



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

Reply to:

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MEMORANDUM

DATE: December 18, 1991  
FOR: David Brooks, Acting Director, HLPD  
FROM: John W. Gilray, Sr. OR - YMP  
SUBJECT: YMP Site Report for the month of November

I. QUALITY ASSURANCE

A. Audit Activities

◆ Audit of REECO

From November 18-20, I participated as the NRC observer on the U.S. Department of Energy (DOE), Yucca Mountain Quality Assurance Division (YMQAD) Quality Assurance (QA) Audit (No. YMP-92-04) of the Reynolds Electrical & Engineering Co., Inc. (REECO) QA program in the area of Quality Assurance Records.

The object of the YMQAD audit was to evaluate the implementation and effectiveness of the REECO QA program in meeting the QA records requirements of REECO's Quality Assurance Program Plan (QAPP) 568-Doc-115, Revision 8.

The NRC staff believes the timing of the YMQAD audit was appropriate. REECO was last audited February 25-28, 1991, and even though implementation was limited, the audit was useful to determine the adequacy of the REECO's QA program regarding control of records.

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The YMP auditors interviewed the REECo staff and verified through documented evidence that proper procedural controls and provisions were established and implemented to control QA records.

Records generated by REECo are controlled in accordance with REECo Quality Assurance Procedure QP-17.0, Revision 4, "Quality Assurance Records". All REECo records are microfilmed by Ratheon Services Nevada and copies of the microfilms are maintained in a secured and controlled manner at the REECo records center and at the Yucca Mountain Site Characterization Project Central Records Facility. In addition, REECo maintains a controlled file of the hard copies of records.

The audit team examined a sample lot of 35 out of 900 record packages accumulated over the past three months to determine compliance with QP-17.0. These records included audit calibration, training, and qualification records.

The audit team determined that the control of records was acceptable and in compliance with QP-17.0. The REECo staff demonstrated a sound and thorough knowledge of the REECo procedural requirements and the implementation of these requirements.

The auditors also evaluated REECo's corrective actions to resolve and close out Corrective Action Request (CAR) No. 91-026 pertaining to the training and qualification records of REECo personnel. The audit team determined this CAR was satisfactorily resolved and closed out. This was the only unresolved finding from previous audits.

The audit team did not identify any potential CARs against REECo's QA program regarding the control of records. The team did find a significant improvement in the control of processing and storing of records including those training and qualification records of REECo personnel.

The auditors were well prepared, thorough, and displayed acceptable knowledge of the procedures applicable to the receipt and storage of QA records. Overall the audit was effective.

An NRC observation audit report has been prepared and submitted to the NRC Quality Assurance Office for processing.

◆ Audit of RSN

From December 16-18, 1991, I participated as an observer on the Yucca Mountain Site Characterization Project Office (YMPD) Division of Quality Assurance (DQA) audit (Audit #YMP-92-06) of the Raytheon Services Nevada (RSN) QA prograding regarding the control of procurement documents, purchased material, equipment and services and measuring and test equipment.

The NRC staff believes the timing of the QA audit of RSN was not that appropriate since there was limited activity being performed by RSN. The audit consisted of interviews with the RSN staff, and a review of quality records to evaluate the procedural compliance with RSN QA procedures, QAP 7.1, "Supplier Selection", and PP 12-01, "Control of Measuring and Test Equipment".

The auditors determined that proper procedural controls were in place and correctly implemented. The audit team did not identify any potential CAR's against RSN.

An NRC observation audit report has been prepared and submitted to the NRC Quality Assurance Office for processing.

## II. DR SURVEILLANCE OF SITE DRILLING AND CORING ACTIVITIES

On December 3, 1991, Paul Prestholt and I visited the Yucca Mountain Site to review the neutron-access bore hole drilling, coring, and the retrieval and handling of core samples at the N-54 bore hole site. An approved Job Package 91-9, Rev. 1, authorizes the drilling and coring of three out of a total of twelve Neutron Access Boreholes. These holes are N-55, N-54 and N-53 and will be a depth of approximately 200', 200', and 60' respectively. Two holes, N-54 and N-53 have been drilled and cored and the drilling of the third has been delayed temporarily. The involved participants are Reynolds Electrical and Engineering Co. (REECO), responsible for the drilling operations; Raytheon Services Nevada (RSN), responsible for witnessing, verifying and recording bore hole depths as core samples and cuttings are obtained and responsible for providing survey and as built drawings of completed bore hole locations; the Sample Management Facility (SMF), responsible for collecting and processing core samples and cuttings; and United States Geological Services (USGS), responsible for the overall activities under the direction of Alan Flint, the USGS Principal Investigator. The USGS Principal Investigator or his designee are committed to be on site during all activities to provide technical direction as needed. Approved procedural controls have been prepared by each participant to control the activities for which they are responsible.

Our review of the drilling and coring of hole N-54 consisted of witnessing the retrieval, packaging and identifying of sample cuttings of a five foot drilled and cored segment and discussions with field personnel concerning the involved processes. Particular emphasis was placed in observing the measurements taken by REECO and RSN of the drilling depth and the recording of these measurements which allows for accurate traceability and accountability of this data to associated core samples and cuttings.

Overall we concluded as a result of this visit that the activities performed by REECO, RSN and SMF appeared to be conducted and supervised in an adequate, satisfactorily and

controlled manner with some minor concerns. Paul and I are working with the YMP and involved participants to assure all necessary controls are recognized and followed. As an example, while the YMP QA organization monitors the drilling and coring activities at the site on a weekly basis, we have encouraged the YMP to increase the surveillance of the drilling activities.

Paul and I intend to conduct more frequent reviews of the site activities since the work scope of site quality affecting activities has increased. Our next site visit will involve the review of the USGS scientific investigation work of the core samples and cuttings taken from neutron bore holes N-55 and N-54 which is under the control of Study Plan #83-1221, Rev. 0. This will involve a review of the investigation process, the documentation and control of samples and cuttings. At the request of Ken Hooks we will also determine the extent of direction the USGS has provided the Sample Management Facility regarding the packaging and protection of the core and cuttings to prevent contamination or loss of moisture or other attributes which could have an adverse effect on the scientific investigations. In addition we will review the associated procedures and records of USGS activities to assure controls are in place and are properly being implemented.

#### B. Readiness Review of the M&O Contractor (TRW)

An independent TRW Readiness Review team consisting of seven technical specialists conducted a readiness review of the TRW management and QA program controls applicable to the Las Vegas operations to determine the extent they are sufficient and acceptable to start technical and quality affecting work on the YMP. This review was conducted on December 11 and 12 at Las Vegas and I was requested to participate in this Readiness Review as an NRC observer.

The QA program elements reviewed were Organization; QA Program; Design Control; Instruction, Procedures and Drawings; Document Control; Corrective Action; QA Records; Audits; and Computer Software.

The review was conducted using detailed checklists which were generated from YMP and TRW program requirement documents. The Review Team verified and identified the particular tasks that TRW are to perform under an approved QA program. The team then interviewed TRW personnel and evaluated the necessary procedural controls to determine the extent work activity and procedural prerequisites have been satisfied, that technical and QA program procedures have been properly reviewed and approved and are adequate; and that involved TRW personnel have been adequately trained and qualified.

As a result of this Readiness Review the review team reported to the Readiness Review Board that the TRW organization and QA Program at the Las Vegas office is adequate and acceptable to begin quality affecting work with the exception of identified hold points. These hold points involve activities pertaining to design interface controls, computer software controls and record controls. Action is under way by the TRW staff to provide the necessary procedural controls and training which would allow the removal of these holdpoints.

As a result of observing this readiness review I found that it was an indepth review and effective in determining readiness of TRW to start quality affecting work. The review team members appeared to be skilled and qualified in the areas which they reviewed and they demonstrated an effective and acceptable review process as a result of their interviews with TRW personnel and the review of technical and QA related procedures and records. The Readiness Review Report is in preparation by TRW and should be available in early January 1992.

#### C. Miscellaneous

- ◆ Richard Spence, Director YMP QA Division, announced that as of Tuesday, November 25, 1991, QA YMP field related responsibilities at the Yucca Mountain site are assigned to Al Williams. This responsibility includes the oversight and monitoring of quality related field activities and

procedures on a regular basis. Al will be assisted by two experienced and qualified QA field engineers, Jerry Heaney and John Martin of SAIC. Al Williams will report directly to Richard Spence. I have had several discussions with Richard and Al's staff concerning this new assignment and have been assured that the quality related field activities will be reviewed and inspected on a frequent and regular basis. The results of these site field activities will be documented on a site QA activity report. I expect to have regular interactions with Al and his staff concerning the status and QA involvement in site activities.

### III. LLWM ACTIVITIES

I have been requested to review and comment of the edited QA Procedures for LLWM. Results of this review will be reported to Larry Pittigilo of LLWM.

### IV. WASTE PACKAGE

The LLNL monthly status report for November is enclosed (Enclosure 1). It is encouraged that comments and/or questions regarding the contents of these reports be directed through this office for action and resolution in order to minimize the impact on the YMP.

There are no new issues that this office has identified that have not been brought to management's attention.

cc: w/enc: K. Hooks, M/S 4H3; R. Ballard, M/S 4H3, J. Latz  
wo/enc: J. Roberts, C.P. Gertz, R.E. Loux, C. Pflum, G. Cook,  
D.M. Kunihiro, D. Weigel, B. Youngblood, J. Linehan, M/S 4H3;  
H. Denton, M/S 17F2, R. Bernero, M/S 6A4; H. Thompson, 17G21;  
S. Gagner, M/S 2G5, E. O'Donnell, M/S NLS260, J. Holonich, 17G21



# Lawrence Livermore National Laboratory

LLYMP9112064  
December 13, 1991

WBS 1.2.9  
"QA: N/A"

Carl Gertz, Project Manager  
Department of Energy  
Yucca Mountain Project Office  
P.O. Box 98518  
Las Vegas, Nevada 89193-8518

**SUBJECT: Yucca Mountain Project Status Report - November 1991**

Attached is the November Project Status Report for LLNL's participation in the Yucca Mountain Project.

If further information is required, please contact Elizabeth Campbell of my staff at FTS 532-7854.

Sincerely,

---

W. L. Clarke  
LLNL Technical Project Officer  
for YMP

WC/EC/ec

cc  
Distribution

## DISCLAIMER

The LLNL Yucca Mountain Project cautions that any information is preliminary and subject to change as further analyses are performed or as an enlarged and perhaps more representative data base is accumulated. These data and interpretations should be used accordingly.

LAWRENCE LIVERMORE NATIONAL LABORATORY YUCCA MOUNTAIN PROJECT  
NOVEMBER 1991 TECHNICAL HIGHLIGHTS AND STATUS REPORT

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LAWRENCE LIVERMORE NATIONAL LABORATORY  
(LLNL)  
YUCCA MOUNTAIN PROJECT (YMP) STATUS REPORT

NOVEMBER 1991

**EXECUTIVE SUMMARY**

(Items Proposed for Reporting in YMPO or OGD Reports)

1) An EBS source term model was provided to SNL for the initial Total Systems Performance Assessment discussed at the November 18-20 PA review meeting. The source term model sums over the waste packages, after assigning a distribution of local waste package environments correlated with the total system hydrology parameters. The model includes summary treatment of waste package responses as guided by earlier PANDORA analyses, and includes consideration of container breaches, borehole hydrology and geomechanical conditions, and spent fuel dissolution and waste transport into the nearby host rock. The model is isothermal, except for a range of waste package rewetting times, to be compatible with the total system geohydrology modeling.

2) L. Jardine (LLNL) and M. Cloninger (YMPO) represented YMP at the International Workshop on Engineered Barrier Systems (EBS) in Strasbourg, France on November 2-3. Belgium, Canada, Finland, Sweden, Switzerland, and the U.S. participated in the workshop which was convened jointly by the U.S. NWTRB and the Swedish National Board for Nuclear Fuel (SKN). The workshop established that the U.S. is the only country that emphasizes the natural barrier system characterization while not having an explicit EBS development program. In response to the DOE presentation, international participants made the following points:

The regulatory limit of 10,000 years in the U.S. is artificial, and designs and analyses should not use it as a solid limit.

Inspection and monitoring commitments should be carefully evaluated; public pressure may prevent scheduled cessation of these activities.

The impact of the thermal excursion on fractures and hydrology needs to be studied.

The properties of the unsaturated units at elevated temperatures need to be studied.

Dr. Langmuir of the NWTRB also made the point that the incoming (to the EBS) groundwater chemistry is largely determined by the thermally modified host rock while the exiting chemistry is determined by aqueous interaction with the EBS materials. The exiting chemistry will have a significant effect on the transport characteristics of the radionuclides.

## **1.2.1 SYSTEMS**

### **1.2.1.1 Management and Integration**

A. Van Luik of Intera (M&O) and A. Brandstetter (SAIC) visited LLNL on November 6. LLNL staff presented an overview of performance assessment activities and an update on performance assessment codes.

#### **1.2.1.2.4 Systems Engineering Implementation**

No significant activities.

#### **1.2.1.2.6 YMP Support to Management Systems Improvement Strategy**

No significant activities.

#### **1.2.1.3.5 Technical Database Input**

Work continued on the document "DBAPP: A FORTRAN-Equel Program that Facilitates Review and Modification of the GEMBOCHS Thermodynamic Database". This document will be submitted for review as a UCRL publication upon completion.

Extensive restructuring and modification of DBAPP continued. This update will expand the capabilities of the software to facilitate interactive review of all data in the database, tighten access controls on user modification of data, and broaden the range of information that can be included in the database.

Work continued on the final revision of "CNGBOCHS: An Automated Ingres-Email-Interleaf Filing System for Change Requests Associated with the GEMBOCHS Thermodynamic Database". This document will be submitted for review as a UCRL publication upon completion.

#### **1.2.1.4.2 Waste Package Performance Assessment**

W. Halsey, W. O'Connell, A. Lamont, L. Lewis and J. Blink attended the Systems Analysis meeting in Las Vegas, November 18-20. W. Halsey and A. Lamont gave a presentation entitled "Overview and Discussion of LLNL System Model". W. O'Connell gave a presentation on the "Simplified Source Term for Total Systems Performance Assessment".

The PACS networks for performance assessment were updated including detailed budget and activity planning for FY92 within the allocated budget.

Internal QA grading was completed for Activity I-20-22, "Extend PANDORA-1, the Deterministic Single Waste Package Systems Model, to PANDORA-1.1". An Individual Software Plan (ISP) was drafted for this activity. The subroutine source files of PANDORA-1.0 were copied to be used or adapted in Version 1.1 into a UNIX Source Code Control System (SCCS) file to establish a change control record.

#### **1.2.1.4.5 Geochemical Modeling and Database Development**

The EQ6 Theoretical Manual and User Guide was completed this month. This manual is the third of the four part set of documentation for EQ3/6. Work is now focussing on completing the EQPT User Guide, which will be the last piece of the code documentation for the EQ3/6 package. EQPT is a database preprocessor.

#### **1.2.1.4.7 Supporting Calculations for Postclosure Performance Analyses**

This WBS element has not been funded in FY92.

### **1.2.2 WASTE PACKAGE**

#### **1.2.2.1 Management and Integration**

L. Jardine (LLNL) and M. Cloninger (YMPO) represented YMP at the International Workshop on Engineered Barrier Systems (EBS) in Strasbourg, France on November 2-3. Belgium, Canada, Finland, Sweden, Switzerland, and the U.S. participated in the workshop which was convened jointly by the U.S. NWTRB and the Swedish National Board for Nuclear Fuel (SKN). The workshop established that the U.S. is the only country that emphasizes the natural barrier system characterization while not having an explicit EBS development program. In response to the DOE presentation, international participants made the following points:

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Inspection and monitoring commitments should be carefully evaluated; public pressure may prevent scheduled cessation of these activities.

The impact of the thermal excursion on fractures and hydrology needs to be studied.

The properties of the unsaturated units at elevated temperatures need to be studied.

Dr. Langmuir of the NWTRB also made the point that the incoming (to the EBS) groundwater chemistry is largely determined by the thermally modified host rock while the exiting chemistry is determined by aqueous interaction with the EBS materials. The exiting chemistry will have a significant effect on the transport characteristics of the radionuclides.

#### **1.2.2.2 Waste Package Environment**

##### **1.2.2.2.1 Chemical and Mineralogical Properties of the Waste Package Environment**

B. Viani participated in the YMP Geochemistry Integration Team (GIT) teleconference on November 25.

##### **1.2.2.2.2 Hydrologic Properties of the Waste Package Environment**

D. Wilder and S. Larsen attended the FRAC-Man class in Seattle, WA on November 18-21. This course covered discrete fracture analysis. It has a wide range of applications in site characterization and performance assessment, including analysis of fracture data, geological conceptual modeling, pathways analysis, exploration program planning, and flow and transport modeling.

The paper by T. Buscheck, J. Nitao and D. Chesnut entitled "The Impact of Episodic Nonequilibrium Fracture-Matrix Flow on Repository Performance at the Potential Yucca Mountain Site" was approved by YMPO on October 28 and was presented at

the XV International Symposium on the Scientific Basis for Nuclear Waste Management in Strasbourg, France, November 4-7, 1991.

The chemical testing of the high pressure and high temperature system using deionized water at room temperature was completed. The system is ready for testing of hydrologic properties of rock.

The first draft of the SIP for the laboratory study of the hydrologic properties of the near field environment is 90% complete.

A feasibility study was started of using a resonant cavity to measure the relative humidity in rock samples in the laboratory. In order to serve the purpose, a resonant cavity has to be as small as can be possibly made. A prototype resonant cavity of about 1.0 cm in diameter and 2.54 cm in length is under construction. Theoretical analyses have indicated that a resonant cavity that small may work. The calibration measurements will begin next month. If it works, the resonant cavity will be used in the determination of suction potential vs saturation in rock samples as function of temperature.

W. Lin attended the Sample Overview Committee meeting in the Sample Management Facility at NTS on November 5.

#### **1.2.2.2.3 Mechanical Attributes of the Waste Package Environment**

S. Blair has assisted with the preparation of the review comment responses on the Early Site Suitability Evaluation (ESSE) Post Closure Rock Characteristics Guideline.

#### **1.2.2.2.4 EBS Field Tests/ESF Test Design**

The LLNL-YMP Scientific Investigation Plan for Initial Engineered Barrier System Field Tests, NF-1, Rev. 1 was transmitted to YMPO for approval.

#### **1.2.2.2.5 Man-Made Materials**

This WBS element has not been funded in FY92.

### **1.2.2.3 Waste Form and Materials Testing**

#### **1.2.2.3.1.1 Waste Form Testing - Spent Fuel**

##### **Spent Fuel Dissolution**

##### **Flow-Through Dissolution Tests on Unirradiated UO<sub>2</sub>**

The first subset in the matrix of tests on UO<sub>2</sub> and schoepite samples were completed. The difference in dissolution data for replication tests performed at PNL and LLNL are being analyzed in detail. These tests were on powdered samples which for flow-through testing can form flow channels, and thereby do not wet the total measured surface area of the sample. This type of error, which is still being assessed at PNL

and LLNL, would lead to an inferred dissolution rate that is less than the true dissolution rate. Resolution of the differences for powder data may result in a slight modification in the flow-cell design for the flow-through tests.

The paper by S. Nguyen, H. Weed, H. Leider and R. Stout entitled "Dissolution Kinetics of UO<sub>2</sub> Flow-Through Tests on UO<sub>2,00</sub> Pellets and Polycrystalline Schoepite Samples in Oxygenated, Carbonate/Bicarbonate Buffer Solutions at 25°C" was presented at the XV International Symposium on the Scientific Basis for Nuclear Waste Management in Strasbourg, France, November 4-7, 1991.

#### Flow-Through Dissolution Tests on Spent Fuel and Unirradiated UO<sub>2</sub>

A paper by D. Wronkiewicz, J. Bates, T. Gerding, E. Veleckis and B. Tani at ANL entitled "Leaching Patterns and Secondary Phase Formation During Unsaturated Leaching of UO<sub>2</sub> at 90°C" was submitted to LLNL for technical review.

A paper by W. Gray, D. Strachan and C. Wilson of PNL entitled "Inventories and Dissolution Rates of Soluble Radionuclides from the Grain Inventories of Spent LWR Fuel" was presented at the XV International Symposium on the Scientific Basis for Nuclear Waste Management in Strasbourg, France, November 4-7, 1991.

#### Spent Fuel Characterization

A paper by W. Gray, D. Strachan and C. Wilson of PNL entitled "Gap and Grain-Boundary Inventories of Cs, Tc and Sr in Spent LWR Fuel" was presented at the XV International Symposium on the Scientific Basis for Nuclear Waste Management in Strasbourg, France, November 4-7, 1991.

#### **1.2.2.3.1.2 Waste Form Testing - Glass**

This WBS element has received limited funding in FY92. These funds are being used to maintain the N2 and N3 tests at ANL.

#### **1.2.2.3.2 Metal Barriers**

No significant activities due to reduced funding.

#### **1.2.2.3.4.1 Integrated Radionuclide Release**

Planning was started on FY93-94 workscope and budget requirements.

#### G-20-2 Determination of elemental profiles in rocks, minerals, and glasses using the Ion Microscope

Effort continued in the calibration of the ion microscope so that absolute concentration values can be determined to within 10-20% for actinides and trace metals in tuff, waste glass, and fuel pellets. A better signal to noise ratio was provided by improvements in the performance of the electron multiplier (gain changes, dead time, raster effects) which disclosed nonlinear behavior in the Faraday

cup preamplifier. Optimal operating conditions for this preamplifier were identified, and programs to correct for the nonlinearity were generated.

Instrumental Neutron Activation (INA) data were received as part of the intercalibration for determining sensitivity factors for rare earth element analysis.

#### G-20-3 Interactions of actinide-bearing solutions with rock core samples

Room temperature flow testing was completed of the flow-through system which is designed to study the adsorption and hydrology of water with radionuclide tracers. Testing at elevated temperatures will start soon.

Satisfactory flow was achieved with the completed fluid lines and an artificially fractured tuff sample. The volume of the sample lines was reduced to minimize the amount of solution necessary for running experiments. Work continued on preparing the heating jackets for installation.

#### G-20-5 Interaction of materials under repository conditions

Data were analyzed pertaining to the concentration, size and composition of naturally occurring colloids in J-13 and nearby waters from the NTS.

#### G-20-6 Source term model development

Work continued on the determination of the effect of temperature on U sorption (J. Leckie, Stanford) which included fabrication of goethite, calibration of temperature and pH measurement systems, and initiation of titrations to determine acidity constants and binding constants.

#### **1.2.2.3.4.2 Thermodynamic Data Determination**

This WBS element has not been funded in FY92.

#### **1.2.2.4. Design, Fabrication, and Prototype Testing**

##### **1.2.2.4.1 Waste Package Design**

This WBS element has not been funded in FY92.

##### **1.2.2.4.2 Container Fabrication and Closure Development**

This WBS element has not been funded in FY92.

##### **1.2.2.4.3 Container/Waste Package Interface Analysis**

D. Ruffner (LLNL) and T. Doering (B&W) made a presentation about EBS design to the MRS-MGDS Design Integration Group. The meeting was held in Aiken, SC on November 14-15 and was hosted by Duke Engineering. The information exchange was informative and resulted in a better understanding of the organizational interactions and design activities.

## **1.2.5 REGULATORY AND INSTITUTIONAL**

### **1.2.5.2.1 NRC Interaction Support**

No significant activities.

### **1.2.5.2.2 Site Characterization Program**

Peer Review comments on the Early Site Suitability Evaluation (ESSE) Post Closure Rock Characteristics Guideline were received at LLNL and the comment resolution process was initiated. M. Revelli participated in an ESSE Telecon on November 15 to determine the overall status of comment review and to identify review topics which might impact several geotechnical guidelines.

M. Revelli participated in the ESSE Working Session in Las Vegas on November 20-22 (including the Core Team Meeting on November 21) to determine how overlapping comments might be resolved and to propose a course of action to the Core Team for closing the comments on each guideline. This approach was presented to the reviewer for the Rock Characteristics Guidelines, W. Paviseau, on November 27, and a mutually acceptable closure to these comments was verbally agreed upon.

### **1.2.5.2.4 Technical Support Documentation**

No significant activities.

### **1.2.5.2.5 Study Plan Coordination**

J. Blink (LLNL) and R. Crawley (YMPO) reconciled the list of study plans under review at LLNL. Several reviews were completed or closed, and the only outstanding review (8.3.1.2.2.9) is scheduled to be completed by mid-January.

### **1.2.5.2.6 Semi-Annual Progress Reports**

The draft Progress Report (PR) covering the reporting period April 1 through September 30, 1991 was sent to LLNL for review. Several minor changes were made and transmitted to SAIC on November 18.

## **1.2.9 PROJECT MANAGEMENT**

### **1.2.9.1.1 Management**

J. Blink attended three ESF meetings: Criteria for sequencing ESF construction (November 5), ESF north ramp route (November 19), and ESF test planning (November 26).

LLNL prepared a detailed request for carryover funding and presented it to E. Petrie, R. Dyer, and (at E. Petrie's request) four staff members of the M&O.

J. Blink was appointed to the Interface Control Working Group (ICWG), replacing D. Short.

J. Blink met with C. Rekhop (YMPO) and R. McCarthy (SAIC) to discuss dual training records for LLNL personnel serving on YMPO and SAIC led activities such as the Field Change Control Board (FCCB) and the Early Site Suitability Evaluation (ESSE) task. LLNL is concerned that training will be unnecessarily duplicated and that records may become fragmented. The following training records are currently kept:

The organization providing training is required to keep a record of the training and who attended.

The home organization of each staff member is required to keep a record, organized by individual, of all training of that organization's staff members.

In addition, the lead organization for an activity (such as SAIC for the ESSE task) can also require records to be kept by name for each participating individual.

Once an individual has received indoctrination, that indoctrination serves for all YMP activities and should not have to be repeated if the individual serves on an activity led by another organization.

J. Blink served as a bus guide for the November 16 Yucca Mountain Tour. He also presented information on atomic energy and YMP to three eighth grade science classes at Roy Martin Jr. High School on November 14.

J. Blink attended the Project Update meeting on November 25 and transmitted a copy of Carl Gertz's briefing to LLNL.

#### 1.2.9.1.4 Records

Document Control issued six Change Notices and twelve new issues under controlled distribution. Routine follow-up for receipt acknowledgements continues.

A total of 170 items were logged into the LLNL-YMP tracking system. This includes 42 records/records packages that were processed through to the CRF. Five action items were closed.

Two LLNL procedures were changed as a result of the issue of the Records Management Plan, Rev. 3, and an Affective Document Noted (ADN) was submitted to the CCB. LLNL also responded to the YMPO analysis of its records procedures, providing citations of the procedures containing the eight requirements thought by YMPO to be unincorporated.

#### 1.2.9.2 Project Control

The October FTE report was submitted to YMPO.

Due to problems with the Laboratory's internal financial computer systems, the October cost data were not released to LLNL-YMP until the end of November. Therefore, LLNL-YMP was not able to submit an October Cost Plan to YMPO. A Cost Plan covering October and November will be submitted in December.

Reviews continued with the responsible TALs for the PACS planning for FY92 and FY93. The Summary Accounts were submitted to YMPO with workscope and schedules.

J. Podobnik attended the PACS Steering Committee meeting in Las Vegas on November 26. Modifications to the current PACS system were discussed. He also attended a subcommittee meeting on procedures. J. Blink attended the PACS training subcommittee meeting on November 21; topics included the proposed training video, formal project management training, and the proposed PACS handbook.

An audit was conducted by the auditing firm of Peat, Marwick on November 9-22. The audit focussed on internal controls, account balances of fixed assets, compliance with laws and regulations, and audited financial statements.

The GAO auditors continue to ask for new information for their audit. Some of their requests now span FY88 and FY89 as well as the original period of the audit, FY90 and FY91.

### 1.2.9.3 Quality Assurance

LLNL Audit 92-01, LLNL-YMP Instrument Calibration Program, was conducted on November 21-22.

LLNL Surveillance S92-01 was conducted on November 22 to verify the corrective action to correct deficiencies identified in AFRs 001 through 005.

R. Constable (DOE) visited LLNL on November 12-13. Corrective action was verified, and CARs-YM-91-055, -057, -058, -059, -060, -061, and -062 were closed.

The QA Surveillance Schedule for the surveillances planned for Fiscal Year 1992 was transmitted to YMPO.

The following two grading reports were finalized and forwarded to Document Control for distribution:

- L-045 (Activity H-20-01), and
- L-044 (Activity H-20-02).

A response was prepared to YMPO's request for review and comments on the Quality Assurance Requirement and Description document (QARD).

R. Monks met with YMPO Quality Assurance personnel in Las Vegas on November 21-22.