understanding the contributing causes to the problem in reviewing and approving contractor's QA programs and procedures. This is to say that REECO believed their program and procedures were adequate by the fact they were previously approved by DOE/YMPO. In this regard DOE/YMPO share some of the blame for this deficiency.

Recommendation: The audit team should address weaknesses in the QA program of other organizations (i.e., DOE/YMPO) when it is determined that these weaknesses may have contributed to the cause of deficiency found by the audit team.

"5. Observation: It was noted that the REECO matrix organization responsible for weapons which consists 95% of their work effort (the remaining 5% is the NNWSI work effort) is committed to conduct their work under NQA-1 controls. These controls are very similar to 10 CFR Part 50 Appendix B. The staff therefore contacted the DOE QA organization responsible for quality of the weapon systems to determine how well REECO was complying with NQA-1. It was noted that DOE is actively working with REECO in order to assure proper development and implementation of a QA program meeting NQA-1. Also it was observed that the weapons side of the REECO organization may carry an undue influence over the REECO NNWSI projectized organization that could affect quality and schedule. This observation was noted when a REECO NNWSI projectized supervisor implied that he was encouraged by the weapons side of the REECO organization to keep the cost and overhead down.

"Recommendation: DOE/YMPO should provide close management overview of REECo's activities to assure quality is not compromised through improper interface and influence by the weapons side of the REECo organization.

"6. Observation: The REECo functional organizations which are responsible for the weapon systems (6 Divisions) will be called upon by the REECo NNWSI projectized staff to perform the major tasks. The organization has a decentralized QA policy in that each division is responsible for QA and as a consequence each division has their separate (unique) QA program procedures for meeting the DOE controls of NQA-1 and separate (unique) QA program procedures for meeting DOE NNWSI 10 CFR 50 Appendix B controls. Also separate QA training programs are developed and implemented within each division. This arrangement, while it may meet the NRC requirements per se, lends itself to a burdensome paper control problem and allows for the working level (the doer) to be discouraged and confused in just what controls are applicable and how he should do his job. The management, document control and review of these procedures would, I suspect, overwhelm and hinder the execution of the HLWP.

"Recommendation: If at all possible develop generic QA procedures applicable to the 6 divisions of REECo with separate Appendixes as necessary to reflect unique controls for a particular division. Without this consolidation of procedures REECo weapons' site will have 18 QA procedures per division giving a total of 108 for weapons' related work and another 108 procedures for NNWSI work. Of course the REECo NNWSI project organization will have their own unique procedures.

"7. Observation: It was noted that the observers from the DOE/YMPO office did not participate much in the audit and did not attend the daily 4 p.m. caucus meetings. There may have been a very good reason for this lack of participation. The staff has pointed this out to C. Gertz and he is looking into the concern. The staff will follow-up on this.

**"Recommendation:** Since the number of observers is usually large and can sometimes impede the audit process it is recommended that the attendance of observers be limited to only those who intend to participate in a meaningful, constructive and productive manner."

C. In the July monthly report, it was noted that all but one of the severity level ones (most serious) assigned to the draft Significant Deficiency Reports (SDRs) written against the USGS in an audit conducted during June 9 to 24, were reduced to severity level two (less serious).

When asked about this, YMP QA representatives pointed out that an SDR is not official until issued in final form. All SDRs, including the severity levels, are subject to review by QA management and must be concurred on by the YMPO QA Manager, Mr. James Blaylock. It was noted by this office that, in comparing the text of one SDR with a downgraded severity level with the criteria for assigning severity levels, the severity level should clearly remain one. The YMPO QA staff agreed and stated that they will clarify the text of the subject SDR and, in the future, the SDR text and the severity level will agree.

D. Enclosed for your information is the present SAIC QA Department staffing chart. This organization reports to the YMPO QA Manager, James Blaylock.

E. Work is continuing on the Draft rewrite of the QA SRP which is near completion. A copy of the rewrite will be sent to Jim Kennedy on or about 9/15/88.

## II. GEOLOGY

There is no new activity since last month's report.

## III. HYDROLOGY

There is no new activity since last month's report.

#### IV. GEOCHEMISTRY

There is no new activity since last month's report.

#### V. REPOSITORY ENGINEERING

A. On August 8, the Exploratory Shaft Facility (ESF) 100% title one design review was held in Henderson, Nevada. The review was structured in the same way as the 50% design review. Since no-one from the D.C. staff attended, the handouts were forwarded to Hq. immediately.

B. In response to NRC concerns, workshops on ESF design compliance with 10 CFR 60 were held on August 9 and 10. On the 9th, a list of 21 criteria from 10 CFR 60 that SAIC licensing group personnel felt applied to ESF design and construction were presented to Yucca Mountain Project participant personnel involved with the ESF for consideration. It was decided to meet again on the 10th.

After considerable discussion on the 10th, the 10 CFR 60 criteria considered applicable (the list was forwarded with the handouts) were divided among the participant representatives for action.

It will be necessary to follow the progress of this activity. A report is due the first half of October.

#### VI. WASTE PACKAGE

There is no new activity since last month's report.

#### VII. PERFORMANCE ASSESSMENT

There is no new activity since last month's report.

### VIII. SITE ENVIRONMENTAL ACTIVITIES

The project is still waiting for the air quality permits from the State of Nevada in order to begin prototype testing (mapping) in trenches at Fran Ridge. It has been suggested that the State is not acting as quickly as it might in processing this permit request.

### IX. LICENSING AND NRC-DOE INTERACTIONS

A. The August Project Manager-Technical Project Officer (PM-TPO) meeting was cancelled. No make-up meeting is scheduled.

B. Meetings attended:

- August 8; 100% ESF Design Review
- August 9 and 10; 10 CFR 60 ESF design compliance meeting.
- August 10; Public Meeting sponsored by the Nevada Nuclear Task Force.
- August 16; meeting with Carl Gertz, YMP Manager
- August 22; meeting with Carl Gertz, YMP Manager
- August 22; meeting with Dennis Trexler and Thomas Flynn, UNLV, and David Blackwell, Southern Methodist University. These gentlemen are consultants to the State of Nevada Nuclear Waste Project Office
- August 23 and 24; DOE - Edison Electric Institute (EEI) meeting
- August 25; DOD National Security Agency Threat and Vulnerability Seminar

- ◻ August 26; trip to NTS - Climax and Sample Management Facility (SMF) with John Gilray and Jim Donnelly
- ◻ August 29; meeting with Carl Gertz, YMP Manager
- ◻ August 29; REECO Audit closeout meeting

C. The Yucca Mountain Project Office has been reorganized. First, the project has changed its name from the "Nevada Nuclear Waste Storage Investigation" (NNWSI) to the "Yucca Mountain Project" (YMP). The "Waste Management Project Office" (WMPO) is now the "Yucca Mountain Project Office" (YMPO).

YMPO now consists of the Manager's Office, QA office, and three divisions with eight branches. There are also matrix support staff supplied by the Nevada Operations Office.

The three Divisions are organized as follows:

- ◻ Engineering and Development Division
  - Exploratory Shaft Branch
  - Field Engineering Branch
  - Systems Branch
- ◻ Project and Operations Control Division
  - Operations Control Branch
  - Project Control Branch
- ◻ Regulatory and Site Evaluation Division
  - Regulatory Interaction Branch
  - Site Investigations Branch
  - Technical Analysis Branch

The enclosed handouts detail this new organization with present personnel assignments.

X. SCP AND STUDY PLANS

A. The SCP is on schedule. It is expected that the SCP will be issued, as planned, late in December, 1988.

B. The status of the study plans is detailed in the YMPD weekly reports that are forwarded as they are received.

XI. STATE INTERACTIONS

On August 22, Dennis Trexler and Thomas Flynn, University of Nevada, Las Vegas (UNLV), and David Blackwell, Southern Methodist University visited the office. These gentlemen are consultants to the Nevada Nuclear Waste Project Office on geothermal activity.

The discussion was centered on the NRC's role in the waste disposal program and how the on-site office operated. I offered any help we might be able to give. They were interested in this office's library and may make use of it.

XII. MISCELLANEOUS

A. DOE-EEI Meeting:

During the afternoon on August 23 and all day on the 24th the YMP provided the Edison Electric Institute (EEI) an overview of the project since EEI's last visit (18 months) as well as specific topical discussions. The agenda and the handouts provided to the EEI are enclosed.

During the afternoon of the 23rd, Mr. Carl Gertz, Program Manager and Mrs. Wendy Dixon, Acting Director, Project and Operations Control Division, gave the EEI members a general overview of the program activities since their last visit. On the 24th the EEI members formed two groups for presentations on specific topics.

Group A (Rich Olson, Brian Wakeman, Nancy Montgomery and Mike Bauser) participated in discussions lead by Max Blanchard, Acting Director, Regulatory and Site Evaluation Division and Tim Zvada, Acting Chief, Field Engineering Branch, Engineering and Development Division. Topics discussed included:

- Licensing status - key issues - strategy
- SCP status - study plans - comment resolution
- Geology
- Peer review
- Repository design
- Waste package design
- ESF design

Group B (Gerald Rhode, Steve Kraft, Leonard Mongeon and Michael Schwartz) discussed, with Wendy Dixon and Carl Gertz, the following:

- Schedules - critical path activities
- Budget performance
- Project management documents/systems
- Institutional issues
- Contractor roles/management
- M&O contractor role
- Headquarters interfaces

The EEI personnel were guardedly complimentary toward the project. They noted that they could see improvements in the project's management of its' contractors and that there was less evidence of duplication of effort, particularly in waste package design (three projects to one?).

They were also critical of the project; particularly in the areas of schedule slippages, QA and the amount of paper produced. The NRC was criticized for seemingly always wanting more (the "one more rock" syndrome).

This is the first time the NRC has been invited to attend the EEI-DOE meeting. I believe it is important and beneficial for the staff to be informed of the industry's point of view.

B. On August tenth, Judy Treichel's Nuclear Waste Task Force hosted an evening public meeting on the nuclear waste issue. Members of a panel composed of Mr. Bob Miller, Nevada Lieutenant Governor; Mr. Brian McKay, Nevada Attorney General; Mr. Jim Schofield, Nevada State Assemblyman and Mr. Grant Sawyer, past Nevada Governor and Chairman of the State's Nuclear Waste Commission were invited to present their views on the proposed Yucca Mountain repository. All panel members expressed opposition to a repository and those members of the general public who were present concurred with two exceptions.

Mr. Carl Gertz was present but did not give a formal presentation.

C. On August 25, the DOD National Security Agency presented a seminar titled "Threat and Vulnerability". The seminar is being given to Federal employees holding a secret security clearance who work in areas that will now have a population of Russian Nationals. It is estimated that Soviet scientists will be resident in southern Nevada for a number of years in the future.

All Federal offices that routinely handle and transmit information, not necessarily sensitive, are being made aware of the possible consequences of the Soviet presence. The content of the seminar was classified, however, two handouts are enclosed that provide the essence of the message the seminar leaders wished to convey.

D. Both John Gilray and Nancy White now have red picture badges (no security clearance) that allow access to non security areas of the NTS. They get John and Nancy through the gate and allow unescorted movement in Mercury and Area 25 (Yucca Mountain and Jackass Flats). It is not difficult to obtain red picture badges for NRC personnel that have a legitimate need, however, the individual must be here in Las Vegas.

E. On August 26th I escorted John Gilray and Jim Donnelly to the Climax facility and to the Sample Management Facility. The personnel at the SMF gave us a tour and showed a well earned pride in their activity.

cc: With enclosures: K. Stablein, R. E. Adler, J. E. Latz  
No enclosures: C. P. Gertz, R. R. Loux, M. Glora,  
D. M. Kunihero, R. E. Browning, G. Cook,  
L. Kovach, S. Gagner, K. Turner, J. Gilray

Enclosures: Yucca Mountain Project organization chart, Threat and Vulnerability Seminar handout, ESF workshop information, EEI agenda and UNWMG letter and presentations, i.e., EEI Utility Nuclear Waste Management Group, Licensing and Site Characterization Topics, Group B, Engineering Design, Project Management Overview, Memo re: ESF Documentation for SCP, SAIC QA organization chart, Letter re: WMPD Allegation Response to the USNRC w/encs.