

*See ltr. Jm. Saget
12/3/87
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DEPARTMENT OF ENERGY

BASALT WASTE ISOLATION PROJECT

WESTINGHOUSE HANFORD COMPANY (WHC)

QUALITY ASSURANCE AUDIT NO. 8704

SELECTED QA PROGRAM ELEMENTS

AUDIT REPORT
AUGUST 31 - SEPTEMBER 11, 1987

T. K. Subramanian *12.2.87*
T. K. Subramanian Date
Audit Team Leader

R. P. Saget *12/3/87*
R. P. Saget, Director Date
Quality Systems Division

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1.0 INTRODUCTION

The U. S. Department of Energy - Richland (DOE-RL) Assistant Manager for Commercial Nuclear Waste (AMC) Quality Systems Division (QSD) conducted an audit of the Westinghouse Hanford Company (WHC) Basalt Waste Isolation Project (BWIP) Quality Assurance Program, August 31 through September 11, 1987.

This audit was originally scheduled as a QA Program Audit of Rockwell BWIP activities, however, the transition from Rockwell to WHC as the Integrating Contractor was completed ahead of schedule.

Because of the complexity of the total WHC BWIP QA program, a decision was made to perform two audits. Ten of the eighteen criteria of 10CFR50, Appendix B, were selected to be reviewed during this audit. The remainder will be audited in the fourth quarter of CY 1987.

2.0 BACKGROUND

Rockwell Hanford Operations (Rockwell) was directed by DOE-RL, AMC to execute a general Stop Work Order (SWO) on the Basalt Waste Isolation Project (BWIP) activities on May 1, 1986 (reference DOE-RL letter to Rockwell General Manager, dated 5/1/86). Rockwell was allowed to continue specified activities identified as "exempted work"; one of which, is the QA program upgrade.

The Integrating Contractor was also permitted to initiate work prior to DOE-RL granting a partial lifting of the stop work order (SWO), if the contractor had procedures in place to control the specific task. This process is identified as Expedited Special Case. (Design and drilling of boreholes DC-24/25 are ESC activities addressed during this audit.)

Rockwell executed the SWO and developed a plan of action that addressed the programmatic deficiencies and the recovery process (reference Rockwell letter 30568, R1 to DOE-RL, dated 5/14/86).

On January 5, 1987, Rockwell submitted the "BWIP Restart Readiness Report" which defines actions to be taken to correct deficiencies identified in the SWO. DOE-RL utilized the readiness review process (PMD 19.11, "Readiness Review") to assess Rockwell's preparedness to restart. Results of the DOE-RL readiness review activities were provided to interested parties in a briefing held June 4, 1987. In addition to the DOE-RL Readiness Review Team, an Independent Management Review Team (IMRT) was established to evaluate Rockwell's readiness. As a result of these evaluations, partial lifting of the SWO was granted on June 10, 1987. (Reference DOE letter 87-AMC-437 to Rockwell General Manager.) The partial lifting of the SWO allows WHC to resume work following DOE-RL approval of selected Quality Level 1 and 2 Work Initiation Packages (WIPs).

As a result of the DOE-RL consolidation effort, Westinghouse Hanford Company (WHC) replaced Rockwell Hanford Operations as the BWIP Integrating Contractor (IC) on June 29, 1987. The transition included transfer of

BWIP technical tasks, IC management, QA functions and personnel from RHO to WHC. The QA Manual (MA-3) and procedures developed by Rockwell have been adopted in total for BWIP by Westinghouse.

The implementation of BWIP quality related policies and procedures, under Westinghouse management, was reviewed during the audit.

The audit focused on boreholes DC-24/25 activities (ESC), Study Plan activities (exempt work under SWO), and Work Initiation Packages (partial lift of SWO).

3.0 OVERALL QA PROGRAM ASSESSMENT

3.1 QA PROGRAM

Within the scope of this audit, the audit team found that the requirements of the Basalt Quality Assurance Requirements Document (BQARD) and QA Plan (DOE-RL-86-6) are addressed in the WHC BWIP Quality Assurance Requirements Manual (RHO-QA-MA-3), Rev. 3 WHC-CM-7-2 and in general the WHC Project Management Procedures Manual (RHO-BW-MA-17), WHC-CM-7-1.

However the documented QA program (i.e., MA-3 and MA-17) is not yet completely developed and/or implemented.

As an example of inadequate program development, audit Finding #1 addresses lack of formal system to identify documents which are to become QA records and lack of imposition of BWIP Records Management Plan on participating contractors by the Integrating Contractor. Evidence of inadequate implementation, lack of training of personnel on the use of Project Directives and use of Project Directives beyond the stipulated one year period, are addressed in Findings #2 and #3.

Based on the evidence found during this audit and open findings previously identified in other WHC and DOE audits and surveillances (e.g., BWIP-IA-87-005, DOE 8601-02, and QAF-061), the audit team concludes that the Westinghouse BWIP QA program is incomplete in several areas (portions of Document Control, Instructions, Procedures and Drawings, Records and Training) and is not completely effective in several others (Trending and portions of Document Control) as detailed in the audit findings and concerns.

3.2 TECHNICAL PERFORMANCE

Technical advisors provided input to the audit checklist, assisted in the selection of "samples" for review (Test and Operation Procedures [TOPs], Study Plan etc.), and participated in the audit with emphasis on Design, TOPs, QA Records areas. They also evaluated the technical performance in their respective areas. Attachment 3 is the compilation of reports from the technical advisors.

3.3 OVERALL PERFORMANCE

As this audit report is based on the ten criteria audited, an assessment covering all the 18 criteria will be provided in the report of Audit No. 8705.

4.0 COMMENDABLE PRACTICES

- o Cooperation and professionalism was excellent with all WHC interfaces.
- o Document Control Center (DCC) appears to be making progress towards implementation of procedural requirements.
- o The efforts in preparation of the Job Analysis/Position Qualification requirements appear to be excellent.
- o Training personnel are making good progress in establishing a complete training program and the implementation of procedural requirements.
- o WHC audit activities are being handled professionally.
- o The computerized records retrieval system appears to be functioning well.
- o In general Test and Operations Procedures associated with DC-24/25 seem to be well written.

5.0 AUDIT PERFORMANCE

Ten QA criteria (listed in Attachment 1) were selected for review and evaluation by three audit subteams (Attachment 1) during the this audit. Activities associated with DC-24/25 and Study Plans were at the audit focus and were the only activities audited under Criteria 3 and 11. Section 6.0, Discussion of Results, addresses other criteria audited.

Checklists were prepared to address the applicable QA criteria, BOARD, DOE-RL QA Plan, NQA-1 requirements, and WHC QA and PMPM requirements. Efforts were made to develop questions that would not re-audit areas of known deficiencies identified in previous DOE and WHC audits and surveillances, for which corrective actions were taking place.

A pre-audit briefing was held to familiarize observers from the Affected Indian Tribes, Nuclear Regulatory Commission (NRC), and Edison Electric Institute with the audit activities. The observers were briefed on the audit scope, plan, schedules, audit participants, and the observer's responsibilities.

Personnel present at the audit entrance and exit meetings and those interviewed during the audit are identified in Attachment 2. The completed checklist is retained with the file copy of this report.

The audit also included verification of corrective actions taken to DOE Surveillance QSD-061, "Rockwell QA Audit Activities". Status of the findings is discussed in Section 6.0 of this report.

6.0 DISCUSSION OF RESULTS

The audit resulted in the issuance of three findings, twelve concerns, and fourteen observations. (See Attachment 4 for BWIP finding, concern, observation definitions.) Each finding, concern, and observation is discussed below along with a description of activities audited for each criteria.

6.1 CRITERION 1 - ORGANIZATION

The major portion of this section focused on how organization and responsibilities were affected in the transition from Rockwell to Westinghouse. Discussions were held with the following personnel to gain an understanding of changes made during the transition:

- D. C. Gibbs, Manager Civilian Waste Management Division
- L. Fitch, Assistant Manager Civilian Waste Management Division
- D. Simpson, Manager Environment, Safety and Security
- P. Bourne, Manager, WHC Quality Assurance
- R. Johnson, Manager, BWIP Quality Assurance

As a result of these discussions, the following major facts were disclosed:

- o PMPM and MA-3 have not been revised to reflect organizational and responsibility changes. This will not be significant if changes are delineated in the near future.
- o Westinghouse has made a few organizational changes (e.g. Site Analysis Group moved from Science and Engineering to the Site Group).
- o No serious transition problems had occurred.
- o Rockwell program manuals had been accepted by Westinghouse by issuing PD87-010, Rev. 0.
- o BWIP managers now have the Westinghouse designation Level I, II, III, IV and V, with Level I as the highest. D. Simpson is a Level II Manager. P. Bourne is a Level III Manager. R. Johnson is a Level IV Manager.

It appears that R. Johnson has dropped one management level in the transition. The management personnel interviewed indicated that there had been no change in R. Johnson's responsibilities because of the change in levels. D. Simpson stated during the interview, that the BWIP scenario, Level III Line Managers and Level IV QA Manager reporting to Level II Project Manager, is common for two other Hanford Projects under Westinghouse.

- o D. Simpson's responsibilities will not be reflected in MA-3. This did not appear to affect BWIP operations and is considered acceptable.
- o P. Bourne's responsibilities will be added to MA-3. (Identified in Concern 8704-01.)

After interviews with QA Management, further discussions with various BWIP personnel identified a perception that P. Bourne, WHC QA Manager, had assumed several BWIP responsibilities and that R. Johnson had been dropped one level in the BWIP organization from Level III to Level IV.

Concern 8704-01 was issued to document that it is no longer apparent that the BWIP QA Manager's authority and responsibilities met the requirements of RHO-MA-QA-3, Chapter 1.0, Section 3.16. Additionally, the WHC QA Manager's responsibilities in BWIP have not been defined, nor has he received any BWIP specific training.

RHO-QA-MA-3, "BWIP Quality Assurance Program Requirements Manual", requires a revision to reflect the new WHC organization and responsibilities. However, WHC informed the audit team that this revision is on hold pending anticipated upper tier regulatory changes (i.e. DOE-RL QA Plan R3).

Additional activities audited under this criterion identified that QA functions have been delineated, QA controls have been identified for identification of activities that affect safety as they apply to high-level radwaste repository program, BQARD and DOE-RL QA Plan requirements have been addressed; and that a program for "Stop Work" has been documented and implemented. Observation No. 6 was written to document that the WHC "Stop Work" procedure, PMPM 4-115, does not address partial lifting of stop work orders.

Activities associated with Criterion I appear to be satisfactory, except as noted.

6.2 CRITERION 2- QA PROGRAM

The major portion of audit activities under Criterion 2 dealt with Project Training. Reviews were made of Job Analysis, Position Qualification Requirements, resumes, Position Qualification Evaluation Records, required reading documents, required training documents, procedures, lesson plans and examinations.

Job Analysis activities are described in Project Directive PD 87-005, Rev. 0, "Conducting Job Analysis", which replaced PMPM 13-109, "Job/Task Analysis", on March 11, 1987. All of the Job Analyses forms from various BWIP departments were completed by 7/31/87. Job Analyses documents from six departments which had personnel involved in DC-24/25 activities were reviewed. All packages were well done and met PD 87-005 requirements. However, it could not be determined who performed the analyses for two of the reviewed packages to determine if those personnel who performed the analysis had been trained. Concern 8704-03 was issued to document this violation.

No evidence was found that personnel involved in Job Analysis activities, (which includes subsequent Position Qualification requirements generation) were trained in the applicable PDs. Training records include a lesson plan that references to the cancelled PMPM 13-109, but not to the applicable PDs. Further investigation disclosed that there is no evidence of any mandatory training of BWIP personnel in Project Directives. Finding 8704-02 documents this violation.

Subsequent to Job Analysis, Position Qualification Requirements (PQRs) were developed for each BWIP position. Training personnel indicated PQRs for all BWIP positions are 97% complete. PQRs for six positions involved in DC-24/25 and five BWIP Management positions were reviewed. No discrepancies were noted. Eleven resumes were reviewed for PQR requirements. No discrepancies were noted during this review. Position Qualification Evaluations (PQERs) for twenty-seven individuals were reviewed to assure that management had reviewed and documented training and qualifications. Two Observations were noted during the review of these activities and are identified below.

Required reading and training requirements were developed prior to the Job Analysis, PQR, PQER effort. It does not appear that the training requirements have been reviewed against the current task and qualification requirements. New requirements may have been identified by the recent job analysis effort. Observation No. 1 is written to document this comment.

General Employee Orientation (GEO) covers a variety of subjects such as 10CFR50, Appendix B, MA-3 requirements, safety, security, etc. The GEO is given to each employee only once. However, many of the areas covered in this training are subject to periodic change. It would be prudent to require a refresher GEO to make personnel aware of the changes to basic requirements. Observation No. 2 is to document this comment.

The training of several individuals involved in Work Initiation Packages, DC-24/25, and the Quality Evaluation Board (QEB) was reviewed. No discrepancies were noted, except for the training inconsistencies with PDs previously identified.

Several other training activities were reviewed to verify PMPM compliance. Those areas are as follows:

- o Development of Employee Qualification Records (EQRs)
- o Development and Control of Examinations
- o Control of Lesson Plans
- o Schedules and Reports
- o Maintenance of Required Documentation
- o Maintenance of Training Files
- o Review of training computer activities
- o Review of Training Class Evaluations
- o Review of Program Evaluations
- o Review of the Systematic Approach to Training (SAT)
- o Identification of Training Requirements
- o Qualifications of Instructional Staff

Two concerns and three observations are identified based on this review.

Concern 8704-02 identifies that all reports and schedules required by PMPM 13-106, Rev. 1, "Administration of Qualificational Training", have not yet been generated and that EQRs required by PMPM 13-121, Rev. 4, "Personnel Qualification and Training Requirements" have not all been completely generated.

Concern 8704-05 documents that personnel responsible for receipt, process, review, and transmittal of BWIP documents have not been completely trained (e.g. PMPM 8-121, "Document Submittal and Receipt Control").

The training requirements are tracked by computer, data validated, and documented, but the tracking process is not totally proceduralized. The proceduralization is now underway and should be completed as soon as possible to describe entry and validation of data. This is documented in Observation No. 4.

Observation No. 14 is written to document that training programs evaluations required by PMPM 13-120 have not been performed, because none of the individual programs are considered complete. There is no method to indicate when a program is complete and in place, thus triggering the PMPM 13-120 process.

Observation No. 3 is written to document that PMPM 13-111, Rev. 0, "Instructional Assessment Program", requires that training assessments be done by trainees on a random basis. It appears that this method would allow certain courses and instructors never to be evaluated. Each course and instructor should be evaluated at least on a periodic basis to ensure meaningful training.

Other areas reviewed in the QA Program area are as follows:

- o QA Program Assessment
- o Identification of Items Important to Safety
- o QA Review of Procedures.

The reviews disclosed the following:

1. As a result of the "Stop Work" regular QA Program assessments have not been done. Assessments were previously performed by Rockwell in identified problem areas. PMPM 4-123, Rev. 0, "Annual Assessment of the BWIP QA Program", did not become effective until 9/4/87, and is not yet implemented.
2. The identification of items important to safety has been addressed in the RHO-QA-MA-3, Section E, "Graded Quality Assurance Program".
3. The QA review of Westinghouse procedures is accomplished in accordance with PMPM 1-101, Rev. 6, "Preparation and Control of Project Management Procedures".
4. Several PMPMs were referenced throughout MA-17, that were either cancelled or never written. This is documented in Concern 8704-04.

Summary

Based on the conditions described as Concerns #2 and #5, Observations #3, #4, #13 and #14 and the statement of L. Palmer, Manager of Project Qualification and Training that none of the subordinate training programs are complete, the audit team concludes that the BWIP Qualification and Training Program is presently incomplete.

6.3 CRITERION 3 - DESIGN CONTROL

DC-24/25 ENGINEERING ACTIVITIES

6.3.1 Design Requirements Document (DRD)

The only Design Requirements Document for DC-24/25, SD-BWI-RQD-008, "Design for DC-24/25" and its development and control processes were reviewed for compliance to procedural requirements as delineated in PMPM 2-113 to assure that the required controls were maintained throughout the development phase. The DRD is required to provide a section identifying the overall Quality Assurance requirements described throughout the document. The QA section provided in SD-BWI-RQD-008 only made reference to the Quality Evaluation Board results which are attached to the DRD. This QEB attachment does not describe the QA requirements described throughout the document.

The requirement of describing the QA requirements is a duplication of the same requirement that is to be provided in the Statement of Work (SOW). By deleting the requirement from the DRD the design organization will be directed to only one document for the requirements of Quality Assurance activities which would then be the Statement of Work.

Overall, the DRD, SD-BWI-RQD-008, and its controls were found to be in compliance with the requirements stipulated in the QA program. Observation number 11 is initiated to recommend to the WHC Engineering organization that the requirement for describing the QA requirements be eliminated from the DRD.

6.3.2 Data Specifications and Data Specifications Manual

The Data Specification Manual had not been developed as required by PMPM 3-105 at the time of the audit. It was apparent during the conduct of the audit that no activities had begun in the development phase. Prior to completion of the audit a letter was issued by Mr. G. Jackson, Dir, Science and Engineering, directing the development of the manual to proceed immediately.

Data Specification Sheets (DSS's) for DC-24/25, as required by PMPM 3-111, had also not yet been developed. However, the program only requires that a listing of the DSS's be listed in the Study Plans at the time of their issuance. The listings were found complete, and in good order, as attachments to each of the Study Plans.

Since no work has been performed on DC-24/25, DSS's are not mandatory, and since no DSS's have been developed the manual is also not mandatory at this time. Since the issuance of the letter noted in the first paragraph of this section, WHC

has begun initiation of the required documents and this activity is considered satisfactory.

6.3.3 Expedited Special Case (ESC) for Design and Drilling of DC-24/25

The audit included a review of the ESC's and requirements relative to their development and control. The Integrating Contractor was permitted to initiate work prior to DOE-RL granting a partial lifting of the Stop Work Order (SWO) provided the contractor had procedures in place to control the specific work. This process is identified as Expedited Special Case. Because it was indeterminate when the partial lifting of the SWO would occur, the ESC process was utilized to initiate the design and drilling of boreholes DC-24/25 etc.

Overall the ESCs and their controls are in compliance with the defined requirements.

Though the program requirements for ESC were delineated in the task specific short term Project Directives as authorized by DOE-RL, instances where the control of Project Directives were inconsistent with the governing PMPM 1-110 Project Directives procedure (e.g., Project Directives exceeding their stipulated one year period) have been addressed in the audit Finding No. 3.

6.3.4 Statement of Work L3D1H

A review was conducted of the content and the controls of the SOWs relative to DC-24/25 as defined in PMPM 6-105. Only one SOW had been issued to a Major Project Participant for work on DC-24/25; L3D1H was issued to WHC for design activities.

The majority of pertinent information required by PMPM 6-105, Appendix 'A' appears to be present within the body of the SOW. Although the organization of material in the SOW was different from that recommended in the PMPM, all requirements had been met.

Cost estimates and allocations for the completion of the tasks in the SOW are to be defined in the Cost Account Plan (CAP). The CAP was found to be in compliance with this requirement.

6.3.5 Study Plans

The three study plans relative to DC-24/25 were reviewed for compliance to the requirements stipulated in PMPM 3-111, "Preparation of Study Plans" and Project Directive 87-008 "Control of In Process Documents".

SD-BWI-SP-035, "Stratigraphy Study Plan"

SD-BWI-SP-036, "Intraflow Structure Study Plan"

SD-BWI-SP-057, "Site Groundwater Study Plan"

Study plans are required to contain a list of the Test and Operations Procedures (TOPs) required for the studies. It is the normal process to develop the study plans far in advance of the TOPs required for the studies. Developing the TOPs list too early in the document creation process may cause numerous revisions in the study plans as the studies begin. The study plans for DC-24/25 did not contain the list of TOPs for the DC-24/25 studies. The TOPs listing are found in the Test Plan.

Since the listing of the TOPs in Study Plans appears to be an impractical requirement, and the TOPs are listed in the Test Plan, SD-BWI-TP-045, "Test Plan for Drilling and Completion of CX Series Multi-Level Piezometers," Observation No. 12 is written to suggest deletion of the requirement to list TOPs in Study Plans.

The controls for the DC-24/25 study plans are delineated in Project Directive 87-008 in lieu of the PMPMs. The PD authorizes the use of "draft" documents for design activities relating to DC-24/25. WHC Engineering does not consider revisions to drafts to be formal revisions; therefore, the changes to draft study plans are not controlled or maintained unless they are actually used for the design activities. Numerous changes can occur to a study plan after the issuance of the draft copy supporting the Design Requirements Documents. This is not in violation of the approved program as defined in the Project Directive but may pose a potential problem in the future. This condition is identified in Observation No. 9, where it is recommended that revisions to drafts be maintained by the engineering organization for future reference.

PMPM 3-111, Appendix 'A', requires that a section "Schedule and Milestones" be included in the content of the study plans to specify the timing of the study relative to other studies. This requirement appears impractical for documents at the level of study plans, since several items relative to time,

duration, and deliverables are not discussed. This is documented in Observation No. 10.

NQA-1 requires "...Analysis ...[planning and test procedure preparation] shall be sufficiently detailed as to purpose, method, assumptions, design input, references and units such that the person technically qualified in the subject can review and understand the analyses and verify...adequacy... without recourse to the originator..."

The potential for tectonic fracture zones is presented in the Test and Operations procedure TOP GS-GW-101 "Preliminary Intraflow Structure and Stratigraphy Evaluation for Boreholes DC-23 GR, DC-24 CX, DC-25 CX, DC-32 CX and DC-33 CX," and definition of such zones is included in the identification matrix for each of the boreholes. The presence of such a tectonic fracture may result in missing or extra flows or flow units which may require a change in the piezometer design.

The identification of these zones (listed by the TOP as a consideration) is not addressed in any one of the three referenced study plans or the design requirements documents. This is addressed in Concern No. 8.

PMPM 3-111, Appendix 'A', requires a discussion of the purpose and scope of the study plan and the description of where it fits into the complete BWIP Document Hierarchy. This discussion was not present in any of the three referenced study plans. Although the study plans referenced the Site Characterization Plan (SCP), the SCP is not part of the document hierarchy for study plans as defined by the Project Management Plan (PMP). WHC personnel were not able to identify the requirement documents within the hierarchy (i.e., PMP, SEMP, etc.) which impose the requirement for the preparation of the study plans.

Personnel need to be made more familiar with the document hierarchy and given a better understanding of study plan development requirements. This is documented in Concern No. 7.

The development and control of study plans is being performed in accordance with required procedure PMPM 3-111, except as noted in the above observations and concerns.

6.3.6 Technical Reviews

An evaluation was performed to assess compliance to requirements of PMPM 2-102, "Technical Review" as they apply to such documents as the Statement of Work, Study Plans, Design Requirements Documents, and Engineering Plans.

During the earlier phases of the project, both WHC and DOE surveillances indicated that technical reviews were not being performed or documented as required. However, for those documents relative to DC-24/25 (as listed in the completed checklist) it was found that the technical reviews are now being performed and documented per the procedural requirements.

6.3.7 Engineering Plans

No Engineering Plans are being developed and none exist for the DC-24/25 activities as required by PMPM 2-117. WHC Engineering has opted to prepare Engineering Study Plans in lieu of Engineering Plans per letter 87-ECB-118 from DOE-RL to WHC.

6.3.8 Peer Review

The audit of peer review activities was conducted relative to the program and its compliance to requirements stipulated in the System Engineering Management Plan (SEMP) and the BWIP Quality Assurance Requirements Document (BQARD). As of the date of this audit no peer reviews had been performed within the Science and Engineering department.

Two questions were brought to the attention of the auditor by the NRC and Indian Tribes observers:

- a. How is determination of the quantity of Peer Reviewers accomplished?
- b. What action will be taken if Peer Reviews provide differing results?

With regard to question (a), PMPM 3-102 allows the cognizant manager to determine the number of peer reviewers. The procedure recommends that two or more reviewers be used. Paragraph 6.2.3 requires that the cognizant manager to justify the use of only one reviewer be provided as part of the final documentation.

With regard to question (b), PMPM 3-102 requires that a "post" review meeting be conducted to assure that all comments are understood, agreed upon and resolved to the satisfaction of the reviewers. Should the resolution not be satisfactory the comments are elevated to a higher level of management.

6.3.9 Summary

The engineering and design activities related to DC-24/25, except as described in the Concerns, appear to be properly controlled and documented.

The audit of engineering activities did not evaluate compliance outside of the DC-24/25 project and therefore cannot be considered as an overall assessment of engineering and design department. DOE-RL AMC will monitor closely all programmatic activities of Engineering and Science upon lifting the Stop Work Order.

6.4 CRITERION 5 - INSTRUCTIONS, PROCEDURES & DRAWINGS

This portion of the audit was verified through the investigation of the other criteria reviewed during this audit. The purpose was to determine if activities affecting quality are documented in appropriate, approved procedures and to verify that procedural requirements are complied with.

6.4.1 Project Management Procedures Manual

Twelve specific instances of findings, concerns, and observations were identified as a result of this part of the audit. These instances are attributable to failures in the procedure program as follows:

- o Required controls were specified in Desk Instruction in lieu of PMPM as required by PMPM 1-102, e.g. records retrieval times specified in NQA-1-1986, and identification of required QA records (refer to Finding No. 1, Page 3 and 6).
- o Activities specified in PMPMs did not meet the stipulated requirements of the BWIP Quality Assurance Requirements Documents (BQARD), e.g. control measures for NCR dispositions "repair" and "accept-as-is" (refer to Concerns No. 10 and 11),
- o Some PMPMs which continue to be referenced in MA-17 do not exist in the Manual, e.g. references to PMPM 2-112, PMPM 13-102, and PMPM 13-109 (refer to Concern No. 4).
- o Program activities are being conducted while no corresponding PMPM exists or the requirements do not exist in the context of a PMPM, e.g. computer tracking of training requirements, partial lifting of Stop Work Order, and the handling of review and comment resolution dispositions (refer to Observation No. 4, 6, 7, 8, and 14).
- o The requirements stipulated in PMPMs could not be complied with, therefore alternate means of accomplishing the activities were developed, such as, Project Directives and/or Desk Instructions, e.g. use of PDs in lieu of PMPMs (refer to Finding No. 3).

6.4.2 Summary

It is apparent from the examples in Section 6.4.1 that the QA Program is not yet fully documented. The examples reflect a need to complete the documentation process to assure procedural control of the continuing activities.

6.5 CRITERION 6 - DOCUMENT CONTROL

The Document Control System was audited for overall program effectiveness. The method used was an investigation and evaluation of the main indicators of system effectiveness rather than a listing of step by step procedural compliance. It was understood by the auditor through review of previous assessments and by discussion with the Document Control Manager, Mr. Craig Davis, that the Document Control System has not yet been fully implemented as outlined in the procedures and that some procedures have not yet been written. That is, the methods used in obtaining information and fulfilling necessary requirements are not yet completely coordinated or streamlined. However, the system as it currently exists can be assessed for its overall effectiveness in achieving the goals outlined in hierarchical documents.

The effectiveness of the Document Control System was examined and evaluated for the following critical features:

- 6.5.1 A system for up-to-date listings of controlled documents and an assessment of types of documents to be controlled. This ensures only legitimate, up-to-date data is in use on the project.
- 6.5.2 A document review process including documentation of review comments and comment resolutions as well as document change control. This ensures document adequacy and accuracy.
- 6.5.3 A system to provide for the identification of authorized approval levels and required release control of controlled documents. This ensures controlled documents are approved by appropriate personnel.
- 6.5.4 Distribution methods ensure controlled documents are received by users and that distribution lists are current. This ensures correct, up-to-date documents are available for use where needed.
- 6.5.5 A system that informs document users of the need to verify the change status of controlled documents and enables users to do so. This ensures that work reflects the correct version of requirements.

The audit assessment of these critical features show that the overall Document Control System is not completely effective. While the necessary tracking and control of individual documents is in place and functioning and most other information is eventually obtainable, the audit process revealed that there are some areas of limited coordination or ineffective implementation. The following instances were found which could have an adverse effect on the overall effectiveness of the Document Control Program:

- 6.5.6 Up-to-date listings of controlled documents exist only on a limited access personal computer. The system requires personnel to telephone DCC for current information on specific documents. No provision is made for obtaining information during DCC non-working hours, such as during shift work. The printed, controlled Master Document List is distributed infrequently, is not distributed to necessary recipients, and does not contain all controlled documents. The following points are relevant to this problem:
- o The latest approved distribution of the Master Document List was as Project Directive 87-002, Rev. 4, issued June 26, 1987.
 - o The only current, timely distribution of the Master Document List is a weekly "Information Only" (non-controlled) copy distributed on request. The only request is from DOE-RL.
 - o The approved Master Document List does not list all BWIP controlled documents. The most significant discrepancies are the engineering documents. These are listed on another, separate, uncontrolled list, also titled "Master Document List". This list is not distributed.

Concern 8704-06 documents this deficiency.

- 6.5.7 No assessment and approval of controlled document types currently exists. No Controlled Document List (PMPM 8-133) exists. Concern 8704-06 documents this deficiency.
- 6.5.8 The disposition of review comments and comment resolutions is not coordinated. Individual document types are handled differently. Observation No. 7 documents this comment.
- 6.5.9 A system for document change status control (tracking) does not exist for all controlled document types. Observation No. 8 documents this comment.

Document Control personnel are aware of the problems listed above. The current system has existed for four months and various aspects of it are not yet developed or implemented. The Document Control Manager estimates that full implementation will take an additional

six months. While a determination of an appropriate implementation time frame is not part of the auditor's scope of responsibility, it is suggested that Document Control Group achieve full system implementation before another audit is performed.

6.6 CRITERION 11 - TEST CONTROL - DC-24/25 TEST AND OPERATIONS PROCEDURES

The scope of the test control portion of the audit addressed only a selection of TOP's associated with DC-24/25.

- o FI-ES-310-0, "Control of Standards and Measuring and Test Equipment in the SCFI Department",
- o HT-ES-203-0, "Development Ground-water Sampling and Analysis",
- o HT-ES-213-0, "Water Analysis Using the Hach DREL/5",
- o HT-ES-223-0, "Piezometer Tubing Integrity Tests",
- o LT-TL-126-0, "Ground-water Sampling Offsite Shipment and Storage".

The noted TOP's were reviewed and evaluated per BQARD requirements by the Technical Specialist.

During the audit Quality Audit Concern 8704-12 and Quality Assurance Observation No. 14 were generated. Concern 8704-12 is written to document the fact that TOP LT-TL-126 did not specify acceptance criteria. Observation No. 14 was written to describe a possible problem with measurements in testing of the piezometer tubes.

The audit team conducted an interview with personnel at the Westinghouse Hanford 600 area. The purpose of the interview was to obtain general information concerning the borehole DC-24 CX drilling activities and Procedure FI-DC-241, Rev. 0. The discussions centered around the documentation that would be generated as the result of drilling activities. It was determined that the "Shift Report" would be utilized to document drilling data. Further questioning resulted in a discussion about the Interim Problem Report identified in PMPM 7-119, and its relationship to the "Nonconformance Report". It was determined that the IPR is a drilling activity document that allows the crew to rework, correct, and make formal dispositions to hardware, instrumentation, and drilling equipment prior to that situation becoming a nonconforming condition. In addition, it was noted that the BWIP QA Manager reviews each IPR and concurs that the identified problem is not yet a nonconforming condition.

6.6.1 Summary

Test and Operations Procedures associated with DC-24/25 appear to be well written. The interviewees are well aware of quality related requirements and the technical aspects of the program.

6.7 CRITERION 15 - NONCONFORMING MATERIALS, PARTS OR COMPONENTS

The audit team evaluated objective evidence associated with the processing of Nonconformance Reports. Two Audit Concerns identified during the review which were associated with procedural noncompliance to BQARD requirements. (Concern No. 8704-10 and 8704-11.)

The audit team observed that a nonconformance log is being utilized. In addition, it was noted that the Construction Nonconformance Log was recently turned over to Westinghouse Quality Assurance from Morrison-Knudsen.

The team observed the process of identification, segregation, tagging of nonconforming material, parts and components while on hold. This area of nonconformance control appears to be satisfactory and under control.

The team conducted interviews to verify that the organization and personnel responsible for nonconformance dispositions have been selected, trained and are qualified. Results were satisfactory.

The team obtained objective evidence to show that Nonconformance Reports were dispositioned in accordance with procedural and BQARD requirements. All objective evidence reviewed is considered satisfactory.

The team conducted interviews in an attempt to verify that an effective nonconformance trending program is in place. A review of the July 1987, BWIP Quality Assurance Trend Analysis Monthly Report was performed and it was determined that the end product does not meet the BQARD requirements. All nonconformance reporting documents have not been considered in trending. Root cause has not been determined and significance is not defined to the point that it can be readily interpreted and conclusions drawn. This is documented in Quality Audit Concern No. 8704-09.

The following additional facts were disclosed:

- o Due to the 1986 SWO, the Nonconformance Disposition Board has not been dispositioning Nonconformance Reports.
- o Due to the 1986 SWO, No. BSWO-86-004 which is still in effect, no construction activities have been initiated, the Construction Nonconformance Disposition Board has not yet been reestablished.

6.7.1 Summary

With the exception of the Trend Analysis Program, and the Concerns #10 and #11, the Nonconformance Reporting Program appears to be in place and capable of being effective after the Stop Work Order is lifted and the NCR and CNCR boards start functioning.

6.8 CRITERION 16 - CORRECTIVE ACTION

The corrective action program was reviewed in the following areas:

- o Evaluation of significant condition for Unusual Occurrence Reporting (UOR).
- o Tracking and implementation of corrective actions.
- o Reporting of significant problems to upper management.
- o Trending of corrective action documents.

BWIP Corrective Action documentation was reviewed to determine the adequacy and implementation of the corrective action system. No discrepancies were noted except in the area of trending. It was found that the trending system currently in place is not adequate. This discrepancy is identified in Concern No. 09 and is explained in Section 6.7, "Nonconforming Materials", of this report.

6.9 CRITERION 17 - QA RECORDS

The scope of activities for the control and processing of documents which are to become QA records, and the storage of QA records were addressed during this portion of the audit. Reviews were made of the following requirement areas:

- o Imposition of Records Management Plan requirements upon Major Project Participants.
- o Identification of documents to become QA records.
- o Protection of in process documents which will become QA records, records in the archives and records during receipt.
- o Records authentication.
- o Corrections to archived records.
- o Identification of document/records to activities.
- o Records indexing.
- o Records retrieval.

- o Records receiving.
- o Archive facilities and access.

As a result of this portion of the audit, the following problems were identified as violations of requirements, in Finding #1.

- a. Failure to impose the requirements of the Records Management Plan upon the major project participants.
- b. The use of Desk Instructions as the sole document to satisfy program requirements.
- c. Failure to store one-of-a-kind records in facilities which meet the records storage requirements.
- d. Failure to provide documented systematic controls for assessing the status of records during the receiving process.
- e. Failure to provide documented systematic controls to include personnel, procedure and equipment qualification documents as QA records.
- f. Failure to provide a system for identifying which documents will become QA records.
- g. Failure to implement the programmatic requirements of authorized authentication of records.

The review of activities associated with the imposition of Records Management Plan requirements on the Major Contractors include, discussion with D. E. Mahagin, Manager of Management & Integration (M&I); E. Richards, Manager of BWIP Records and D. Duncan, BWIP QA Program and Program Administrator. The discussions focused on determining if the Major Participating Contractor's procedures included the requirements of the Records Management Plan. It was learned from Mr. Richards that his Records Control personnel were not involved in the review of contractor procedures. He stated that the Contracting Officer Technical Representative (COTRs) and the Quality Assurance organization were performing such reviews. Mr. D. Duncan (QA) was interviewed and it was learned that QA was not reviewing contractor procedures against the Records Management Plan requirements but only the QA criterion requirements. Mr. D. Mahagin was contacted as all COTRs work for his organization. A meeting with the COTRs revealed that the Records Management Plan was not imposed upon the Major Project Participants.

Additionally it was learned that the current practice of the COTR is to have the participating contractors submit procedures directly to them. This by-passes the BWIP Document Control system. The COTR indicated that in the case of Records Management Plan requirements,

they (collectively) would have the technically competent organization review for inclusion of requirements. This statement was clarified in the meeting to mean Records Management personnel for records management requirements. However, Records Management is not currently reviewing the participating contractors procedures. Therefore no organization within WHC appears to be verifying the inclusion of BWIP Records Management Plan requirements. (See Audit Finding No. 01).

The formal system for identifying what documents are to become QA records is currently not addressed in the formal QA Program of PMPMs (i.e. 8-103). This failure to implement QA requirements has been previously identified by Westinghouse Management, and a work plan for the development of Procedure Record Index (PRI) is in place. The information was gained from interviewing E. Richards, Manager of BWIP Records Management. (See Audit Finding 8704-01.)

The requirement to have personnel, procedure and equipment qualification records identified as QA records is not implemented in the Westinghouse QA Program. A Desk Instruction (DI 72122-1.0) is currently used as the method of doing Receipt Control in the Records Management section. This Desk Instruction requires the checking of documents against a document type list. The BRMC Document Type list identified Personnel Training and Certification documents and procedure qualification documents as QA records. However, equipment qualification documents are not included as QA records. Additionally Receipt of Documents is not performed by the Records Management Section (E. Richards), it is performed by Document Control. Therefore, the DI is not applicable to the entire audited area (see Audit Finding 8704-01).

The systematic requirements for the protection of documents identified to become QA records is addressed in the MA-3. PMPM 8-103 addresses the interim storage requirements and PMPM 8-115 requires each BWIP organization generate procedures for protecting in-process records. The implementation of in-process document storage requirements was not verified during this audit. The actual location of the in-process documents was verified and found to be retrievable within a reasonable time period. The documents retrieved were:

- o DRD SD-BWI-RQD-008
- o Study Plan SD-BWI-SP-035
- o Study Plan SD-BWI-SP-036
- o Study Plan SD-BWI-SP-057

No finding or concerns were issued in this area.

The authentication of records by authorized individuals is currently not implemented in the Westinghouse QA program. PMPM 8-103, Rev. 0,

The storage for records on the BWIP is done by microfilm. The film is then stored on reels in many different locations. The Master Silver halide copy of the microfilm is stored in a steel cabinet in the Federal Building. This method currently covers approximately 95% of all records. However, the other 5%, the one-of-a-kind records are being stored in the 712 building and in the Federal Records storage facility in Western Washington State. These facilities currently do not meet NQA-1 requirements. The storage of records in RHA building 712 has been previously identified as a violation of requirements by Westinghouse Audit BWIP # IA-87-007 Finding No. 04. The storage of BWIP records in the Western Washington State Federal Records storage facilities is not approved by the BWIP Records Management organization. See Audit Finding # 01 for more information.

The QA Program outlined in MA-3 includes a requirement for statusing of records during the receipt process. This requirement is not addressed in PMPM 8-103 or 8-121. During the audit it was determined that an informal system for statusing records was in place as a working tool of the Document Coordinators doing the job. Two (2) transmittal packages, numbers 121-62-87-0036 and 0039, were verified to be in the location specified by the informal system. Also, transmittal 77400-87-0176 was verified as having been sent to encoding. The act of encoding terminates the receipt processing for BWIP Records.

During the audit it was once again verified that the current BWIP Storage Vaults do not meet the storage requirements of the BWIP QA Plan and BQARD. This fact is well understood on the project. The violation has been previously documented on DOE Audit 8601-02, Attachment 2, which is closed. The corrective action plan from the above referenced audit finding is BWIP Construction Project No. B577. This building project will create a records storage center which meets QA Plan and BQARD requirements. An examination of the microfilm and records stored in the Federal Building showed no evidence of degradation due to improper environmental effects. Therefore, this issue is not addressed in this report as a finding or a concern.

Controlled access to project records was examined. The access to the BWIP archived facilities was previously identified in BWIP AI-87-007, Finding No. 4, Item 3 and 5. This documented violation of project requirements was still open during the audit. In addition, the access to records through electronic means was audited, i.e. the computerized data base for all BWIP records. It was determined that access to the data base is controlled through the use of a pass word. No finding is issued for access controls.

The requirement to protect records during the receiving process was previously identified as a violation on BWIP Audit BWIP-OA-87-007, Finding No. 5. This finding is still open. This violation was noted again during this audit. The previous finding will control the required corrective action.

dated 4/24/87, Paragraph 3.7, requires implementing procedures to designate authorized personnel who authenticate records. The implementing procedures have not been written. E. Richards, Manager of BWIP Records section stated during the audit that authentication of records is not well understood nor is it well defined at Westinghouse BWIP (see Audit Finding 8704-01).

The preparation, review, and approval of corrections made to archived documents is documented and implemented. PMPM 8-103 covers the correction to microfilmed records and PMPM 8-105 prescribes the method of affecting the actual change. Desk Instruction, DI 72122-6.0, is implemented to provide additional direction to the BWIP Records section personnel in the details of correction of records.

A sample of ten records were selected to determine if different versions of the same document could be found in the archived records. A computer sort by BO numbers was done to determine the location(s) in the archive, only one document, B 104890, was stored in two different locations. A comparison of the documents located in the different reels and frames indicated no difference in the documents. No finding or concern has been identified in this area.

Thirty (30) documents were selected for review from the archives to determine if each document was clearly identifiable to the activity it represents. No records were reviewed which were not relatable to the activities they represented.

All documents or records on the BWIP Project are considered to be life time. Therefore, the significance of designating a document/record as a "life time QA records" is diminished in terms of retention time and storage requirements.

The records indexing system currently used in Westinghouse BWIP is a computerized index generated by sorting the data base. The index has the capability of identifying the location of records by reel and frame. The retention time of all records is life time for the BWIP. The index of documentation which will become QA records is not yet developed.

Records retrieval of any single record or assembly of records on a specific topic is effective. The reel and frame numbers are available from the data base and the records are then available on microfilm for viewing and copying. The QA program does not specify a retrieval time for documents. Desk Instruction, DI 72122-5.0, Rev. 0, is the only document which specified retrieval time noted during the audit. Additionally, the DI indicates a retrieval time of 72 hours (3 working days) however, the Records Management Plan, SD-BWI-AP-001, recommends two (2) work days as the retrieval time for records (see Finding No. 01).

It was also verified that evidence of receipt was available for records sent to the archive. Transmittal No. 12162-87-0036 and 0039 were reviewed during the audit, no violations were noted.

6.9.1 Summary

In the opinion of the audit team, the Records Management Program for BWIP is currently incomplete. The retrievability of records is good. However, documents designated to become QA records have yet to be identified and the current storage of one of a kind records is in violation of Project requirements. Additionally, authentication requirements are not defined or implemented, and the Records Management Plan requirements have not been imposed on the Participant Contractors. Desk Instructions are currently implementing upper tier document requirements instead of PMPMs, and some quality affecting activities are currently being performed without governing PMPMs. The instances outlined above, together with the two open findings from previous audits (i.e. storage vault not meeting requirements; controlled access to vault; protection of records during receiving) show that the Records Management Program is not in full compliance with BWIP QA Program requirements.

6.10 CRITERION 18 - AUDITS

The BWIP QA internal audit program was reviewed to assure compliance to program requirements. The following areas were reviewed during the audit:

- o Orientation of personnel participating in audit activities.
- o Tracking and trending of audit findings.
- o Audit working files.
- o Audit records.

Audit working files and the handling of completed audit records were found to be accomplished in accordance with program requirements. Tracking of audit findings was found to be satisfactory. Audit findings are not being trended. This was previously identified in WHC Audit Finding BWIP-IA-87-005, No. 13 and also as Concern No. 09 of this audit report.

Orientation and training of personnel performing audits was being accomplished by the team leaders, however, documentation of that orientation was inconsistent. This was addressed in Observation No. 5.

During this audit an attempt was made to verify corrective actions to DOE-RL Surveillance Findings QSD-QAF-061-01 and 02. The current status of each finding is as follows:

- o QAF-061-01 required the review of completed audit checklists and an evaluation of discrepancies identified during that review; also a report to DOE on the results of the review and evaluations. At the time of the audit, the audit checklists had been reviewed and discrepancies noted, however, an evaluation of those discrepancies had not yet been completed nor had the report to DOE been generated. This finding remains open.
- o QAF-061-02 required that the audit procedure be revised to assure findings are reviewed for reportability as "Unusual Occurrences". The procedure had not been revised at the time of the audit. This finding remains open.
- o Additionally, two concerns from DOE-RL Surveillance QSD-061, which dealt with auditor and technical advisor training, were reviewed during this audit. Both concerns remain open since part of the explanations given dealt with the issue of PMPM 13-101, "Qualification and Certification of Audit Personnel". This PMPM has not been issued at the time of the audit.

Overall the audit program appears to be adequately implemented.

ATTACHMENT 1

CRITERIA AND RESPONSIBILITIES

WHC AUDIT NO. 8704 AUGUST 31 - SEPTEMBER 11, 1987

ACTIVITY	CRITERION	AUDITOR	ADVISOR* TECH. SPECIALIST
ORGANIZATION	1	FRIEND/LITZ/HANS (TEAM A)	-----
QA PROGRAM	2	FRIEND/LITZ/HANS (TEAM A)	----- KNEPP
DESIGN	3	YOUNG (TEAM B)	KNEPP McCRUMB
INSTRUCTIONS PROCEDURES, AND DRAWINGS	5	YOUNG/HENNIG (TEAM B)	----- -----
DOCUMENT CONTROL	6	YOUNG/SIMPSON/ HENNIG (TEAM B)	-----
TEST CONTROL	11	CAMP (TEAM C)	MYERS LASSILA
NONCONFORMING MATERIALS PARTS OR COMPONENTS	15	CAMP (TEAM C)	MYERS
CORRECTIVE ACTION	16	FRIEND/LITZ/HANS (TEAM A)	-----
QA RECORDS	17	FRIEND/LITZ/HANS (TEAM A)	T.GROSS
QA AUDITS	18	FRIEND/LITZ/HANS (TEAM A)	-----

ATTACHMENT 2

DOE AUDIT 8704 OF WHC QA PROGRAM

ATTENDANCE ROSTER

<u>NAME</u>		<u>COMPANY</u>	<u>ENTRANCE</u>	<u>INTERVIEWED</u>	<u>EXIT</u>
D. Alexander	Scientist	WHC		x	
A. Alkezweeny	Observer	Nez Perce	x		
S. Andrea	Observer	EWA/YIN	x		
J. Anttonen	AMC	DOE-RL			x
S. Armstrong	Geologist	YIN			x
H. Babad	Prin. Scientist	WHC		x	
B. Balthazor	Sr. Engr. QA	WHC		x	
G. Beitle	Staff Engr.	WHC		x	
M. Bell	Engr. Files Sup.	WHC		x	
J. Bensko	QA	MACTEC			x
W. Blair	QA	WHC	x	x	x
B. Blake	Observer	EWA/YIN			x
M. Boston	Recp. Cont. Coord	WHC		x	
P. Bourne	Mgr. QA	WHC	x	x	x
L. Bridges	Recp. Cont. Coord	WHC		x	
R. Bryer	Hydro Test	WHC			x
W. Camp	Auditor	MACTEC	x		x
C. Cejka	M&I	WHC	x		
J. Clark	QA	MACTEC			x
M. Connor	Mgr. Proj. Const.	WHC	x		x
C. Davis	Mgr. BWIP D. C.	WHC	x	x	x
J. Donnelly	Observer	NRC	x		
H. Downey	Ops. & Test	WHC		x	x
D. Duncan	Mgr. QA Programs	WHC	x	x	
H. Dunning	Mgr. Prog.	WHC		x	
D. Dunnum	Mgr. QA Admin.	WHC	x	x	
S. Eckert	Admin. Spec.	WHC		x	
D. Farwick	QA	WHC	x	x	x

ATTACHMENT 2

DOE AUDIT 8704 OF WHC QA PROGRAM

ATTENDANCE ROSTER

<u>NAME</u>		<u>COMPANY</u>	<u>ENTRANCE</u>	<u>INTERVIEWED</u>	<u>EXIT</u>
L. Fitch	Asst. Mgr., CWMD	WHC		X	
A. Friberg	Staff Engr.	WHC	X	X	
J. Friend	Auditor	MACTEC	X		X
W. Gibbons	Q. Verification	MACTEC	X		X
D. C. Gibbs	Mgr. CWMD	WHC	X	X	X
R. Gilchrist	Mgr. COTR	WHC		X	
M. J. Goss	QA	WHC			X
L. Haler	Trng. Specialist	WHC		X	
D. Halko	Sr. Scientist	WHC		X	
S. Hans	Auditor	MACTEC	X		X
G. Harper	Mgr. Engr & Des	WHC	X		
T. Hennig	Auditor	DOE-RL	X		X
N. Hutchins	Mgr. Const.	WHC	X	X	
G. Jackson	Mgr. S&E	WHC		X	X
R. Johnson	Mgr. BWIP QA	WHC	X	X	X
W. Keltner	Mgr. PAs & Trng.	WHC	X	X	X
J. Kirkendall	Mgr. Proj. Admin.	WHC	X		
D. Lawrence	Const. Proj.	WHC	X		
D. Leyson	Engr. Files Mgr.	WHC		X	
H. B. Litz	Auditor	DOE-RL	X		X
H. N. Livland	Engineering	WHC	X		
D. Loomis	Rcpt. Cont. Coord	WHC		X	
D. Mahagin	Mgr. M&I	WHC		X	X
G. Manzyek	BCSR	WHC	X		
K. Marbaugh	Observer	ONWMG	X		
L. McDougal	Ops & Test	WHC			X
G. McLellan	Ops. & Test	WHC			X
R. Miller	Observer	GAO	X		X

ATTACHMENT 2

DOE AUDIT 8704 OF WHC QA PROGRAM

ATTENDANCE ROSTER

<u>NAME</u>		<u>COMPANY</u>	<u>ENTRANCE</u>	<u>INTERVIEWED</u>	<u>EXIT</u>
D. J. Moak	Ops & Test	WHC	x	x	
S. Moist	Engr. PQ&T	WHC		x	
H. Mooney	Consultant	MAC	x		
D. Myers	Tech Advisor	MACTEC			x
R. Negri	QA	WHC	x		
J. Nolan	Exec. V. P.	WHC	x		x
T. Noland	Mgr. R&P Asses.	WHC		x	
L. Olson	Deputy AMC	DOE-RL			x
L. Palmer	Mgr. PQ&T	WHC		x	x
E. H. Petrie	Proj. Engr.	DOE-RL			x
W. Price	Mgr, Ops & Test	WHC	x		
D. Provost	Observer	State of Wash.	x		x
R. Ramsgate	QA	WHC			x
J. Reiten	QA	MACTEC	x		
E. Richards	Records MGMT.	WHC	x		
R. N. Richardson	Mgr. IRM	WHC			x
R. Richardson	Mgr. Prod. Cont.	WHC	x	x	
S. Rifaey	Engineering	WHC	x	x	
J. Riveria	Engr. PMP	WHC		x	
R. Ruud	Staff Engr. QA	WHC		x	
R. P. Saget	Dir. QSD	DOE-RL	x		x
A. Sastry	QA Manager	MACTEC	x		x
D. Simpson	Mgr. ES&S	WHC		x	
M. Simpson	Auditor	MACTEC	x		x
L. Smigelski	Sr. Trng. Spec.	WHC		x	
R. Snow	Site Group	WHC	x	x	
S. Strait	Mgr. Hydro Test	WHC	x	x	
S. Stringer	Data Entry Coord	WHC		x	

ATTACHMENT 2

DOE AUDIT 8704 OF WHC QA PROGRAM

ATTENDANCE ROSTER

<u>NAME</u>		<u>COMPANY</u>	<u>ENTRANCE</u>	<u>INTERVIEWED</u>	<u>EXIT</u>
T. K. Subramanian	Team Leader	DOE-RL	x		x
D. Summers	QA	MACTEC			x
K. Tominey	Mgr. QA Surv.	WHC	x	x	x
J. Tritz	Mgr. I.M.	WHC		x	x
H. Tuthill	Mgr. QA Prog.	WHC	x	x	x
R. Viens	Mgr. BWIP QA Aud.	WHC	x		
L. Walker	Engr. Tech.	WHC		x	
R. Watkins	Proj. Mgr. COTR	WHC		x	
H. Whitenight	QA	MACTEC			x
K. Willoughby	Prog. Anay.	WHC		x	
T. Wintczak	M&I	WHC	x		
M. Witherspoon	QA	MACTEC			x
S. Young	Auditor	MACTEC	x		x

ATTACHMENT 3
PART A

DOE AUDIT 8704
TECHNICAL COMMENTS SUMMARY REPORT
SUBTEAM B
D.R. McCrumb

INTRODUCTION

The area to be examined by Audit Subteam B, included Criterion 3, 5 and 6 of the Basalt Quality Assurance Requirement Document (BQARD). Technical support for Subteam B audit activities was limited to audit activities related to Criterion 3, "Design Control". The specific areas to be examined included design control activities conducted by the WHC Science and Engineering Department as they related to DC-24/25. Specific lead questions asked during the audit are listed in Sub-attachment 1, along with the results and raters pertaining to each question. Follow-up question(s) and discussion(s) were generated after the response to each lead question.

SUMMARY OF RESULTS

The technical personnel interviewed during the audit had a good working knowledge of all aspects at the technical plans and procedures examined during the audit. Specific technical concerns generated during the audit related primarily to the top down planning and management activities required by the program and are summarized as follows:

- o Concern No. 07 - Higher level documents within the BWIP Document Hierarchy were not available and were not well understood by the technical personnel interviewed. They rely almost exclusively on the various chapters and sections within the Site Characterization Plan (SCP) for technical material that would normally be expected in such higher level documents as the Engineering Plans and Data Specifications Document.
- o Concern No. 08 - Non-standard conditions such as tectonic fractures that may affect borehole piezometer design should be brought to the attention of all appropriate supervisors early enough to initiate the necessary evaluations to access the potential for design change.

OBSERVERS

Observers present during audit interviews included the following:

Jim Donnelly, Nuclear Regulatory Commission

Ken Marbaugh, Utility Nuclear Waste Management Group

REFERENCES

SD-BWI-SP-036, Rev. 0, Drafts A and C (6/25/87), Stratigraphy Study Plan

SD-BWI-SP-036, Rev. 0, Drafts A and D (6/25/87), Intraflow Structure Study Plan

SD-BWI-SP-057, Rev. 0, Drafts A and C (6/25/87), Site Groundwater Study Plan PMPM 3-111, "Preparation of Study Plans", Rev. 4, 3/2/87 (effective 3/23/87) and Rev. 5, 7/21/87 (effective 8/11/87)

DOE-RL, 87-3, Basalt Waste Isolation Project, Project Management Plan (PMP), Rev. 1, 7/87; Note: Revision 0 of the PMP, 87-3 was not issued

**ATTACHMENT 3
PART A
SUB-ATTACHMENT 1**

REQUIREMENT:

10 CFR 50, Appendix B

"The design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. The verifying or checking process shall be performed by any competent individual or group other than those who performed the original design, but who may be from the same organization".

Q. Has the Technical Review Board Chairman reviewed the RCRs with each member and author?

A. Yes. See attached Note No. 1.

Paragraph 6.4 - "The reviewer shall record all comments on the BWIP RCR...Reviewers that do not have comments shall return a BWIP RCR with their signature and "No Comment" by the required date..."

Q. Have all technical review comments been documented on an RCR?

A. Yes. See attached Note No. 1.

Q. Has an RCR been prepared by every individual performing technical review?

A. Yes. See attached Note No. 1.

PMPM 3-111, Paragraph 6.3 - "...Technical reviews of study plans are conducted per PMPM 2-102..."

Q. Have study plans received a technical review per PMPM 2-102?

A. Yes. See attached Note No. 1, see also audit notes from Steve Young.

REQUIREMENT:

NQA-1 - "Analysis...[planning and test procedure preparation] shall be sufficiently detailed as to purpose, method, assumptions, design input, references and units such that the person technically qualified in the subject can review and understand the analyses and verify...adequacy...without recourse to the originator".

MPPM 3-111, Paragraph 6.1 - "...Individual test procedures will be referenced in the study plans".

Q. Have the test procedures for DC-24/25 been referenced in the applicable study plans?

A. No. See Audit 8704 QA Observation No. 10 and 12.

Paragraph 6.2.1 - "An annotated outline for the first issue of each study plan shall be prepared. All annotated outlines for study plans shall follow the outline agreed upon by the Nuclear Regulatory Commission (NRC) and DOE (see Appendix A)".

Q. Has an annotated outline been prepared for each study plan?

A. Yes.

Q. Does the outline as well as the study plans follow the Appendix A format?

A. No. See Audit 8704 QA Concern 07 and Note No. 2 to Attachment 3, Part A.

MPPM 2-103, Paragraph 5.1 - "The testing procedures shall provide detailed instructions that include, as a minimum, the following:

- o Characteristics to be tested
- o Test methods to be employed
- o Safety instructions relevant to the test
- o Checklist (pre-test setup conditions) Appendix C
- o Contingent resources
- o Mandatory hold
- o Special test equipment calibration
- o Methods for acceptance and rejection
- o Provisions for recording/documenting the test data/results (Figure 2)
- o Methods of data analysis
- o Provisions for establishing post-test condition."

Q. Do the testing procedures contain the contain the instructions as required by this paragraph?

A. No. See Audit 8704 QA Concern 08.

MPPM 5-105, Paragraph 6.2 - "The preparer develops a draft SOW in accordance with the basic format and content of Appendix A as identified by the initiating manager...".

Q. Are SOWs prepared in accordance with the requirements of Appendices A and B?

A. Yes. See attached Note No. 3.

**ATTACHMENT 3
PART A
NOTE NO. 1**

**Notes on WHC Technical Review of Intraflow Structure Study Plan
(SD-BWI-SP-036)**

TR-BWI-86-029

<u>Review Board Members</u>		<u>Position and Status of Review</u>
A. J. Patrick		Chairman
R. W. Cross		Cognizant Engineer
D. R. Schall	x	D. R. Sw checklist - closed
B. J. Hobbs	x	(Non participant) - closed
R. F. Sharon	x	No comment - closed
S. H. Pye	x	Closed
M. C. Hagood	x	Closed
T. L. Tolan	x	Closed
G. L. Underberg	x	Closed
O. K. McMillan	x	Closed
R. K. Ledgerwood	x	Closed
B. G. Tuttle		Non participant
M. W. Parsons	x	Closed
D. J. Van Rosendaal	x	Closed
P. G. Zambas	x	Not closed/Closed by W. D. Leggett
B. Schmalfluss/B. Dick	x	Closed not on Review Board

1. Some comments by P. G. Zambas were disposition by the reviewer's manager (W. D. Leggett) when agreement could not be reached with the reviewer. (Section. 6.5, page 14, Col 2, comments may be escalated to cognizant manager with assistance from reviewer manager.)
2. For review comments by M. W. Parsons, the disposition includes conditionally accept and conditionally reject (as agreed during the comment resolution meeting).
3. Intraflow Structure Flow Study Plan conducted on Rev. 0, draft 2. Draft D includes changes that go beyond specific reviewer comments. These changes were made by the author, Randy Cross, in an effort to incorporate the "flavor" of several comments. Draft C, Rev. 0 was specifically for the Expedited Special Case.

4. Review by D. J. Roosendaal, comments 3, 4 and 5 were accepted and are reflected in the Draft D version inspected.
5. Site Groundwater Study Plan, Rev. 0, Draft A, April 23, 1987. Reviewer comments on Draft A, Draft B and Draft C. Comments on Draft A and Draft B have been signed off by the author and reviewer and closed.

Note: No QA Findings, Concerns or Observations were noted.

**ATTACHMENT 3
PART A
NOTE NO. 2**

**Notes on Comparison of Study Plans with Requirements in PMPM 3-111
Appendix A**

1. Purposes and Objective - main headings correspond on a 1:1 basis with Section 1.0

Actual content of the sections does not meet the description in Appendix A, i.e., SP-057, Section 1.1 Purpose and Scope of Study Plan should describe where the SP fits in to the complete BWIP document hierarchy i.e., higher level documents. The only document referenced is the SCP which is not part of the document hierarchy list. Also, subservient documents are not discussed, it is only stated they will be in the form of standard BWIP support documents.

Section 1.2, Subject Area of Study - the entire section deals with a description of the location, i.e., the CASZ and does not discuss the subject area of the study (i.e., it discusses where it will occur not what it includes.)

Note: See Audit 8704, QA Observation No. 10 and No. 12.

ATTACHMENT 4

AUDIT: FINDING CONCERN OBSERVATION



- IS A WRITTEN EXPRESSION OF AN AUDITOR'S OPINION ON A PERCEIVED QUALITY-AFFECTING CONDITION.
- MAY REFLECT INSUFFICIENT INVESTIGATION OF A CONDITION TO IDENTIFY IT AS A FINDING OR CONCERN.
- NEED NOT BE RESPONDED TO.
- LEAD AUDITOR IN CONJUNCTION WITH AUDIT TEAM AND AUDITED ORGANIZATION DETERMINES THE PROPER CLASSIFICATION OF EACH OF THE AUDIT RESULTS.
ie., FINDINGS/CONCERNS/OBSERVATIONS

ATTACHMENT 5

AUDIT 8704

PMPMS REFERENCED IN AUDIT REPORT

ATTACHMENT NO. 5
PMPMS REFERENCED IN AUDIT REPORT

<u>PMPM</u>	<u>REV.</u>	<u>TITLE</u>
1-101	6	PREPARATION AND CONTROL OF PROJECT MANAGEMENT PROCEDURES
1-102	1	DESK INSTRUCTIONS
1-110	5	PROJECT DIRECTIVES
2-101	6	TECHNICAL DOCUMENT REVIEW
2-112		NOT ISSUED
2-113	2	PREPARATION AND CONTROL OF DESIGN REQUIREMENT DOCUMENTS
2-117	3	PREPARATION OF ENGINEERING DEVELOPMENT PLANS
3-102	2	PEER REVIEWS
3-105	1	DATA SPECIFICATIONS
3-111	5	PREPARATION OF STUDY PLANS
4-105	2	NONCONFORMANCE REPORTS
4-106	2	CONSTRUCTION NONCONFORMANCE REPORTS
4-115	2	STOP WORK ORDER
4-123	0	ANNUAL ASSESSMENT OF THE BWIP QA PROGRAM
6-105	3	DIRECTION OF TECHNICAL WORK
7-119	2	DATA COLLECTION TEST CONTROL
8-103	0	BWIP RECORDS MANAGEMENT SYSTEM
8-105	1	RECORDING DATA AND CORRECTIONS FOR QUALITY RECORDS
8-106	3	CONTROL OF SUPPORTING DOCUMENTS
8-115	3	CONTROL OF IN-PROCESS DOCUMENTS
8-117	2	FORMAT OF TEST AND OPERATIONS PROCEDURES
8-121	3	DOCUMENT SUBMITTAL AND RECEIPT CONTROL
8-133	1	DOCUMENT CONTROL
8-134	0	MASTER DOCUMENT LIST
13-101	DRAFT	TRAINING, QUALIFICATION AND CERTIFICATION OF QA AUDIT PERSONNEL
13-102		NOT ISSUED
13-106	1	ADMINISTRATION AND QUALIFICATION AND TRAINING
13-109	CANC	JOB ANALYSIS
13-111	0	INSTRUCTIONAL ASSESSMENT PROGRAM
13-120	0	TRAINING PROGRAM EVALUATION PROCEDURE
13-121	4	PERSONNEL QUALIFICATION AND TRAINING REQUIREMENTS

ATTACHMENT 6

AUDIT 8704

FINDINGS, CONCERNS & OBSERVATIONS

REFERENCE EXAMPLE

RHO-QA-MA-3, Section C, Chapter 17.0, Rev. 3, Paragraph 4.1, states in part:

"The ... Basalt Waste Isolation Project Records Management Plan shall provide direction to all BWIP end function..."

DESCRIPTION EXAMPLE

1. No evidence was presented during the audit to establish that the Records Management Plan, SD-BWI-AP-001 has been imposed upon the Participating Contractors by the WHC IC.
2. Additionally, the major Participating Contractors procedures, which have been submitted for review and approval by the IC, have not been reviewed for the inclusion of the Records Management/Document Control Plan requirements by the QA organization or a technical organization.

REFERENCE EXAMPLE

PMPM 1-102, Rev. 1, Dated 2/10/87, Paragraph 5.0, states in part:

"Desk Instructions may not be used as the sole document to satisfy a program requirement."

DESCRIPTION EXAMPLE

1. Contrary to the above, Desk Instruction, DI72-122-5.0, Rev. 0, Dated 10/21/86, Paragraph 1.2, satisfies the requirement of NQA-1-1986, Supplement 17S-1 for planned retrieval time based upon the record type. Paragraph 1.2 of the DI indicates a retrieval time of 72 hours (3 working days). this limit is not specified in any other document.

NOTE: The Records Management Plan SD-BWI-AP-001, specifies two working days (Paragraph 7.4.6.3).

2. Desk Instruction 72122-1.0, Rev. 1, Dated 12/15/86, Paragraph 2.1.4, refers to a BRMC Document Type List, which does include Training and Certification Records and Procedures Qualification records as type of QA records. However, neither the DI or the BRMC are included in the formal QA Program of PMPMs and the equipment qualification records are not include in the BRMC list as QA records.

8704-01

REFERENCE EXAMPLE

MA-3, Section C, Chapter 17.0, Rev. 3, Paragraph 3.21, states in part:

"Provision shall be made for special processed and one-of-a-kind records to prevent damage from excessive light,... Electromagnetic field temperature, humidity and fire.

DESCRIPTION EXAMPLE

Contrary to the above, one-of-a-kind records in Boxes 89925 and 95089 are currently stored at the Federal Records Center in Seattle, Washington. This transfer of records was not approved by BWIP Record Control Organization as the Records Center in Seattle has not been approved as meeting the storage requirements.

8704-01

REFERENCE EXAMPLE

RHO-QA-MA-3, Section C, Chapter 17.0, Rev. 3, Paragraph 3.11, states in part:

"The receipt control system shall be structured to permit a current and accurate assessment of the status of records during the receiving process.

DESCRIPTION EXAMPLE

Contrary to the above, no objective evidence was provided during the audit to demonstrate that a formal and documented system for statusing records at receipt is in place. An informal system of logs and files is in place and the current status of documents was known and accurate. However, this system was developed and implemented by the Document Receipt Coordinator as a working tool.

8704-01

REFERENCE EXAMPLE

MA-3, Section C, Chapter 17.0, Rev. 3, Paragraph 3.1, states in part:

"Sufficient records shall be maintained to furnish evidence of activities affecting quality. A list of quality assurance records shall be developed and shall include, ... qualification of equipment."

DESCRIPTION EXAMPLE

No formal programmatic evidence was produced during the audit to indicate that Qualification records for personnel, procedures or equipment will become QA records.

Desk Instruction 72122-1.0, Rev. 1, Dated 12/15/86, Paragraph 2.1.4, refers to a BRMC Document Type List, which does include Training and Certification Records and Procedures Qualification records as type of QA records. However, neither the DI or the BRMC are included in the formal QA Program (PMPM) the equipment qualification are not include in the BRMC list.

8704-01

REFERENCE EXAMPLE

RHO-QA-MA-3, Section C, Chapter 1.7, Paragraph 3.1, BQARD Requirement 2, states in part:

"A list of quality assurance records shall be developed and shall include..."

DESCRIPTION EXAMPLE

No objective evidence was provided during the period of the audit to demonstrate that a formal system exists for the identification of documents which are to become QA records.

The Documentation and Records Service Organization has a work plan for the development of Procedures Record Indices to be produced. This effort will lead to the development of an index, which will identify documents to become QA records.

8704-01

REFERENCE EXAMPLE

PMPM 8-103, Rev. 0, Dated 4/24/87, Paragraph 3.7, states in part:

"Implementing procedures must clearly designate or define the Authorized personnel who authenticate the records."

DESCRIPTION EXAMPLE

No objective evidence was presented during the audit to demonstrate implementation of this Programmatic requirement. Additionally it is the opinion of the Manager of BWIP Records Control that the process of authentication of records has not been well defined or implemented currently on the BWI Project.



QUALITY AUDIT FINDING

2. QAF Control No.

8704-02

1. TO: Name

D. C. Gibbs

Title

Manager, Civilian Waste Management

3. Location

CDC-2

4. Reference/Requirements

PMPM 1-110, Rev. 5, "Project Directives", Section 6.0
Each manager whose organization is affected by a Project Directive provides the appropriate training to their staff. The appropriate training is described in RHO-BW-MA-17, Section 13.

5. Audit Or Surveillance Report No.

8704

6. Potential Reportability under 10 CFR 60.73

Yes

No

7. Description

Based upon a review of training records, there was no objective evidence to show that managers whose organizations have been affected by Project Directives, have provided training to their staffs, on those P.D.'s.

8. Lead Auditor (Signature)

R. Brannan

9. Issue Date

9/17/87

10. Response Due Date

10/18/87

11. Auditee Corrective Action Commitment (See Reverse for Instructions)

NOTE: Action Shall Address Root Cause, Impact on Previous Work and Measures to Prevent Recurrence

12. Responsible Action Manager (Signature)

13. Date

14. Action Completion Due Date

ACTION VERIFIED

15. Lead Auditor (Signature)

16. Date

18. Final Distribution

ORIGINAL-Audit/Surveillance Report File

1--Addressee

2--

3--

17. Final Review and Approval (QAF Closed)

DIRECTOR - Quality Systems Division

Date



QUALITY AUDIT FINDING

1. TO: Name D. C. Gibbs		Title Mgr. Civilian Waste Management	2. QAF Control No. 8704-03
4. Reference/Requirements See Attached.		3. Location CDC-4	
		5. Audit Or Surveillance Report No. 8704	
		6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

7. Description

Control and use of Project Directives is not consistent with the requirements delineated in PMPM 1-110.

See Attached.

9. Lead Auditor (Signature) <i>R. Robinson</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

NOTE: Action Shall Address Root Cause, Impact on Previous Work and Measures to Prevent Recurrence

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution	17. Final Review and Approval (QAF Closed)
<p>ORIGINAL-Audit/Surveillance Report File</p> <p>1--Addressee</p> <p>2--</p> <p>3--</p>	<p>_____</p> <p>DIRECTOR - Quality Systems Division Date</p>

AUDIT 8704 - 03

Criterion 5, "Instructions, Procedures and Drawings"

PMPM 1-110, "Project Directives"

para. 4.3, "All holders of RHO-BW-MA-17 are responsible for maintaining a looseleaf binder of active Project Directives with the latest issue of the master index."

Copy #2 was found to contain PD 86-001 which had been deleted on 09/12/86. The copy holder Mr. H. Luviland, had received a transmittal reflecting cancellation of the document and signed the acknowledgement.

para. 5.0.3, "The effectivity of a Project Directive should not extend beyond six months. In no case shall a Project Directive remain in force greater than one year."

PD 86-004, "Expedited Special Case Restart", was issued on 08/04/86, but was found to be in force as of 09/02/87.

PD 86-005, "Request for Expedited Special Cases Status", was issued on 08/04/86, but was found to be in force as of 09/02/87.

PD 86-007, "Control of Documents for DC 24/25 Restart Activities", was issued on 08/30/86, but was found to be in force as of 09/02/87.

para. 3.1, "A Project Directive is a written order issued by the BWIP Manager or the manager's designee which provides policy, guidance, or work instructions to BWIP personnel. A Project Directive is used when a procedure would not be appropriate because of the limited time applicability of the process described in the directive."

PD 87-008, "Control of In-Process Documents" was initiated because the existing system described in PMPM's could not be complied with. An example is the use of draft documents. Based on the requirements of the PMPM 2-113, para. 5.3.5 "A DRD may not be given to an A/E for use until the same has been properly reviewed, approved, and issued by the IC, and/or DOE." PD 87-008 allowed the deviation of this requirement by authorizing the use of draft, unapproved, non released documents. This action conflicts with the stated defined use of Project Directives.

Another example is found in PD 87-005. The cover letter signed by Mr. D.C. Gibbs on Mar. 11, 1987 stated "Because the job and task analysis as described in Project Management Procedure Manual (PMPM) procedure #13-109 is in an intermediate stage of development and the requirements of the

procedure have not yet been fully implemented, it is not possible to provide an auditable training program with PMPM 13-109 in place....Also, as an interim measure, PMPM 13-109 is cancelled by this directive and removed from the PMPM."

Again, this is in conflict with the defined use of the Project Directives.

It was brought to the attention of the auditor that a letter, 87-GTB-36, was issued to RHO from DOE-RL which stated the following:

"Two new Project Directives need to be written as follows:

1. A directive authorizing the deviations from procedures which are described in the ESC (e.g. utilizing draft documents).
2. A directive implementing a manual system to track in process (draft) documents used for design.

Regardless of this letter, it is not acceptable practice for DOE-RL to instruct the Integrating Contractor to deviate from procedures and the approved system without revision to the approved system and procedures and the Integrating Contractor should have reviewed their system and procedures to assure that controls were not violated.

The PD's are not authorized to be used to replace existing procedures, especially because the procedure could not be complied with.



Department of Energy

Richland Operations Office
P.O. Box 550
Richland, Washington 99352

QAF 8704-03
4 of 4

87-GTB-36

APR 15 1987

General Manager
Rockwell Hanford Operations
Richland, Washington

Dear Sir:

EXPEDITED SPECIAL CASE (ESC) FOR BOREHOLES DC-23, DC-24, DC-25, DC-32, and DC-33, TO RESTART COLLECTION REQUIREMENTS DEFINITION AND FACILITY DESIGN DEVELOPMENT

Reference is made to your letter R87-1484, subject as above, dated April 3, 1987. We have reviewed the subject package and you are authorized to proceed with design of the ESC facilities subject to the following conditions as discussed with your staff on April 14, 1987.

Two new Project Directives need to be written as follows:

1. A directive authorizing the deviations from procedures which are described in the ESC (e.g., utilizing draft documents).
2. A directive implementing a manual system to track in process (draft) documents used for design.

Hold point number three of the ESC needs to certify the placement of Westinghouse Hanford Company on a qualified suppliers list.

Hold point number four of the ESC needs to also assess and correct the deficiencies resulting from the Rockwell Design Control System reappraisal that affect work performed on the ESC.

The efforts of your staff in reaching this milestone are greatly appreciated. If you have any questions please contact Mr. A. G. Lassila (6-6158).

Sincerely,

ORIGINAL SIGNED BY

Robert D. Larson, Director
Procurement Division

BWI:AGL

cc: D. C. Gibbs, Rockwell



QUALITY AUDIT CONCERNS

1. TO: Name Phil Bourne		Title QA Manager	2. QAC Control No. 8704-01
4. Reference/Requirements See Attached			3. Location 300 Area
			5. Audit Or Surveillance Report No. 8704
			6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

7. Description
Since the transition from Rockwell to Westinghouse, BWIP management structure has been changed. Prior to the transition, the BWIP QA Manager was on the same level as other Line Managers such as Manager, Science and Engineering, and Manager, Operations & Test. Since the transition, the QA Manager is a Level IV Manager; the other Line Managers are Level III. Therefore, compliance to Section 3.16 is not apparent. Additionally, the responsibilities for the W QA Manager's involvement in BWIP have not been defined, and the W QA Manager has received no training in BWIP Procedures as indicated by training records.

8. Lead Auditor (Signature) <i>[Signature]</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution ORIGINAL-Audit/Surveillance Report File 1--Addressee 2-- 3--	17. Final Review and Approval (QAF Closed) _____ DIRECTOR - Quality Systems Division _____ Date
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4. Reference/Requirements:

RHO-MA-QA-3, Chapter 1.0, Rev. C. -

3.16 The Rockwell BWIP organization shall identify a management position that retains overall authority for establishing, monitoring, and verifying the quality assurance program. The occupant of this position, an individual with appropriate management and quality assurance knowledge and experience, shall be required to adhere to the criteria listed below.

1. Performance shall occur at the same or higher organizational level as the highest line manager directly responsible for activities affecting quality (e.g., design, engineering, site investigations, procurement, manufacturing) and remain sufficiently independent from cost and schedule.



QUALITY AUDIT CONCERNS

2. QAC Control No.
8704-02

1. TO: Name
W. Keltner

Title
Manager, Project Assurance & Training

3. Location
345 Hill St.

4. Reference/Requirements
A. PMPM 13-106, Rev. 1, "Administration of Qualification and Training"
B. PMPM 13-121, Rev. 4, "Personnel Qualification and Training Requirements", Section 6.1.4.1.

5. Audit Or Surveillance Report No.
8704

6. Potential Reportability under 10 CFR 60.73
 Yes No

7. Description
The following are two examples where PMPM requirements have not been implemented or are only partially implemented.

A. All reports and schedules required by PMPM 13-106 have not been generated, (i.e.: Employee Qualification & Training Status, Employee Qualification Deficiency, Training Forecasts)

B. Employee Qualification Records required by PMPM 13-121 have not been completed.

8. Lead Auditor (Signature)
[Signature]

9. Issue Date
9/17/87

10. Response Due Date
10/18/87

11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)

13. Date

14. Action Completion Due Date

ACTION VERIFIED

15. Lead Auditor (Signature)

16. Date

18. Final Distribution
ORIGINAL-Audit/Surveillance Report File
1--Addressee
2--
3--

17. Final Review and Approval (QAF Closed)

DIRECTOR - Quality Systems Division Date



QUALITY AUDIT CONCERNS

2. QAC Control No. 8704-03
3. Location 345 Hill St.
5. Audit Or Surveillance Report No. 8704
6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. TO: Name W. Keltner	Title Manager, Project Assurance & Training
---------------------------	--

4. Reference/Requirements PD 87-005, Rev. 0, "Conducting Job Analysis", 3.9 JOB/TASK ANALYSIS SPECIALIST. A Job/Task Analysis Specialist is a person selected by their manager to conduct J/TA. The J/TA Specialist is trained in the J/TA process, the terminology, and the techniques of data gathering and analysis, and as such has expertise as a process specialist.

7. Description

Two of six Job Analysis, reviewed in PQ&T, did not identify the Job/Task Analysis Specialist who performed the function; therefore, it could not be determined if the individual was qualified. The two analyses were for: QA PIG (12180)
Waste Package Design (77310)

8. Lead Auditor (Signature) <i>R. Brubaker</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution	17. Final Review and Approval (QAF Closed)
<p>ORIGINAL-Audit/Surveillance Report File</p> <p>1--Addressee</p> <p>2--</p> <p>3--</p>	<p>_____ DIRECTOR - Quality Systems Division Date</p>



QUALITY AUDIT CONCERNS

1. TO: Name J. Kirkendall		Title Manager, Project Administration	2. QAC Control No. 8704-04
4. Reference/Requirements RHO-QA-MA-3, Chap. 5.0, Rev. 3, Section 3.1. "Activities affecting quality.... shall be prescribed by and performed in accordance with plans,.... procedures...."		3. Location CDC2	5. Audit Or Surveillance Report No. 8704
		6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

7. Description The following are examples of PMPM's that are referenced in various sections of MA-17, however do not exist.

1. PMPM 1-114, Rev. 2 References PMPM 2-112; PMPM 2-112 has not been generated.
2. MA-17, QA Requirements Matrix references PMPM 13-102. 13-102 has not been issued.
3. Various sections of MA-17 reference PMPM 13-109. PMPM 13-109 has been cancelled.

8. Lead Auditor (Signature) <i>[Signature]</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution ORIGINAL-Audit/Surveillance Report File 1--Addressee 2-- 3--	17. Final Review and Approval (QAF Closed) DIRECTOR - Quality Systems Division _____ Date _____
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**ATTACHMENT 3
PART A
NOTE NO. 3**

SOW L3D 1H, Rev. 0), Facility Design, DC-23GR, DC-24CX, DC-25CX, DC-32CX, DC-33CX. Comparison with PMPM 5-105, Appendix A, Section 1.0, Introduction - Ok. Section 2.0 Work Scope - Ok, Section 2.2, Location - not included. Section 2.3 Scope of Design - OK. Section 2.4 Schedule - Ok in part. Section 3.0 in SOW, the initiating authorization source or condition (i.e., DOE-RL letter, approved work order, or completion/approval of a precursor task) is not listed in the SOW. Specific review and comment tasks are not included in SOW (the years in 6.4.10). Cost estimates are not included. They are listed as part of 6.1.2, Monthly Reports.

The majority of the pertinent information required by PMPM 5-105, Appendix A appears to be present, however, due to the different organization and format of the SOW from Appendix A, it is difficult to access. Cost estimates and allocation for the completion of the tasks in the SOW are to be defined in the Cost Account Plan (CAP). Topical Reports are not covered in the SOW.

Notes on comparison of Statement of Work (SOW) with the requirements in PMPM 5-105, Appendix A.

Note: No QA Findings, Concerns or Observations were noted.

ATTACHMENT 3
PART B

DOE AUDIT 8704
TECHNICAL COMMENTS SUMMARY REPORT
SUBTEAM C
D.A. Myers

Audit activities were carried out on September 3 and 4, 1987, covering selected Technical Operating Procedures (TOPs) and one Integrating Technical Operating Procedure (ITOP). The following documents were audited for technical completeness and adequacy as well as adherence to the BQARD:

HT-ES-213	HACH KIT WATER ANALYSIS
HT-ES-203	DEVELOPMENT GROUNDWATER SAMPLING AND ANALYSIS
HT-ES-223	PIEZOMETER TUBING INTEGRITY TESTING
FI-ES-310	CONTROL OF STANDARDS, EQUIPMENT AND MATERIAL
LT-TL-126	GROUNDWATER SAMPLING, OFFSITE SHIPMENT AND STORAGE
FI-DC-241	SITE DRILLING DOCUMENT

Questions asked of Westinghouse Hanford Company scientific personnel were developed as the audit proceeded and were based on answers given to preceding questions. Questions were generally asked to clarify specific aspects of the procedure being audited.

HT-ES-213 HACH KIT WATER ANALYSIS and HT-ES-203 DEVELOPMENT GROUNDWATER SAMPLING AND ANALYSIS are related TOPs and were audited simultaneously. The WHC technical representative was D.J. Alexander.

QUESTIONS and ANSWERS:

- Q. Standardization of materials used in water analysis utilizing the Hach Kit method is necessary to avoid discrepancies due to differing sensitivities of test "pillows", how is this accounted for in using the Hach Kit?
- A. Each lot of pillows is tested against a standard, these standards are furnished by Hach, Fischer or some other chemical company.
- Q. Are measurements or parameters evaluated using the Hach Kit utilized in licensing procedures, if yes, how are they handled?
- A. If measurements are critical to licensing or some other activity they are directed by the overriding ITOP. Measurements taken by the Hach Kit are used for guidance only.
- Q. How often is the DRELL-V instrument standardized?
- A. The DRELL-V instrument is standardized prior to each measurement or group of measurements.

- Q. How is a steady source of power guaranteed for the instrument under field conditions?
- A. Electrical power is primarily supplied by internal batteries unless stable line current is available at the site, portable generators are not used.
- Q. How is data from the procedure used?
- A. The DRELL-V is used to screen samples prior to formal laboratory analysis. On perishable analyses the Hach Kit provides better data, but these data still cannot be used for characterization.
- Q. What is the source of procedures used with the Hach Kit?
- A. Procedures are wholly contained in the instrument handbook.
- Q. Adverse environmental conditions often affect the validity of field measurements, what precautions are taken to minimize these potential affects?
- A. The instrument is a field instrument and use is covered in the handbook, however, if conditions require it, analyses are carried out in the protection of trailers, vans, well houses or similar protection.

OVERALL IMPRESSION:

The technical person in charge of utilizing this TOP is well versed in all aspects of the procedure. If this is typical of the quality of personnel doing this particular work then quality products are assured.

HT-ES-223 PIEZOMETER TUBING INTEGRITY TESTING. The WHC technical representatives were S.R. Strait and L.D. Walker.

QUESTIONS and ANSWERS

- Q. What are the planned test lengths and how do these compare with the length of time the calibrations of equipment are valid?
- A. The length of individual tests are on the order of six (6) hours, the calibration of test equipment is good for one (1) year.
- Q. How does the sensitivity of measurement and recording equipment compare with the acceptance criteria for the piezometer tubes.
- A. The measurement capability is at or above the demands for acceptance procedure or controlling TDCS, or the equipment capability must be adjusted to permit testing to be done.

Further analysis of this question resulted in an observation (No. 14)

- Q. Why are not all the references called out in the TOP listed in the reference section?

A. No reason, it will be corrected.

OVERALL IMPRESSION

Technically, the TOP is designed to provide exhaustive evidence of piezometer integrity. Difficulties may arise in meeting the self-imposed restrictions. Personnel are well aware of the procedures and appear to be capable of doing quality oriented work.

FI-ES-310 CONTROL OF STANDARDS, EQUIPMENT AND MATERIAL. WHC technical representatives were L.D. Walker and S.R. Strait.

QUESTIONS and ANSWERS

- Q. How are requests for equipment handled to assure that the necessary, calibrated equipment is available for each test?
- A. Requests for equipment are the responsibility of the test operator, the CCA then supplies the need equipment that will meet the specifications. Acquisition of new equipment is identified in higher ordered documents, during the planning of individual tests.

OVERALL IMPRESSION

The TOP being audited is primarily a quality assurance function that tracks the available equipment and assures that the material supplied for a given test is well within the calibration period and will operate for the required time.

LT-TL-126 GROUNDWATER SAMPLING, OFFSITE SHIPMENT AND STORAGE. WHC technical representative was D. Halko.

- Q. What assurance is provided in this TOP that the sample collected is acceptable and representative of formation groundwater?
- A. The answer provided to this question resulted in the filing of Audit Concern 8704-12.

OVERALL IMPRESSION

The technical personnel administering this TOP appear to be qualified chemists, but were unable to assure me that they could identify what would be an "acceptable" sample.

FI-DC-241 SITE DRILLING DOCUMENT. WHC technical representatives were H. Downey and R. Jones.

No technical questions were asked of this ITOP because it had been the subject of a surveillance in mid-August. At that time there were no findings, concerns or observations identified.

OVERALL IMPRESSION

Messrs Downey and Jones have an intimate knowledge of the intricacies of this ITOP. Procedures will be carried out to assure the quality of the final product and the tracking of all decision processes.

ATTACHMENT 3

PART C

INFORMAL MEMO

September 29, 1987

TO: T. K. Subramanian
FROM: T. A. Gross *T. A. Gross*
SUBJECT: AUDIT 8704- REPORT OF OBSERVATIONS

BACKGROUND

The experience and expertise I bring to the BWIP is in the area of Information Resource Management, with specific knowledge of document management programs and systems development and implementation. I have been associated with the BWIP since May of 1986 assisting DOE in providing guidance and requirements for the development of a comprehensive BWIP document management program.

The basic DOE written requirements and guidance for the document management program is contained in the following DOE generated documents:

- o QA Plan (DOE/RL 86-6)
- o Project Management Directive 19.15, Records Management Program
- o Project Management Directive 19.16, Document Control Program
- o Information Resource Management Plan, (Annex) Documentation Management Plan (DOE/RL 86-9-02)

I have also been involved in monitoring the implementation of these requirements and guidance criteria.

AUDIT ACTIVITIES

Participated in the following audit activities:

- o Review and comment of audit checklists
- o Briefing's with external observers
- o Audit entrance and exit meetings

ATTACHMENT 3

PART C

- o Audit caucus meetings
- o Audit of criterion 6 and 17 requirements (including audit of the core storage facility)

Accompanied Steve Hans, Mike Simpson (checklist review only) and T.K. Subtramanian during the course of the audit. The list of IC personnel interviewed is contained in the audit report.

OBSERVATIONS

1. It appears that the Document Management program requirements are now reflected in the IC's implementing procedures (PMPM's), with an exception being the establishment of the Procedure Record Index (this was so noted during the audit). This is a significant accomplishment because the above mentioned requirements documents introduced major enhancements to the BWIP document management program when they were issued in 1986 and the first quarter of 1987.

However, it also appears that the associated PMPM's have not been fully implemented. Perhaps this is a problem with assigning an effective date on the procedure too soon? PMPM 1-101 defines the effective date as fifteen days after the procedure issue date unless some other date is more appropriate. I suspect the fifteen day period is being assigned as a default condition instead of actually planning to be in full compliance with the procedure on the effective date.

Based on this observation I believe the IC is about 60 to 90 days from full implementation of their PMPM implementation in the Document Management area. I would define full implementation as; training complete and in full compliance of the procedure content. This estimate is based on the fact that Document Management is presently working to a number of work plans/schedules to fully implement the program. It will take them about 60-90 days to complete the key tasks identified in these plans and therefore, be in full compliance with the requirements/guidance as well as the implementing PMPM's.

2. Although the applicability of the noted requirements and guidance documents includes the Major Project Participants (MPP) the IC has not extended the "Program" to them as of this writing. A work plan has been initiated (9/16/87) to bring the MPP's into compliance with the program requirements which indicates a January-February, 1988, completion time frame.

ATTACHMENT 3

PART C

Until the MPP's are in full compliance with the Program requirements and guidance I do not feel the BWIP will have a complete and comprehensive Document Management Program. However, now that work plans are in place I feel that by March, 1988, the BWIP will be in full compliance with all Project plans and requirements relative to Document Management.

3. In general, the IC has made tremendous strides forward in improving the BWIP Document Management Program over the past year considering the demands put on the organization in supporting the restart effort, public release system and the litigation support effort. They have prepared the Records Management Plan and the Document Control Plans which reflect all of the program requirements required by DOE. As discussed above, detailed work plans have been prepared to implement the Program and associated Plans.

RECOMMENDATIONS

Perform a follow-up audit of the Document Management program in January to confirm that the program has been fully implemented. This audit would be in addition to following up on those findings and concerns identified in this audit.

cc: E. W. Higgins
M. N. Macourek
D. G. Hubbard
J. C. Friend
File

ATTACHMENT 4

AUDIT:

FINDING

CONCERN

OBSERVATION



- RESULTS FROM OBJECTIVE EVIDENCE EXAMINATION
- EVALUATION ESTABLISHES SIGNIFICANT CONDITION ADVERSE TO QUALITY (NQA-1, SUPP. S-1)
- OR, FAILURE OF A CONTROL SYSTEM TO ACHIEVE THE THE INTENDED PURPOSE
ie., VIOLATION OF REQUIREMENTS WHICH COULD LEAD TO REDUCED PRODUCT QUALITY
- MAY SUMMARIZE NUMEROUS SMALL ANOMALIES
- REQUIRES RESPONSE INCLUDING ROOT CAUSE, ACTION TO PREVENT RECURRENCE, IMPACT ON COMPLETED WORK BESIDES CORRECTIVE ACTION.

ATTACHMENT 4

AUDIT: FINDING CONCERN OBSERVATION



- RESULTS FROM OBJECTIVE EVIDENCE EXAMINATION
- IS NONCOMPLIANCE TO REQUIREMENT (S) WHICH WOULD NOT LEAD TO REDUCED PRODUCT QUALITY.
- REQUIRES DOCUMENTATION OF CORRECTIVE ACTION
(RESPONSE FROM AUDITED ORGANIZATION IS ONE FORM OF CORRECTIVE ACTION DOCUMENTATION)
- EXAMPLES: MISSING ENTRY ON A TRAINING RECORD WHERE TRAINING CAN BE VERIFIED IN ANOTHER WAY



QUALITY AUDIT CONCERNS

1. TO: Name . D. C. Gibbs		Title Manager, Civilian Waste Management	2. QAC Control No. 8704-05
4. Reference/Requirements See Attached		3. Location CDC-2	5. Audit Or Surveillance Report No. 8704
		6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

7. Description

See Attached

3. Lead Auditor (Signature) <i>[Signature]</i>	9. Issue Date 9/17/07	10. Response Due Date 10/18/07
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution ORIGINAL-Audit/Surveillance Report File 1--Addressee 2-- 3--	17. Final Review and Approval (QAF Closed) DIRECTOR - Quality Systems Division Date
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AUDIT NO. 8704

PMPM 8-133, para. 3.9,
CONTROLLED DOCUMENT LIST

"A listing of document types identifying the document types that will be issued as controlled documents. This list will be maintained by BDC and may be included in other listings, such as, the Procedure Record Index, provided the document types to be controlled are identified."

para. 3.15,
MASTER DOCUMENT LIST

"A listing of specific documents that have been controlled. The Master Document List will identify the current revision of those specific documents. This list will be distributed to organizations as determined by the BDC Manager on a periodic basis."

para. 5.3,
CONTROLLED DOCUMENT LIST

"A listing of document types to be controlled by BDC will be developed..."

PMPM 8-134, para. 3.1
MASTER DOCUMENT LIST

"The MDL is a listing of specific documents and the latest revision of those documents that have been distributed on a controlled basis by BDC."

para. 3.2,
CONTROLLED DOCUMENT LIST

"The CDL is a listing of document types that are available in BDC and are subject to the controls of BDC. Examples of document types include, but are not limited to, drawings, specifications, plans, procedures, supporting documents."

CONCERN

The Master Document List maintained by DC does not include all controlled documents as required. The Project Directives, OGRs, and Participating Contractors documents are not listed. The engineering documents are listed on a separate list which has not been approved or issued. Per C. Davis, the documents on the list are not necessarily controlled but a listing of all BWIP documents. The Document Control List required has never been developed, approved, or issued. It should be a listing of document types that will be controlled.

Also, the Master Document List is not distributed to project participants as required unless requested (the only current request is an "Information Only" copy to DOE-RL DC weekly.



QUALITY AUDIT CONCERNS

1. TO: Name G. Jackson		Title Manager, Science & Engineering	2. QAC Control No. 8704-07
4. Reference/Requirements See Attached			3. Location CDC2
			5. Audit Or Surveillance Report No. 8704
			6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

7. Description
See Attached

8. Lead Auditor (Signature) <i>R. B. [Signature]</i>	<i>[Signature]</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution ORIGINAL-Audit/Surveillance Report File 1--Addressee 2-- 3--	17. Final Review and Approval (QAF Closed) _____ DIRECTOR - Quality Systems Division Date
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4. References/Requirements

References:

Pmpm 3-111, Preparation of Study Plans, Rev. 4, 3-2-87 (effective 3-23-87) and Rev. 5, 7-21-87 (effective 8-11-87)
DOE-RL, 87-3, Basalt Waste Isolation Project, Project Management Plan (PMP), Rev. 1, 7-87, Note: Rev. 0 of the PMP was not issued.
SD-BWI-SP-035, Rev. 0, Drafts A and C (6/25/87), Stratigraphy Study Plan
SD-BWI-SP-036, Rev. 0, Drafts D and C (6/25/87), Intraflow Structure Study Plan
SD-BWI-SP-057, Rev. 0, Drafts A and C (6/26/87), Site Groundwater Study Plan

Requirements:

PMFM 3-111, Preparation of Study Plans, Appendix A, Purposes and Objectives, bullet 1, "...Briefly discuss the purpose and scope of the study plan and describe where it fits into the complete BWIP Document Hierarchy (i.e., reference the higher level documents which require the preparation of the study plan). Discuss the planned type of subservient documentation to the study plan."

7. Description

This discussion was not present in any of the three referenced study plans. The study plans did reference the Site Characterization Plan (SCP), Section 8.3. However, the SCP is not part of the document hierarchy for study plans as defined by the PMP. Westinghouse Hanford Company (WHC) personnel were not able to refer to the documents within the hierarchy which require the preparation of the study plans nor were they able to explain how the current list of study plans was generated. The higher level documents within the hierarchy (i.e., Licensing Strategy Document and Data Specifications Document) have not been approved by WHC and were not available during the audit.

CONCERN

The study plans do not contain the required discussion on BWIP Document Hierarchy as required by Pmpm 3-111 and such documents may not be available.



Department of Energy

Richland Operations Office
P.O. Box 550
Richland, Washington 99352

87-AMC-574

JUL 27 1987

President
Westinghouse Hanford Company
Richland, Washington

Dear Sir:

SUBJECT: PROJECT PLAN (PP) AND PROJECT MANAGEMENT PLAN (PMP) REV 01

Enclosed is Revision 0 and Revision 1 of the Project Plan (PP) and the Project Management Plan (PMP). These documents have been approved for Project use with HQ approval pending on Revision 1 of each.

Please forward these documents to the BWIP Document Control Unit for controlled distribution in accordance with the accompanying minimum distribution list. Also, please note that distribution should be made on Revision 1 only. Revision 0 is being provided for accountability purposes only, as such, it must also be entered into the Document Control system.

If you have any questions, please contact me on 6-2536.

Sincerely,

E. W. Higgins, COTR
Office of Assistant Manager
for Commercial Nuclear Waste

AMC:EWH
PMS21G7.DM1

Enclosure

cc: D. C. Gibbs, WHC, w/encl.
C. L. Davis, WHC, w/encl.

** Note: Revision 0 of the Project Plan (PP), 87-2 is not being issued.
Revision 0 of the Project Management Plan (PMP), 87-3 is not
being issued.



8/20/87

AMC DOCUMENT				Number DOE-RL 87-3	Rev/Chg. No. 1	Page 1 of 3
End Function Activity SWI Project-Wide Application		Project No.: N/A		CIN No.: N/A	Date: N/A	Total Pages 96
Document Title: Basalt Waste Isolation Project Project Management Plan (PMP)				Essence Doc.: XX Yes No		Class: Controlled
				WBS No. or Work Package No. 1.L9A1		CEI No.: N/A
Barcode No.: N/A	Strategic Formulation: N/A	Doc. Type	Sub. Code	Prepared by (type & name): <i>E. W. Higgins</i> E. W. Higgins		Date: 7/27/87 July 1987
Abstract The Project Management Plan (PMP) is the document which sets forth the plans, organization, and systems that shall be utilized by those responsible for managing the SWIP Project. The PMP is developed by the Project Manager and approved by the Head of the Field Organization. It includes the Project objectives; the Project management organization, and assigned responsibilities; the work plan; the work breakdown structure; the schedule through all applicable phases of the life cycle and the major milestones; the performance criteria; cost and manpower estimates; Project functional support requirements; Project management, measurement, and planning and control systems (technical, cost, and schedule); and information and reporting procedures.				Distribution Name Mail Address		
				<p>DOE-RL</p> <p>J. H. Anttonen D. H. Dahlem R. E. Gerton E. W. Higgins R. A. Holten R. D. Larsen J. E. Mecca O. L. Olson R. P. Saget</p> <p>DOE-HQ</p> <p>S. H. Kale R. J. Blaney J. L. Morris B. Cherny</p> <p>MACTEC</p> <p>J. P. Thomas M. N. Macourek T. A. Gross</p> <p>Major Project Participants</p> <p>Integrating Contractor</p> <p>Document Control (Attn: K. A. Willoughby)</p> <p style="text-align: right;">(Continued on reverse side)</p>		
				*COMPLETE DOCUMENT (No review, no page summary of revision page entry)		
				Address Stamp/Date:		
Prepared by: DOE-RL AMC		Date: July 1987				
Approved by: All SWIP Participants						

CONTROLLED DOCUMENT
 1987

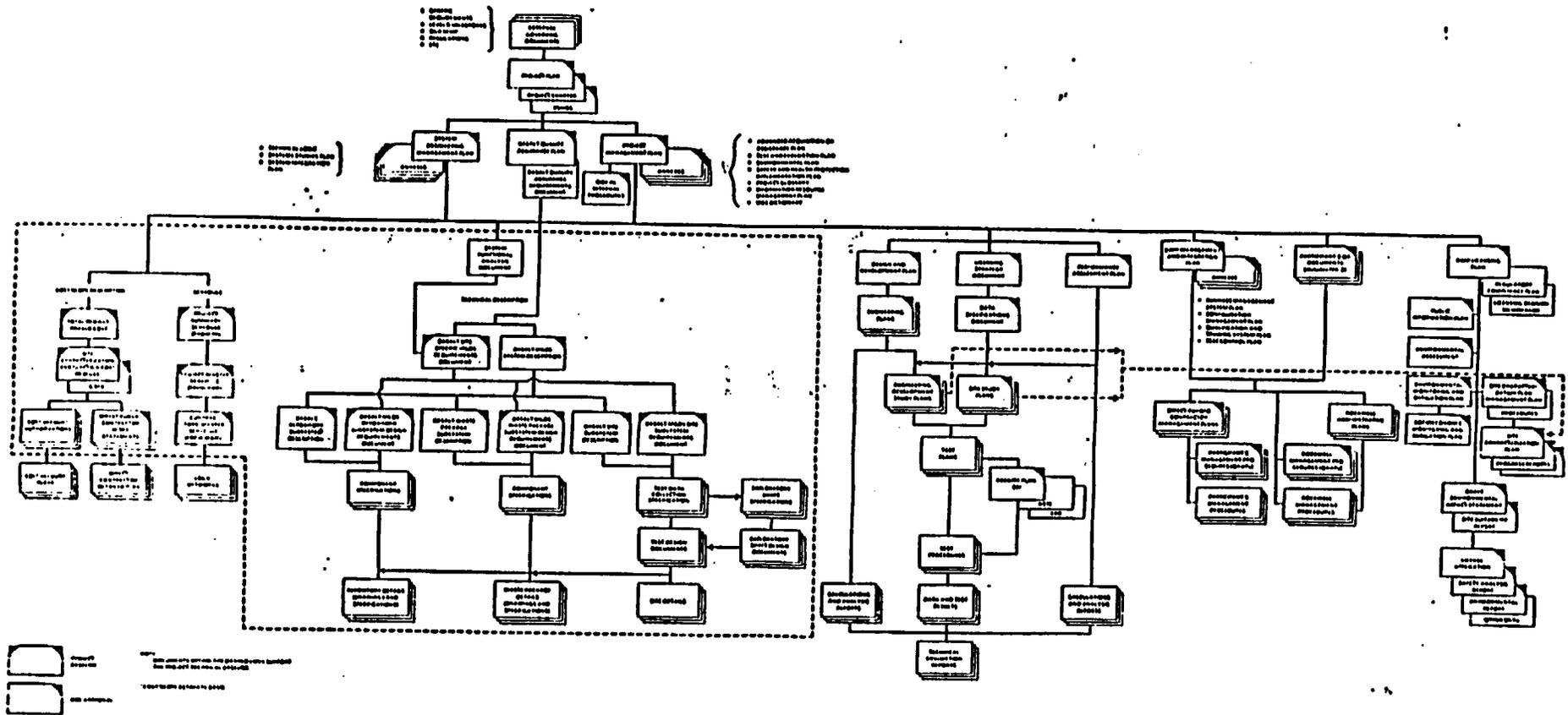
HIERARCHY OF DOCUMENTATION

The BWIP Hierarchy of Documentation designates the project documents that contain (1) requirements to be met in fulfilling the project mission; (2) the planning that responds to those requirements; and (3) identification of the end products documenting mission completion.

This hierarchy presents the following information:

- o Ranking of documents to establish precedence in the event of conflicting information.
- o Categories of documents organized to group those having significant similarity in purpose and content.
- o Key interdependence among documents.
- o Definition of controlled documents and documents requiring DOE approval.
- o Definition of Technical Baseline.

BWP DOCUMENT HIERARCHY





QUALITY AUDIT CONCERNS

2. QAC Control No. 8704-08
3. Location CDC-1
5. Audit Or Surveillance Report No. 8704
6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. TO: Name G. Jackson	Title Manager, Science & Engineering
4. Reference/Requirements See attached	

7. Description
See attached

3. Lead Auditor (Signature) <i>R. Brimmer</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution

ORIGINAL-Audit/Surveillance Report File

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2--

3--

17. Final Review and Approval (QAF Closed)

DIRECTOR - Quality Systems Division **Date**

4. References/Requirements

- References:
- Pmpm 8-117, Format of Test and Operations Procedures, Rev. 2, 12-19-86 (effective 1-15-87)
 - GS-6W-101, Preliminary Intraflow Structure and Stratigraphy Evaluation for Boreholes DC-23GR, DC-24CX, DC-25-CX, DC-32CX, and DC-33CX, Rev. 0, 8-24-87
 - SD-BWI-SP-035, Rev. 1, Drafts A and C (6/25/87), Stratigraphy Study Plan
 - SD-BWI-SP-036, Rev. 1, Drafts D and C (6/25/87), Intraflow Structure Study Plan
 - SD-BWI-SP-057, Rev. 1, Drafts A and C (6/26/87), Site Groundwater Study Plan
 - SD-BWI-TN-010, Rev. 1, Test Data Collection Specifications - Drilling, Logging, and Piezometer Installation, Boreholes - DC-23GR, DC-24CX, DC-25CX, DC-32CX, & DC-33CX.

Requirements:

GS-6W-101, Section 2.0 Applicability, "...Data derived from this evaluation will be used for final design and installation..."

Section 6.2.5 Non-Standard Conditions, "...Non-standard conditions are unpredicted variations in stratigraphy, intraflow structure or tectonic fracturing affecting planned drilling, casing points or piezometer installations. ...If any condition or feature appears to potentially or actually affect the planned requirements of the TDCS he [the Drilling Test Coordinator] shall notify the Manager, Geology Section by Internal Memo... The Drilling Test Coordinator will then notify the Manager of the Surface Drilling Operations Group ... through an Interim Problem Report..."

7. Description

The potential for tectonic fracture zones is presented in the TOP and definition of such zones is included in the identification matrix for each of the boreholes. The presence of such a tectonic fracture may result in missing or extra flows or flow units which may require a change in the piezometer design. The identification of these zones (as required by the TOP) is not addressed in any of the referenced study plans or design requirement documents.

CONCERN:

1. It is not apparent that the occurrence of features such as tectonic fractures that may affect design will be brought to the attention of the Manager of the Surface Drilling Operations Group early enough to initiate appropriate evaluations for potential design changes.

2. If the requirements in the TDCS require change as a result of non-standard conditions, adequate provisions such as "Hold Points" must be initiated to assure proper evaluation and documentation.



QUALITY AUDIT CONCERNS

2. QAC Control No. 8704- 10
3. Location 1135 Jadwin Ave.
5. Audit Or Surveillance Report No. 8704
6. Potential Reportability under 10 CFR 60.73 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1. TO: Name R. T. Johnson	Title Manager, Quality Assurance
4. Reference/Requirements BQARD Criterion 15 - Measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations of nonconformances.	

7. Description
 Contrary to the above BQARD requirement, BWIP project management procedure PMPM 4-106, Rev. 2, issued 7/28/87 does not reference the "use of quality status tags" to assure adequate segregation of nonconforming items.

Note:
 Measures have been taken to correct this concern in yet to be issued revision to the procedure.

William H. Camp

8. Lead Auditor (Signature) <i>R. Brown</i>	9. Issue Date 9/17/87	10. Response Due Date 10/18/87
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11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)	13. Date	14. Action Completion Due Date
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ACTION VERIFIED

15. Lead Auditor (Signature)	16. Date
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18. Final Distribution

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1--Addressee

2--

3--

17. Final Review and Approval (QAF Closed)

 DIRECTOR - Quality Systems Division Date



QUALITY AUDIT CONCERNS

2. QAC Control No.
8704- 11

1. TO: Name Title
R. T. Johnson Manager, Quality Assurance

3. Location
1135 Jadwin Ave.

4. Reference/Requirements
BQARD Criterion 15 - Nonconformance to design requirements dispositioned use-as-is or repair shall be subject to design control measures commensurate with those applied to the original design.

5. Audit Or Surveillance Report No.
8704

6. Potential Reportability under 10 CFR 60.73
 Yes No

7. Description

Contrary to the above BQARD requirement, BWIP Project Management Procedure PMPM 4-105, Rev. 2, issued 6/2/87, provides for only technical justification and not adequate control measures commensurate with those applied to the original design on NCR Dispositions identified as "repair" or "accept-as-is".

Note:

Measures have been taken to correct this concern in yet to be issued revision to the procedure.

William H. Camp

8. Lead Auditor (Signature)

W. H. Camp

9. Issue Date

9/17/87

10. Response Due Date

10/18/87

11. Auditee Corrective Action Commitment (See Reverse for Instructions)

12. Responsible Action Manager (Signature)

13. Date

14. Action Completion Due Date

ACTION VERIFIED

15. Lead Auditor (Signature)

16. Date

18. Final Distribution

ORIGINAL-Audit/Surveillance Report File

1--Addressee

2--

3--

17. Final Review and Approval (QAF Closed)

DIRECTOR - Quality Systems Division

Date



QUALITY AUDIT CONCERNS

2. QAC Control No.
8704-12

1. TO: Name Title
W. H. Price, Director, Site Characterization Field

3. Location
CDC-1

4. Reference/Requirements Investigations
BQARD Criterion 11 ---The test and operation procedure contain the test requirements and acceptance limits including precision and accuracy.

5. Audit Or Surveillance Report No.
8704

6. Potential Reportability under 10 CFR 60.73
 Yes No

7. Description Contrary to the above BQARD requirement, Test & Operations Procedure LT-TL-126, Rev. 0, Groundwater Sampling, Offsite Transfer and Storage, Section 5.3 states that precision and accuracy are "Not Applicable" to this effort. By inference it indicates that there are no acceptance limits or criteria associated with groundwater samples collected under this TOP. In fact, acceptance limits including precision and accuracy in the collection of samples are of primary concern. A high precision chemical analysis done in the laboratory is meaningless if the sample being analyzed is not truly representative of the medium that was sampled. Possible Resolution: Assurance of sample quality is difficult to obtain, however, the procedures included in Section 6 of the subject TOP do address good practice. Rather than say that Precision and Accuracy do not apply reference should be made to the efforts made to assure that the best samples possible are taken.

William H. Camp / W. H. Price 9/17/87

8. Lead Auditor (Signature)
[Signature]

9. Issue Date
9/17/87

10. Response Due Date
10/18/87

11. Auditee Corrective Action Commitment (See Reverse for Instructions)

NOTE: Action Shall Address Root Cause, Impact on Previous Work and Measures to Prevent Recurrence

12. Responsible Action Manager (Signature)

13. Date

14. Action Completion Due Date

ACTION VERIFIED

15. Lead Auditor (Signature)

16. Date

18. Final Distribution
ORIGINAL-Audit/Surveillance Report File
--Addressee
2--
3--

17. Final Review and Approval (QAF Closed)

DIRECTOR - Quality Systems Division Date

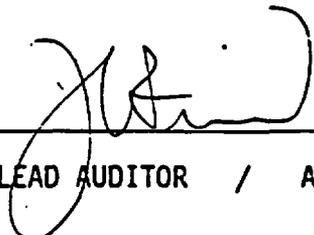
QA OBSERVATIONS (S)

TRAINING

AUDIT NO: 8704

o OBSERVATION NO: 1

Required reading and training requirements were developed prior to the Job Analyses, Position Qualification Requirements, and Position Qualification Evaluation Records being generated. It does not appear that the training requirements have been reviewed against the current task and qualification requirements. New criteria for what is required may have been identified by the recent job analysis effort.



LEAD AUDITOR / AUDITOR

PKS

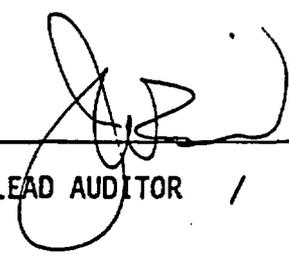
QA OBSERVATIONS (S)

TRAINING

AUDIT NO: 8704

o OBSERVATION NO: 2

General Employee Orientation (GEO) covers a variety of subjects such as 10CFR50 Appendix B, MA-3 requirements, safety, security, and so forth. The GEO is given to BWIP personnel once. However, many of the subjects covered are subject to change from time to time. It appears that it would be prudent to require a refresher GEO once every year or two so that personnel can be made aware of changes.



LEAD AUDITOR / AUDITOR

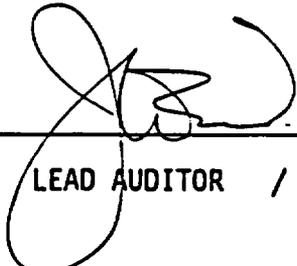
QA OBSERVATIONS (S)

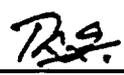
TRAINING

AUDIT NO: 8704

o OBSERVATION NO: 3

PMPM 13-111, Rev. 0, "Instructional Assessment Program", requires training assessments to be done by trainees on a random basis. It appears that this method would allow certain courses and instructors to never be evaluated. Each course and instructor should be evaluated at least once, to assure that the training is meaningful.



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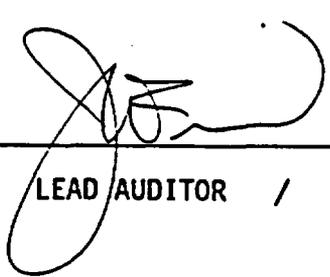
QA OBSERVATIONS (S)

TRAINING

AUDIT NO: 8704

o OBSERVATION NO: 4

PQ&T has developed a system for the tracking of required reading and training for BWIP personnel. The tracking of the requirements is input then the data validated. Records of this validation are maintained by PQ&T. However, the computer tracking process is not totally proceduralized. This process is now underway and should be completed as soon as possible to describe entry and validation of data.



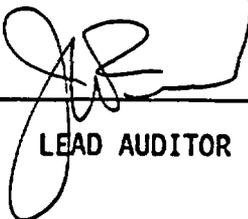
LEAD AUDITOR / AUDITOR 

QA OBSERVATIONS (S)

AUDIT NO: 8704

o OBSERVATION NO: 5

Auditor orientation, which is given to the audit team members prior to each audit, is not consistently documented. A consistent method of documenting audit team orientation should be developed and these documents maintained in working files.


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QA OBSERVATIONS (S)

AUDIT NO: 8704

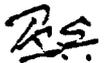
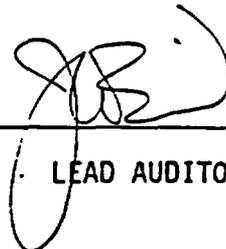
o OBSERVATION NO: 6

PMPM 4-115, Rev. 2, "Stop Work Order" states,

6.2.1 Resuming Work

"When work has been stopped because of an SWO, work may resume only after corrective action has been taken, verified by BWIP QA as acceptable, and the SWO closed by the BWIP QA Manager."

Based upon direction from DOE-RL, there are efforts to "partially" lift portions of the current SWO for BWIP. The procedure makes no stipulation for partial stop work removal.



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QA OBSERVATIONS (S)

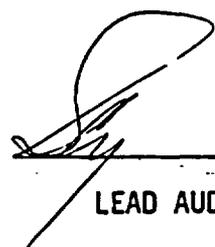
AUDIT NO: 8704

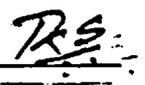
o OBSERVATION NO: 7

Reviews and comment resolution dispositions for individual type of documents are handled in different ways per the individual PMPMs. This results in these reviews and resolutions being somewhat difficult to obtain without a review of individual procedures.

For instance, some reviews and resolutions are submitted to Document Control along with the documents to be controlled and some are not.

Suggest a Document Control procedure or procedure requirement clearly defining uniform submittal to DC of all reviews and comment resolutions.



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QA OBSERVATIONS (S)

AUDIT NO: 8704

o OBSERVATION NO: 8

No status control system exists for some controlled documents. Only the PMPMs and TOPs currently have status control systems outlined and implemented by procedure. Drawing, specifications, DFCs, and Engineering Orders have no system for status control.

Suggest a document Control procedure or procedural requirement be developed and implemented to set up a uniform document status control system for all controlled documents.



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QA OBSERVATIONS (S)

AUDIT NO: 8704

o OBSERVATION NO: 9

PD 87-008, Paragraph 5.0

"Per PMPM 8-106, draft documents cannot be referenced by a released document within Rockwell BWIP. This directive complies with the intent of this requirement by requiring that draft supporting documents be controlled and included as attachments, rather than references, to the released DRD."

SD-BWI-SP-035, "Stratigraphy Study Plan"

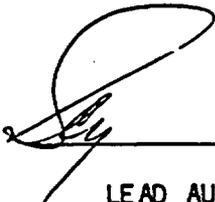
Draft "A" is attached to the DRD.
Draft "D" is being completed by the author.
Draft "B" and "C" could not be produced for review. No record of review was available.

SD-BWI-SP-036, "Intraflow Structure Study Plan"

Draft "B" was available from Configuration Management.
Draft "A" was used for the DRD.
Draft "C" could not be produced.
Draft "D" was presently being completed by the author.

The PD requires that "draft supporting documents be controlled". It is understood that not all drafts will effect the design requirements applicable to the DRD, however, reviews of these drafts are not readily available and that some of the drafts are not available at all.

It is suggested that these drafts and their DRD applicability reviews be maintained by some organization as a record of events revolving around the DRD.



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AUDIT NO: 8704

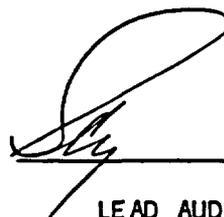
o OBSERVATION NO: 10

PMPM 3-111, Appendix A, Pages 11 and 12, "Schedule and Milestones", bullet 2, 3 and 4.

Requires timing of the study relative to other studies, reference to the master schedules provided in section 8.5 of the SCP, and the principal deliverable products (e.g. test plans, test procedures) and schedule for preparation including identification and description of significant content of all interim and final data evaluation reports.

The overall requirements in the PMPM may be overly ambitious for documents at this level in the document hierarchy, however, many of the items that probably could be discussed are not. For example:

- a. The timing of the study relative to other studies is not discussed nor is the appropriateness of timing with regards to other studies and other program activities that will affect, or be affected by the schedule for completion of the subject study.
- b. Durations and interrelationships of milestones for the study plan.
- c. Principal deliverable products of the study plan.



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AUDIT NO: 8704

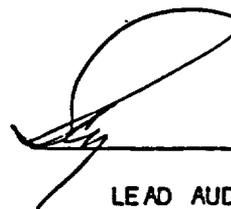
o OBSERVATION NO: 11

PMPM 2-113, Paragraph 6.8.5

Requires the DRD to have a QA Section that includes a description of the overall programmatic QA requirements.

DRD SD-BWI-RQD-008 for the DC-24/25 contained a paragraph which referred to the QEB evaluation report. This paragraph as written does not comply with the requirements delineated in the stated PMPM. However, PMPM 6-105 contains an identical requirement which is to be provided in the work direction document (e.g. SOW).

Since this is a duplicate requirement, PMPM 2-113 should be revised to reflect the intent and its present use or should be deleted in its entirety.



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QA OBSERVATIONS (S)

AUDIT NO: 8704

o OBSERVATION NO: 12

BOARD Criterion - 3, Requirement 3

re: PMPM 3-111, Section 6.1, Paragraph 1, "...individual test procedures will be referenced in the study plans".

Have the test procedures for DC-24/25 been referenced in the applicable study plans? No.

It is probably not necessary for the study plans to reference each specific test procedure. The study plans must discuss the details for studies, tests and analyses that will be conducted in order to achieve the stated objectives. However, due to the wide scope of work that each study plan covers, the long period of time during which site characterization will be going on, and the high likelihood that new test procedures may be developed during site characterization, the individual test procedures should be referenced in the test plans rather than the study plans. A test plan is a subservient document to the study plan but a higher level than the test procedure in the document hierarchy (see Reference 1).

It is recommended that the requirement for Test Procedure listing or referencing in the Study Plans be deleted and the listing provided in the Test Plans be considered sufficient.

References

1. DOE-RL, 87-3, Basalt Waste Isolation Project, Project Management Plan (PMP), Rev. 1, 7-87, NOTE: Rev. 0 of the PMP was not issued.
2. PMPM 3-111, "Preparation of Study Plans", Rev. 4, 3/2/87 (effective 3/23/87) and Rev. 5, 7/21/87 (effective 8/11/87).



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QA OBSERVATIONS (S)

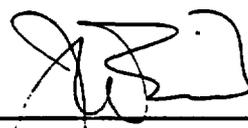
TRAINING

AUDIT NO: 8704

o OBSERVATION NO: 13

PMPM 13-120, Rev. 0, requires the performance of Training Program Evaluations within six months of implementing completed programs. Discussions with L. Palmer, Manager of Project Qualification & Training disclosed that at this point none of the program destined for the evaluation can be considered as completed.

During the audit it was difficult to determine when a program would be considered as complete. It is recommended that a method be established to indicate when a program is in place, thus initiating the six month period for program evaluation.



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7/29/87

QA OBSERVATIONS (S)

AUDIT NO: 8704

o OBSERVATION NO: 14

BOARD Criterion 11, Test Control

Test and Operations Procedures

Document: HT-ES-223, Rev. 0, Piezometer Tubing Integrity Testing
Responsible WHC Manager: S. R. Strait

Question 6.1: Verify that the test and operation procedure contains the test requirements and acceptance limits including precision and accuracy.

Problem: An extension of the mathematics involved in the measurement of pressure (head) drops during testing of the piezometer tubes indicates that the precision of the measurements is such that any recordable pressure drop is reason for disqualification of the tube,.

Possible Resolution: A revision to the procedure so that definition of the conditions under which the head drop occurs will limit the disqualification of piezometer tubes to those which should be disqualified and allow for more rapid testing of the tubes at higher pressures. Leakage should be structured so that it is reported at a standard pressure.



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