

U. S. NUCLEAR REGULATORY COMMISSION  
SURVEILLANCE OBSERVATION REPORT NO. 94-S01  
OF THE YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION  
SURVEILLANCE NO. YMP-SR-94-013  
OF THE DESIGN CONTROL PROCESS  
OF THE MANAGEMENT AND OPERATING CONTRACTOR

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## SURVEILLANCE OBSERVATION REPORT NO. 94-S1

### 1.0 INTRODUCTION

During December 13 through 17, 1993, a member of the quality assurance (QA) staff of the NRC Division of High-Level Waste Management observed the U.S. Department of Energy (DOE), Office of Civilian Radioactive Waste Management (OCRWM) Yucca Mountain Quality Assurance Division (YMQAD) Quality Assurance Surveillance of the design process of the Management and Operating Contractor (M&O). The surveillance team conducted interviews with M&O personnel and reviewed pertinent documents in Las Vegas, Nevada.

### 2.0 SCOPE

The purpose of surveillance, YMP-SR-94-013, was to review design packages for the Exploratory Studies Facility (ESF) to verify that items are classified in accordance with approved QA procedures and to verify that requirements in the Determination of Importance Evaluation (DIEs) and commitments in the Design Acceptability Analysis (DAA) are incorporated into other appropriate design documents.

### 3.0 PURPOSE

The NRC staff observed and evaluated the YMQAD QA surveillance to gain confidence that OCRWM and the M&O are properly implementing the requirements of their QA programs by assessing the effectiveness of the YMQAD surveillance and determining the adequacy of the M&O QA program in areas of design control which were within the scope of the surveillance. The NRC staff's evaluation is based on direct observations of the surveillance process, discussions with the YMQAD surveillance team and involved M&O personnel, and reviews of pertinent M&O procedures and records. The NRC staff did not evaluate the technical validity, adequacy, or correctness of the ESF design.

### 4.0 SURVEILLANCE PARTICIPANTS

#### 4.1 NRC

John W. Gilray                      Observer

#### 4.2 DOE/YMQAD

Robert L. Howard	Surveillance Team Leader	YMQAD/Roy F. Weston, Inc
Kenneth O. Gilkerson	Surveillance Team Member	YMQAD/Science Applications International Corporation
James Blaylock	Surveillance Team Member	YMQAD

### 5.0 SURVEILLANCE SUMMARY RESULTS

The surveillance team developed the checklist questions based on the M&O QA program and design procedures. The surveillance team reviewed the DIEs and the resultant Waste Isolation Evaluations, design drawings, and specifications for the ESF starter tunnel drill and blast section, north portal pad, water supply system, switchgear building, temporary 69kv power supply system, rock storage area, and starter tunnel steel arch section. The surveillance team

also reviewed the DAA to verify that its commitments had been correctly incorporated into the ESF Design Requirements document. Further, the surveillance team also discussed the development of these documents with involved M&O personnel.

As a result of these activities, four preliminary Corrective Action Requests (CARs) were issued by the surveillance team. In addition, the surveillance team made four recommendations to improve the M&O's design control process and also recommended that a YMQAD surveillance be conducted to cover the use of Test Interference Evaluations in the M&O's DIES.

## 6.0 NRC CONCLUSIONS

The NRC staff determined that the surveillance was effective and agrees with the preliminary CARs and the recommendations made by the surveillance team. The NRC staff believes that the adverse conditions identified in the preliminary CARs do not reflect any major problems with the quality of the ESF design control process that should not be corrected as the M&O's Design Improvement Plan (DIP) is implemented. The NRC staff agrees with the surveillance team that the M&O design control process needs continued improvement in accordance with the DIP. However, the NRC staff observed general improvements in the design process, recognizing that the M&O is in the process of initiating and implementing the corrective design control measures addressed in its DIP. The NRC staff will continue to closely monitor the M&O design process and the ongoing corrective measures to improve the overall design process.