



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

MAR 30 1995

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

ISSUANCE OF SURVEILLANCE RECORD YMP-SR-95-019 RESULTING FROM YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) SURVEILLANCE OF THE CIVILIAN RADIOACTIVE WASTE MANAGEMENT SYSTEM MANAGEMENT AND OPERATING CONTRACTOR (CRWMS M&O) (SCPB: N/A)

Enclosed is the record of Surveillance YMP-SR-95-019 conducted by the YMQAD at the CRWMS M&O facilities in Las Vegas, Nevada, March 14-24, 1995.

The purpose of the surveillance was to verify that remedial action taken in response to the Office of Radioactive Waste Management (OCRWM) Corrective Action Requests (CAR) impacting Design Package 2C output documents was completed and accepted prior to the release of these documents. The surveillance was also to verify that investigative actions taken to determine the extent of deficiencies on OCRWM CARs were effective.

This surveillance is considered completed and closed as of the date of this letter. A response to this surveillance record and any documented recommendations is not required.

If you have any questions, please contact either Robert B. Constable at 794-7945 or Charles C. Warren at 794-7248.

*R. E. Spence*

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-2682

Enclosure:  
Surveillance Record  
YMP-SR-95-019

YMP-5

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MAR 30 1995

cc w/encl:

D. A. Dreyfus, HQ (RW-1) FORS  
R. W. Clark, HQ (RW-3.1) FORS  
T. A. Wood, HQ (RW-14) FORS  
C. J. Henkel, NEI, Washington, DC  
~~J. G. Spraul~~, NRC, Washington, DC  
W. L. Belke, NRC, Las Vegas, NV  
R. R. Loux, 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  
W. J. Glasser, REECO, Las Vegas, NV  
R. R. Richards, SNL, Albuquerque, NM, M/S 1333  
R. P. Ruth, M&O, Las Vegas, NV  
K. B. Johnson, M&O, Las Vegas, NV  
T. H. Chaney, USGS, Denver, CO  
C. K. Van House, YMOAD/QATSS, Las Vegas, NV  
R. L. Maudlin, YMOAD/QATSS, Las Vegas, NV

OFFICE OF  
RADIOACTIVE WASTE MANAGEMENT  
U.S. DEPARTMENT OF ENERGY  
WASHINGTON, D.C.

QUALITY ASSURANCE SURVEILLANCE RECORD

SURVEILLANCE DATA

<sup>1</sup> ORGANIZATION/LOCATION: Management and Operating (M&O) Contractor, Las Vegas, NV	<sup>2</sup> SUBJECT: Office of Civilian Radioactive Waste Management (OCRWM) 2C Design related Corrective Action Requests (CAR)	<sup>3</sup> DATE: 3/14-24/95
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<sup>4</sup>SURVEILLANCE OBJECTIVE: To verify that any remedial action impacting 2C design output documents was completed and accepted before any design documents were released. To verify that investigative actions taken to determine the extent of deficiencies, were effective.

<sup>5</sup> SURVEILLANCE SCOPE: OCRWM 2C Design related CAR responses and impacted Design products	<sup>6</sup> SURVEILLANCE TEAM: Team Leader: <u>Charles C. Warren</u> Additional Team Members: <u>John F. Pelletier</u> <u>Alan W. Rabe</u>
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<sup>7</sup> PREPARED BY: <u>Charles C. Warren</u> Charles C. Warren      3/6/95 Surveillance Team Leader      Date	<sup>8</sup> CONCURRENCE: N/A QA Division Director      Date
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SURVEILLANCE RESULTS

<sup>9</sup>BASIS OF EVALUATION/DESCRIPTION OF OBSERVATIONS:  
See pages 2 through 8

<sup>10</sup>SURVEILLANCE CONCLUSIONS:  
See page 8

<sup>11</sup> COMPLETED BY: <u>Charles C. Warren</u> 3-28-95 Surveillance Team Leader      Date	<sup>12</sup> APPROVED BY: <u>Robert B. Conelable</u> 3-29-95 QA Division Director      Date
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**Block 9 (continued) Basis of Evaluation/Description of Observations:**

BACKGROUND

A review of chronology is first necessary to establish the dates when the 2C output documents were released for construction and what control existed to ensure the verification of the remedial actions for the 2C Corrective Action Requests (CAR) was complete. Design package 2C was released in August, but was withdrawn due to concerns regarding several design control issues raised in a performance-based audit in August of 1994. The package was subsequently released in several phases. The activity regarding the release of 2C was intense during August and September, 1994. Quality Assurance (QA) was involved in two ways to ensure that problems were identified and corrected before this work was released. First, QA did Quality Assurance Procedure (QAP) 6.2 reviews of the design output documents. Those documents consisted of the following four drawings and two specifications:

Design Package 2C Phase 1 "Early Release" Design Products

Drawing Number

BABEAD000-01717-2100-40100-01  
BABEAD000-01717-2100-40104-01  
BABEAD000-01717-2100-40110-01  
BABEAD000-01717-2100-40120-01

Specification Number

BAB000000-01717-6300-01014  
BAB000000-01717-6300-01501

These products were all signed off as complete on 9/13/94. QA 6.2 reviews were then conducted on a priority basis and these products were released to the field by the Baseline Change Control Board on 9/15/94.

Secondly, QA reviewed the corrective action being driven by open CARs. The following CARs were identified by Quality Engineering as being related to the 2C design package.

CARs Which Impact Design Package 2C

HQ-94-018	YM-94-068*
HQ-94-019*	YM-94-069*
YM-94-015*	YM-94-071
YM-94-062	YM-94-072
YM-94-063	YM-94-074

YM-94-064  
YM-94-065\*  
YM-94-066\*  
YM-94-067

YM-94-075\*  
YM-94-076\*  
YM-94-100

Those CARs followed by an asterisk were determined to have an impact on Phase 1.

## PHASE 1

For the Phase 1 CARs the intent was to ensure that the remedial actions were complete before work would begin. This was termed the "early release." Yucca Mountain Quality Assurance Division (YMQAD) Quality Engineering did a review of the remedial action status on the open CARs by contacting each of the Quality Assurance Representatives (QAR) and documenting the verbal responses in a spreadsheet. The spreadsheet dated 9/15/94 shows that the early release remedial actions were complete on all of the eight early release CARs. The Quality Assurance Division Director (QADD) was informed of this conclusion.

There was an administrative hold on release of operation of the Tunnel Boring Machine (TBM) until the QADD (and the Assistant Managers) approved the readiness. The QADD gave his approval in writing (Reference: ltr YMQAD:RES-5139, R. E. Spence to Robert Nelson, dtd 9/19/94), which states that YMQAD has no outstanding QA program issues relating to start of Phase 1, TBM Operations. The project then released operation of the TBM on 9/20.

The following paragraphs evaluate for each CAR whether there was objective evidence to support the conclusion on 9/15 that the early release remedial actions were indeed complete before release of the TBM operation.

HQ-94-019

This CAR was issued on 7/21/94. The remedial actions for early release were identified in a response on 8/17 and approved by the U. S. Department of Energy (DOE) Office of Quality Assurance (OQA) on 8/30/94. However no formal documentation of verification of early release corrective actions was placed in the CAR file. One of the Quality Specialists interviewed stated that all remedial actions for this CAR were verified before start of Phase 1 operation and the QAR in Headquarters Quality Assurance Division (HQAD) was notified. Formal remedial actions were subsequently verified and accepted by OQA at a later date.

YM-94-015

This CAR was issued on 12/30/93. An amended response was sent on 8/16 and was approved by DOE on 8/24. That response indicated that no remedial actions were required, i.e., that there was no impact on the early release design package. Therefore, the conclusion by Quality Engineering in September that remedial actions associated with the early release were complete is justified based on objective evidence.

YM-94-065

This CAR was issued on 8/5/94. The response issued on 8/17 was for all of 2C. The DOE accepted the response on 9/2. Notice of partial verification of the early release remedial action was given on 9/23 based on a verification on a CAR continuation sheet signed on 9/21. However, the auditor's desk file contained the original handwritten notes of the review, which were dated on 9/14. This constitutes objective evidence to show that the Quality Engineering decision on 9/15 that remedial actions for the early release were complete was correct. It should be noted that the verification performed was for one specification and one drawing and did not include the other specification and three drawings.

YM-94-066

This CAR was issued on 8/5/94. The remedial actions for early release were identified in a response on 8/17 and approved by DOE OQA on 8/24/94. OQA gave notice to the Civilian Radioactive Waste Management System, Management and Operating Contractor (CRWMS M&O) of completion of verification of the completion of early release remedial actions by letter dated 9/22/94. This letter was based on a verification sheet signed by the QAR on 9/20/94. Interviews with the QAR and Quality Engineering Lead indicated that the verification had been completed to support Quality Engineering's conclusion on 9/15, but the processing of the formal document was not completed until 9/20/94. Therefore, based on objective evidence and allowance for documentation completion, it is concluded that early release remedial actions for this CAR were complete before release of construction activities.

YM-94-068

This CAR was issued on 8/5/94. The remedial actions for early release were identified in a response on 8/16 and approved by DOE OQA on 8/26/94. OQA gave notice to the CRWMS M&O of completion of verification of the completion of early release remedial

actions by memo dated 9/27/94. This memo was based on a verification sheet which was signed by the QAR on 9/22/94. The verification sheet mentions that these products were verified during the YMQAD 6.2 review process. The YMQAD QAP 6.2 review was completed on 9/10/94. Therefore there is objective evidence to support Quality Engineering's conclusion on 9/15 that early release remedial actions for this CAR were complete.

YM-94-069

This CAR was issued on 8/5/94. The remedial actions for early release were identified in a response on 8/17 and approved by DOE OQA on 8/24/94. On 9/21/94 a verification sheet signed by the QAR indicated that remedial action verification of Phase 1 had been completed. The same timing considerations discussed for above CAR YM-94-068 apply to this CAR. It is concluded that remedial actions had been completed and verified on 9/15, which is before release of construction activities.

YM-94-075

This CAR was issued on 8/5/94. The remedial actions for early release were identified in a response on 8/17, with completion expected by 8/30. This response was approved by DOE on 8/26. This completion was extended to 9/7 and later to 9/12. DOE gave the CRWMS M&O notice of completion of verification of early release remedial actions by memo dated 9/22. This was based on a CAR verification sheet which was signed on 9/20. It refers to two outstanding issues on the remedial actions which were identified and resolved in QAP 6.2 comments on 9/14. Therefore, it is concluded that although the formal documentation was not complete, there was objective evidence to support Quality Engineering's conclusion on 9/15 that early release remedial actions for this CAR were complete.

YM-94-076

This CAR was issued on 8/5/94. There was an original response on 8/11 which was amended on 8/17 and accepted by DOE on 8/25. The response was further amended on 8/31. A partial verification was performed on a CAR continuation sheet on 9/2 and was the basis for DOE approval of the completion of early release remedial actions in their letter dated 9/13. Therefore, this conclusion was formally reached and documented before Quality Engineering made the conclusion on 9/15 that 2C early remedial actions were complete.

## PHASE 2

The TBM operation had come to a halt, and there was again concern that a review should be done of the remedial actions of the design control CARs before restart of the TBM and initiation of Phase 2. This time the action parties for the CARs were not required to segregate out the remedial actions for Phase 2. However, YMQAD Quality Engineering contacted the QAR for each CAR and assessed the impact on Phase 2. This assessment was documented in a spreadsheet dated 10/12/94. An electronic message was then sent to the QADD which informed him of the results of the 6.2 reviews and the issues documented in Surveillance YMP-SR-95-005. It also stated that all CAR corrective actions associated with the design drawings and specifications--in design package 2C2(Part b) were verified and acceptable. Based on the completion of those items, all actions required by YMQAD for Package 2C2(Part b) were deemed complete and acceptable. The QADD then issued a letter to Nelson dated 10/13/94 which communicated OQA approval of the restart.

For the remainder of design phases, review of corrective actions before releasing a design package was not performed.

The current status of the seventeen 2C CARs is that they are closed with the following eight exceptions:

Open CAR No.	Status
HQ-94-018	Corrective Action in Progress
HQ-94-019	Corrective Action in Progress
YM-94-062	Corrective Action in Progress
YM-94-065	Ready for verification
YM-94-066	Ready for verification
YM-94-072	Additional actions needed
YM-94-073	Additional actions needed
YM-94-100	Evaluation of response in progress

It is concluded that there was a determination of the completion of impacted remedial actions before the designs were released to construction, i.e. TBM operation and restart. There is not an on-going effort to tie programmatic deficiency resolution to design package issuance, but this had been done in the past where it had been felt to be beneficial.

## IMPACT ON EARLIER DESIGN PRODUCTS

The question of whether investigative actions taken to determine the extent of deficiencies, including impact on previously released design products, were effective has an inherent difficulty in it. The nature of the design related CARs is that they were either program deficiencies or deficiencies in

implementing the program. The only earlier quality-related design package that was issued was 1A, which was for drill and blast for opening the North Portal. However that package was prepared by a different contractor using different procedures. It is somewhat judgmental then, whether that contractor may have been subject to the same program deficiencies and implementation problems. All of the seventeen CARs that were identified to impact design package 2C were reviewed, including supporting documentation, to assess whether they may also be applicable to earlier design products and then whether the extent of condition evaluation had included that consideration.

CAR No.	Applicable to Prior Design	Prior Design Reviewed
HQ-94-018	Yes	Yes
HQ-94-019	Yes	Yes
YM-94-015	Yes	Yes
YM-94-062*	Yes	No
YM-94-063	No	-
YM-94-064*	Yes	No
YM-94-065	Yes	Yes
YM-94-066	Yes	Yes
YM-94-067	No	-
YM-94-068	No	-
YM-94-069*	Yes	No
YM-94-071*	Yes	No
YM-94-072*	Yes	No
YM-94-074	No	-
YM-94-075	Yes	Yes
YM-94-076	Yes	Yes
YM-94-100	Yes	Response not received yet

The CRWMS M&O should evaluate the asterisked CARs for impact on prior design (see Recommendation).

PERSONNEL CONTACTED

Spence, Richard	YMQAD
Willis, Joe	CRWMS M&O/QA
Wagster, Ron	CRWMS M&O
Naaf, Jerry	CRWMS M&O
Segrest, Alden	CRWMS M&O
Dana, Steve	YMQAD/Quality Assurance Technical Support Services (QATSS)
Gilkerson, Ken	YMQAD/QATSS
Powe, Richard	YMQAD/QATSS
Hastings, Peter	CRWMS M&O
Howard, Rob	CRWMS M&O

Houseworth, Jim	CRWMS M&O
Clark, John	CRWMS M&O
Jones, Phil	CRWMS M&O
Salchak, Jim	CRWMS M&O

**Block 10 (continued) Surveillance Conclusions:**

The surveillance found that the remedial actions on OQA CARs related to design package 2C had been verified for completion before Phase 1 was issued and again before Phase 2 was issued. There is no on-going requirement to regularly tie issuance of design packages to verification of remedial actions on open CARs, nor is this judged to be necessary.

The surveillance found that most of the 2C related CARs had a satisfactory review of whether there was an impact on earlier released design products. However, five were found where there was no documentation to show this had occurred (see Recommendation).

**RECOMMENDATION**

The CRWMS M&O should evaluate the five CARs for which there was no documentation of impact on previously released design products to determine if these products were similarly affected.

NOTE: This evaluation could be documented collectively in a format similar to that used for CARs YM-94-065, 94-QN-C-049, and 94-QN-C-050. (TRW Interoffice Correspondence LV,ESSB.RMS, 12/94-869)