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B Plant/WESF Integrated Annual Safety Appraisal

Fiscal Year 1990

J. K. Anderson

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Westinghouse
Hanford Company

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B PLANT/WESF INTEGRATED ANNUAL SAFETY APPRAISAL
FOR FISCAL YEAR 1990

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B PLANT/WASTE ENCAPSULATION STORAGE FACILITY
INTEGRATED ANNUAL SAFETY APPRAISAL
FOR FISCAL YEAR 1990

I. EXECUTIVE SUMMARY

Introduction

This report provides the results of the Fiscal Year (FY) 1990 Annual Integrated Safety Appraisal of the B Plant and Waste Encapsulation and Storage Facility (WESF) in the Hanford Site 200 East Area. The appraisal was conducted in August and September 1990, by the Defense Waste Disposal Safety (DWDS) group, in conjunction with Health Physics and Emergency Preparedness. Reports of these three organizations for their areas of responsibility are presented as Sections II and III of this report.

The purpose of the appraisal was to determine if the areas being appraised meet U.S. Department of Energy (DOE) and Westinghouse Hanford Company (WHC) requirements and current industry standards of good practice. A further purpose was to identify areas in which program effectiveness could be improved. In accordance with the guidance of WHC Management Requirements and Procedures (MRP) 5.6, previously identified deficiencies which are being resolved by line management were not repeated as Findings or Observations unless progress or intended disposition was considered to be unsatisfactory.

During the appraisal, the plant management and staff members contacted were both helpful and candid in assisting the appraisal team to obtain meaningful data. Their positive attitude and helpfulness were greatly appreciated.

Scope

The scope of the appraisal focused on operations in the B Plant and WESF, and associated support functions. The major areas covered were; 1) Nuclear Safety, 2) Health Physics, and 3) Emergency Preparedness. The Nuclear Safety appraisal addressed the eleven elements specified in DOE Order 5480.5 for inclusion in annual nuclear facility safety appraisals, with maintenance as an additional topic. The Health Physics appraisal addressed conformance with requirements of DOE Order 5480.11 and relevant WHC policies and procedures. The Emergency Preparedness appraisal evaluated compliance with requirements of the WHC Emergency Procedures Manual, WHC-CM-4-1.

Entrance and exit briefings were held with appropriate B Plant/WESF management and staff, appraisal team members, and Safety management.

The meetings were held to explain the appraisal purpose and methods, establish team-plant contacts, and review the information obtained by the appraisers for validity. In addition, the team members interacted frequently with Plant representatives during the appraisal for verification of factual accuracy and to keep Plant management apprised of significant potential Findings and Observations.

Summary

The B Plant and WESF are located in the B Complex of buildings in the 200 East Area. The two facilities and their supporting functions are under common management within the B Plant organization. Maintenance support is matrixed from Operations Support Services.

The WESF currently is an operating facility. The B Plant is in a non-processing status, supporting WESF, and is to be remodeled for future waste disposal missions. However, because of residual radiological contamination and constituents of stored liquid wastes, B Plant has a number of safety requirements that must be met.

The overall assessment is that there are no major safety problems associated with current operations. Programs are in place to provide the necessary safety controls, evaluations, overviews, and support. In most respects these programs are being implemented effectively. However, there are a number of deficiencies in details of program design and implementation. The appraisal identified a total of 23 Findings and 27 Observations of deficiencies. All Observations are Seriousness Category III. The Seriousness Categories assigned to the Findings were as follows. Serious Categories are defined in Appendix 1.

<u>Seriousness Category</u>	<u>Number</u>
I	None
II	15
III	8

Most of the Category II Findings were so categorized on the basis of noncompliance with mandatory DOE Orders or WHC policies and procedures, rather than potential risk to personnel.

The B Plant and WESF safety programs have several excellent features, such as the Event Evaluation Teams and the Operational Safety Requirements (OSR) review program, which are being implemented effectively. These efforts are not unique to B Plant and WESF; similar efforts are in place at other facilities and, thus, they were not cited as Exemplary Practices. However, the B Plant/WESF management and staff are to be commended on the quality of their current programs.

Overall, the Emergency Preparedness Program at B Plant/WESF was found to be good. An emergency plan is in place; however, some information in the plan is not current. Although most emergency training is complete and up-to-date, a few deficiencies in training were identified.

The overall assessment of the Health Physics program was that it is satisfactory. Deficiencies were identified in posting and access control, instrument calibration, training and monitor location.

For Nuclear Safety, the overall appraisal was that, in most areas evaluated, safety programs are in place and are effective in protecting safety interests. The facilities, although the B Plant is old and suffers from some structural deficiencies, are being maintained in a condition that is adequate to protect safety interests under the current operating status.

Facility modifications and proposed operations are controlled appropriately, in accordance with manuals and programs that effectively coordinate these activities among operations, support and overview organizations. One omission was lack of requirements for maintenance review of hardware changes. Some deficiencies were observed in the implementation of the program with respect to reviews, use of codes and standards, identification of review requirements, and documentation of reviews.

Administrative, operating, and maintenance manuals and procedures are in place. The operating and maintenance procedures incorporate Operational Safety Requirements. However, the B Plant Operating Administration manual has some deficiencies in content, and is still missing several sections, including the Safety Chapter.

The organization and staffing are adequate for the current B Plant and WESF missions. Organization responsibilities and interfaces are understood, and management position authority and responsibilities are documented. However, only generic job qualifications exist for cognizant engineers and other professionals in B Plant Engineering. The level of in-plant experience for the cognizant engineers is fairly low. Staffing deficiencies, related to funding levels, are illustrated by high overtime rates for B Plant Nuclear Process Operators, and a steadily increasing maintenance backlog.

Approved OSRs are in place; the WESF OSRs have been approved by DOE and the B Plant OSRs have been approved internally and submitted to DOE. Operations are being conducted in conformance with the OSRs. The format of the OSRs is consistent with current requirements, but there are some deficiencies in technical content. Programs are in place to upgrade the OSRs, as part of the Safety Analysis Report (SAR) updating, by 1992 and 1994 for WESF and B Plant, respectively, but the nature of some deficiencies appears to warrant earlier action. The overview program for OSR compliance does not provide responsible line management full cognizance of compliance data.

Training and certification programs for B Plant and WESF staff are in place, and training of personnel is documented. There is no documented training plan; however, the program is effective and complies with regulatory requirements in all other respects. Deficiencies were identified in test security and question databases.

The event reporting system meets reporting requirements in effect during the period appraised. Deficiencies identified in earlier appraisals have been addressed, and the current program is effective in reporting, evaluating, and distributing event information. Westinghouse Hanford Company has just issued a new Management Requirement and Procedure to implement the recently revised DOE Order on this subject, and the B Plant organization was making program revisions to comply with the new requirements. There were no Findings or Observations in this area.

The facilities, overall, were in good condition and well kept, considering their age and current funding levels. Problems were noted regarding roof and piping system leaks, which create housekeeping problems and a potential for contamination spread. Also, there were excessive accumulations of low-level radioactive wastes, the result of a waste shipping problem. There were scattered problems in posting, labeling, housekeeping, contamination control and equipment.

Current operations are being conducted within the envelopes of the existing B Plant and WESF SARs. The SARs are scheduled to be revised to cover planned future programs, and to meet current standards for format and content. The schedule is for the next WESF SAR to be completed in February 1992, and the revised B Plant SAR to be completed in February 1994.

The B Plant and WESF maintenance programs were judged to be, overall, well organized and effective in maintaining the facilities and their equipment in an acceptable condition considering the age of the facilities, funding constraints, and the current operational status of the B Plant. Although there are some defects, which create operational problems, none of these involve significant hazards. There were, as discussed earlier, deficiencies in maintenance review of proposed hardware modifications and an increasing maintenance backlog, although high priority maintenance jobs are current. Deficiencies in maintenance history evaluation also exists; these were identified by an earlier appraisal and corrective measures are in progress, but completion is estimated to be several years away.

Documentation and record keeping were, in general, satisfactory. However, a number of individual deficiencies were identified with respect, e.g., to logbooks, engineering service request files, training plans, work packages, and emergency organization changes.

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FISCAL YEAR 1990

NUCLEAR SAFETY APPRAISAL OF B PLANT/WESF

PERFORMED BY

DEFENSE WASTE DISPOSAL SAFETY

J. K. Anderson 9/21/90
J. K. Anderson Date
Appraisal Team Leader

II. FISCAL YEAR 1990 NUCLEAR SAFETY APPRAISAL OF B PLANT/WESF

Introduction

The Fiscal Year 1990 Annual Nuclear Safety Appraisal of B Plant and the Waste Encapsulation and Storage Facility was performed by Defense Waste Disposal Safety, during the period August 6 through September 14, 1990. The purpose of this appraisal was to evaluate safety of the overall operation of these facilities, and compliance with safety requirements mandated by DOE Orders and WHC manuals.

Scope

The scope of this appraisal included the eleven elements specified by DOE Order 5480.5, Part 9.g., for inclusion in contractor's annual nuclear facility safety appraisals. These are:

1. Proposed modifications to nuclear facilities and equipment having safety significance, and safety analysis thereof;
2. Proposed experiments and operations having safety significance;
3. Procedures;
4. Organization and staffing;
5. Standards, Operational Safety Requirements, Criticality Safety Limits, and changes thereto;
6. Nuclear facility training programs;
7. Unusual occurrences, incidents, and operating anomalies;
8. The physical condition of the nuclear facilities;
9. Accuracy and completeness of documentation and record keeping;
10. Facility operations against its safety analyses, and;
11. Facility operational compliance with the requirements of DOE Order 5480.5.

In addition, maintenance was selected as a special topic for the appraisal.

The appraisal of selected aspects of each of these elements, except elements 9 and 11 was conducted in accordance with performance objectives and criteria developed from the U.S. Department of Energy-Headquarters (DOE-HQ) Environmental Health and Safety Performance Objectives and Criteria for Technical Safety Appraisals. Elements 9 and 11 were not addressed separately, but were considered as part of the appraisal of the other nine elements.

Summary

A summary of scope, overall assessment, and major conclusions is provided in the subsection for each appraisal element, followed by the Findings and Observations for that element.

A. PROPOSED MODIFICATIONS

Summary

The focus of this area of the appraisal was on proposed modification projects intended to prepare for the future B Plant mission. Proposed modifications were to be assessed against three performance objectives.

1. Modification activities are coordinated and controlled in such a manner as to protect safety interests.
2. Technical support services applied to facility modifications should be qualified in terms of technical expertise and knowledge of facility-specific safety considerations.
3. Modifications should be tested and verified for conformance to the design requirements prior to acceptance and use.

It was determined that applying the above criteria to the Westinghouse Hanford Company system of project management offered considerable challenge because WHC facility management provides an overview function during the design and construction phase of projects and no B Plant projects have been completed using existing criteria. Since no B Plant facility project has been closed out under existing WHC criteria the third performance objective could not be fully addressed.

Therefore a review was accomplished of the U.S. Department of Energy - Richland (DOE-RL) Order 4700.1 "Project Management System" dated 3/16/89 and the WHC documents SD-MP-PMP-001 "Generic Project Management Plan" dated 7/7/89, WHC-CM-6-2 "Projects Department Management Manual" dated September 1988, and WHC-CM-6-12 "Projects Department Procedures" dated September 1988.

A checklist was then established based on these documents, which was used to review two project packages; 87B-GFB-625 "B Plant Sand Filter Upgrade" and 90L-GFW-010H "Environmental Compliance Upgrades" for compliance with the regulations.

A separate portion of the appraisal reviewed the facility design on the following three projects.

1. 90L-GFW-002 "Canyon Crane Replacement"
2. 89G-GFW-004 "Aqueous Makeup Unit Area Upgrade"
3. 89L-GFW-007H "Process Condensate Treatment Facility"

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The overall judgment for this area of the appraisal is that the existing WHC project manuals effectively control and coordinate all activities related to modifications among all responsible affected groups. With the overall management approach of WHC overseeing on-site and off-site contractors, the projects are coordinated and controlled by facility personnel. Technical support is available and effective through the use of Statement of Work (SOW) and Letters of Intent (LOI).

WHC mandates the use of procedures and qualified personnel to design, review and control modifications. There is compliance with design codes and standards.

However, five Observations were identified in this phase of the appraisal. These involve the codes and standards for facility design, project files and manuals.

WHC-CM-6-2 was considered to be a well-written, simple document which appears to cover all DOE-RL 4700.1 Order requirements. Criteria established, in WHC-CM-6-2, for project closeouts meet all DOE-RL requirements. The document does not establish criteria for Major System Acquisitions (MSA). One observation was identified.

WHC-CM-6-12 was also considered to be well-written, providing simple to understand procedures. No Findings or Observations were noted for this document.

Project files which were audited were selected so that one, 87G-GFB-625, was almost complete using Rockwell Hanford Operations (RHO) requirements and the other, 90L-GFW-010H complied with existing WHC requirements.

No Findings were identified against project 87G-GFB-625 when RHO requirements were different than existing regulations. Although a Safety Analysis Report (SAR) for each facility project exists, it is not apparent that it is readily available to the technical support groups, e.g., Kaiser Engineering/SCM consultants. An Acceptance Test Procedure (ATP) is in progress, but not yet completed, for this project. One observation was identified.

Project 90L-GFW-010H contains a project records checklist, 9050454 Attachment 2, which is considered to be an excellent tool in assuring all required documentation is completed and maintained for projects. No other observations or findings were identified on this project file.

Overall control of A/E and construction personnel during projects is accomplished by B Plant Project Management personnel using WHC-CM-8-8 "Job Control System". A determination is made, by project management, as to the requirements subcontractors will have to follow before any work commences. A single point of contact is available within B Plant who describes the applicable management controls to subcontractors.

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The projects reviewed for facility design are in the definitive design stage. Therefore documents reviewed were limited to the Functional Design Criteria (FDC), Conceptual Design Report (CDR) and Conceptual Design Drawings. The reviews were performed to verify compliance to the codes and standards mandated by DOE-RL Orders 6430.1A and 5480.5. Three Observations were identified.

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. A-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser A. A. Zaman/33730
<p>Observation - Seriousness Category III</p> <p>Indication of lack of interface between the Westinghouse Structural Analyses Group and the A/E of the Project 89G-GFW-004.</p> <p><u>Discussion</u></p> <p>Three items were identified during the Safety Evaluation of Project No. 89G-GFW-004 that will require further resolution. These items are:</p> <ul style="list-style-type: none"> - Integrity of the beams and columns of the Aqueous Makeup Unit Area (AMU) Upgrade. - Potential for water additions to tanks containing acids. - AMU ventilation system. <p>The AMU is classified as low hazard non-nuclear facility. The classification of the 271-B Building, in the Safety Analyses Report (SAR) will ultimately determine the design criteria of the AMU. Additionally, since the Westinghouse Structural Analysis Group currently is in the process of requalification of the 271-B Building for the Hanford Waste Vitrification Project (HWVP) tank waste pretreatment, interface between the Structural Analysis Group and Project A/E or Project Group is essential so that maximum benefit out of the floor, column and beam replacement may be utilized for 271-B Building qualification.</p>			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. A-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser A. A. Zaman/33730
<p>Observation - Seriousness Category III</p> <p>Indication of insufficient evaluation for AMU tanks in third floor (west side) of 271-B Building for 89G-GFW-004.</p> <p><u>Discussion</u></p> <p>The aqueous makeup unit (AMU) floor slab (third floor west side, 271-B Building) area was subjected to a non-destructive examination in July 1986 conducted by Meunow and Associates Inc. The test data indicated a general deterioration of the cement matrix around each of the west side tank pads and surrounding concrete area due to intrusion of corrosive chemical solution. The AMU upgrade resulted in plans for upgrading secondary containment capabilities and instrumentation/alarms for the applicable 271-B AMU tanks.</p> <p>There is no indication in the document reviewed (provided by Projects) that any survey was done to check the AMU tanks for corrosion damage or leakage from the flanges, nozzles, valves and other appurtenances. If these possibilities are not eliminated, no assurance can be provided that the tanks and their appurtenances will be acceptable for the future mission.</p>			
Response			
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Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. A-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser A. A. Zaman/33730
<p>Observation - Seriousness Category III</p> <p>There is a difference between the design life of B Plant modifications and HWVP with respect to Projects 90L-GFW-002, 89G-GFW-004.</p> <p><u>Discussion</u></p> <p>The mission for HWVP requires a design life of 40 years (1) whereas the B Plant's pre-treatment facility AMU upgrade Project W-004 is only for 20 year life (2). Documents reviewed for Project W-002 including reference (3) require an operation life of 20 years. The Functional Design Criteria (3) states: "Current planning requires B Plant to operate for at least 20 years in support of the Hanford Waste Vitrification Plant (HWVP) ... ". Although the same document in Section 2.3 requires that the canyon crane and the Crane Maintenance Facility must be designed to a minimum life of 40 years. This difference needs to be resolved since the design life has positive impact on the acceptance of existing process vessels, equipment, components, etc., as well as design and procurement of new items.</p> <p>REFERENCE</p> <ol style="list-style-type: none"> 1. WHC-EP-0250 DRAFT, REV.B 2. WHC-SD-W004-FDC-001, REV. 1 3. WHC-SD-W002-FDC-001, REV. 0 			
Response			
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IAA-90-010 SAF-90-0055	Observation No. A-0.4	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. R. Cooper/33730
<p>Observation - Seriousness Category III</p> <p>WHC-CM-6-2, "Projects Department Management Manual," Table 5-3, contains an error in the responsibility assignments for environmental documents. Additionally, it does not establish criteria for all types of projects identified in Section 1.0 of the manual.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Table 5-3 indicates that Safety is responsible for environmental documents with QA being the preparer. The documents are to be approved by the end user and QA. This preparation and approval should be assigned to the Environmental Division instead of the QA function as established by DOE-RL Order 4700.1. According to the Table, the Environmental Division has no functions. o WHC-CM-6-2, Section 1.0 states in part: "The Westinghouse Hanford Company Projects Department Management Manual provides guidelines and direction for managing Major Projects, Line Items (LI), General Plant Projects (GPP), projects funded by Capital Equipment Not Related to Construction (CENRTC) Major Systems Acquisitions (MSA) are addressed in a separate document." <p>The DOE-RL 4700.1 Order places additional requirements onto MSA and Major Projects which are not fully addressed for Major Projects in WHC-CM-6-2. All DOE-RL requirements for LI, GPP, and CENRTC projects are met by WHC-CM-6-2.</p>			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. A-0.5	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. R. Cooper/33730
<p>Observation - Seriousness Category III</p> <p>A letter concerning Project Management Plans in 89G-GFB-625 project file is not considered valid.</p> <p><u>Discussion</u></p> <p>A "Letter to File" in the 89G-GFB-625 file states that Project Management Plans are not required by procedure. This is not a factual statement under existing regulations. Even taken at face value, the letter is not dated nor is the signer properly identified; therefore, the letter is not considered to be valid.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

B. PROPOSED EXPERIMENTS AND OPERATIONS

Summary

The appraisal of this area addressed proposed operations. B Plant and WESF are not used as experimental facilities. Activities such as pilot tests are considered to be developmental, associated with planned operations, rather than experiments.

Proposed operations were assessed against one performance objective.

- o All proposed operations should be reviewed and approved by an independent safety overview body, as well as by facility management.

A second performance objective, which addresses interaction between the operating organization and experimenters, was not applicable.

Proposed operations for B Plant and WESF fall into two major categories, both of which involve facility modifications. As such, this element is closely related to Element A, "Facility Modifications." The first category is the major projects associated with the future B Plant role in the waste processing program. The second category is on-going modifications to maintain and upgrade facility systems and equipment to support current programs.

Overall, systems are in place to evaluate and provide the analyses, reviews, and approvals necessary for safe implementation of proposed operations. In general, these programs are being used effectively; however, some deficiencies in implementation were identified.

Requirements for review by B Plant/WESF Operations, the independent safety overview organization, and other organizations are well defined in the B Plant Operation Administration Manual, as well as the WHC Standard Engineering Practices and WHC Management Requirements and Procedures. These documents define, based upon impact level and safety class, the extent of review required. Changes that involve unreviewed safety questions or changes to OSRs require review and approval by both the WHC Safety and Environmental Advisory Council and the DOE. Programs are in progress to revise the Safety Analysis Reports and Operational Safety Requirements to address the future missions and submit them for review and approval.

Two deficiencies identified in the program were: 1) Lack of a specific requirement for review of hardware changes for maintenance capability, and 2) documentation of deficiencies and misjudgments regarding review requirements in some design packages.

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. B-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
<p>Observation - Seriousness Category III</p> <p>The review system for B Plant/WESF modifications does not ensure adequate consideration of maintenance needs.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o The B Plant Operations Administration Manual, WHC-CM-5-6, details review requirements for several organizations for system/equipment modifications, but neither Maintenance nor Maintenance Engineering is addressed. o Maintenance and/or Maintenance Engineering may be included in the review cycle, but whether this is done or not, and the extent and timing of the involvement, is at the discretion of the Cognizant/Project engineer. o Maintenance Engineering staff members who were interviewed stated that there have been instances where installed equipment was difficult to maintain because of location, orientation, interferences, etc. Often, such problems are recognized only after the system/equipment has been installed and Maintenance Engineering is given the task of preparing the maintenance procedures. 			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

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IAA-90-010 SAF-90-0055	Observation No. B-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
<p>Observation - Seriousness Category III</p> <p>Several deficiencies were identified in Engineering Service Request (ESR) design packages. These may be the result, in part, of a lack of definitive written guidance to direct Cognizant/Design Engineers in their design tasks.</p> <p><u>Discussion</u></p> <p>o Of 29 ESR files examined (28 complete and one active) the following deficiencies were noted:</p> <ul style="list-style-type: none"> - Only four of the seven that should have been identified as requiring Safety review were so identified. Two of the remaining three involved changes to OSR-related equipment. - One of the two Engineering Change Notices for ESR 15119, which had been identified as requiring Safety review, had no Safety signoff. - There were no Safety or Industrial Safety and Fire Protection (IS&FP) signatures for ESR 15078 documents. This ESR had been identified as requiring review by these organizations on the ESR form. - The Design Verification Requirements sheet for ESR 15078 specified an independent review of design calculations. However, there was no reviewer name or signoff on the design analysis documentation. 			
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IAA-90-010 SAF-90-0055	Observation No. B-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
<p>Observation (continued)</p> <ul style="list-style-type: none"> - The ESR form has spaces for identification of reviewers for various disciplines, by name. On some forms, the names had not been provided. o The Cognizant/Design Engineers are expected to perform their design tasks in accordance with the Standard Engineering Practices (WHC-CM-6-1), WHC Management Requirements and Procedures, and other WHC manuals as appropriate. However, there is no definitive plan or guidance to assist the engineers in identifying requirements related to specific B Plant/WESF design tasks. Reliance is based upon the individual's knowledge, perceptions, initiative, and review of manuals for information. o Training of the Cognizant/Design Engineers in Engineering Practices is primarily through general courses presented by WHC Engineering. 			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

C. PROCEDURES AND SIGNIFICANT CHANGES THERETO

Summary

B Plant/WESF operations were assessed against the following two performance objectives.

1. Approved written procedures, procedure policies, and data sheets should provide effective guidance for normal and abnormal operation of the facility.
2. Operations are conducted in compliance with procedures that are clear and readily usable, current, and contain adequate information to guide the user in performing tasks.

Three procedure areas were reviewed while performing the B Plant/WESF appraisal. An administrative manual, WHC-CM-5-6 is used to guide the operation of the plant where other procedures do not exist. This manual identifies job titles and assigns responsibilities. Operations and maintenance procedures were reviewed to assess if Operational Safety Limits were incorporated into procedures and if a proper review and approval occurred. A review and approval system exists and all evidence reviewed revealed that reviews and approvals were occurring. The overall procedure system is effectively managed.

Review of the WHC-CM-5-6 manual identified that major sections were not complete. The manual sections; Facility Description, Plant Administration, Organizational Interface Control, Plant Maintenance, Training Program, and Safety were not in evidence. The administrative manual does not require that operation procedures show their relationship to the Operational Safety Requirements and Limits.

Additionally, an audit by DOE-RL, Quality Assurance, performed February 11, 1990, document number 900158B R1, was reviewed by the appraisal team to ascertain the effectiveness of the plant's corrective actions. This audit identified multiple problems, a few of which are related to procedures found in WHC-CM-5-6.

- One area of concern to DOE-RL Quality Assurance was key control. WHC-CM-5-6 has a section within a procedure with the heading of "Key Control." This procedure is labeled as TBD hence no procedure exists. The response to the 2/11/90 DOE-RL audit was that it was the shift manager's responsibility and the action was complete. Without an existing procedure this response is inadequate and is not complete. There is no clear, concise information for users to complete their job.

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- Another area of concern to DOE-RL Quality Assurance was a lack of a method to ensure timely resolution to WHC Quality Assurance open issues. In evaluating the WHC-CM-5-6 Facility Action Item Tracking System procedure it was determined that this procedure also lacked a method to ensure timely resolutions to important open issues. The procedure does not include time constraints for ensuring timely corrective actions to the important issues.
- Another area of concern to the B Plant appraisal team was the Safety Limits, Limiting Safety System Settings and Limiting Control Settings and whether these limits were properly identified in the plant's procedures. The WHC-CM-5-6 manual does not require that Operations place the Operational Safety Requirements in their procedures even though Maintenance procedures are required by WHC-CM-8-2 to have the Operational Safety Requirements in procedures.

The WHC-CM-5-6 manual has identified how the plant will handle Procedure Change Authorizations (PCA). This appraisal also is concerned with how procedure changes are controlled. The PCA log book was reviewed for completeness. It was determined that the log was not up to date since the three properly reviewed and approved PCAs in effect at that time had not had their start dates entered. WHC-CM-5-6 requires that plant management review this log to verify that no PCA is in existence longer than sixty days. Without the start date, management would have a difficult time determining the sixty day compliance from reading the log. The approved PCAs are in a different portion of the same three ring binder as the PCA log. Each approved PCA had a start date prior to the date the auditor reviewed the log.

During interviews with operations and maintenance procedure writers it was mentioned that Defense Waste Disposal Safety was at times difficult to locate which made it difficult to complete an expedited review and approval. It was also felt that without in-plant presence of the Nuclear Safety personnel that operations and maintenance personnel were given an incorrect impression. Furthermore, the interviewed personnel felt that the Nuclear Safety personnel could not remain knowledgeable of the daily activities when located in another 200 East building.

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IAA-90-010 SAF-90-0055	Observation No. C-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. E. Broz/33730
<p><u>Observation</u> - Seriousness Category III</p> <p>B Plant Procedure Change Authorization (PCA) Log book is not up to date.</p> <p><u>Discussion:</u></p> <p>The PCA Log Book was reviewed for completeness. The current PCAs were located in the log book each having the proper review and approvals. Each PCA has an entry or start date which is important from a procedural standpoint. Management is required to check the log book. One item to check is the sixty day maximum length. The PCA log book listing of the PCA numbers has a column for the start or entry date. The PCA log book did not have the entry or start dates even though the three current PCAs all had start dates prior to the date of the auditor's review.</p>			
<p>Response</p>			
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IAA-90-010 SAF-90-0055	Observation No. C-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. E. Broz/33730
<p><u>Observation</u> - Seriousness Category III</p> <p>Defense Waste Disposal Safety lacks an in-plant presence.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o Interviews with engineering and maintenance personnel identified that DWD Safety personnel were not located in or near the plants and that this situation created problems when attempting to expedite document reviews. The lack of Nuclear Safety personnel in the plant was felt to give the wrong impression to the plant staff. It was also felt that the Nuclear Safety could not remain knowledgeable of the daily activities when located in another 200 East building. 			
Response			
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D. ORGANIZATION AND STAFFING

Summary

Organization and staffing for B Plant/WESF were evaluated against the following performance objectives:

1. "Operations organization and administration should ensure effective implementation and control of operations activities."
2. "Staffing of the organization should be adequate to ensure safe and effective operation of the facility."

With the exception of the following items, the organization and staffing at B Plant/WESF was found to be acceptable for the present mission. The items of concern are:

1. Observation: Job qualification requirements are lacking for Cognizant Engineers and associated professionals. Qualification of current Cognizant Engineers and associated professionals cannot be determined.
2. Observation: Maintenance backlog indicates an increasing trend towards an undesirable level.
3. Observation: NPO overtime for WESF is excessive.

Interviews with the Operations, Maintenance, and Engineering staff indicated that the responsibilities of each organization and its organizational structure is well understood.

The responsibilities and authority of each management position, with the exception of a newly-created "Evaluation and Compliance" manager, are documented. This position description is being prepared. Professional and cognizant engineering positions in B Plant Engineering descriptions are not available. (See Observation D-0.1).

Interviews with Operations and Engineering staff members indicated that the interfaces with supporting groups are well defined.

Plant management is engaged in an acquisition program to assure adequate staffing of the plant for the immediate future, as well as performing staffing plans for a future mission. Since the future mission is currently scheduled for the 1995-1996 time frame, personnel are not currently being acquired to fill that requirement. Personnel acquisition is limited by current funding. Requirements currently exist for additional staff beyond current funding.

Plant management has an active plan for anticipating and filling vacancies. However, should a vacancy occur unexpectedly (e.g., a termination, transfer, or other), it takes approximately 6 months to fill this vacancy if personnel are not available for transfer from other WHC organizations on site. Under these circumstances, the respective organizations are understaffed for that period of time.

Management has developed long-range staffing plans based upon the new B Plant/WESF mission. However, acquiring personnel based upon this future mission has not begun, as the funding in FY-90 did not support additional growth.

Only generic job qualifications exist for Cognizant Engineers and other professionals in the B Plant Engineering organization below the level of manager. Therefore, it is not possible to establish that the present incumbents meet the prescribed job qualification requirements. Specific job qualifications should be developed for each Cognizant Engineer and professional where they do not currently exist.

However, the B Plant Engineering Qualification forms for 28 engineers were reviewed. These forms provided data on degrees and years of experience for these engineers. It was found that 40 percent of these engineers had 5 years or less experience and 50 percent had 10 years or less professional experience. (See Observation D-0.1.).

The total backlog of maintenance work orders has increased 35 percent during the past 12 months. It appears that the maintenance and associated support-group funding is not adequate at the current funding level to control the total work order backlog. All safety-related maintenance appears to be under control. However, if the backlog is not reduced and brought under control, some of the delayed items could become safety-related items and stress the completion ability at current staffing levels. (See Observation D-0.2.).

Significant progress has been made in reducing the overtime for Nuclear Process Operators (NPOs) associated with the WESF Capsule Return Program. During 1989, the overtime for NPOs was running at a level of 47% of normal working hours. For the current appraisal period, this overtime has been reduced to 23%. This is still large, compared to the B Plant/WESF overall rate of less than 9%. (See Observation D-0.3.).

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IAA-90-010 SAF-90-0055	Observation No. D-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>Job qualification requirements have not been established, reviewed, evaluated nor revised as necessary for Cognizant Engineer positions as well as other professional positions below the level of manager in the B Plant Engineering organization. These are required to evaluate whether specific position incumbents meet or exceed the prescribed job qualification requirements.</p> <p>It cannot be determined whether present incumbents in B Plant Engineering meet the prescribed job qualification requirements, since the specific job qualification requirements do not exist.</p>			
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IAA-90-010 SAF-90-0055	Observation No. D-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>The overall maintenance backlog has increased 35% in the last 12 months. However, with the overall backlog increasing at the current rate, working off this backlog and reducing it to an acceptable level does not appear possible with the current staffing of maintenance, and required associated support groups. This includes planners and schedulers, OHP, B Plant Engineering, Nuclear Process Operators (NPOs) and persons-in-charge (PICs). The backfilling of staff required to accommodate the accreditation requirements and associated training programs will greatly reduce the ability of the current staff to reduce the current backlog.</p>			
<p>Response</p>			
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IAA-90-010 SAF-90-0055	Observation No. D-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>The current staffing of Nuclear Process Operators (NPOs) for the WESF capsule Return Program is not adequate to reduce the overtime requirements to a level comparable with the current overall level for B Plant/WESF.</p> <p>For the current appraisal period, this overtime has been reduced to 23% from 47% for the 1989 appraisal period. This is still large, compared to the B Plant/WESF overall rate of less than 9%.</p>			
Response			
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E. STANDARDS, OPERATIONAL SAFETY REQUIREMENTS, AND CRITICALITY SAFETY LIMITS AND CHANGES THERETO

Summary

The focus in this area of the appraisal was upon OSRs. Operations at B Plant and WESF involve no potential for a nuclear criticality and, thus, no criticality safety limits are imposed. Operations were assessed against two performance objectives.

1. The facility OSRs should adequately define safety limits and controls for the current facility configuration and operations.
2. The facility should be operated in conformance with OSR limits and controls.

The overall judgment for this area was that OSRs are in place and bound current operations, and that operations are being performed within the limits and controls. However, the technical content of the OSRs is deficient in several respects. Additionally, the B Plant/WESF overview system for OSR compliance was found to be weak, not providing responsible line management full cognizance of compliance data.

DOE-approved OSRs are in place for the WESF. The OSRs for B Plant were approved within the Rockwell Hanford Company, WHC's predecessor in operating the plant, and submitted to DOE-RL in July 1986 as part of the facility SAR. DOE-RL has not provided a review and approval, presumably assigning this activity a low priority because of the facility's non-operational status. The operating organization considers these OSRs to be requirements.

The existing OSRs currently bound operations at both B Plant and WESF in that no new operations or modifications which would place the plant outside the bounds of the OSRs have been initiated. Only three of the five B Plant OSRs are relevant to the current plant status.

The OSRs conform to the format specified by RL 5480.5. However, deficiencies in content with respect to OSR bases and surveillance requirements were identified. It is noted that the B Plant organization has an in-progress review effort, involving B Plant Engineering, Defense Waste Disposal Safety, and a private contractor, to review the B Plant and WESF OSRs for adequacy and need. This is a commendable effort that has identified a number of specific deficiencies, which are in addition to the more general concerns identified by the present appraisal. The internal review is aimed toward revision of the OSRs as part of SAR revision and updating, but completion of the revisions is some years away (currently scheduled for February 1992 at WESF and February 1994 at B Plant). Some of the deficiencies warrant earlier correction.

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At the time of the appraisal no OSR violations had been recorded during the past year. One event at B Plant this calender year involved a momentary out of limit condition, but appropriate recovery actions were taken so no violation of the OSR occurred. The event was reported in accordance with WHC and DOE requirements.

A review of several operating and maintenance procedures and data sheets showed that appropriate OSR requirements were incorporated, and identified as OSR related. However, it was noted that the B Plant Administrative Manual, WHC-CM-5-6, does not require that this be done.

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IAA-90-010 SAF-90-0055	Finding No. E-F.1	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser J. K. Anderson/33730
<p>Requirement</p> <ul style="list-style-type: none"> o WHC-CM-1-3, MRP 6.9 Rev.1, Part 5.3, "Lock and Tag Surveillance," states that the custodian/building administrator shall cause all active Lock and Tag records to be surveyed monthly using physical inspection of the tagout and correlation to the log book. 				
<p>Finding/Recommendation - Seriousness Category II</p> <p>B Plant Lock and Tag survey records for locks and tags de-energizing electrical equipment in accordance with requirements of B Plant OSR 11.4.1 had no entries for several monthly periods.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Air dilution flow meters for six tanks falling within the applicability of OSR 11.4.1 "Radiolytic Hydrogen" have been inoperable since 1988. Thus, it is not possible to ensure that dilution air flows are sufficient to maintain hydrogen concentrations within limits. OSR 11.4.1 requires that if hydrogen concentrations exceed the limits, all electrical equipment in the affected cell be de-energized. o Records for four pieces of equipment that are required to be de-energized were examined. These records were data sheets for tag numbers B-88-188, B-88-189, B-88-209, and B-88-244 in the Lock and Tag Logbook maintained in the B Plant Shift Manager's office. The reviews showed that motor control center breakers for all four pieces of equipment had been locked out and tagged in 1988. However, the survey records showed no entries for April, May, June, or September 1989 for any of the tags. The sheet for Tag No. B-88-244 also had no entries for October 1989 or July 1990. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. E-F.1	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser J. K. Anderson/33730
Requirement				
Finding/Recommendation (continued)				
<ul style="list-style-type: none"> o Neither the Shift Manager being interviewed nor the B Plant Operations Manager had been aware of the omissions. o Since these lock outs/taggings are related to OSR compliance, two items are of particular note. <ul style="list-style-type: none"> - Only two of the data sheets had entries indicating that the lockouts had OSR implications. - No clear document trail identifying which pieces of equipment had to be de-energized and providing an easily retrievable record of compliance could be found. A trail could be followed through discussions with plant personnel and going through the logbook, but the process was slow and laborious. Obtaining the information related to only four pieces of equipment took more than an hour. 				
Lead Auditor/Appraiser			Issue date <u>Oct</u> / <u>18</u> / 90	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. E-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser J. K. Anderson/33730
<p>Requirement</p> <p>DOE-RL Order 5480.5, Part 6, requires that the development of OSRs be consistent with the USNRC Regulatory Guide 3.6, "Content of Technical Specifications for Fuel Reprocessing Plants." Part II.3 of Regulatory Guide 3.6 states that surveillance requirements will prescribe the frequency and scope of tests to demonstrate performance of systems having limiting conditions for operation.</p> <p>WHC-CM-4-46, "Nonreactor Facility Safety Analysis Manual," Section 5.1.3, specifies that each OSR containing Safety Limits (SL), Limiting Control Settings (LCSs), and Limiting Conditions for Operations (LCOs), contain surveillance requirements that define the periodic inspections, tests, and/or calibrations required to ensure compliance with the requirements.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>The surveillance sections of most of the B Plant and WESF OSRs do not clearly identify the required frequency and scope of tests.</p> <p><u>Discussion</u></p> <p>o For all five B Plant OSRs the typical surveillance requirement is "... shall be calibrated and/or functionally tested per approved procedures at time intervals specified in the PICR system." No specific values are provided in the OSR itself. With the exception of one item in OSR 11.4.4.3, none of the surveillance sections clearly identify what operating parameters are to be measured to ensure compliance, nor do they identify monitoring frequency (e.g., continuous monitoring, monitoring with alarms, readings or measurements at specified frequencies). The surveillance statements typically address only testing and calibration of instruments.</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct/18/90	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. E-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
Requirement			
Finding/Recommendation (continued)			
<ul style="list-style-type: none"> o For WESF OSRs 11.4.2, 11.4.4, 11.4.5, and 11.4.7, the typical surveillance requirement is: Calibration and functional tests of shall be conducted according to approved procedures. The surveillance sections for these OSRs do not clearly identify what operating parameters are to be measured to ensure compliance, although the Design Features section of OSR 11.4.7 does include such information. With the exception of OSR 11.4.3, none of the WESF OSRs specify the frequency with which operating parameters are to be measured or verified. o WESF OSRs 11.4.8, "K3 Filter Drop," and 11.4.9, "Cesium Capsule Cask Drop," have no separate surveillance sections. OSR 11.4.8 does, however, include crane load testing and QA inspection of the K-3 filter burial box as requirements, but no intervals or methods are identified. o WESF OSR 11.4.7, "WESF HEPA Filter Systems" does not specify a filter efficiency testing method or frequency. o The handing off of surveillance scope and frequency to "approved procedures," particularly without defining the approval process and authorities, does not provide the same level of review and approval as if the surveillance requirements were included specifically in the OSRs. Also, this does not provide the bases supporting the scope and frequency to the OSR approving bodies. None of the B Plant or WESF OSRs make provisions for temporary removal of equipment from service for maintenance, calibration, or testing. 			
Lead Auditor/Appraiser		Issue date <u>Oct</u> / <u>18</u> / 90	
Corrective Action Plan			
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IAA-90-010 SAF-90-0055	Finding No. E-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser J. K. Anderson/33730
Requirement				
<p>Finding/Recommendation (continued)</p> <p>A review of the calibration procedure for the WESF K3 ventilation pressure switch, mandated by OSR 11.4.2, disclosed the following approval deficiencies:</p> <ul style="list-style-type: none"> o The procedure, PSCP-6-11, was approved by several organizations including Safety and Quality Assurance, in May 1989. However, Field Change Notices, issued in the August-November 1989 period were labeled as Impact Level 4 and had no Safety or Quality Assurance signoff. Some of these changes affected technical content, and should have been identified as higher impact levels. o Procedure PSCP-6-11 is a general procedure for calibration of diaphragm pressure switches. For individual applications it does not specify pressures or acceptable accuracy, but refers the user to a data sheet or PISCES job card. The job card is generated by the system Cognizant Engineer, without any documented approval by anyone else. 				
Lead Auditor/Appraiser			Issue date <u>Oct</u> / <u>18</u> / <u>90</u>	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. E-F.3	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser J. K. Anderson/33730
<p>Requirement</p> <p>DOE-RL Order 5480.5, Part 6.C (5) states that the basis for each OSR requirement should contain a summary of the information in the SARs in enough depth to indicate the completeness and validity of the source material, and to provide justification for the requirements.</p> <p>WHC-CM-4-46, "Nonreactor Facility Safety Analysis Manual," Section 5.1.3, subpart 4, states the same requirement as that in RL 5480.5, Part 6.C (5) and states that subjects which may be appropriate for discussion in the basis include, among others;</p> <ul style="list-style-type: none"> - Justification of the selection of a given variable and its value. - The justification for the items monitored in the surveillance and the chosen time intervals. 				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Several of the WESF OSRs do not have bases that provide justification for specified numerical limits.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o WESF OSRs 11.4.1, 11.4.2, 11.4.5, and 11.4.7 have numerical limits specified in the requirements. However, the bases merely explain why a limit is necessary, but do not justify the choice of the specified limits. o The B Plant OSRs and the other five WESF OSRs either have bases adequately supporting specified limit values or have bases adequately addressing non-numerical controls. o None of the B Plant or WESF OSR bases address surveillance requirements. However, as discussed in Finding No. E.F.2, essentially none of these OSRs contain specific surveillance requirements. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> / <u>90</u>	
<p>Corrective Action Plan</p> 				
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IAA-90-010 SAF-90-0055	Observation No. E-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
<p>Observation - Seriousness Category III</p> <p>WHC-WM-4-46, "Nonreactor Facility Safety Analysis Manual," paragraph 3.1, specifies that it is the responsibility of line operating management to ensure compliance with OSRs and OSLs. B Plant/WESF overview programs do not ensure line operating management cognizance of all information necessary to monitor OSR compliance.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Lock and tag datasheets for several pieces of B Plant electrical equipment that were de-energized for OSR compliance purposes show a number of missed lock and tag surveys (See Finding E.F.2). Neither the Shift Operations Manager nor the B Plant Operations Manager exhibited an awareness of the missed surveys. o OSR-related instrument readings are recorded on data sheets, which also identify limits. These are signed by the operator and Shift Manager. The sheets are then transferred to files in the Plant Operations Manager's office, but neither he nor anyone else reviews the data sheets. o The PISCES system produces monthly calibration overdue reports and delinquent preventive maintenance and operational check reports for each facility. Items related to OSRs are identified in the reports. However, neither the B Plant Operations Manager nor any member of his staff are on the copy distribution list. o WHC-CM-5-6, "B Plant Operations Administration," assigns the B Plant Management responsibility to ensure required operational surveillances are performed in a timely and proper manner, but does not contain specific reference to OSRs. 			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

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IAA-90-010 SAF-90-0055	Observation No. E-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser J. K. Anderson/33730
<p>Observation - Seriousness Category III</p> <p>Revision of WESF OSR 11.4.2 had not been accomplished in a timely manner.</p> <p><u>Discussion</u></p> <p>o On May 8, 1989, the Waste Management Division proposed evaluation and revision of the canyon to atmosphere and Process cell to Operating Gallery differential pressure OSR requirements. As an interim measure, pressure transients would be monitored to ensure that air flows are sufficient to safely contain contamination during certain plant evolutions which normally place the pressure differentials outside of the ranges specified in the current OSR.</p> <p>DOE-RL concurred in the interim measures, on May 19, 1989, with the stipulation that the revised OSR and supporting analysis be submitted for DOE-RL approval by June 30, 1989. The documents were submitted to DOE-RL on June 30, 1989. DOE-RL did not approve the OSRs, but provided comments to B Plant/WESF management on July 12, 1989. The OSRs still had not been revised and resubmitted to DOE-RL in September 1990.</p>			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

F. TRAINING PROGRAMS

Summary

The training program for B Plant/WESF was evaluated against the following Performance Objectives:

- o "Operators and supervisors should be trained and qualified in accordance with a defined training/qualification program that provides the knowledge required for safe and effective facility operation."

With the exception of the following items, the training program at B Plant/WESF was evaluated as being of high quality. The items of concern are:

1. Finding: A documented training plan does not exist.
2. Observation: The plant orientation program needs improvement.
3. Observation: Test security needs improvement.
4. Observation: The exam question database needs expansion.
5. Observation: WHC-WD-56110, Rev.2, dated April 30, 1990 calls for biennial recertification instead of the required annual recertification which is now provided for abnormal and emergency procedures.

If these items are given proper attention, B Plant/WESF should have a very high quality training program.

The B Plant/WESF training programs were reviewed to verify whether, for each work classification, training and qualification/certification requirements based upon assigned job tasks are established. These items are in place and continuing training is being performed.

Training programs were reviewed and verified to assure that the course content allowed for both initial and continuing training. However, although an effective training program exists, an overall training plan for B Plant/WESF does not exist that officially documents all the required elements of the program. (See Finding F-F.1.).

Training programs and requirements for temporary employees, contract personnel, and transient workers were reviewed and evaluated. It was found that the B Plant/WESF orientation lecture does not meet industry standards for nuclear facilities and facilities containing hazardous materials and waste. (See Observation F-0.1.).

Certification programs exist for both Nuclear Process Operators and the managers and supervisors. An incentive program exists for both classes of personnel. This includes pay stipend programs for initially passing, and periodic recertification of each level of certification. Both operator and supervisor/manager positions are filled based upon level of certification. Similarly, specific shift assignments are made to ensure that personnel qualifications meet the requirements of the shift duties to be performed. The training study guides for the different categories of personnel were reviewed against DOE Order 5480.5, Part 10.a.(5). The study guides fully comply with the referenced order.

The written tests and record certification for all operators and supervisors were reviewed. The examinations are sufficiently comprehensive when combined with on-the-job training (OJT) and associated testing to assure that the trainee can properly perform the assigned duties. A minimum grade of 70% has been established for Nuclear Process Operators and 80% for managers and supervisors. However, test security needs improvement. (See Observation F-0.2.).

The number of questions in the Training organizations data bank for each test is limited. (See Observation F-0.3.).

The training records were reviewed, and were found to contain appropriate records for training on procedures, radiological safety and control, chemical safety and control, facility operating characteristics, principles of nuclear facility operation, safety and emergency systems, and instrumentation and control. Since B Plant/WESF has no criticality concerns, due to the absence of materials that could cause a criticality, criticality safety principles and control procedures are mentioned but not emphasized in the course.

The initial nuclear process facility supervisors training program was reviewed. It included all items specified by DOE Order 5480.5. The courses provided to supervisors are divided into 3 phases. Upon certification of having passed each phase, a stipend is paid to each supervisor in a grade scale.

- Phase I - Generic Training
- Phase II - Facility Specific Training
- Phase III - Process Specific Training

The courses meet or exceed the requirements of DOE Order 5480.5, DOE-RL Order 5480.5, and WHC-WD-56110-002 (Nuclear Facility Defense Programs Supervisor Training Program) or SD-WM-TR-002 (Process Engineering Certification Phase II and III), as applicable.

Training and retraining schedules were reviewed. These schedules list the personnel that are certified, what certifications each person has and when they are due for recertification, and the associated training courses that must be taken for recertification. These schedules are

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updated by the training organization biweekly. Copies are available in each shift supervisor's office and most B Plant/WESF managers' offices. The managers and supervisors certification course does not specify annual recertification on emergency and abnormal facility conditions (See Observation F.0.4.), although documented evidence showed that they were receiving the training annually.

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IAA-90-010 SAF-90-0055	Finding No. F-F.1	B PLant/WESF FY 1990 Annual Safety Appraisal		Appraiser R. L. Tomlinson/33730
<p>Requirement</p> <p>Operators and supervisors should be trained and qualified in accordance with a defined training/qualification program that provides the knowledge required for safe and effective facility operation. Reference DOE Order 5480.5, Section 10.a.(1), and Section S of the WHC-CM-7-5 manual.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Although an effective training program exists, an overall training plan for B Plant/WESF does not exist that officially documents all the required elements of the program. This was identified in a DOE 1989 audit with a completion date of May 1, 1990. At the time of the current WHC Nuclear Safety Appraisal, this plan was not available. A new completion date for this plan should be established.</p>				
Lead Auditor/Appraiser		J. K. Anderson		Issue date <u>Oct</u> / <u>18</u> / 90
<p>Corrective Action Plan</p>				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. F-0.1	B PLant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>The B Plant/WESF orientation lecture does not meet industry standards for nuclear facilities and facilities containing hazardous materials and waste. As a minimum, in addition to the description of radiological controls and emergency signals, a tour of the building should follow the lecture. The use of radiological survey procedures and equipment should be demonstrated. Evacuation routes and signs should be pointed out, and hazardous areas and response to upset conditions such as loss of normal air flow patterns should be described. The orientation should be more extensive.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. F-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>Test security needs improvement. Currently, hard-copy master examinations are stored in key lock storage cabinets. These cabinets are neither fully secured, nor fire-proof. It is possible that the security of these tests could be compromised or lost by fire. These Master tests, computer disks containing tests, and completed tests that have not been destroyed (shredded), should be treated as quality documents/records, and maintained in fire-proof repositories protected by 3-tumbler combination locks. These tests/records should be kept in 2 separate repositories as specified in WHC-CM-4-2, Section QR-17, items 12-15.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. F-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>The number of questions in the Training organization's data bank for each test is limited. In practice, the number of questions used in each section of a test, compared to the total number of questions available for that section, are on the order of 60 to 80 percent, compared with the recommended industry standard of 33% (or 3 questions available in the data bank for every one that is used). The concern is associated with a person failing a test and being given a retest. With 60 to 80 percent of the same questions being given in a retest, that were on the original test, and a grade of only 70% required to pass the test, the retest may not be testing a person's knowledge of the subject, but only his or her ability to determine the correct answers that were contained in the original test.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. F-0.4	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser R. L. Tomlinson/33730
<p>Observation - Seriousness Category III</p> <p>WHC-WD-56110, Rev.2, dated April 30, 1990 called for biennial recertification on emergency procedures and abnormal conditions for managers and supervisors, while the DOE Order 5480.5 calls for annual recertification.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

G. UNUSUAL OCCURRENCES, INCIDENTS, OPERATING ANOMALIES, AND OSR VIOLATIONS

Summary

The focus in this area of the appraisal was upon event reporting and information utilization. These aspects were assessed against two performance objectives.

1. Unusual events should be reported to affected safety and programmatic organizations and to other organizations which could materially benefit from the information.
2. Operating experiences should be evaluated, and appropriate actions should be undertaken to improve safety and reliability.

A new event reporting system, based upon WHC MRP 5.14, Rev 5, which implements the requirements of the recently issued DOE 5000.3A, was scheduled to be initiated on August 31, 1990. This system has a number of new features, and WHC and B Plant/ WESF organizations were very active in preparing for the change at the time of the appraisal. However, this appraisal measured the B Plant/WESF event reporting system against the requirements existing in FY 1990, the period covered by the appraisal.

It is concluded that the current B Plant/WESF program meets existing event reporting requirements, and is effective in reporting and disseminating information. Event reports for 1990 were issued within required time intervals, were properly approved, and were distributed to B Plant staff and other WHC organizations who could find the information useful, and to DOE. The WHC Safety and Quality Assurance organizations approve Unusual Occurrence Reports and Critiques, and receive information copies of Event Fact Sheets for post review.

A review of calendar year 1990 reports issued to the time of the appraisal showed that events are being properly categorized as to significance by the report originators. Of the 26 reports examined, the originator's judgment was correct for 23. The other three were upgraded from Event Fact Sheets to Critiques as a result of post reviews by plant management and Safety.

A B Plant Event Investigation Team was reactivated in March 1990. Activities of this team have corrected the several program deficiencies identified by a DOE-RL Quality Assurance appraisal in February 1990. The Team reviews event reports for accuracy of information and addresses root cause assignment, trends, and corrective actions. Four of the six members have taken root cause analysis courses, and the other two are scheduled to take the courses later this year.

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The WHC Quality Systems Data Management organization does event trending. In addition, the B Plant Evaluation and Compliance organization maintains event report files and tracks all B Plant Complex commitments.

Industry operating experience (e.g., WHC event reports, DOE Unusual Occurrence Report [UOR] Summaries, and Nuclear Regulatory Commission [NRC] Bulletins) are obtained by the B Plant manager, who reviews them and distributes them to appropriate staff members for review and/or action.

There were no Findings or Observations in this area.

H. PHYSICAL CONDITION OF THE FACILITY

Summary

This portion of the 1990 B Plant/WESF integrated appraisal evaluated the physical condition of the facilities and their support buildings and grounds. The purpose of this portion of the appraisal was to assess the adequacy, safety, housekeeping, and maintenance of B Plant/WESF in accordance with DOE Order 5480.5 and Westinghouse Policies and Procedures. Data were compiled for this portion of the appraisal by inspecting the facility in August 1990.

Focus was on the following areas:

1. Physical characteristics and environmental conditions of the facility
2. Cleanliness
3. Equipment accessibility
4. Safety system adequacy and upkeep
5. Normal and emergency lighting
6. Confinement barriers both physical and administrative (this included necessary postings, protective clothing, and limiting controls)
7. Ventilation
8. Condition, maintenance, and cleanliness of equipment and its supplies.

Generally B Plant and WESF were in good condition and were well kept. However, this portion of the appraisal identified concerns in 10 areas.

1. Inadequate posting
2. Calibration/Labeling
3. Waste storage
4. Chemical labeling
5. Roof leak
6. Alarm systems
7. Housekeeping
8. Equipment identification
9. Leaking pipes
10. Chemical storage.

Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. H-F.1	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser M. R. Koch/33730
<p>Requirement</p> <p>WHC-CM 5-30, B Plant Environmental Compliance Manual, Section I 7.2 requires contaminated waste to be stored in an authorized dangerous waste area.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Lack of an approved disposal container had caused a substantial pile up of bags and boxes containing contaminated wastes in locations that were not authorized dangerous waste areas.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o Contaminated waste bags and boxes posed serious safety hazards in the truck port. The emergency exit from the pool cell area and the truck port safety shower were partially blocked. The clutter also partially blocked the walkway leading down the ramp to the truck port floor. o The wastes posed a tripping hazard in the WESF canyon and might hinder an emergency evacuation. o The B Plant Pipe Gallery was cluttered with improperly stored waste bags. o The B Plant Electrical gallery contained waste bags which hindered the use of the step off pad. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct / 18 /90	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation:Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. H-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser M. R. Koch/33730
<p>Requirement</p> <p>WHC-CM 5-30 Section VI 5.0 requires all chemicals to be properly labeled.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Several containers within B Plant/WESF were found without proper labeling.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o A metal cabinet outside of 225 BC contained an unlabeled jug of transformer oil. o The WESF canyon contained 3 unlabeled 55 gallon drums and a 2 gallon container half full of an unknown fluid. o A bottle of liquid was found in the WESF storage room without proper labeling. o Two bottles of unlabeled liquid were found in the B Plant Compressor Room. o Four unmarked containers were found in the B Plant Electrical Gallery. o An unmarked container was leaking onto the B Plant Canyon deck. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan				
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Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. H-F.3	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser M. R. Koch/33730
<p>Requirement</p> <p>WHC-CM 8-2 Section 203 5.3.1.4 requires instruments to be calibrated and labeled.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>Several deficiencies in calibration and labeling were identified.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o Instruments K3-DPI-3-15 and K3-DPI-1-21 in the Operating Gallery had no legible calibration stickers. o WFT 7-2-1 in the B Plant Operating Gallery had an expired calibration sticker. o The fire extinguisher in station 29 of the B Plant Compressor Room did not have an inspection card for 1990. o Several safety shower and eye-wash stations within B Plant had inspection cards with expired dates. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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IAA-90-010 SAF-90-0055	Finding No. H-F.4	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser M. R. Koch 33730
<p>Requirement</p> <p>WHC-CM 4-3 provides guidelines for maintaining fire protection systems.</p> <ul style="list-style-type: none"> o Section FP-8, Rev 1 specifies that fire doors shall not be blocked open. o Appendix FS-2-2 requires alarms to be audible in all areas of the facility. 				
<p>Finding/Recommendation - Seriousness Category III</p> <p>Several deficiencies in the fire protection system were identified.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o Loud background noises in the WESF pool cell area may prevent the building evacuation alarms from being heard. No test to verify that alarms can be heard in the pool cell area had been performed during fire drills. o Fire door 103A, located near the B Plant radiation zone in the Pipe Gallery, was found blocked open. o The Change Room in the B Plant Operating Gallery had no audible fire alarms. An employee interview revealed that personnel in the change room did not evacuate during a fire drill due to inaudibility of the alarm. o A water line for fire suppression had come off its support in the men's restroom in the WESF office trailer. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct/ 18/90	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. H-F.5	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. R. Henry/33730
<p>Requirement WHC-CM-4-10, Section 10.1, "Radiation Protection Surface Contamination Control," states management is responsible for providing and maintaining physical systems for contamination confinement.</p> <p>WHC-CM-4-10, Section 7.5, requires posting of all radiation areas.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Several deficiencies in Radiological Contamination Controls were identified.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o B Plant canyon deck south exits do not contain air locks or door seals. o The inner entryway of the clean laundry storage trailer, east of WESF was posted as "Radioactive Material Storage Area," but the other entrance had no posting. o The mezzanine in the Aqueous Make-Up area of WESF had a surface contamination area that was not clearly marked. A painted yellow line on the floor indicated a room division but no sign or chain was present. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct / 18 /90	
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IAA-90-010 SAF-90-0055	Finding No. H-F.6	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-3, "Industrial Safety Manual Volume 1 - Standards, Section C-7, Rev. 2, Chemical Storage and Handling," states management shall ensure that chemical containers are kept tightly covered/closed when not in use.</p>			
<p>Finding/Recommendation - Seriousness Category II</p> <p>Monosodium phosphate and sodium nitrate were identified as being improperly stored in 271-B AMU.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Both previously mentioned chemicals were found opened and contents spilled on the AMU floor near an open drain. The storage location does not have any physical containment or dyke for chemical separation. o A chemical spill in the WESF Aqueous Make-Up area can potentially be routed to an open site drain. 			
Lead Auditor/Appraiser		J. K. Anderson	Issue date Oct / 18 /90
Corrective Action Plan			
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IAA-90-010 SAF-90-0055	Finding No. H-F.7	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-3, Section A-1, "Codes and Regulations," states mandatory compliance with current National Electrical Codes (NEC) are required.</p> <p>Reference: 1990 NEC Section 370-8 and 300-11.</p>			
<p>Finding/Recommendation - Seriousness Category II</p> <p>Non Conformances to 1990 NEC were identified within B Plant/WESF.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Open junction boxes with wire runs were identified on the B Plant canyon deck walls. o Wire runs located above the office area of the 271-B AMU (3rd floor) were not adequately secured. o A switch was found hanging in the clean laundry trailer east of WESF. 			
Lead Auditor/Appraiser J. K. Anderson		Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan			
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IAA-90-010 SAF-90-0055	Finding No. H-F.8	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-10, Section 7.0, item 5.4.19.(2), states step-off pads shall be used at exits to airborne radioactivity areas and surface contamination areas and at any other location specified by HP. Wording on step-off pads shall be as specified by HP.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>No step-off pads were identified in various locations at B Plant/WESF.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o Workers exiting the pipe gallery had no signs/step-off pads designating clean from contamination zones. o The WESF operating gallery is deemed a radiation zone during manipulator change-out, but did not have a step-off pad leading into the connecting clean zone. <p>Recommendation: Recommend portable/temporary step-off pads at the exit of Fire Door 15 and other similar airborne or surface radiation zones.</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan				
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IAA-90-010 SAF-90-0055	Finding No. H-F.9	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-3, Section G-12, "Housekeeping," states the floor of all workrooms and corridors shall be maintained in clean and dry condition to the extent practicable.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>The overall housekeeping status of B Plant Canyon, Pipe and Electrical Gallery did not meet minimum standards.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o The B Plant canyon deck contained items such as used machinery, tools, damage coverblocks, a dead bird and various solid waste. o The Pipe Gallery contained rags draped over a pax phone, and a mop hanging on a valve handle. o Two ladders were improperly stored in the WESF Service Gallery. o Both the Pipe Gallery and Electrical Gallery were cluttered with contaminated waste bags. (See Finding H.F.1.) 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> / 90	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. H-F.10	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-3, Section FP-11, "Building Emergency Exits," states emergency lights and self-illuminated exit signs should always be maintained in good operating condition, because they are part of the building's emergency equipment. They provide illumination in the event of a power failure.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>Inadequate lighting was observed in the exit stairwells leading from the canyon deck to the south canyon doors.</p> <p><u>Discussion</u></p> <ul style="list-style-type: none"> o The previous mentioned stairwells are required to be used by canyon workers during a plant evacuation. 				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct / 18 /90	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. H-F.11	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. R. Henry/33730
<p>Requirement</p> <p>WHC-CM-4-3, Section G-11, Rev.1, "Eyewash Apparatus," states management shall ensure that an eyewash apparatus is provided where an exposure hazard exists in the immediate work area and is located such that it would require no more than ten seconds to reach from the hazard.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>The eyewash apparatus located on the upper AMU level of 271-B is not within the ten second reach requirement.</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> / 90	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. H-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser M. R. Koch/33730
<p>Observation - Seriousness Category III</p> <p>A dummy capsule was lying in the transfer aisle of the pool cells. The identifying paint had worn off and it was indistinguishable from the other capsules. The Shift Manager was able to identify it as a dummy capsule only after elevating it with the tongs.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

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IAA-90-010 SAF-90-0055	Observation No. H-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser M. R. Koch/33730
<p>Observation - Seriousness Category III</p> <p>Some piping in B Plant/WESF was identified as needing repair.</p> <p><u>Discussion:</u></p> <ul style="list-style-type: none"> o The WESF mezzanine had a trisodium-phosphate leak from a pipe entering the ceiling. o Two pipes were leaking where they joined the compressor building. o Some pipe insulation was shredding from around the pump located above the underground diesel fuel tank. o A pressure gauge on the piping running to the safety shower in the WESF aqueous make up room was broken or plugged. o A PRV isolation valve on the main steam line located at the West end of the B Plant Pipe Gallery was leaking. o A water spigot was dripping onto a radiation step off pad by fire door 103A in B Plant. o The B Plant Electrical Gallery had liquids leaking from the ceiling in several locations. 			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. H-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser M. R. Koch/33730
<p>Observation - Seriousness Category III</p> <p>The WESF roof leaks, causing water to run into the airlock separating the operating gallery and pool cell area.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

I. FACILITY OPERATIONS AGAINST THE SAFETY ANALYSES

Summary

This portion of the 1990 B Plant/WESF Integrated Safety Appraisal evaluated the WESF and B Plant operations against the current approved safety analysis reports (SARs), to assess if all operations conducted within these facilities are within the envelope of their SARs.

It was determined that overall the B Plant and WESF SARs do describe current plant configurations and operations. The current operations are within the envelopes of the SARs. However, there are deficiencies in contents of both SARs. These deficiencies have been recognized and programs are in place to update and upgrade the SARs.

The B Plant SAR does not meet current Westinghouse Hanford Company's guidelines for SARs. Specifically, the safety analysis and technical bases which supports the current and planned missions are outdated. Although, the documents do not meet all present day requirements, they do contain accurate operation and facility descriptions.

Currently B Plant is in a shutdown status, undergoing plant modifications and upgrades for processing of neutralized current acid waste (NCAW). The current SAR does not reflect planned plant configuration changes. The B Plant SAR is presently being revised per current WHC guidelines and is scheduled to be completed in February 1994, prior to startup of the facility.

The WESF SAR is a solid document and covers all current operations in the facility, including cesium capsule recovery. The proposed Transuranic Extraction (TRUEX) Pilot Plant is not covered by the current SAR, but planning for SAR updating to cover this in addition is already in progress and is to be scheduled to be completed in February 1992. Similar to the B Plant, the WESF SAR is deficient in the technical bases and supportive analysis sections and needs to be revised. Such revision is planned as a part of the updating effort.

There were no Findings or Observations in this area.

J. MAINTENANCE

Summary

Maintenance was selected as a special topic for the appraisal, as an area relevant to maintaining the facilities and their systems in a condition to support safe operation. Specific aspects of the maintenance program selected for appraisal were: preventive maintenance; corrective maintenance; maintenance history evaluation, and; planning, scheduling, and work control. The maintenance program was assessed against four performance objectives.

1. Preventive maintenance should contribute to optimum performance and reliability of systems important to operations and safety.
2. The material condition of components and equipment should be maintained to support safe and effective operation of the facility.
3. Maintenance history evaluation and systematic root cause analysis should be used to support maintenance activities and optimize performance.
4. The planning, scheduling, and control of work should ensure that identified maintenance actions are properly completed in a safe, timely, and effective manner.

Overall, the B Plant and WESF programs were judged to be well organized and effective in maintaining the facilities and their equipment in a acceptable condition, considering the age of the facilities, funding constraints, and the current operational status of the B Plant.

The B Plant structure and systems suffer from a number of defects such as fluid system leaks and a leaking roof, which present operational and potential contamination spread problems (See Observations H.0.2 and H.0.3.). None of these, however, are considered to involve significant hazards for the present operational status.

Maintenance activities are prioritized, with due weight given to safety and environmental considerations. Prioritization, schedules, and special considerations are discussed at weekly planning meetings attended by Plant Operations, Maintenance, Engineering, Quality Assurance, and Safety representatives. The plans are further discussed and refined in planning meetings at the beginning of each work day. The maintenance backlog has increased by 35 percent over the past year. Priority one and two maintenance items, however, are current (See Observation D.0.2).

Preventive maintenance is planned and scheduled, and delinquent preventive maintenance lists are prepared and distributed monthly. The instrument calibration and testing is scheduled and tracked through the PISCES system, which also publishes and distributes monthly overdue surveillance reports. The reports and schedule lists identify items which are related to Operational Safety Requirements or other safety aspects. One deficiency noted in this system is that the B Plant Operations Manager is not on copy distribution for the delinquent/overdue reports, although he does receive a routed copy. This deficiency is discussed in relation to OSR surveillance in Finding E.O.1, of this report.

Preventive and corrective maintenance work packages which were reviewed in this appraisal showed appropriate content, detail, and reviews. Operations, Engineering, Maintenance, Quality Assurance and, where appropriate, Safety signoffs are obtained. The packages address special safety considerations, including job hazards and OSR relevance.

In the area of predictive maintenance, a vibration analysis program has been in effect since 1988. Vibration data are compiled, tracked, trended, and reported through a computerized program. An oil analysis program has been developed, and had reached the operational stage at the time of the appraisal.

The current system for maintenance history evaluation is weak, relying upon recognition and initiative of the cognizant engineers and/or maintenance engineers. Work packages and preventive maintenance packages are retained in files, and are reviewed by the cognizant engineers for the affected systems, but there is no structured program for compiling and analyzing maintenance history at this time. This deficiency in WHC programs already had been identified in an earlier appraisal by DOE-RL in 1989 (audit 89-02, Observation 5), thus making it the subject of a new Finding or Observation was considered unnecessary. A new Maintenance Engineering Analysis organization was established in November 1989, in response to the concerns raised by the DOE-RL appraisal. This organization has been partially staffed, but is still in the planning stage in regard to establishing a systems maintenance data base for use in history evaluations. An initial need is to establish an equipment list with unique identifiers. Completion of this effort is estimated to be several years away. This is an issue that applies to most of the WHC operations, and is not unique to B Plant.

There were no Findings or Observations in this area.

K. HEALTH PHYSICS

Summary

This portion of the integrated appraisal evaluated B Plant and WESF operations for conformance with the requirements of DOE Order 5480.11 and Westinghouse policies and procedures. The Order identifies several areas and the plan for the audit was based on a selection from the list. The facilities were inspected during August 1990.

The appraisal focused on the following areas of interest.

1. External dosimetry
2. Portable and fixed instrumentation
3. Contamination Control
4. Training
5. Posting

Other areas of interest that were selected during the field work included source control, record maintenance and high radiation areas.

The overall assessment of the Health Physics (HP) program at B-Plant and WESF is satisfactory. The appraisal found eight items needing improvement. All items were reviewed with the B Plant/WESF Area Health Physics Manager. Work has begun to correct some of the items. There were no findings related to operations involving external dosimetry.

The current routine monthly surveys were reviewed and the records were found to be in satisfactory condition.

SUMMARY OF FINDINGS AND OBSERVATIONS

Finding or Observation No.	Seriousness * Category	Synopsis
K.F.1	II	Uncontrolled High Radiation
K.F.2	II	Inadequate Posting
K.F.3	II	Uncontrolled Fan sources
K.F.4	II	Instrument Calibration
K.F.5	II	Training
K.O.1	III	Posting Sign Abuse
K.O.2	III	RWP Deficiency
K.O.3	III	Frisker Location

* See Appendix 1.

Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. K-F.1	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160
<p>Requirement</p> <p>WHC-CM-4-10, Section 7, paragraph 5.4.5 requires high radiation areas to be locked or guarded at all times.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>The area above the K-3 filter pit is a high radiation area and the area was neither locked or guarded.</p> <p>A Radiological Protection Report was issued 6/27/90 and there has been no action on the report.</p> <p>This uncontrolled high radiation area is perceived as a Plant Operations problem and therefore it is not included with the fan source Finding (Finding K.F.3.).</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct / 18 /90	
Corrective Action Plan				
Responsible Action Mgr/Date		Appraiser Evaluation:Signature/Date		Action Completion Due Date
		<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT		___/___/___

Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. K-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160
<p>Requirement</p> <p>WHC-CM-4-10, Section 7 requires areas to be posted to identify radiological conditions.</p>				
<p>Finding/Recommendation - Seriousness Category II</p> <p>Several posting deficiencies were found:</p> <ul style="list-style-type: none"> o 291 Stack area - Surface Contamination Sign on the ground o Between R 11 and R 13 - Surface Contamination Sign on the ground o 225 B Stack, Portable Exhaust - Sign faded and illegible o 225 BD Sample Bldg - Sign faded o Truck Port - Sign faded 				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> /90	
Corrective Action Plan				
Responsible Action Mgr/Date	Appraiser Evaluation:Signature/Date		Action Completion Due Date	
	<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT		___/___/___	

Westinghouse Hanford Co		FINDING	Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. K-F.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser D. L. Gardner/33160
<p>Requirement</p> <p>WHC-CM-4-10, Section 7, paragraph 5.4.5 requires high radiation areas to be locked or guarded at all times.</p>			
<p>Finding/Recommendation - Seriousness Category II</p> <p>The fan sources in B-Plant and WESF are high radiation areas and the area was neither locked or guarded.</p> <p>This uncontrolled high radiation area is perceived as a Health Physics organization problem and, therefore, it is not included with the filter pit Finding (Finding K.F.1.).</p>			
Lead Auditor/Appraiser J. K. Anderson		Issue date Oct / 18 /90	
Corrective Action Plan			
Responsible Action Mgr/Date	Appraiser Evaluation:Signature/Date ___ACCEPT ___REJECT		Action Completion Due Date ___/___/___

Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 SAF-90-0055	Finding No. K-F.4	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160
Requirement				
CRITERIA: DOE Order 5480.11 requires instrumentation to be calibrated when in use.				
Finding/Recommendation - Seriousness Category II				
A review of the calibration facilities instrument logs found the following instruments assigned to the facility to be overdue for calibration.				
INSTRUMENTS OVERDUE AT LOCATION B-Plant & WESF REPORT DATE: 07/27/90				
INSTRUMENT NUMBER	Type	CALIBRATION date	Days out	MAXIMUM PERMITTED
6182	CP	072688	731	90
1758	EGM	050286	1547	90
0027	HRCF	082787	1065	90
PP0239	P-11	082686	1431	180
PP1378	P-11	122887	942	180
PP0891	P-11	011089	563	180
PP0436	P-11	022489	518	180
6225	CP	012590	183	90
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct/18/90</u>	
Corrective Action Plan				
Responsible Action Mgr/Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
		___ ACCEPT ___ REJECT		___/___/___

Westinghouse Hanford Co		FINDING		Page 1 of 1															
IAA-90-010 SAF-90-0055	Finding No. K-F.5	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160															
<p>Requirement</p> <p>Personnel are required to complete various training cycles to maintain proficiency. WHC-CM-4-10 provides general requirements for training and WHC-4-14, Section 4.2 provides other specific training requirements.</p>																			
<p>Finding/Recommendation - Seriousness Category II</p> <p>Training records for Health Physics Technicians were reviewed. Twenty training records were reviewed and four personnel were found to be deficient in the training areas as indicated.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Name</th> <th style="text-align: left;">Course No.</th> <th style="text-align: left;">Course Title</th> </tr> </thead> <tbody> <tr> <td></td> <td>0032</td> <td>Scott Skapac</td> </tr> <tr> <td></td> <td>006G</td> <td>Hazardous Waste (4hr)</td> </tr> <tr> <td></td> <td>0080</td> <td>Security</td> </tr> <tr> <td></td> <td>0080</td> <td>Security</td> </tr> </tbody> </table> <p>The names of the individuals have been provided to the Supervisor and the the Area Health Physics Manager for corrective action.</p>					Name	Course No.	Course Title		0032	Scott Skapac		006G	Hazardous Waste (4hr)		0080	Security		0080	Security
Name	Course No.	Course Title																	
	0032	Scott Skapac																	
	006G	Hazardous Waste (4hr)																	
	0080	Security																	
	0080	Security																	
Lead Auditor/Appraiser J. K. Anderson			Issue date Oct / 18 /90																
Corrective Action Plan																			
Responsible Action Mgr/Date		Appraiser Evaluation:Signature/Date		Action Completion Due Date															
		___ ACCEPT ___ REJECT		___/___/___															

Westinghouse Hanford Co		OBSERVATION		Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. K-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160
<p>Observation - Seriousness Category III</p> <p>Maintenance personnel were observed scooping debris from the parking area using Controlled Surface Contamination Signs.</p>				
<p>Response</p>				
Responsible Action Mgr / Date			Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION		Page 1 of 1
IAA-90-010 SAF-90-0055	Observation No. K-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser D. L. Gardner/33160
<p>Observation - Seriousness Category III</p> <p>RE Heineman letter 33100-90-043, dated 5/16/90, to staff et.al, Subject: Protective Clothing Practices, states, "1) Proscriptions against wearing personal clothing or "blues" under protective clothing should be limited to Radiation Work Permits (RWPs) where a clear, safety-related basis for such a proscription exists; and, 2) All such RWPs shall require area Health Physics Manager approval, with distribution to Manager/Deputy Manager."</p> <p>There is no evidence that this action is being performed. Three RWPs: BT-007, BS-005, and BS-012 were written since 5/16/90. The required sign off and distributions were not made.</p>				
Response				
Responsible Action Mgr / Date			Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 SAF-90-055	Observation No. K-0.3	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser D. L. Gardner/33160
<p>Observation - Seriousness Category III</p> <p>Personnel are required by local instruction to pass through a whole body frisker prior to leaving the building. A surveillance was performed for an hour, and fifteen out of fifteen people were observed to properly pass through the frisker.</p> <p>The exit nearest to the Health Physics Technician office, however, has an exit path which allows personnel to enter an office that commingles personnel who have been surveyed with personnel who have not been surveyed.</p>			
Response			
Responsible Action Mgr / Date		Appraiser Approval / Date	

WHC-MR-0221

FISCAL YEAR 1990

EMERGENCY PREPAREDNESS APPRAISAL OF B PLANT/WESF

PERFORMED BY

EMERGENCY PREPAREDNESS



G. A. Lovejoy, Staff Assistant 9-21-90
Emergency Preparedness Date



J.W. Iritz, Manager 10/4/90
Emergency Preparedness Date

III. FISCAL YEAR 1990 EMERGENCY PREPAREDNESS APPRAISAL OF B PLANT/WESF

Summary

The Emergency Preparedness portion of the B Plant/WESF appraisal was conducted on August 7, 1990. The scope of the appraisal is outlined in the Emergency Preparedness performance objectives and criteria. Overall, the Emergency Preparedness program at B-Plant is good. There were 3 Findings and 2 Observations identified as a result of the appraisal. The major items covered in the appraisal are listed below:

- o The content of the Building Emergency Plan was reviewed for completeness and accuracy.
- o Training records for the Building Emergency Organization and B Plant/WESF employees were reviewed to ensure that the required training was complete and current.
- o The facility drill program was reviewed to ensure that the appropriate drills were being conducted in accordance with the facility drill schedule, and that corrective actions were being taken for any identified deficiencies.

Performance Objective

Each facility should have in place a Building Emergency Plan to facilitate personnel safety and response to emergency situations not classified as a WHC-CM-4-1 Emergency Plan event.

The Building Emergency Plan was last issued in November 1989. The plan adequately addresses known facility hazards, and copies are available to employees located at B Plant/WESF. Evacuation routes and staging areas were identified as well as available emergency equipment.

Some of the information in the plan was not correct. Several emergency contact phone numbers had been changed and were not correctly listed in the plan. Floor plans for the mobile offices outside 271B have not been incorporated into the plan.

Since B Plant is undergoing a facility modification, only one utility disconnect plan was reviewed. The one reviewed dealt with the HVAC shutdown procedure in Room 205 at B Plant. The steps outlined in the Building Emergency Plan were not correct.

Performance Objective

Each Building Emergency Plan should identify the organization responsible for response to emergency situations which are not classified as a WHC-CM-4-1 Emergency Plan event.

The Building Emergency Director, alternates, volunteer bomb search team members, and evacuation bus drivers are identified in the Building Emergency Plan. However, there are some changes that have not been reported to Emergency Preparedness as required in WHC-CM-4-1.

Performance Objective

Training for the Building Emergency Organization should provide specific and concise instructions for the personnel responding to the emergency situation.

The identified Building Emergency Director and alternates have received, and are current on, required Building Emergency Director Training. There is an established tracking system for drill participation at B Plant/WESF. Participation in drills is being documented by course completion rosters and also by the tracking system. This is to ensure individuals receive the required semi-annual training.

Ten of the twelve identified evacuation bus drivers have not received training and one volunteer search team member has not been trained.

All of the facility drills scheduled for B-Plant during FY 1990 have been completed. The facility drills being conducted at B Plant are good. The scenarios test the capability of the Building Emergency Organization emergency response, and have included outside organizations such as Hanford Fire Department. The critique process for these drills is also good. The critiques have pointed out areas for improvement as well as provided a means to document strengths in the facility emergency response.

A review of the training records for 38 B Plant employees, to cover individuals in Safety, Operation Support Services and B Plant Operations, showed that all but 3 individuals are current on the required Building Emergency Plan Review (02028E).

Approximately 50% of the individuals questioned knew the proper response to the B Plant emergency signals. There was consistent confusion between the wavering and steady sirens among those who did not know the proper response to the signals.

Performance Objective

Facilities and equipment within the Building Emergency Plan should be readily available and maintained for use during emergency situations.

The evacuation, take cover alarms, and the public address system are tested each month to ensure proper working condition. These tests are documented and filed in the Manager's office.

The emergency equipment included in this appraisal was limited to the equipment stored in the emergency equipment locker outside of Building MO-029. This equipment was in good working condition and calibration was current on the emergency monitoring kits.

Westinghouse Hanford Co		FINDING	Page 1 of 1
IAA-90-010 PRP-90-000	Finding No. L-F.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser G. A. Lovejoy/35000
<p>Requirement</p> <p>WHC-CM-4-1, Section 8.3, "Training," 8.3.1.3, paragraph 3: The Building Emergency Director shall ensure that all normally assigned building occupants, including non-WHC employees, complete the annual Building Emergency Plan Review.</p>			
<p>Finding/Recommendation - Seriousness Category III</p> <p>Not all B Plant employees had reviewed the Building Emergency Plan in accordance with the requirement.</p> <p><u>Discussion:</u></p> <p>Thirty-eight records were reviewed to verify the completion of the Building Emergency Plan Review Checklist. Three of the thirty-eight employees either were overdue or had not reviewed the Building Emergency Plan.</p>			
Lead Auditor/Appraiser J. K. Anderson		Issue date <u>Oct/ 18 /90</u>	
Corrective Action Plan			
Responsible Action Mgr / Date		Appraiser Evaluation:Signature/Date	Action Completion Due Date
		<input type="checkbox"/> ACCEPT <input type="checkbox"/> REJECT	<u> </u> / <u> </u> / <u> </u>

Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 PRP-90-000	Finding No. L-F.2	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser G. A. Lovejoy/35000
<p>Requirement WHC-CM-4-1, Section 8.0, "Maintaining Emergency Preparedness," 8.2.1, paragraph 6: Personnel changes (Building Emergency Director, Building Wardens, Staging Area Managers) should be made by letter to the identified distribution between annual review and update within 30 day of the change of personnel.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>Changes in the Building Emergency Organization assignment had not been documented in accordance with the requirement.</p> <p><u>Discussion:</u></p> <p>During the review of the B-Plant/WESF Building Emergency Plan it was found that changes in the Building Emergency Director assignments had not been reported to Emergency Preparedness.</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct</u> / <u>18</u> / <u>90</u>	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation: Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		FINDING		Page 1 of 1
IAA-90-010 PRP-90-000	Finding No. L-F.3	B Plant/WESF FY 1990 Annual Safety Appraisal		Appraiser G. A. Lovejoy/35000
<p>Requirement WHC-CM-4-1, Section 8.3, "Training," 8.3.3.2. Emergency Preparedness is responsible for the initial training of the Volunteer Bomb Searchers. 8.3.3.3: Bus Drivers are required to complete an on the job training course on bus operation and evacuation procedures.</p>				
<p>Finding/Recommendation - Seriousness Category III</p> <p>Not all training had been accomplished in accordance with the requirement.</p> <p><u>Discussion:</u></p> <p>During a review of training records it was discovered that one volunteer bomb search team member and ten evacuation bus drivers had not received the required training.</p>				
Lead Auditor/Appraiser J. K. Anderson			Issue date <u>Oct/ 18 /90</u>	
Corrective Action Plan				
Responsible Action Mgr / Date		Appraiser Evaluation:Signature/Date		Action Completion Due Date
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Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 PRP-90-000	Observation No. L-0.1	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser G. A. Lovejoy/35000
<p>Observation - Seriousness Category III</p> <p>The HVAC shutdown procedure identified in the Building Emergency Plan located in room 205 at B-Plant was incorrect. The panels that were originally located on the walls opposite the dispatcher have been removed. These panels were previously used to manually shut down the HVAC. The changes were not reported to the Emergency Preparedness coordinator so they could be incorporated into the Building Emergency Plan.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

Westinghouse Hanford Co		OBSERVATION	Page 1 of 1
IAA-90-010 PRP-90-000	Observation No. L-0.2	B Plant/WESF FY 1990 Annual Safety Appraisal	Appraiser G. A. Lovejoy/35000
<p>Observation - Seriousness Category III</p> <p>Approximately 50% of the individuals questioned did not know the proper response to the B-Plant emergency signals. The greatest area of confusion was between the evacuation and take cover signals.</p>			
<p>Response</p>			
Responsible Action Mgr / Date		Appraiser Approval / Date	

IV. APPENDICES

1. SERIOUSNESS CATEGORY DISCUSSION
2. LIST OF FINDINGS AND OBSERVATIONS
3. TEAM MEMBERS, AREAS COVERED, AND PRIMARY PLANT CONTACTS
4. ACRONYMS

WHC-MR-0221

APPENDIX 1

SERIOUSNESS CATEGORY SYSTEM

SERIOUSNESS CATEGORY SYSTEM

Findings and Observations are classified in accordance with the guidance of WHC-CM-4-30, "Nuclear Safety Manual," Appendix SI-04-A, as described below:

Category I:

Identifies an existing clear and present danger to workers or the public, damage to product or equipment, or unlawful release to the environment. This category requires immediate corrective action by responsible management.

Category II:

Identifies a potential risk to workers or the public, potential harm to product or equipment, or potential unwanted release to the environment in excess of established limits. This category addresses noncompliance to mandatory DOE Orders or WHC policy and procedures. This category requires prompt corrective action by responsible management.

Category III:

Identifies noncompliance with DOE reference standards, WHC policy and procedures, national consensus standards, or good engineering practices which do not have imminent potential for safety or environmental consequences. This category suggests improvements that are needed in the margin of safety or compliance. All Observations and minor Findings should be Category III.

WHC-MR-0221

APPENDIX 2

SUMMARY OF FINDINGS AND OBSERVATIONS

Observations:

- B. O. 1: The review system for B Plant/WESF modifications does
Category III not ensure adequate consideration of maintenance needs.
- B. O. 2: Several deficiencies were identified in Engineering
Category III Service Request (ESR) design packages. These may be
 the result, in part, of a lack of definitive written
 guidance to direct Cognizant/Design Engineers in their
 design tasks.

C. PROCEDURES

Findings:

None

Observations:

- C. O. 1: WHC-CM-5-6, "B Plant Operations Administration Manual"
Category III is not adequate.
- C. O. 2: B Plant Procedure Change Authorization (PCA) Log book is
Category III not up to date.
- C. O. 3: Defense Waste Disposal Safety lacks an in-plant
Category III presence.

D. ORGANIZATION AND STAFFING

Findings:

None

Observations:

- D. O. 1: Job qualification requirements have not been
Category III established, reviewed, evaluated, nor revised as
 necessary for Cognizant Engineer positions as well as
 other professional positions below the level of manager
 in the B Plant Engineering organization.
- D. O. 2: The maintenance backlog has increased 35% in the last
Category III 12 months.
- D. O. 3: The current staffing of Nuclear Process Operations for
Category III the WESF Capsule Return Program is not adequate to
 reduce the overtime requirements to a level comparable
 with the current overall level for B Plant/WESF.

E. STANDARDS AND OPERATIONAL SAFETY REQUIREMENTS

Findings:

- E. F. 1: B Plant lock and tag survey records for locks and tags
Category II de-energizing electrical equipment in accordance with requirements of B Plant OSR 11.4.1 had no entries for several monthly periods.
- E. F. 2: The surveillance sections of most B Plant and WESF OSRs
Category II do not clearly identify the required frequency and scope of tests.
- E. F. 3: Several of the WESF OSRs do not have bases that provide
Category II justification for specified numerical limits.

Observations:

- E. O. 1: B Plant/WESF overview programs do not ensure line
Category III operating management cognizance of all information necessary to monitor OSR compliance.
- E. O. 2: Revision of WESF OSR 11.4.2 has not been accomplished
Category III in a timely manner.

F. TRAINING PROGRAMS

Findings:

- F. F. 1: An overall training plan for B Plant/WESF does not
Category II exist that officially documents all the required elements of the program.

Observations:

- F. O. 1: The B Plant/WESF orientation lecture does not meet
Category III industry standards for nuclear facilities containing hazardous materials and waste.
- F. O. 2: Test security needs improvement. Currently, hard-copy
Category III master examinations are stored in key lock storage cabinets that are not fully secured.
- F. O. 3: The number of questions in the Training organization's
Category III data bank for each test is limited.
- F. O. 4: WHC-WD-56110, Rev. 2, dated April 30, 1990, calls for
Category III biennial recertification for managers and supervisors, while DOE 5480.5 calls for annual recertification.

G. UNUSUAL OCCURRENCES, INCIDENTS, OPERATING ANOMALIES, AND OSR VIOLATIONS

Findings:

None

Observations:

None

H. PHYSICAL CONDITION OF THE FACILITY

Findings:

- | | |
|---------------------------|--|
| H. F. 1:
Category II | Lack of an approved disposal container has caused a substantial pile-up of bags and boxes containing contaminated wastes in locations that are not authorized dangerous waste areas. |
| H. F. 2:
Category II | Several containers within B Plant/WESF were found without proper labeling. |
| H. F. 3:
Category III | Several deficiencies in calibration and labeling were identified. |
| H. F. 4:
Category III | Several deficiencies in the fire protection system were identified. |
| H. F. 5:
Category II | Several deficiencies in radiological contamination control were identified. |
| H. F. 6:
Category II | Monosodium phosphate and sodium nitrate were being improperly stored in 271-B AMU. |
| H. F. 7:
Category II | Nonconformances to the National Electrical Code were identified within B Plant/WESF. |
| H. F. 8:
Category II | No step-off pads were in place in various locations at B Plant/WESF. |
| H. F. 9:
Category III | The overall housekeeping status of B Plant Canyon and Pipe and Electrical Galleries did not meet standards. |
| H. F. 10:
Category III | Inadequate lighting was observed in the exit stairwells leading from the canyon deck to the south canyon doors. |
| H. F. 11:
Category III | The eyewash apparatus located on the upper AMU level of 271 B is not within the ten second reach requirement. |

Observations

- H. O. 1: Category III A dummy capsule was lying in the transfer aisle of the pool cells. The identifying paint had worn off and it was indistinguishable from the other capsules.
- H. O. 2: Category III Some piping in WESF was identified as needing repair.
- H. O. 3: Category III The WESF roof leaks, causing water to run into the airlock separating the operating gallery and pool cell area.

I. FACILITY OPERATIONS AGAINST THE SAR

Findings:

None

Observations:

None

J. MAINTENANCE

Findings:

None

Observations:

None

K. HEALTH PHYSICS

Findings

- K. F. 1: Category II The area above the K-3 filter pit is a high radiation area and the area was neither locked or guarded.
- K. F. 2: Category II Several posting deficiencies were found.
- K. F. 3: Category II The fan sources in B Plant and WESF are high radiation areas and the area was neither locked nor guarded.
- K. F. 4: Category II A review of the calibration facilities instrument logs found several instruments assigned to the facility to be overdue for calibration.

Findings (continued)

K. F. 5: Twenty training records were reviewed, and four
Category II personnel were found to be deficient in the training areas indicated.

Observations:

K. O. 1: Maintenance personnel were observed scooping debris
Category III from the parking area using Controlled Surface Contamination signs.

K. O. 2: Three Radiation Work Permits prescribing wearing
Category III of personal clothing or blues under protective clothing were not signed off and distributed as required by a letter from the Manger of Health Physics.

K. O. 3: Frisker location allows personnel to enter an office
Category III that commingles personnel who have been surveyed with personnel who have not.

L. EMERGENCY PREPAREDNESS

Findings:

L. F. 1: Not all B Plant employees have reviewed the Building
Category III Emergency Plan in accordance with the requirement.

L. F. 2: Changes in the Building Emergency Organization
Category III assignment have not been documented in accordance with the requirement.

L. F. 3: Not all training has been accomplished in accordance
Category III with the requirements.

Observations:

L. O. 1: The HVAC shutdown procedure identified in the Building
Category III Emergency Plan located in Room 205 at B Plant was incorrect.

L. O. 2: Approximately 50% of the individuals questioned did not
Category III know the proper response to the B Plant emergency signals.

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APPENDIX 3

MAIN SUBJECT AREAS, APPRAISER
ASSIGNMENTS, AND PRIMARY PLANT CONTACTS

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MAIN SUBJECT AREAS, APPRAISER ASSIGNMENTS, AND PRIMARY PLANT CONTACTS

<u>Subject Area</u>	<u>Appraiser</u>	<u>Contact</u>
A. Proposed Modifications	J. R. Cooper/ A. A. Zaman	M. A. Cahill/ W. W. Bowen
B. Proposed Experiments and Operations	J. K. Anderson	W. W. Bowen
C. Procedures	R. E. Broz	D. G. Carter/ R. W. Higbee
D. Organization and Staffing	R. L. Tomlinson	R. J. Murkowski
E. Standards and Operational Safety Requirements	J. K. Anderson	W. W. Bowen
F. Training and Qualifications	R. L. Tomlinson	D. G. Carter
G. Unusual Occurrences, Incidents, and Operating Anomalies	J. K. Anderson	D. G. Carter
H. Physical Condition of the Facility	D. R. Henry/ M. R. Koch	W. W. Bowen/ R. W. Higbee
I. Facility Compliance with the SAR	D. R. Henry/ M. R. Koch	W. W. Bowen/
J. Maintenance	J. K. Anderson	G. D. Skaare
K. Health Physics	D. L. Gardner	S. R. Johnson
L. Emergency Preparedness	G. A. Lovejoy	D. G. Carter

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APPENDIX 4

ACRONYMS USED IN THIS REPORT

ACRONYMS

The following list defines acronyms used in this report.

A/E	Architect/Engineer
ALARA	As Low As Reasonably Achievable
AMU	Aqueous Makeup Unit
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy-Headquarters
DOE-RL	U.S. Department of Energy-Richland Operations Office
DWDS	Defense Waste Disposal Safety
HP	Health Physics
HVAC	Heating, Ventilation and Air Conditioning
MRP	Westinghouse Hanford Company Management Requirements and Procedures
NPO	Nuclear Process Operator
NRC	U.S. Nuclear Regulatory Commission
OHP	Operational Health Physics
OSL	Operating Safety Limit
OSR	Operational Safety Requirement
PCA	Procedure Change Authorization
PICR	Process Instrumentation Calibration Requirements System
PISCES	Plant Instrumentation Surveillance Calibration and Evaluation System
QA	Quality Assurance
SAR	Safety Analysis Report
TBD	To Be Determined
UOR	Unusual Occurrence Report
WESF	Waste Encapsulation and Storage Facility
WHC	Westinghouse Hanford Company