

YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION

QUALITY ASSURANCE SURVEILLANCE REPORT

OF

RAYTHEON SERVICES NEVADA

SURVEILLANCE NUMBER YMP-SR-91-008

CONDUCTED DECEMBER 10, 1990

ACTIVITIES SURVEILLED:

IMPLEMENTATION OF THE SOFTWARE QUALITY ASSURANCE
PROCEDURES SUPPORTING THE FENIX AND SCISSON OF NEVADA
SOFTWARE QUALITY ASSURANCE PLAN, REVISION 0, DECEMBER 1, 1989

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Date: Dec. 14, 1990

Approved by: James Blaylock
Donald G. Horton, Director
Yucca Mountain Quality Assurance Division

Date: 12/14/90

1.0 INTRODUCTION

This report contains the results of the Yucca Mountain Quality Assurance Division (YMQAD) surveillance of the Raytheon Services Nevada (RSN) records pertaining to the implementation of the procedures for ensuring the quality of software to be used for quality-affecting activities on the Yucca Mountain Site Characterization Project.

On November 5, 1990, RSN became a Project participant and assumed responsibility for the activities of Fenix & Scisson of Nevada (FSN) and Holmes & Narver, Inc. (H&N), the previous participants. Under a transition plan approved by the Yucca Mountain Site Characterization Project Office (Project Office), RSN is adopting the Quality Assurance (QA) procedures of FSN and H&N. In particular, RSN is using the FSN Software Quality Assurance Plan, Revision 0, and its associated implementing Project Procedures, PP-80-001 through -014 (with the exception of -012), to qualify computer software for design calculations. Therefore, this surveillance utilized the FSN computer Software Quality Assurance (SQA) documents as the requirements documents.

2.0 PURPOSE AND SCOPE

During FSN Audit 90-07, conducted on September 25 through 28, 1990, it was determined that the implementing procedures were consistent with the Project Office-approved FSN Software Quality Assurance Plan, but that these procedures had not yet been exercised with any software items. Therefore, the purpose of this surveillance was to evaluate the effectiveness of the implementation of the SQA procedures (FSN PP-80 series).

The surveillance addressed the SQA records associated with the software items FLAC, VNETPC, EDSA, and STAAD. A total of 44 software requirements were addressed; however, only the software FLAC had been certified (27 of the 44 requirements). The remaining three software items were in progress.

3.0 SURVEILLANCE PERSONNEL

The surveillance was conducted by the following personnel:

Neil D. Cox, Lead, Quality Assurance Engineer (QAE), Science Application
International Corporation (SAIC)/YMQAD, Las Vegas, Nevada
Thomas J. Higgins, QAE, SAIC/YMQAD, Las Vegas, Nevada

4.0 SUMMARY OF SURVEILLANCE RESULTS

The computer configuration management files were examined in their entirety in order to evaluate the effectiveness of the implementation of the SQA procedures. This involved 44 SQA records.

With the exception of two blanks not properly filled out, the SQA records were found to be in complete compliance with the implementing procedures. The two blanks in question were corrected during the surveillance.

In addition to the four software items cited previously, work on four more computer programs is anticipated. These are VISCOT, DOT, CLIMSIM, and Shaft.

It is concluded that the SQA program is effective.

5.0 PERSONS CONTACTED DURING THE SURVEILLANCE

Ali, Arshad, RSN, Audit Section Manager
Bonabiam, Saeed, RSN, Engineer, Technical Analysis Specialist
Bullock, Richard L., RSN, Technical Project Officer
Criddle, R. D., RSN, Computer Systems Manager
Douglass, JoAnn C., RSN, Computer Certification Records Specialist
Jurani, Romeo, RSN, Computer Certification Technical Officer
Regenda, Michael J., RSN, QA Manager
Rue, J. L., RSN, Quality Engineer
Tunney, D. J., RSN, QA Engineering Manager

6.0 MEASURING AND TEST EQUIPMENT USED DURING THE SURVEILLANCE

None.

7.0 SYNOPSIS OF DEFICIENCY DOCUMENTS

, No deficiency documents issued.

8.0 RECOMMENDATIONS

None.

9.0 REQUIRED ACTIONS

None.