



Department of Energy
Washington, DC 20585

QA: L

NOV 10 1994

L. Dale Foust
Technical Project Officer
for Yucca Mountain
Site Characterization Project
TRW Environmental Safety Systems, Inc.
Bank of America Center, Suite P-110
101 Convention Center Drive
Las Vegas, NV 89109

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT (OCRWM) QUALITY ASSURANCE (QA) AUDIT YMP-94-01 OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR (CRWMS M&O) SUPPORT OF THE YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT (SCPB: N/A)

OCRWM QA Audit YMP-94-01 was conducted by the Yucca Mountain Quality Assurance Division of the Office of Quality Assurance (OQA) in Las Vegas, Nevada, July 25-29, 1994. On August 25, 1994, the subject report was issued requiring responses to documented recommendations in the audit report.

The CRWMS M&O letter and responses were received October 24, 1994 (see enclosure). The audit is now considered completed and closed. Any open CARs will continue to be tracked until they have been closed to the satisfaction of the QA representative and the Director, OQA.

If you have any questions, please contact either Mario R. Diaz at 794-7974 or Kenneth O. Gilkerson at 794-7738.

Donald G. Horton, Director
Office of Quality Assurance

OQA:MRD-749

Enclosure:
Ltr, 10/19/94, Foust to Horton,
w/encl

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cc w/encl:

D. A. Dreyfus, HQ (RW-1) FORS
L. H. Barrett, HQ (RW-2) FORS
R. W. Clark, HQ (RW-3.1) FORS
W. L. Belke, NRC, Las Vegas, NV
~~W. G. Spratt~~, NRC, Washington, DC
R. R. Loux, NWPO, Carson City, NV
S. W. Zimmerman, NWPO, Carson City, NV
Cyril Schank, Churchill County Commission, Fallon, NV
D. A. Bechtel, Clark County Comprehensive, Las Vegas, NV
J. D. Hoffman, Esmeralda County, Goldfield, NV
Eureka County Board of Commissioners,
Yucca Mountain Information Office, Eureka, NV
Lander County Board of Commissioners, Battle Mountain, NV
Jason Pitts, Lincoln County, Pioche, NV
V. E. Poe, Mineral County, Hawthorne, NV
P. A. Niedzielski-Eichner, Nye County, Chantilly, VA
L. W. Bradshaw, Nye County, Tonopah, NV
William Offutt, Nye County, Tonopah, NV
Florindo Mariani, White Pine County, Ely, NV
B. R. Mettam, County of Inyo, Independence, CA
Mifflin and Associates, Las Vegas, NV
S. L. Bolivar, LANL, Los Alamos, NM
R. E. Monks, LLNL, Livermore, CA
R. P. Ruth, M&O/Duke, Las Vegas, NV
W. J. Glasser, REECO, Las Vegas, NV
R. R. Richards, SNL, Albuquerque, NM, M/S 1333
T. H. Chaney, USGS, Denver, CO
K. B. Johnson, M&O/SAIC, Las Vegas, NV
C. K. Van House, QATSS/SAIC, Las Vegas, NV
R. L. Maudlin, QATSS/CER, Las Vegas, NV
C. J. Henkel, NEI, Washington, DC

**TRW Environmental
Safety Systems Inc.**

101 Convention Center Drive, Suite 527
Las Vegas, NV 89109
702.794.1800

**WBS: 1.2.6
QA: Q/A**

**Contract # DE-AC01-91-RW00134
LV.MG.PGJ.10/94-270**

October 19, 1994

**Mr. Don Horton
Director, Office of Quality Assurance
U. S. Department of Energy
101 Convention Center Drive, Ste. 660
Las Vegas, Nevada 89109**

**Subject: Responses to Recommendations Documented in Audit
YMP-94-01**

Dear Mr. Horton:

**Enclosed are the responses to the recommendations documented in the report of
audit YMP-94-01.**

If you have any questions, please contact Alden Segrest at 794-1924.

Sincerely,



**L. Dale Foust
Assistant General Manager, Nevada Site
Technical Project Officer**

Enclosure:

(1) Responses to Recommendations from Audit YMP-94-01

ENCLOSURE

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cc:

R. W. Clark, HQ, (RW-3.1) FORS
R. W. Godman, M&O/TRW, VA
gww B. R. Justice, M&O/DES, Las Vegas, NV
A. S. Kubo, M&O/TRW, VA
R. P. Ruth, M&O/DES, Las Vegas, NV
R. A. Morgan, M&O/DES, Las Vegas, NV
R. M. Nelson, Jr., YMSCO, NV
R. L. Robertson, M&O/TRW, VA
all R. M. Sandifer, M&O/TRW, VA
pink A. M. Segrest, M&O/DES, Las Vegas, NV
R. E. Spence, YMSCO, NV
LRC

AMS:PGJ:lbg

RESPONSES TO RECOMMENDATIONS FROM AUDIT YMP-94-01

1. The audit disclosed that the emphasis on meeting schedule outweighed the balance of meeting the schedule while maintaining the quality of the work. While it was recognized that the M&O is looking for ways to build more time into the schedule for quality improvement, M&O Management should assess the need to change scheduled goals to maintain quality in conjunction with providing additional staffing resources.

Response: Clearly the M&O's recent efforts to resolve the problems with Design Package 2C were not driven primarily by schedule. There were numerous delays due to more time being required to resolve specific concerns. A realistic estimate of time required to accomplish work without undue interference from unrelated work activities will be built into each schedule for design activities. The current FY95 budget planning shows plans for a two month period between completion of products for submittal to DOE for acceptance and the actual construction needs for the products.

2. The M&O should examine their staffing resources in regard to providing senior people with regulatory experience (e.g., NQA-1, NRC Regulatory Guidance) within the work groups.

Response: Changes have been made to staffing and will continue to be made to provide senior people with more applicable experience. This clearly is part of the on-going culture review initiated in the M&O recovery plan. Additionally, adjustments are being made to provide a distribution of personnel in the various disciplines to more closely match workloads. Specific changes have been made to Lead Mining Engineer, Lead Civil/Structural Engineer, and Lead Mechanical Engineer positions.

3. Consideration should be given to developing specific design document review guidelines for use by the M&O QA Engineering group in order to enhance the M&O product quality. Currently, M&O procedures require a QA review to "assure that QA requirements are met," but no explicit review criteria is provided to ensure a consistent meaningful review.

Response: The M&O QA Engineering group will develop guidelines for reviewing design documents. These guidelines will be in addition to the requirements already in the procedures. Guideline objectives will be to facilitate consistency in the reviews and to improve product quality based on lessons learned from our efforts regarding design package 2C.

4. During the audit it was noticed that a number of documents were not signed by the personnel assigned the responsibility for the activity; instead, the person's supervisor signed for them. This method of documenting accomplishment of activity may lead to confusion regarding who actually performed the work. For example, was the backcheck that comments were incorporated into a document performed by the commentator or the commentator's supervisor? M&O Management should review this practice of "someone" signing a document for "someone else" and determine if it is clearly understood as to when "someone" can or cannot do this.

Response: M&O Management fully supports the practice of assigning signature authority to an individual's supervisor. The supervisor is authorized to sign a product for the originator if that individual is not present for an extended period and the product must be delivered. The

supervisor will not sign if the individual will be out for only one or two days.

5. QAP-3-8, Revision 4, Paragraph 5.1.3.H, instructs the designer to identify and document all applicable design inputs to the specification on the specification inputs list unless the design inputs are currently listed in a BFD.

The difficulty with stating that the design inputs are contained in the BFD is that only parts of the Design Criteria of a section or sections are incorporated into the specifications, which makes it very difficult for a third party to identify the exact design inputs used.

It is recommended that a return to the use of the Specification Inputs List identifying the Design Criteria by section(s) and paragraph number(s) be adopted to assure that the design inputs are exactly identified.

Response: MGDS is considering revamping the process by which design inputs are tracked. A Natural Working Group focusing on the documentation of design basis information has been formed to ensure the process we use is effective, satisfies the requirements of the QARD, and that the production of the documentation can proceed in a timely and efficient manner. The Natural Working Group will be charged to produce recommendations to revise our current process of documenting our design inputs to help preclude recurrence of the type of errors addressed in this recommendation. For work done in bringing Design Package 2C into compliance, Input Lists have been used. This was effective in facilitating a more timely completion of Design Package 2C and is being considered for broader use.

6. The M&O should re-evaluate the staffing needs of Determination of Importance Group. The DIE is a "critical path" design document. There appears to be a mismatch of work necessary to evaluate items and activities covered by a design package versus staff available to provide the evaluation. This recommendation is based on the evaluations of TIEs and WIEs processes used as inputs to the DIE and the available resources to these processes.

Response: The proposed FY95 budget calls for significantly increasing DIE staff & budget; review of associated procedures (i.e., NLP-2-0, NLP-3-16, and NLP-3-17) is also underway to identify opportunities for improving the process of TIE/WIE/DIE development, such as combination of documents to facilitate deletion of redundant item/activity descriptions. Improving the efficiency of the process will contribute to easing the existing burden on the DIE staff.

7. Since the DIE is a critical path design document, future schedules should provide for ensuring that completed TIEs and WIEs are transmitted to the DIE group well in advance of DIE completion. It was noted during the audit that the WIEs and TIEs had approval dates of the same day as the preparation day of the DIE suggesting that the DIE preparer had only one day to review the approved revision of the design inputs (WIEs and TIEs). See related recommendation in Item 6.

Response: It should be noted that receipt of a formal approved TIE and WIE the same day as review and approval does not imply that review of these inputs has not taken place prior to formal approval and transmittal. In fact, normal and regular reviews do take place, with only the final approval and transmittal taking place in close succession. On the other hand, this

example of "just-in-time" design does introduce potential schedule impacts associated with late changes that can impact downstream documents.

Many of the schedule difficulties encountered this past year were a result of the narrow window between design completion and design delivery. A contributing factor was also the critical staff shortage in each of the affected areas. These factors contributed to a very unforgiving process relative to problem identification and subsequent impacts on schedule. The M&O believes that the recommendations for FY 95 activities and budget allocations represent a dramatic improvement over the FY 94 situation. In addition, a review of associated line procedures is underway to evaluate the current process to attempt to identify opportunities for improvement (see recommendation 6).

8. Consider removing the WIEs and TIEs as permanent attachments to the DIE. Although this practice makes the evaluation of the DIE easier, it may become an administrative burden in the future.

Response: The M&O agrees with this recommendation. The revised DIE for ESF design package 2C and subsequent DIEs will adopt this recommendation. This change will obviously require continued diligence in control of design inputs and selection of the proper (i.e., current) revision of input documents.

9. Conduct interdisciplinary reviews of DIEs to promote more discussion of design solutions to the requirements imposed by the DIE. The adverse conditions identified in CARs YM-94-067 and YM-94-075 resulted in part to this disconnect.

Response: The M&O agrees with this recommendation. The mechanism for the A/E to review the conclusions of the DIE had been in place in the form of informal internal reviews, weekly meetings, and the design input control process. As part of the Package 2C improvements, a formal cycle of interdisciplinary reviews as allowed in QAP-3-9 was performed for the revised 2C DIE, and will be implemented for future DIEs as well.

10. Since no requirements exist to ensure that temporary items are removed prior to licensed operation, consider adding a requirement to the Mined Geological Disposal System (MGDS) Design Requirements Document for removal of ESF Temporary Items.

Response: The M&O will consider the need for clarifications to the ESFDR and SBTFRD as part the document revisions planned for FY 95. Since these documents govern the design of the temporary items to be used during site characterization they seem the appropriate requirements documents to evaluate for this recommendation.

11. Welding may be performed in the ESF with architect/engineer (A/E) concurrence. Current WIEs and TIEs have not evaluated the effects of weld gases for test interference or natural barrier performance. Ensure that welding gases have been evaluated for tracers, fluids, and materials (TFM) control prior to the A/E approval of welding in the field.

Response: For Package 2C, the use of welding gases is expected to contribute a negligible fraction of combustion products relative to the proposed use of diesel powered equipment. In addition, the major products of welding gas combustion fall within the general classes of

combustion products already considered by the WIE and TIE evaluations for diesel combustion. Therefore, specific discussion of welding gases in the WIE and TIE was judged to be unnecessary. A subsequent revision of the 2C DIE will include a statement regarding scenarios which are not specifically evaluated because of their negligible impact. The DIE organization is in the process of clarifying the evaluation criteria for review of TFMs (in response to CAR YM-94-033) in light of a reasonable assessment of the potential fragility of the site with the generation of a project-level TFM procedure.