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Tank Waste Remediation System FSAR Hazard Identification/Facility Configuration Verification Report

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Abstract: This document provides the results of the Tank Waste Remediation System Final Safety Analysis Report (TWRs FSAR) hazards identification/facility configuration activities undertaken from the period of March 7, 1996 to May 31, 1996. The purpose of this activity was to provide an independent overview of the TWRs facility specific hazards and configurations that were used in support of the TWRs FSAR hazards and accident analysis development. It was based on a review of existing published documentation and field inspections. The objective of the verification effort was to provide a "snap shot" in time of the existing TWRs facility hazards and configurations and will be used to support hazards and accident analysis activities.

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**Tank Waste Remediation System
FSAR Hazard Identification/Facility
Configuration Verification Report**

May 1996

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EXECUTIVE SUMMARY

This document provides the results of the Tank Waste Remediation System Final Safety Analysis Report (TWRS FSAR) hazard identification/facility configuration activities which were undertaken from the period of March 7 through May 31, 1996. The purpose of the hazards and configuration verification activity was to provide an independent overview of TWRS facility-specific hazards and configurations that were used in support of the TWRS FSAR hazards and accident analysis development. The scope of this effort addressed all current TWRS-owned facilities within the scope of the FSAR. It was based on a review of existing published documentation and field inspections. The objective of the verification effort was to provide a "snap shot" in time of the existing TWRS facilities hazards and configurations and will be used to support hazards and accident analysis activities.

This report contains an introduction section that provides for the background and associated purpose and scope of the activities; results of the verification activities that provides a summary of the data collection and review process; a discussion of the facility specific matrix data table development activities that included the identification of data needs and the generation of the actual data tables, training and pilot studies; and states the verification methodology that was employed during the document review and field verification activities.

The methodology employed for the verification activities included the development of facility specific matrix tables and associated activities which included:

- Development of an initial master checklist of TWRS facilities which bounds the project scope
- Division of the master checklist into twenty smaller checklists (one for each of the 18 tank farms, one for transfer lines, and one for miscellaneous facilities)
- Creation of six tables (checklists) of information to be compiled for all TWRS facilities (except transfer lines) through document review and field verification activities
- Creation of a seventh table specifically for transfer lines
- Preparation of instructions to assist in completion of the tables
- Training of personnel involved in the verification process
- Completion of a pilot study on AP Tank Farm.
- Incorporation of lessons learned from the AP Tank Farm Pilot
- Completion of checklists for the remainder of the TWRS facilities

In general, the verification activity results represent a "snap shot in time" of the TWRS facility configurations and potential hazards. Widely varying amounts and quality of data were available for the respective TWRS facilities. For example, double-shell tanks (DSTs) had generally up-to-date drawings, while single-shell tank (SST) drawings were, in general, not current with existing field conditions. Tank contents are well documented for the SSTs and DSTs. Less information was readily available for catch tanks, vault tanks, Inactive Miscellaneous Underground Storage Tanks (IMUSTs), and Double-Contained Receiver Tanks (DCRTs). The results obtained during the verification process will be utilized by the hazards/accident analysis group for use in the determination and evaluation of potential TWRS related hazards, facility configurations and accident scenarios associated with facility operations.

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1.0 INTRODUCTION

1.1 BACKGROUND

Westinghouse Hanford Company (WHC) is currently producing a Tank Waste Remediation System Final Safety Analysis Report (TWRS FSAR) document that will serve as the safety basis for TWRS operating facilities within the FSAR scope. An integral part of this consolidation process is the analysis of the hazards and identification of facility configurations associated with the operations of TWRS facilities.

The TWRS FSAR efforts required the review of TWRS documentation and interaction with TWRS personnel. The information gathered from this activity resulted in the generation of data to be incorporated in the FSAR. Due to the need to produce much of the FSAR in parallel, integration and verification of data for the hazard analysis and configuration identification was consolidated into one activity. This activity included a field walkdown effort to provide information on conditions (at the time of the walkdown) to support an assessment of the comprehensiveness and accuracy of the FSAR. The data gathered through these activities were captured in a table format for eventual conversion into a database structure to assist in the FSAR hazards/accident analysis activities and to support future activities.

1.2 PURPOSE AND SCOPE

The purpose of the TWRS FSAR hazard and configuration verification activity was to provide an independent verification of TWRS facility specific hazards and facility configurations which was used in support of the development of the TWRS FSAR. In some cases, multiple sources of information exist regarding hazards or configurations of TWRS facilities. The purpose of this document was to identify the appropriate analysis or information to be used in the FSAR. This was accomplished by document review, interviews, and field walkdown activities to identify and document TWRS facility specific hazards and configurations as they currently exist. This document reports the results of the verification process which occurred during the period between March 18, 1996 and May 31, 1996.

The scope of the effort included a review of all known TWRS owned facilities which will be covered in the FSAR document utilizing the existing published documentation and visual inspections. Hazards within TWRS, the configuration of TWRS systems and structures, and the existing operational controls were investigated. Field walkdowns were performed at the facility level (i.e., tank farm, building, or miscellaneous facility) and relied primarily on available published information and visual inspections of the accessible portions of the operating systems. No attempt was made during the field verification to review inaccessible portions of a given facility (e.g., contents within a valve pit or diversion box) as we employed a non-intrusive method of verification in accordance with existing WHC As Low As Reasonably Achievable (ALARA) principles.

The scope of the verification activities was to confirm the identification of:

- 1) Radioactive or hazardous materials in TWRS which potentially could pose a hazard to the public, onsite workers, TWRS workers, and/or the environment,

- 2) Potential energy sources which could contribute to the uncontrolled release of material,
- 3) Unique phenomena associated with TWRS storage tanks which could contribute to the uncontrolled release of material,
- 4) TWRS facility systems, structures, and components (SSCs) related to the storage and transfer of waste,
- 5) Radiation protection features related to TWRS,
- 6) Operating Safety Requirements (OSRs) and Operating Specification Documents (OSDs) related to TWRS monitoring and control SSCs, and
- 7) Transfer lines related to the movement of liquid waste between facilities.

1.3 OBJECTIVES

The objective of the verification effort was to provide a "snap shot" in time of the existing TWRS facilities hazards and configurations. This facility and function specific information will be used to support the hazards and accident analysis, identification of radiation controls, and to confirm existing facility configurations. The data provided within the facility specific matrix tables support the hazard and accident analysis and the identification of necessary safety controls. The information contained in the report appendices may or may not be sufficient for other purposes.

1.4 REPORT ORGANIZATION

Section 1.0 outlines the background, purpose and scope, and organization of the report; Section 2.0 summarizes the results of the verification process; Section 3.0 explains the development of the matrix tables, including further definition of the project scope and objectives; Section 4.0 provides an overview of the verification process methodology; Section 5.0 provides a summary and conclusion of the verification activities; and Section 6.0 lists the references which were utilized. The appendices contain the instructions for completing the matrix tables and the actual matrix tables for each facility within the scope of the TWRS FSAR effort.

2.0 VERIFICATION RESULTS

The results of the verification activities are summarized in this section. The detailed data collected are provided in matrix tables and drawings located in Appendices B through G. Appendix A contains the instructions provided to assist in completion of the tables. The appendices have been organized by 200 East double-shell tanks (DSTs), 200 West DSTs, 200 East single-shell tanks (SSTs), 200 West SSTs, miscellaneous facilities, and transfer lines. Table 2-1 summarizes the organization of the Appendices.

Table 2-1. Summary of Results Organization Within the Appendices

Appendix	TWRS Facilities Included	Comments
A	All*	*Instructions for completing matrix tables are provided in Appendix A.
B	200 East Area DSTs	AN, AP, AW, AY, AZ Farms
C	200 West Area DSTs	SY Farm
D	200 East Area SSTs	A, AX, B, BX, BY, C Farm
E	200 West Area SSTs	S, SX, T, TX, TY, U Farm
F	Miscellaneous Facilities	See Table 2-4 for a listing of miscellaneous facilities.
G	Transfer Lines	Descriptive data provided for active transfer lines located between farms or facilities. Transfer lines located within the boundaries of a tank farm and inactive lines have been listed for accountability, with limited descriptive data provided.

In general, the results represent a "snap shot in time" of the TWRS facility configurations and potential hazards. Transient conditions are noted in the "Comment" columns wherever possible. Widely varying amounts and quality of data were available for the respective TWRS facilities. For example, DSTs had generally up-to-date, useful drawings, while SST drawings were, in general, not current with existing field conditions. Some information was available on the SST and DST tank contents (a few samples of DST supernate have been taken); less information was readily available for catch tanks, vault tanks, Inactive Miscellaneous Underground Storage Tanks (IMUSTs), and Double-Contained Receiver Tanks (DCRTs).

Matrix table results are organized by tank farm or miscellaneous facility. All "facilities" have been grouped by tank farm to the extent possible (Note: A "facility" could be a tank, building, crib, diversion box, etc.). Any facility with a tank farm letter in its identification (ID) number has been tied to that tank farm. For example, 241-BX-302B, which is an IMUST near B Plant, has been tied to BX Farm and is included with the BX Farm tables of information. This results in the majority of the TWRS owned facilities being tied to one of the tank farms and included with the information on that tank farm, even if the facility is physically located outside the boundaries of that farm. The remaining facilities, whose ID numbers did not include a tank farm designator, were deemed "Miscellaneous

Facilities" and were reviewed and documented separately (see Appendix F). Transfer lines were also reviewed and documented separately (see Appendix G).

The matrix tables of data for each tank farm contained in Appendices B through E are briefly summarized in Section 2.1. The miscellaneous facility tables of data, found in Appendix F, are discussed in Section 2.2. Appendix G, which contains data on transfer lines (Table 7), is summarized in Section 2.3.

Note: "NA" on the tables indicates the block was not applicable or not required for the stated purpose of the project.

2.1 TANK FARM DATA

For each tank farm, the Appendices contain a matrix table sign-off sheet which provides sign off of the data generator and data reviewer, a tank farm drawing which denotes the facility configuration observed during the field walkdown, a master checklist of "facilities" tied to the specific tank farm, and six matrix tables of information (Material Inventory, Hazard Identification, Unique Phenomena, Facility Configuration, Radiation Source/Physical Protection, and OSR/OSD Safety Controls). The results are summarized for each table below:

Sign-Off Sheet The signatures on the sign-off sheet signify that the information provided on this tank farm is based on the available reference documents, was field verified where possible, and is believed to be true, accurate, and complete at the time of review. Signatures of the team lead responsible for collating the information and the WHC cognizant engineer and design authority who reviewed the information are included.

Tank Farm Drawing Drawings were provided for each tank farm walkdown. The walkdowns were used to update and provide additional information (related to facility configuration and potential hazards) for the drawings. The drawings included in the Appendices reflect these field walkdown modifications. The locations and sizes of objects added to the drawings are approximations only.

Tank Farm Master Facility Checklist Each walkdown team was provided with a master checklist of facilities for each tank farm (see Sections 3.0 and 4.0 for more information on the overall project methodology). The team lead was responsible for ensuring that all facilities were considered when filling out the matrix tables. An "x" in the box indicates that that facility was included on that table.

All facilities which could not be accounted for are noted in the tank farm master checklists "Comment" columns and are discussed in Section 2.6. Additional facilities found during verification activities which were not on the original tank farm master checklists were added at the end of the checklists and are summarized in Table 2-2. Facilities from the master checklists which do not belong to TWRS are noted in the "Comments" column of the master checklists and are summarized in Table 2-3.

**Table 2-2. Types of Facilities Found During Verification Activities
Which Were Not on the Original Master Checklists**

Facility Description	Comments
Valve Pits	Found in A Farm, AX Farm, BY Farm, C Farm, and SX Farm
Flush Pits	Found in SX Farm and U Farm
Service Pits	Found in A Farm, BX Farm, C Farm, and U Farm
Instrument Buildings	Found in BX Farm, BY Farm, SX Farm, T Farm, and U Farm
Condenser Building	Found in SX Farm
Compressor Buildings	Found in C Farm and SX Farm
Sampling Buildings	Found in SY Farm
Other Misc. Buildings (Water Building, Ventilation Building, Leak Detection Lateral Buildings)	Found in A Farm
Cribs	Found in A Farm, AZ Farm, and T Farm
Caustic Addition Building and Skid	Found in AN Farm
Surface Condenser Facility	Found in AX Farm
Cross Connection Facility	Found in AX Farm
IMUST	Found in TX Farm
Diversion Boxes	Found in BX/BY Farm, T Farm, and TX Farm
Clean Out Boxes	Found in S Farm and U Farm

Table 2-3. Facilities From Original Master Checklists Which Do Not Belong to TWRS

Facility	Current Owner
211U non-rad storage tank (Chemical Storage Tank)	BHI
211UA non-rad storage tank (Cold Chemical Make-up Tank)	BHI
276U non-rad storage tank (Chemical Storage Tank)	BHI
211T non-rad storage tank (Chemical Storage Tank)	T Plant
2706T201 non-rad storage tank (Low Level Waste Decon Tank)	T Plant
2706T202 non-rad storage tank (Low Level Waste Decon Tank)	T Plant
211S non-rad storage tank (Chemical Storage Tank)	BHI
241-C-801 Process Storage Building	Bechtel, monitored by TWRS
211B non-rad storage tank (Chemical Storage Tank)	B Plant
COB-AW-01, -02, -03, -04, -05, -06, -07, -08, -11, -12, COB-A-30	242-A Evaporator
211A non-rad storage tank (Chemical Storage Tank)	Purex
270A non-rad storage tank (Underground Condensate Neutralization Tank)	Purex
213-W-TK-1 IMUST	Not owned by TWRS (WHC-SD-WM-PD-046, Rev. 0), but included with 213-W Compressor tables under Miscellaneous Facilities because it was noted during the 213-W walkdown.
216-B-3-3*	BHI
222EC non-rad storage tank (Emergency Generator)	222-S Lab
284WA non-rad storage tank (Salt Brine Storage Tank)	200-W Power House (Salt Brine Storage Tank)
TR31-ST-T1 non-rad storage tank (Leachate Storage Tank)	Solid Waste Disposal
TR34-ST-T1 non-rad storage tank (Leachate Storage Tank)	Solid Waste Disposal
2711E66 non-rad storage tank (Waste Oil Tank)	200-E Garage
2711E66A non-rad storage tank (Waste Oil Tank)	200-E Garage
2721E66 non-rad storage tank (Diesel Storage Tank)	200-E Security Building
Gasoline / Fuel Oil Storage Facility	Hanford Site (none specifically owned by TWRS.

* This was called 216-3-3 on the original master list. A. K. McDowell of WHC, Tank Farm Projects Group, provided this ID number.

Table 1. Material Inventory

The radioactive wastes stored in the DST and SSTs were the largest inventories of material found. No activity level measurements were found for pits or boxes. A minimal amount of analytical data on the curie content of failed High-Efficiency Particulate Air (HEPA) filters for use in accident analyses were found. In general, underground diesel fuel storage tanks, flammable storage cabinets, and contaminated equipment storage areas were identified in the field. Approximately 80% of the information on these tables was found in documents and could not be field verified, with the remainder being observed in the field.

Table 2. Hazards Identification

Numerous hazards or potential hazards were identified including flammable materials (diesel fuel, hydrogen, sodium), corrosives (acids, caustics), electrical (wiring, motors, heaters), pressure/volume (gas bottles, surge tanks) and mass/gravity/height (stairs, cranes, ladders, pits). The categories of hazards were provided in a checklist from the FSAR hazard analysts.

Table 3. Unique Phenomena

Unique phenomena were only considered for single-shell, double-shell, and double-contained receiver tanks, per the FSAR Hazard/Accident analysts. Minimal documented data were available for the DCRTs. Minimal information was available on the potential for siphoning; however, a separate siphoning analysis is being performed by the FSAR hazards analysis group in parallel with this project. Hazards identified included high heat, flammable gas, ferrocyanide, corrosivity, and organics.

Table 4. Facility Configuration

The configuration of all "facilities" found in each tank farm, including tanks, pits, boxes, buildings, instrumentation, and ventilation systems were identified. Not all tanks within a given farm have the same equipment (different pits, different ventilation methods, and different types of instrumentation exist on tanks within a given farm).

Instrumentation identified included waste level measurement, high level probes, leak detection instrumentation, temperature probes, and Continuous Air Monitors (CAMs). Some instrumentation was believed to be operable on certain tanks and inoperable on other tanks, while other instrumentation exists which does not work on any of the tanks within a given farm.

Monitoring systems were also found which do not work as originally designed, but the data were still being obtained (e.g., manual data collection was used where automatic data collection was designed). Instrumentation on diversion boxes, tanks, and pits which are isolated was generally not retrieved from old drawings.

Operability for some components was not easily obtainable. Operability of these components may be marked as "assumed operable" or "unknown" depending on the information available.

For double shell tanks and some DCRTs, condition assessment surveys and Project 314 reports were available and equipment condition scores (on a 1-10 scale) are reported from those

sources. No sources of equipment condition scores were found for single shell tanks. No attempts to score the condition of equipment were made, so "NA" is reported wherever documented equipment scores were unavailable. Important information which did not conform to the columns of Table 4 is included in the "Comments" column. Differences among the tanks within a given farm have been noted by exception in the comment field.

The organization of Table 4 may not be readily apparent due to limited planning time. The organization of this table was designed to be general in nature to accommodate either DST or SST facilities. Tank specific information is generally at the beginning of the tables; valve pit, diversion box, DCRT, and building information is generally toward the end of the tables.

Table 5. Radiation Source / Physical Protection

No surface readings of greater than 100 mR/hr were found on survey maps located at the respective facilities. All pits and tanks which could potentially have held radioactive materials were assumed to be greater than 100 mR/hr, in the absence of any underground dose rate information. Cover blocks and penetrations were generally in good condition. The numbers and sizes of the penetrations and the cover block thicknesses are noted on the tables.

Table 6. OSD/OSR Safety Controls

Several instances of inoperable equipment tied to OSR/OSD requirements were identified. The list of procedures associated with a specific OSR limit (provided in WHC-SD-WM-RPT-220) or OSD limit was tied to all tank farms; however, some of the procedures listed do not apply to all of the tank farms. Where comments have been received, corrections have been made. Numerous administratively controlled requirements exist which are not controlled or monitored by the SSCs identified on Tables 4 and 6. While these OSD/OSR requirements are of interest to cognizant engineers, design authorities, and others, they are not presently included in the scope of Table 6.

2.2 MISCELLANEOUS FACILITY DATA

Appendix F contains data on the miscellaneous facilities owned by TWRS. Miscellaneous facilities discussed in Appendix F are listed in Table 2-4.

The data collected on miscellaneous facilities are similar to the data collected for each tank farm, described in Section 2.1. For each of the miscellaneous facilities identified in Table 2-4, the appendix contains a sign-off sheet and five tables of information. Table 3 on Unique Phenomena was not required for the miscellaneous facilities, per TWRS FSAR hazards/accident analysts. All the IMUSTs not associated with individual tank farms are grouped together and all the cribs, ponds, and ditches not associated with individual tank farms are grouped together for simplicity.

The information provided in Appendix F is summarized below.

Miscellaneous Facility Master Checklist. The first table in Appendix F is the original miscellaneous facility master checklist. This was the checklist of facilities which had not been tied to the tank farms during the planning stage. Note that many miscellaneous inactive

Table 2-4. Miscellaneous Facilities (Not Tied to a Tank Farm)

Facility Number	Description
204-AR	Unloading Facility
209-E	90 Day Storage Pad
213-W	Compactor Building
241-AR-151	Diversion Box
241-ER-151	Diversion Box
241-ER-152	Diversion Box
241-ER-153	Diversion Box
241-ER-311	Catch Tank
241-EW-151	Cross Site Vent Station
244-AR	AR Vault
2727-W	Sodium Storage Building
2727-WA	Storage Building
216-W-LC	Crib
216-Z-20	Crib
216-Z-21	Pond
243-S-TK-1	IMUST
241-ER-311A	IMUST
231-W-151-001	IMUST
231-W-151-002	IMUST
241-Z-8	IMUST

storage facilities (MISFs) were located during tank farm walkdowns and are covered with the individual tank farm data. An attempt was made to capture all MISFs, but no checklist was available to ensure that all MISFs were captured.

The team lead was responsible for ensuring that all facilities on the checklist were considered when filling out Tables 1 through 6. An "x" in the box indicates that that facility was included on that table. Some facilities do not belong to TWRS. These facilities are noted in the miscellaneous facility master checklist "Comment" column and were included in Table 2-3. Facilities which could not be accounted for (remain as open issues) are also noted in the miscellaneous facility master checklist "Comment" column and discussed in Section 2.6.

Sign-Off Sheet The signatures on this sheet signify that the information provided for the miscellaneous facility is believed to be true, accurate, and complete. Signatures of the team lead and the reviewing Westinghouse cognizant engineer and design authority are included, where applicable. Not all miscellaneous facilities had assigned cognizant engineers ("NA" is noted on the respective miscellaneous facility sign-off sheets).

Table 1. Material Inventory

Tank content data for the IMUSTs were limited and dated (WHC-EP-0861, WHC-SD-EN-ES-040, and the Environmental Sites Database were the sources of information recommended by WHC). Mixed and hazardous waste material inventories were found at the 209-E 90 Day Storage Pad. Historical information on material discharged to cribs, ponds, and ditches was taken from the Environmental Sites Database. However, additional data for the cribs, ponds, and ditches (including some sample results) may be available in the Liquid Effluent Monitoring Information System (LEMIS). The LEMIS database was not investigated during this project. Other materials, such as underground diesel fuel storage tanks, chemical cleaners, and other non-radioactive chemicals were found at various miscellaneous facilities during walkdowns.

Table 2. Hazards Identification

Hazards varied greatly from facility to facility. Hazards included corrosives, electrical, flammable materials, and kinetic energy sources. No thermal radiation or chemical reaction hazards were identified at miscellaneous facilities. The categories of hazards were provided in a checklist from the FSAR hazard analysts.

Table 3. Unique Phenomena

Table 3 was not required for miscellaneous facilities, per TWRS FSAR Hazards and Accident Analysis representatives.

Table 4. Facility Configuration

The configuration of the miscellaneous facility, including any tanks, pits, boxes, buildings, instrumentation, and/or ventilation systems was identified on Table 4. Instrumentation included waste level measurement, high level probes, leak detection instrumentation, temperature probes, and CAMs. Operability for some components was not easily obtainable. Operability of these components may be marked as "assumed operable" or "unknown" depending on the

information available. No sources of equipment condition scores were found for the miscellaneous facilities.

None of the IMUSTs, cribs, ponds, or ditches (discussed in this section) have any operable instrumentation due to the fact that they are all inactive. (Several IMUSTs which were tied to individual tank farms in this report do have operable monitoring instrumentation). The 244-AR vault is currently in standby mode and has ventilation systems, instrumentation, and other equipment which has not been used for years and is currently assumed to be inoperable. Detailed information on the configuration of all miscellaneous facilities can be found on Table 4 for each miscellaneous facility in Appendix F.

Table 5. Radiation Source / Physical Protection

No surface readings of greater than 100 mR/hr were found on survey maps located at the respective facilities. Any pit or tank which could potentially hold radioactive materials was assumed to be greater than 100 mR/hr. Diversion box cover blocks and penetrations were generally in good condition. The numbers and sizes of the penetrations are noted on the tables from walkdowns; cover block thickness taken from drawings are also noted. For the AR vault, 244-AR, and the unloading facility, 204-AR, shielding wall thickness were also obtained from referenced drawings.

Table 6. OSD/OSR Safety Controls

Numerous OSDs (related to the ventilation systems) exist for the 244-AR vault which are not currently being met since the facility is in standby mode. No OSR/OSD requirements were found for the SSCs associated with the IMUSTs, cribs, ponds, or ditches, 2727-W, 2727-WA, 209-E, 213-W, or the diversion boxes covered in this section. Numerous administratively controlled requirements exist which are not controlled or monitored by the SSCs identified on Tables 4 and 6. While these OSD/OSR requirements are of interest to cognizant engineers, design authorities, and others, they are not currently included in the scope of Table 6.

2.3 TRANSFER LINE DATA

Active transfer lines (except those contained entirely within the bounds of a single tank farm) are described on Table 7. The following descriptive data are provided for each of the active interfarm transfer lines: line ID, diameter, line type (concrete encased, pipe-in-pipe, etc.), material of construction, capacity, design pressure, connection facilities, transfer frequency, hydrotesting frequency, leak detection methods, presence of heat tracing, presence of backflow/siphoning prevention, ventilation systems, presence of cathodic protection, and associated diversion boxes.

Extensive descriptive data are not provided for transfer lines within the boundaries of a single tank farm, drain lines to catch tanks, cribs, ponds, and ditches, or steam lines, as these lines are not key to any of the TWRS FSAR accident scenarios. These lines are identified in Table 7 for FSAR Chapter 2 accountability/inventory purposes only.

The only OSR/OSD requirements associated with transfer lines are WHC-SD-WM-SAR-016, 11.7 and OSD-T-151-00007, 7.2.10 which deal with verifying operability of leak detectors on transfer lines prior to transfers.

2.4 CORRECTIONS TO THE MASTER FACILITY CHECKLISTS

One of the significant results of the verification activity was that the original checklists of facilities owned by TWRS were incomplete and occasionally incorrect. Through document reviews, interviews, and tank farm field walkdowns, additional facilities were found which are believed to belong to TWRS. Even if these facilities were currently inactive, they were added to the end of the tank farm specific master checklists (provided in the Appendices) and were summarized in Table 2-2.

Document review and interviews also indicated that TWRS is not responsible for some of the facilities on the original checklists. Specific items have been noted on the respective farm matrix tables. These facilities were summarized in Table 2-3.

2.5 ELECTRONIC VERSION OF RESULTS

All data have been provided in an electronic format in addition to the matrix table hard copies. Tables 1 through 5 are provided in Word Perfect 5.1/5.2 format. Table 6 is provided in an Access 2.0 database. A Crystal Report Writer 4.0 file is included to produce printouts of the Access database. Table 7 is provided in Excel 5.0. All diskettes contents are clearly labeled.

2.6 IDENTIFICATION/RESOLUTION OF OPEN ISSUES

Several open issues remain after the document and field verification activities described above. These items are discussed below and summarized in Table 2-5:

- The small set of systems or components which will form the safety basis for TWRS will require a more thorough validation of operability and complete documentation of the procedures associated with their use, calibration, maintenance, etc. This is beyond the scope of this effort and will be managed separately by WHC.
- Table 6 lists procedures which may not apply to the specific tank farm. The procedures listed were referenced in WHC-SD-WM-RPT-220 and the OSD Database (Kahlia 1996). These documents were the basis of reference for procedures which are associated with a given type of facility (e.g., DSTs, SSTs, DCRTs), not a specific tank farm.
- Table 6 also does not provide the complete accountability of all the OSDs and OSRs, which design authorities and cognizant engineers indicated during review. In the current Table 6 data, OSR/OSDs have been linked to a given SSC identified for each facility. If the OSR/OSD could not be linked to an SSC and was determined to be administratively controlled, it was considered not currently within the scope of Table 6 and was not identified.
- The HEPA filter radiation exposure rate limit is specified as 1 R/hr in WHC-CM-7-5, Rev. 1, but SD-WM-SAR-016, Rev. 1 states that administrative procedures exist to maintain HEPA filters below 200 mR/hr. It is unclear which limit applies to which HEPA filters. Clarification by WHC is required to resolve this issue.

- No analytical sample data were located for cribs, ponds, and ditches. Toward the end of the project, the LEMIS (Liquid Effluent Monitoring Information System) database was recommended as a potential source of sample data for the cribs, ponds, and ditches, but was not reviewed due to schedule constraints. This database should be reviewed for potentially useful material inventory data on cribs, ponds, and ditches.
- A number of facilities initially identified by FSAR activities were not found during the walkdowns and/or could not be found in documents or drawings.

Table 2-5. Open Items

Open Issue / Facility	Status	Resolution
HEPA Filter exposure rate limit	Two references located (WHC-CM-7-5, Rev.1 and SD-WM-SAR-016, Rev. 1); unsure of their applicability	WHC policy decision / clarification required.
Crib, pond, and ditch material inventory	Environmental Sites Database information provided, but LEMIS may have more useful information	LEMIS should be reviewed for potentially useful sample data on cribs, ponds, and ditches.
Table 6 objectives	Table 6 provides applicable OSR/OSD monitored/controlled by SSCs on Table 4 only. Administrative controls are not included in Table 4 scope.	Revision of Table 6 to reflect all OSR/OSDs and implementing procedures not currently in project scope. Additional WHC input and database restructuring required to support this activity if deemed necessary by WHC.
Clean out boxes COB-AP-07D, COB-AP-07E, COB-AP-07F	Not found in AP Farm or in drawings. Believed to have been part of Grout Program, but never built.	Verification by WHC required.
Airlift circulator 601 caissons in AY Farm	Not found on drawings or in the field. Believed to have been planned, but never installed.	Verification by WHC required.
216-B-63 Ditch	Documentation found on this ditch, but it could not be found in the field.	Verify existence in field.
215A non-rad storage tank	No information found in documentation or drawings; not found in the field.	Verification by WHC required.
240-C-154 diversion box	Not found during walkdowns. Routing board shows a 241-C-154 diversion box which is isolated. This diversion box is believed to be buried next to Hot Sem Works, 201-C, across the street and west of C Farm (WHC-SD-EN-ES-019)	Issue closed. Diversion box is buried.
241S303 non rad storage tank	Drawings exist for this tank, but it is believed to have never been built.	Verification by WHC required.
240-T-154 diversion box	No drawings found; not found during field walkdowns.	Verification by WHC required.
241HN701-66 non-rad storage tank	Diesel storage tank for new tank farm. Believed never built.	Verification by WHC required.
242A211 non-rad storage tank	No information; not found in field. May have been planned for 242-A, but not built.	Verification by WHC required.
241-AZ-562 Valve pit	No information found in documentation or drawings; not found in the field.	Verification by WHC required.
241-A-302A Catch tank	Documentation found, but not seen during walkdown (located near PUREX)	Field verification required.
241-A-151 Diversion box	Documentation found, but not seen during walkdown (behind Purex)	Obtain access to rear, fenced area behind Purex and field verify diversion box

3.0 MATRIX TABLE DEVELOPMENT

During the development process for the facility specific matrix tables, several activities occurred which defined the scope of the project. These activities included:

- Development of an initial master checklist of TWRS facilities which bounds the project scope
- Division of the master checklist into twenty smaller checklists (one for each tank farm, one for transfer lines, and one for miscellaneous facilities)
- Creation of six tables (checklists) of information to be compiled for all TWRS facilities (except transfer lines) through document review and field verification activities
- Creation of a seventh table specifically for transfer lines
- Preparation of instructions to assist in completion of the tables
- Training of personnel involved in the verification process
- Completion of a pilot study on AP Tank Farm.
- Incorporation of lessons learned from the AP Tank Farm Pilot

These activities which occurred during the planning phase are discussed below.

3.1 MASTER FACILITY CHECKLIST

A master checklist of facilities owned by TWRS was created during the planning phase. This checklist was intended to bound the facilities to be covered under the verification project. Draft versions of the FSAR Chapter 2, "Facilities Description and Operation", and the FSAR Chapter 3, "Hazards Analysis Topography" were used to create the initial master checklist of facilities. Transfer lines found in WHC-SD-W314-ES-021, Rev. 0 were added to the transfer lines identified in the draft of FSAR Chapter 2.

The master checklist was then subdivided into smaller master checklists for verification support as follows:

- one for each of the 18 tank farms
- one for transfer lines
- one for the remaining miscellaneous facilities, such as 204-AR, 209-E, etc.

During the planning phase, any facility with an ID number which included a tank farm designator was added to the tank farm master checklist for accountability purposes. For example, facilities with a "B" in the ID number was assigned to the B Farm master checklist. This resulted in

some of the IMUSTs, cribs, ponds, and ditches being assigned to tank farms because of their ID number, even though they are not physically located within the tank farm. For example, the expansion ponds (216-B-3), were included with B Farm. IMUSTs, cribs, ponds, and ditches which could not be tied to a tank farm through their ID number were included on the miscellaneous facilities checklist.

During the course of the verification project, additional facilities were added to the original checklists, generally after field walkdowns. In some instances, facilities on the original checklists were identified as no longer owned by TWRS. These findings are noted in the "Comment" column of the individual master checklists (as found in the Appendices) and have been summarized in Section 2.4.

3.2 TABLE DEVELOPMENT

To define the project scope in terms of the data required, authors contributing to the FSAR were interviewed to determine which of their information needs could be supported by the verification project. The Facilities Description and Operation, Hazards and Accident Analysis, and Radiation Protection Program chapters of the FSAR were ultimately determined to be the primary drivers for the verification project.

Six tables were initially created. It was requested that the tables be robust enough to be used for all tank farms. Generally all of the six tables were filled out for each tank farm or miscellaneous facility. A seventh table was added to collect data related to TWRS transfer lines which was filled out once for all pertinent transfer lines.

The scope of each of the seven tables is discussed below.

3.2.1 Table 1 - Materials Inventory

A definition of the materials at risk for release was needed for accident analyses. Twelve categories of materials at risk were identified by the accident analysis representatives:

- Tank contents
- Tank headspace
- Rail or truck tanker contents
- Contamination on vehicles
- Contamination on equipment or tools
- Ventilation filter contents
- Contamination in ventilation systems
- Contents of pipeline and/or source tank during transfers (This category was skipped on all tables. Source tank contents are covered above, under tank contents, and pipelines are covered separately under Table 7.
- Contents of sump or encasement
- Contamination in pits or boxes
- SARA 313 materials
- Other materials

For each category of material at risk, Accident Analysis required the capacity of the container, a description of the material at risk (including the physical form, volume or activity, and whether the

material was transient), and the quantity of containers (for example, the number of drums or bottles, if applicable). Table 1, Materials Inventory, was designed to fulfill these data requirements.

3.2.2 Table 2 - Hazards Identification

Hazard Identification required verification of the types of hazards present. For each "facility" identified on the master list and for each additional facility identified during field walkdowns, currently-existing hazards were to be identified. An existing checklist of potential hazard designators was provided by the FSAR hazard analysts and utilized for hazard verification. This checklist of hazards and the master checklist of facilities were used to create Table 2, Hazards Identification.

3.2.3 Table 3 - Unique Phenomena

Hazard/accident analysis and identification of controls required identification of any unique phenomena associated with waste storage tanks. All double-shell, single-shell, and double-contained receiver tanks were to be evaluated against the following potentially unique phenomena:

- Flammable gas
- Ferrocyanide
- Organics
 - Separable phase
 - TOC > 10 g/L in liquids
 - TOC > 3 wt% in solids on a dry basis)
- High heat (the definition of high heat as a unique phenomena varied from tank farm to tank farm based on the definitions provided in the OSDs. High heat criteria ranged from >40,000 BTU/hr to >70,000 BTU/hr.)
- Pyrophoric materials
- Siphoning
- Criticality (> 1 g/L in solids)
- Corrosivity (corrosive material exceeding OSD limits)

These informational requirements led to the development of Table 3, Unique Phenomena. Any documented discounted events (i.e., studies which resolved specific tank related issues) were also considered when filling out this table and were noted where applicable.

3.2.4 Table 4 - Facility Configuration

Identification of what "facilities" currently exist and appear operable was the main type of information required to support the FSAR facility description (Chapter 2) and identification of safety controls. A "facility" was loosely defined to include structures such as buildings, tanks, pits, boxes, cribs, ponds, and ditches. For each facility which existed and appeared operable, existing substructures (such as a pit above a tank), ventilation, instrumentation, and other subsystems were to be identified and their operability assessed. Table 4, Facility Configuration, was designed to fulfill these informational requirements.

3.2.5 Table 5 - Radiation Source/Physical Protection

For each of the facilities identified on Table 4 which could be thought of as a "location", the Radiation Protection Program section of the FSAR required an assessment of whether the location represented a radiation source greater than 100 mR/hr. Tanks, pits, boxes, etc., were all considered "locations"; instrumentation was not considered a location. For all facilities thought to be greater than 100 mR/hr, the authors of the Radiation Protection Program also needed a listing and description of the protective features employed. Specific descriptive information requested included the number and size of any penetrations, thickness of protective features such as cover blocks, and the condition of the cover blocks, cover plates, and penetrations. These informational requirements led to the development of Table 5, Radiation Source / Physical Protection.

3.2.6 Table 6 - OSR/OSD Safety Controls

Once completed, the FSAR will identify a set of systems, structures, and components (SSCs) which will be relied upon to provide mitigation or prevention of various potential accidents. To support this need of the FSAR, existing OSR and OSD requirements and implementing procedures which are known to be monitored or controlled by the systems, structures, and components identified on Table 4 were to be identified. Table 6, OSD/OSR Safety Controls, which contains all the SSCs from Table 4, was created to collect the currently existing requirements which are monitored or controlled by these SSCs and any procedures associated with these OSR/OSD requirements.

3.2.7 Table 7 - Transfer Pipelines

During the planning phase of the project, it became clear that transfer lines would be best handled on a separate checklist. The authors of the Facility Description and Accident Analysis sections of the FSAR were consulted and a list of questions for this checklist was developed in a brainstorming session. Since only active transfer lines between farms or facilities are considered in FSAR accident scenarios, a joint decision was made to focus the detailed transfer line study on active transfer lines. The scope was further defined by omitting the short runs of transfer piping which are fully contained within a tank farm. Lines that were outside this scope were listed for FSAR Chapter 2 accountability purposes.

3.3 TABLE INSTRUCTIONS

Instructions were prepared for each of the above tables to assist in the uniform completion of each table. These instructions were designed to ensure relative consistency in data collection and data recording and have been provided in Appendix A.

3.4 TEAM DEVELOPMENT AND TRAINING

Three teams were established to perform the document and field verification work. Each team consisted of a team lead, document review support personnel, and facility specific support personnel. The facility specific support personnel consisted of a cognizant engineer, a design authority, and/or an operations representative familiar with the particular tank farm or miscellaneous facility under review.

Each team included a member responsible for hazard identification and a member responsible for facility configuration. Employees of Science Applications International Corporation (SAIC), Stone & Webster, Westinghouse Hanford Company, and Kaiser Engineering Hanford participated on the three teams.

Two main training sessions were held, one prior to the AP Pilot Study on March 22, 1996 and one after the AP Pilot Study on March 28, 1996 (prior to kick-off of the main verification effort). These training sessions were intended to orient the participants on the objectives of, and methodology employed in, the TWRS FSAR Verification Project. A lessons-learned meeting was also held immediately following the AP Pilot Study on March 25, 1996 to incorporate issues that were encountered during the AP Pilot Study.

3.5 AP PILOT STUDY

Once draft versions of Tables 1 through 6 were prepared, a pilot study was completed on AP Tank Farm. Document reviews were expected to be completed prior to initiation of field walkdowns, but due to schedule constraints, the field walkdown for AP Tank Farm was completed prior to extensive document review. The pilot study revealed the importance of performing as much document review as possible prior to the field walkdown in order to make best use of the time in the field. The pilot study demonstrated to the verification team the type of information which might be visible in a brief facility walkdown. The cognizant engineer and operations personnel familiar with the facility were found to be crucial to the verification process, since they had knowledge of their systems which would be difficult, if not impossible, to locate in documents. They were also able to point the verification team members to the most useful and up-to-date documents and drawings on their facilities. The pilot study also allowed the potential pitfalls associated with gaining entry to the tank farms to be resolved.

Following the AP Pilot Study, tables populated with the data obtained on AP Tank Farm were sent out for review to the ultimate users of the information (i.e., the FSAR authors). Their comments and the comments of the cognizant engineer involved with the Pilot Study were used to finalize the tables.

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4.0 VERIFICATION METHODOLOGY

Due to the quantity of documentation available for review, the document review process was completed by numerous personnel from SAIC, Stone and Webster, ICF Kaiser Hanford, and Westinghouse Hanford Company. The original project plan called for document reviews to be completed prior to initiation of the field walkdown. In reality, time constraints sometimes forced field walkdowns to occur without thorough document review. In these cases, information from documents was backfilled after the field walkdowns were completed.

An initial list of the types of documents to be used in the document review was prepared during the planning phase of the project. Drawings, databases, supporting documents (SDs), external publications, procedures, roundsheets, Condition Assessment Reports, Project 314 Reports, and OSR/OSDs were included on the original list. The list was continually expanded throughout the course of the project, as new information became available. A complete list of document references used in the process is provided in Section 6.0. The individual tables also include all references used; references are either listed next to a given data field or at the end of the table.

Field verification was performed through facility walkdowns. Team members, including a cognizant engineer, design authority, and operations personnel where applicable, viewed accessible portions of the tank farm facilities. No attempt was made to remove cover blocks or cover plates or to access restricted, contaminated areas such as the 244-AR Vault canyon. This was not intended to be a walkdown for configuration management as-buiting of all of TWRS, but rather to identify the current configuration of TWRS facilities and currently visible hazards. The information as presented in the matrix tables represents a "snap-shot in time" view of TWRS facilities.

Access to some portions of TWRS for field verification was limited by construction activities, fresh air zones, or special training requirements. An attempt was made to locate qualified personnel to inspect all possible locations; areas not reviewed on walkdowns are noted on the individual master checklists.

For each of the seven tables, the types of documents which were reviewed and the ways in which field verification was used to support completion of the tables are summarized below.

4.1 TABLE 1 - MATERIALS INVENTORY

Tank contents were obtained from WHC-EP-0182-93 for SSTs and DCRTs and from the Tusler report 740A30-96-008 dated 2/27/96 for DSTs. IMUST contents were taken from WHC-EP-0861 and WHC-SD-EN-ES-040.

Tank vapor space volumes were obtained from the "TWINS" database. Headspace radionuclide concentrations were obtained from WHC-SD-WM-SARR-037. Ammonia amounts in the headspace were obtained from either the TWINS database, report PNL-10189 "Toxicologic Evaluation of Analytes from Tank 241-C-103", or from information obtained from WHC Industrial Hygiene Programs (personal interviews with Kyleen Smith and Elton Hewitt). For the WHC Industrial Hygiene Program information, all vapor samples came from areas likely to be indicative of concentrations in the double- and single-shell tanks. Typical sample areas were tank risers, breather filters, exhauster filters, and pump pits. The data cover a period from January 1993 to February 1996.

Only maximum ppm values were used. This resulted in most data coming from 1995 and 1996. Data have been corrected for temperature. Since the pressure did not vary a great deal, it was assumed to be a constant 29.2 inches of mercury (about 14.3 psi). Actual pressures varied from 28.65 to 29.78 inches of mercury. Temperatures varied from 0 to 84°C. Elton Hewitt of WHC Industrial Hygiene indicated that the accuracy of the ammonia measurements may deviate $\pm 25\%$.

Analytical data on the curie content of failed HEPA filters was obtained for a small number of HEPA filters from WHC-SD-WM-EMP-031, Rev. 2. The capacity (maximum activity levels) for HEPA filters was identified as 200 mR/hr for DSTs in WHC-WM-SAR-016. However, WHC-CM-7-5 states that HEPA filters will be replaced when continuous exposure rates exceed 1 R/hr at six inches. The 1 R/hr number was reported for non-DST (e.g., DCRT, SST) HEPA filters.

Drawings and various documents were utilized to find capacities of pits, sumps, and tanks. SARA 313 materials were taken from the Hazardous Material Inventory Database, Inventory Verification by Reporting Representative Report dated 1/10/96.

The Environmental Sites Database was used to find data on the types of materials historically discharged to cribs, ponds, and ditches. Another database, the Liquid Effluent Monitoring Information System (LEMIS), was identified as another potential source of information on crib, pond, and ditch material inventory, but due to time constraints was not investigated further.

Field verification of materials inventory consisted of identifying visible materials within buildings or within the tank farms. Tanks, bottles, and drums of chemicals, gas bottles, and containers of contaminated material were observed in the field. Interviews with cognizant engineers, design authorities, and operations personnel were also used to verify information on material inventory when no other sources of information were available. Refer to the references provided on the individual tables for the exact references utilized.

4.2 TABLE 2 - HAZARDS IDENTIFICATION

The OSDs for SSTs and DSTs were utilized as a reference which indicated the presence of caustics, nitrates, and gases within the tanks. OSD-T-151-00030, Rev. B-17 was used to identify which tanks were watchlist or recommended watchlist tanks. Drawings which indicated various pieces of equipment which could be potential hazards were also utilized.

The field walkdown was utilized to verify visible hazards, such as flammable materials, friction sources, electrical equipment, kinetic-rotation and kinetic-linear hazards, mass-gravity-height hazards, and pressure volume hazards. Interviews with cognizant engineers, design authorities, and operations personnel were also used to verify the presence of hazards, particularly where visual confirmation was not possible.

4.3 TABLE 3 - UNIQUE PHENOMENA

Unique phenomena were characterized for the DSTs, SSTs, and DCRTs only. Table 3 information was acquired entirely through document review or interviews with cognizant personnel by the WHC Process Engineering Group. In some instances, the source reports used to develop the recommendations for watchlist tank designations were used as sources of information.

No field verification of unique phenomena was attempted, due to the nature of the materials (i.e., the tank contents) involved.

4.4 TABLE 4 - FACILITY CONFIGURATION

Multiple sources of documentation were utilized to populate Table 4. Drawings, riser studies (SD-RE-TI-053 and SD-RE-TI-093), Interim Safety Basis (WHC-SD-WM-ISB-001), SARs for miscellaneous facilities such as 204-AR and 244-AR, roundsheets, and procedures were all used to identify what systems, structures, and components were present in a given farm or miscellaneous facility. Roundsheets were used in some instances to verify the operability of instrumentation. Equipment condition scores were all taken from documents, either Condition Assessment Surveys, or Project 314 Reports (WHC-SD-W314-ES-018, WHC-SD-W314-ES-020, and WHC-SD-W314-ES-021). Equipment condition scores ranged from 1 to 10, with 10 being the best condition. No documented sources of equipment condition scores for single shell tanks was found during the document review process.

Field verification was used to verify the existence of all visible systems, structures, and components. The operability of some equipment could be observed or assumed through field walkdowns, as well. Generally, the condition of equipment was not reported based on field walkdowns, unless obvious damage of a given item was observed. Shift office routing boards were used to verify the isolation status of some tanks, pits, and diversion boxes. Interviews with cognizant engineers, design authorities, and operations personnel were used as required to verify the existence or operability of systems, structures, or components not visible on field walkdowns. As noted above, no attempts were made to remove cover blocks to view internal contents of pits or boxes.

4.5 TABLE 5 - RADIATION SOURCE/PHYSICAL PROTECTION

Limited sources of documentation were found to indicate whether locations were greater than 100 mR/hr. For surface locations, radiation survey maps were reviewed, with no locations greater than 100 mR/hr identified. The East Tank Farms High/Very High Radiation Area Log, dated 5/2/96 was obtained, which identified several locations which are monitored weekly, but all were indicated as below 100 mR/hr on the 5/2/96 survey. Requests for similar information from West Tank Farms received no response. For below surface contamination, all pits, radioactive material storage tanks, and diversion boxes were assumed to be greater than 100 mR/hr.

Protective feature descriptions (e.g., cover block thicknesses) were obtained from drawings. Soil thicknesses above SSTs and DSTs were obtained from the corresponding OSDs.

Field walkdowns were used to verify the condition of protective features and to document the estimated size and number of cover block penetrations, which will be used during the analysis of a spray accident event.

4.6 TABLE 6 - OSD/OSR SAFETY CONTROLS

Table 6 was created from an existing database on OSRs (reference WHC-SD-WM-RPT-220, Rev. 0) and a database created in parallel with this project on OSDs (OSD Requirements Database,

Kahlia, 1996). The OSDs utilized were current as of 4/17/96. The purpose of Table 6 is to relate existing OSR/OSDs and associated implementing procedures to specific SSCs identified on Table 4 for each specific facility. Any requirements which were not tied to systems, structures, or components (SSCs) in the above databases were not tied to SSCs in this table. Those requirements which are not monitored or controlled by an SSCs have not been included in Table 6.

This relation of safety requirement to SSC will allow the hazard and accident analysts to determine if appropriate controls are currently in place for the specific safety controls determined through their analysis to be required. The purpose of Table 6 for the verification project is not to provide a comprehensive listing of all OSR/OSDs and implementing procedures at this time.

The verification column included in Table 6 (FV = field verified, DR = document review) represents the information available in WHC-SD-WM-RPT-220 only. No additional field or document verification was performed to support Table 6 as part of this project.

4.7 TABLE 7 - TRANSFER PIPELINES

Since the transfer lines are below ground, all data were taken from source documentation. Numerous supporting documents, external publications, and the Operations Transfer Pipeline Routing Board were sources of information as indicated in the references listed at the end of Table 7.

The field verification activities were limited to inspection of the diversion boxes to which the pipelines connect (i.e., to/from locations) and the cross site transfer line vent station. The main source of information obtained through walkdowns was the condition of the protective features (i.e., the cover blocks) for the transfer line diversion boxes.

4.8 DATA ASSIMILATION PROCESS

As noted above, the document review process was accomplished through the combined efforts of numerous individuals in different organizations. It was the responsibility of the team leaders to assimilate all the acquired data into the pre-established table structures. The team leaders participated in all field walkdowns and were responsible for assimilating the field walkdown and interview information into the tables. When multiple sources of information provided different information which could not be resolved, the comment sections were used to identify the discrepancies.

The team leaders were also responsible for reviewing their assigned master checklists of facilities and assuring accountability of all assigned facilities.

All tables were generated in Word Perfect 5.1/5.2 except Tables 6 and 7. Table 6 was generated in Access 2.0 (reports generated with Crystal Report Writer 4.0) and Table 7 was generated in Excel 5.0.

4.9 REVIEW/SIGN OFF PROCESS

All tables were sent out for review by the FSAR authors, the cognizant engineers, and the design authorities, as applicable. Meetings were held to discuss comments. All comments received

were incorporated following these discussions. The tables in Appendices B through G have been signed-off by the respective SAIC/Stone and Webster team leader who supervised the data assimilation. Upon completion of the formal document review process by WHC and satisfactory incorporation of comments, the respective facility cognizant engineers and design authorities are anticipated to provide final document sign-off.

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5.0 SUMMARY AND CONCLUSIONS

The verification activity developed data only for those TWRS facilities within the scope of the present TWRS FSAR, and as such will require additional efforts to develop the equivalent set of data for all respective TWRS related facilities.

The informational data gathered during the course of this effort provides a basis for identifying the variability in the hazards and configurations within TWRS. This data will be used to support the identification and application of a safety management program consistent with the variations within TWRS so that safety management resources can be applied in an effective manner only where required.

The verification project was designed and implemented utilizing existing TWRS documentation, visual inspections of TWRS systems, and current knowledge of TWRS engineering and operational personnel. The result of this effort is an integrated collection of TWRS specific information in one coherent data file which can be used to support three basic TWRS activities:

- 1) Performance of the analyses and identification of the controls for the TWRS FSAR;
- 2) Confirmation of facility specific configurations; and
- 3) Development and/or implementation of a TWRS configuration management program.

To this end, the data has been made available to WHC for input to a relational database to facilitate its utility in these two activities. Once the information has been assimilated, the identification of a smaller subset of safety critical systems, structures and components will be established based on the postulated credible accident scenarios for TWRS. This refined subset of critical systems, structures and components will then require a further detailed field and document verification review to determine for each respective systems items including but not limited to, equipment IDs, review and verification of roundsheets and calibration records, operability assessments and OSR/OSD verifications. This detailed review process for the refined subset of systems will verify the safety basis and associated controls with TWRS facilities.

The information developed by this activity will be turned over to the TWRS design authority for use in a configuration management program. As part of this program it is anticipated that the data will need to be maintained current. Maintenance of the database can be related to routine operational (e.g., round sheets) and engineering activities.

The referenced documentation used as the basis for the development of the matrix tables were in most cases provided by WHC cognizant personnel and was determined to be at the time of review the most appropriate and accurate information available.

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6.0 REFERENCES

All documentation used in completion of the matrix tables is listed below. Other reference sources, such as personal interviews, drawings, databases, etc., are not listed here, but are noted on the individual tables located in Appendices B-G.

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200 East/West Tank Farms Cathodic Protection System Survey Report, July, 1994.

244-BX DCRT Facility Manual, Stone & Webster, March 1994

Aging Waste Facility Interim Safety Equipment List, WHC-SD-WM-SEL-020, Westinghouse Hanford Company, Richland, Washington

Aging Waste Interim OSRs, WHC-SD-WM-OSR-004, Westinghouse Hanford Company, Richland Washington.

Authorization Basis Self-Assessment: Requirements Implementation Matrix, WHC-SD-WM-RPT-220, Rev. 0, Westinghouse Hanford Company, Richland, Washington

Development of Radiological Concentrations and Unit Liter Doses for TWRS FSAR Radiological Consequence Calculations, WHC-SD-WM-SARR-037, Rev. 0, Westinghouse Hanford Company, Richland, Washington

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Double Shell Tank Composition Status, Leslie Tusler, 74A30-96-008, Westinghouse Hanford Company, Richland, Washington

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Hanford Site Tank Farm Facilities ISB, WHC-SD-WM-ISB-001, Rev. 0, Westinghouse Hanford Company, Richland, Washington

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A History of the 200 Area Tank Farms, WHC-MR-0132, Westinghouse Hanford Company, Richland, Washington

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Operational Safety Requirements and Operating Specification Documentation Compliance Instrumentation Matrices - 200 East Area Tank Farm, WHC-SD-WM-EL-003, Rev. 0, Westinghouse Hanford Company, Richland, Washington

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Operating Specifications for Double-Shell Tanks, OSD-T-151-00007, Rev. H-17, Westinghouse Hanford Company, Richland, Washington

Operating Specifications for Single-Shell Waste Storage Tanks, OSD-T-151-00013, Rev. D-10, Westinghouse Hanford Company, Richland, Washington

Operating Specifications for Tank Farm Leak Detection and Single-Shell Tank Intrusion, OSD-T-151-00031, Rev. B-2, Westinghouse Hanford Company, Richland, Washington

Operating Specifications for Watch List Tanks, OSD-T-151-00030, Rev. B-17, Westinghouse Hanford Company, Richland, Washington

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Project W-314 DST and DCRT Instrument and Control Systems, Initial Assessment, WHC-SD-W314-ES-018, Rev. 0, Westinghouse Hanford Company, Richland, Washington

Project W-314 DST and DCRT Tank Farm Electrical Distribution Systems, Initial Assessment, WHC-SD-W314-ES-020, Rev. 0, Westinghouse Hanford Company, Richland, Washington

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Riser Configuration Document for Single-Shell Waste Tanks, SD-RE-TI-053, Rev. 9, Westinghouse Hanford Company, Richland, Washington

Single Shell Tank Leak Stabilization Record, WHC-SD-RE-TI-178, Rev. 5, Westinghouse Hanford Company, Richland, Washington

Single Shell Tanks Interim Safety Equipment List, WHC-SD-WM-SEL-027, Westinghouse Hanford Company, Richland, Washington

Status Report for Inactive Miscellaneous Underground Storage Tanks at Hanford Site 200 Areas, WHC-EP-0861, Rev. 0, Westinghouse Hanford Company, Richland, Washington

TWRS Transfer Facility Compliance Plan, WHC-SD-WM-EV-094, Rev. 0, Westinghouse Hanford Company, Richland, Washington

Tank Farm Operator Round Sheets AP, AW, Tank Farm and LERF, TF-OR-A-03, Westinghouse Hanford Company, Richland, Washington

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Transfer Lines, Environmental Upgrade for the Tank Farms, WHC-SD-WM-ES-160, Westinghouse Hanford Company, Richland, Washington

Waste Tank Risers Available for Sampling, WHC-SD-TI-710, Rev. 2, Westinghouse Hanford Company, Richland, Washington

Waste Tank Summary Report for Month Ending December 31, 1995, WHC-EP-0182-93, Westinghouse Hanford Company, Richland, Washington

Work Plan for Tank Farms, Environmental Upgrades of Ancillary Equipment Secondary Containment, WHC-SD-WM-WP-040, Westinghouse Hanford Company, Richland, Washington

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APPENDIX A
MATRIX TABLE INSTRUCTION SHEETS

Table 1
Materials Inventory Checklist Instructions

This table will be filled out for each tank farm and appropriate miscellaneous facilities.

MAR Category. This column provides the possible types of material which could be located within the tank farms, divided by Material at Risk (MAR) Categories. On page 1 under Tank Contents, list all tanks within the tank farm or miscellaneous building. SARA 313 materials are to be added on page 6 and miscellaneous materials may be added on page 7. If a MAR category does not apply for the tank farm or miscellaneous facility, write NA and proceed to the next MAR category.

NOTE: All information related to tank contents must be provided by J. Sloughter's organization. For single shell tanks, use (1) the December 31, 1995 Hanlon Report, WHC-EP-0182-93. For double shell tanks, use (2) the Tusler report 740A30-96-008.

Note* - For material classification types, use reference #1 noted above.

Tank headspace data is to be obtained from tank vapor database (TWINS database).

Capacity. The capacity of the tank or vessel should be added here, where applicable. If not applicable, fill in NA. Design capacities to be provided from approved design media. Provide the source of information (e.g., document number).

Material Classification. This column should be completed with information pertaining to the type of material(s) in the unit (e.g., acetylene, acetone, AGING, etc.) Include the source of information (reference document and/or field walk-down). For the tank contents, the following abbreviations should be used:

AGING - Aging waste. High level, first cycle solvent extraction waste from the PUREX plant.

CC - Concentrated Complexant. Concentrated product from the evaporation of dilute complexed waste.

CP - Concentrated Phosphate Waste. Waste originating from the decontamination of the N Reactor in the 100 N Area. Concentration of this waste produces concentrated phosphate waste.

DC - Dilute Complexed Waste. Characterized by a high content of organic carbon including organic complexants. Main sources of DC waste in the double shell tank system are saltwell liquid inventory from single shell tanks.

DN - Dilute Non-Complexed Waste. Low activity waste originating from T and S Plants, the 300 and 400 Areas, PUREX facility (decladding supernatant and miscellaneous wastes), 100 N Area (sulfate waste), B Plant, saltwells, and PFP (supernate).

DSS - Double Shell Slurry. Waste that exceeds the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. For reporting purposes, DSS is considered a solid.

DSSF - Double Shell Slurry Feed. Waste concentrated just before reaching the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. This form is not as concentrated as DSS.

PD - PUREX decladding. PUREX neutralized cladding removal waste (NCRW) is the solids portion of the PUREX plant neutralized cladding removal waste stream; received in tank farms as a slurry.

PT - PFP Transuranic (TRU) Solids. TRU solids fraction from Plutonium Finishing Plant operations.

Type. Provide the type of waste (e.g., sludge, supernate, etc.) if applicable. Provide the source of information.

Physical Form. Indicate if the material is solid, liquid, or vapor.

Volume or Activity. Provide the volume or activity for each material. Include units (gallons, cubic meters, etc) and the source of all information.

Transient. Indicate with a yes/no reply whether the material could be easily moved to another location. For example, a bottle of acetone could be easily relocated or removed and would be considered a transient material. Waste in the double and single shell tanks are not considered transient.

Quantity. Provide the number of containers, if applicable. Include the source of information, if applicable.

Comments. Provide any additional information in this location. Clarify responses as required.

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION USED.

STATE WHERE WALKDOWN WERE USED TO IDENTIFY MATERIALS (INCLUDE DATE OF WALKDOWN AND NAMES OF INDIVIDUALS).

Table 2
Hazard Identification Checklist Instructions

Facility. All "facilities" (the term "facility" is used very broadly here) have been listed by identification number in the first column. While an attempt has been made to create a comprehensive list of the facilities within the given tank farm which will be included in the final safety analysis report, additional facilities may be identified and added to the end of the list.

Type. The type of facility (e.g. single shell tank (SST), double shell tank (DST), valve pit) has been provided in this column.

Columns A-M. The next 13 columns should be completed with information on the hazards which have been identified for each facility. Responses should be coded with numbers using the **attached table** of responses. The source of information should be provided for each entry. Write NA if the hazards do not apply to the facility.

Comments. Provide any additional information in this location. Additional hazards not covered by the previous categories may be added here. Clarify responses as required.

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION.

STATE WHERE WALKDOWNS WERE USED TO DOCUMENT HAZARDS (INCLUDE DATE & NAMES OF INDIVIDUALS RESPONSIBLE FOR WALKDOWN).

ENERGY CLASSIFICATION DESIGNATIONS			
A Corrosive	Acids	1	1
	Caustic	2	2
B Explosive/Pyrophoric	Capa	1	1
	Primer cord	2	3
	Dynamite	3	3
	Scrub chemicals	4	4
	Dusts	5	5
	Hydrogen	6	6
	Gases, other	7	7
	Mixes	8	8
	Peroxides-superoxides	9	10
	Pu and U metal	10	11
	Other	11	11
C Nuclear Criticality	Shipping and receiving areas	2	2
	Temporary storage areas	3	3
	Valves	1	1
D Flammable Materials	Packing materials	1	1
	Flags	2	2
	Gasoline	3	3
	Lube oil	4	4
	Coconut oil	5	5
	Paint solvent	6	7
	Diesel fuel	7	7
	Buildings and contents	8	9
	Trailers and contents	9	9
	Graze	10	10
	Hydrogen	11	11
	Nitric acid	12	13
	Organics	13	14
	Gases-other	14	14
	Liquids-other	15	15
	Other	16	16
	Scrap	17	17
E Thermal Radiation	Furnaces and boilers	1	1
	Steam lines	2	2
	Lab equipment	3	3
	Solar	4	5
	Other	5	5
F Chemical Reactions	Uncontrolled chemical reactions	1	1
	Other	2	2
G Friction	Belts	1	1
	Bearings	2	2
	Flange	3	3
	Rollers	4	4
	Obstructions	5	5
	Motor	6	6
	Power tools	7	7
	Other	8	8
H Electrical	Battery banks	1	1
	Diesel units	2	2
	Transformers	3	3
	Wiring	4	4
	Switchgear	5	5
	Underground wiring	6	7
	Cable runs	7	7
	Service outlets/fittings	8	9
	Pumps	9	9
	Motors	10	10
	Heaters	11	11
	Power tools	12	13
	Small equipment	13	14
	Electrical equipment	14	14
	Hot plates	15	15
	High voltage	16	16
	Economic electrical	17	17
	Transmission lines	18	19
	Other	19	19
I Kinetic-Rotational	Centrifuges	1	1
	Motors	2	2
	Pumps	3	4
	Fluids	4	4
	Laundry equipment	5	5
	Other	6	7
J Kinetic-Linear	Cams, trucks, buses	1	1
	Forklifts, dollies, carts	2	2
	Railroad	3	3
	Obstructions	4	4
	Motor	5	5
	Pressure vessel blowdown	6	6
	Other	7	7
K Mass, Gravity, Height	Human effort	1	1
	Stairs	2	2
	Lifts and cranes	3	4
	Buckets and ladder	4	5
	Trucks	5	6
	Ships	6	7
	Elevators	7	8
	Jacks	8	9
	Scarfolds and ladders	10	11
	Pits	11	12
	Elevated doors	12	13
	Vessels	13	14
	Valves	14	14
	Expendables	15	15
	Heat exchangers	16	16
	Heat sinks	17	17
	Other	18	18
L Pressure-Volume	Boilers	1	1
	Surge tanks	2	3
	Autoclave	3	3
	Test loops	4	4
	Gas bottles	5	5
	Pressure vessels	6	6
	Strained members	7	8
	Gas receivers	8	9
	Negative pressure collapse	9	10
	Steam headers and lines	10	10
	Positive pressure release	11	11
	Other	12	12
M Thermal (except radiant)	Conductive	1	1
	Exposed components	2	2
	Heat exchangers	3	3
	Heat sinks	4	4
	Electric wiring, equip	5	5
	Fire boxes	6	6
	Water	7	7
	Furnaces/boilers/condensers	8	8
	Steam lines	9	9
	Welding torch	10	10
	Other	11	11

Table 3
Unique Phenomena Checklist Instructions

Facility. For the purpose of identification of unique phenomena, only DST/SST and DCRTs will be considered.

Type. The type of facility (e.g. single shell tank (SST), double shell tank (DST), double contained receiver tank (DCRT)) has been provided in this column.

The next 7 columns should be completed with information on the potential unique phenomena associated with each facility.

Flammable Gas. Indicate whether flammable gas is present for each facility with a yes/no response. Include the sources of information.

Ferrocyanide. Indicate whether ferrocyanide is present for each facility with a yes/no response. Include the sources of information.

Organics. Indicate whether organics are present for each facility, either as a separable phase, TOC in liquids (> 10 g/L), or TOC in solids(>3 wt% dry basis), with yes/no responses. Include the sources of information.

High Heat. Indicate whether the facility has a high heat source (as defined by the OSDs) with a yes/no response. Include the sources of information.

Pyrophorics. Indicate whether the facility contains potentially pyrophoric material, with a yes/no response. Include the sources of information.

Siphoning. Indicate whether the facility contains a potential siphoning hazard with a yes/no response. Include the sources of information.

Criticality. Indicate if > 1 g/L fissionable material exists in the facility. Include the source of information.

Corrosivity. Indicate if the facility contains corrosive materials in excess of the OSD requirements for DST/SST (OSD-T151-00007, OSD-T151-00013). Include the source of information.

Other. List documented discounted events previously evaluated.

Comments. Provide any additional information in this location. Identify any other phenomena for each facility. Clarify responses as required.

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION.

STATE WHERE WALKDOWNS WERE PERFORMED TO IDENTIFY UNIQUE PHENOMENA.

Table 4
Facility Configuration Checklist Instructions

System The list of systems contains the type of systems to be reviewed for each tank farm. The system categories include: tanks, pits, boxes, buildings, steam systems, HVAC systems, instrumentation, and transfer lines. For each facility (e.g., tank, pit, box, building etc.) provide the contents (leak detector, CAM, high level alarm, floor drain, etc.). Under buildings, identify the buildings that are associated with the tank farm (a master list is provided for each tank farm, which is probably not up-to-date). For miscellaneous facilities identify the specific facility and list associated components. Add additional facilities at the end of the list provided.

Equipment Identifier This is the system or equipment tag i.d. number or location reference (i.e. pit #, riser #, etc.). Provide this i.d. number if it is available.

Equipment Existing Identify if the system or equipment identified in the first column actually exists based on drawing/riser list reviews or field walkdowns. Indicate the source of information (document/drawing number or field walkdown).

Equipment Operable Identify if the equipment/system is currently in operable condition. This information is expected to be obtained through field walkdowns and/or interviews with operators and cognizant engineers.

Equipment Condition This applies to the condition of system equipment. A numeric rating on a 1-10 scale with, 10 being the best, will be provided to individual systems (i.e. ventilation, instrumentation, etc.) as appropriate. For DST systems reference Condition Assessment Surveys for specific facilities (i.e. 241-AW, 241-AP, etc.) If equipment condition is different from the referenced condition documented in the reference report, please note in the "Notes" column.

Notes Use the notes freely, especially for any unusual conditions. **Identify exceptions here**, e.g., "the leak detector on tank 101 does not work (the leak detectors on other tanks are operable)", "the leak detection pit 03C serves tanks 101-104 only", etc

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION USED.

STATE WHERE WALKDOWNS WERE USED FOR VERIFICATION.

Table 5
Radiation Source/Physical Protection Checklist Instructions

System The list of systems includes locations which are potential radiation sources. If additional sources are identified, add them at the bottom of the list or on an attached sheet.

System ID This is the system or equipment tag i.d. number. Provide this number if it is available.

Radiation Source Identify if the system or location contains a radiation sources or hotspots greater than or equal to 100 Mr/hr (yes/no answer).

Protective Feature Indicate if the system is or contains radiation protection features. This will include items such as lead shielding, coverblocks, soil over tanks, pits, lines, etc.

Description of Protective Feature Provide a description of the feature (thickness of coverblock, shielding material, etc.) from the drawings or field walkdowns (indicate the source of information). **During field walkdowns, note the condition of all visible protective features. Count the number of penetrations on each cover block and approximate area of the penetrations** (e.g., 50 penetrations, half 4-8" in diameter, the other half 24-48" in diameter).

Comments Use the comments freely, especially for any unusual conditions.

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION.

STATE WHERE WALKDOWNS WERE USED TO OBTAIN INFORMATION.

Table 6
OSR/OSD Safety Controls Checklist

Systems/Structure/Components. The list of systems contains the systems, structures, and components found on Table 4.

OSR Limits. OSR limits are to be taken from WHC-SD-WM-RPT-220, Rev. 0. Only OSR which were tied to systems, structures, and components in WHC-SD-WM-RPT-220 and are implemented should be reported.

OSD Limits. OSD sections which are tied to systems, structures, and components are to be identified here. OSD sections fulfilled by administrative procedures are not to be listed.

Implementing Procedures. List all operating procedures for the associated safety control.

Verification. Indicate if any verification was performed (per WHC-SD-WM-RPT-220). List "DR" for document review (e.g., roundsheet review) and "FV" for anything which was field verified.

Comments Use the notes freely, especially for any unusual conditions. Note any exceptions to requirements, where applicable.

Table 7
Transfer Pipeline Checklist Instructions

Descriptive transfer pipeline data is to be filled out on this table for only active transfer pipelines, which are not within the boundaries of a tank farm. Inactive transfer lines running between tank farms, drain lines, and all transfer lines within individual tank farm boundaries are to be listed on the table by line ID number after the active interfarm lines for FSAR facility configuration purposes only.

Transfer Line ID. Provide the ID number of the active transfer line in this column. Lines which are within the boundary of a tank farm do not need to be included in this table. Segregate lines in the 200 East Area from lines in the 200 West Area.

Size. Specify the diameter of the pipeline in inches.

Type. Specify the type of line (i.e., double encased, concrete encased, direct buried, etc.).

Materials. Specify the transfer pipeline materials of construction.

Capacity. Calculate the pipeline capacity, assuming the pipeline is completely filled with liquid.

Design Pressure. Specify pipeline design pressure.

Connection Facilities. Identify the connection facilities (e.g., diversion boxes) for the pipeline (i.e., to/from locations).

Transfer Frequency. Specify (quantify) the frequency of transfers through this pipeline.

Hydrotesting Frequency. Indicate if the pipe is hydrotested. If yes, specify the frequency of testing.

Leak Detection. Indicate if the pipe has leak detection. If yes, specify the type of leak detection present.

Heat Trace. Specify if the line is heat traced.

Backflow/Siphoning Prevention. Specify if backflow/siphoning prevention is present.

Vent System. Specify if a pipe ventilation system is present. If yes, specify the type of vent system.

Diversion Boxes. Specify if diversion boxes are present. If yes, specify the diversion box identification number.

Cathodic Protection. Specify if the line is cathodically protected.

Comments. Provide any comments needed to clarify responses or provide additional information.

REMINDER: PROVIDE REFERENCES FOR ALL DOCUMENTATION.

APPENDIX B

200 EAST AREA DOUBLE-SHELL TANK FARMS

AN, AP, AW, AY, AZ

AN FARM TABLES

**TWRS FSAR MATRIX TABLE
VERIFICATION REVIEW APPROVALS
May 31, 1996**

The following information has been assembled, organized, and documented in the attached TWRS Final Safety Analysis Report (FSAR) Matrix Tables in support of Tank Farms FSAR development. Science Applications International Corporation (SAIC), along with the assistance of ICF Kaiser Hanford and the Westinghouse Hanford Company, assembled this data from controlled drawings and databases, supporting documents, as well as other site documentation. Where possible, the data has been field verified by performing field walkdowns of the particular facility of interest. The data also have been reviewed for its completeness and accuracy by the TWRS Facility Operations Design Authority and the Cognizant Engineer assigned to the respective facility. The information, to the best of the knowledge and the time allotted by the undersigned, is true, accurate, and complete as permitted by the referenced documents and drawings shown on the respective tables. No efforts were attempted or made by the authors and/or reviewers to substantiate the reference information shown on the tables beyond the stated qualifiers as noted on the individual facility matrix tables.

AN Tank Farm

Tank Farm or Facility

Charlotte Zaccaro
SAIC Lead

5/31/96
Date

Robert Neuh
WHC Cognizant Engineer Review

9/4/96
Date

Ronald W. Reed
WHC Design Authority Review

4 Sep 96
Date

* Stone and Webster support

AN FARM MASTER CHECKLIST

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
AN FARM								
241-AN-101	DST	X	X	X	X	X	X	NA
241-AN-102	DST	X	X	X	X	X	X	NA
241-AN-103	DST	X	X	X	X	X	X	NA
241-AN-104	DST	X	X	X	X	X	X	NA
241-AN-105	DST	X	X	X	X	X	X	NA
241-AN-106	DST	X	X	X	X	X	X	NA
241-AN-107	DST	X	X	X	X	X	X	NA
COB-AN-1	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-2	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-3	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-4	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-5	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-6	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-7	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-8	Cleanout box	X	X	NA	X	X	X	NA
COB-AN-9	Cleanout box	X	X	NA	X	X	X	NA
241-AN-273	Compressor building	NA	X	NA	X	X	X	NA

5/31/96 . Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)
NA = Not applicable or not required.

AN FARM MASTER CHECKLIST

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
241-AN	Flush pit	X	X	NA	X	X	X	NA
241-AN-271	Instrument building	NA	X	NA	X	X	X	NA
	Service pit	X	X	NA	X	X	X	NA
241-AN-A	Valve pit	X	X	NA	X	X	X	NA
241-AN-B	Valve pit	X	X	NA	X	X	X	NA
Other facilities found during walkdown or drawing search								
241-AN-274	Caustic addition control building	X	X	NA	X	X	X	NA
	Caustic addition skid	X	X	NA	X	X	X	NA
	Satellite Accumulation Area	X	X	NA	X	X	X	NA
	Change trailer	X	X	NA	X	X	X	NA

5/31/96 . Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)

NA = Not applicable or not required.

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<u>Legend Box</u> →	<u>Capacity</u> Provide reference	<u>Type of material in the tank, pit, etc. (see instructions for abbreviations)</u> Provide reference	<u>Supernatant, sludge, solids, etc.</u> Provide reference	<u>Vapor, liquid, solid</u>	<u>How much material is present in piping, coils, etc. Include cells.</u> Provide reference	<u>Can the material be released or moved per or no.</u>	<u>Number of large containers, etc. If applicable, provide reference if applicable.</u>	<u>Notes</u>
1. Tank Contents								
AN-101	1.16 Mgal[D3]	DN [D1]	Supernatant [D2]	Liquid [D2]	1080 Kgal [D2]	No	NA	AN-101 will be pumped to 105-AP [D1]
AN-102	1.16 Mgal[D3]	CC [D1]	Supernatant Solid [D2]	Liquid Unknown [D2]	963 Kgal 89 Kgal [D2]	No	NA	NA
AN-103	1.16 Mgal[D3]	DSS [D1]	Slurry [D2]	Liquid Solid Vapor [D2]	965 Kgal [D2]	No	NA	NA
AN-104	1.16 Mgal[D3]	DSSF [D1]	Slurry [D2]	Liquid Solid Vapor[D2]	1080 Kgal [D2]	No	NA	NA
AN-105	1.16 Mgal[D3]	DSSF [D1]	Slurry [D2]	Liquid Solid Vapor [D2]	1128 Kgal [D2]	No	NA	NA
AN-106	1.16 Mgal[D3]	DSSF [D1] CP [R.S. Nickelation, 0/25/96]	Supernatant Solid [D2]	Liquid Solid [D2]	400 Kgal 17 Kgal [D2]	No	NA	NA
AN-107	1.16 Mgal[D3]	CC [D1]	Supernatant Solid [D2]	Liquid Solid [D2]	923 Kgal 134 Kgal [D2]	No	NA	NA

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<i>Legend Box -></i>	<i>Capacity: Provide reference.</i>	<i>Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.</i>	<i>Supernats, sludges, sediments, etc. Provide reference.</i>	<i>Vapor, liquid, solid</i>	<i>How much material is present, in gallons, cubic feet, etc. Include units. Provide reference.</i>	<i>Can the material be relocated, or moved, yes or no.</i>	<i>Number of bags, containers, etc. (if applicable). Provide reference if applicable.</i>	<i>Notes</i>
2. Tank Headspace								
AN-101	NA	NA	NA	Vapor	1235 MF. No NH ₃ present". [D4] See radionuclide concentrations, Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SHMS cabinet has an ammonia monitor
AN-102	NA	NA	NA	Vapor	1228 MF. No NH ₃ present". [D4] See radionuclide concentrations, Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SHMS cabinet has an ammonia monitor
AN-103	NA	NA	NA	Vapor	1708 MF. No NH ₃ present". [D4] See radionuclide concentrations, Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SHMS cabinet has an ammonia monitor

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<u>Legend Box-></u>	Capacity: Provide reference	Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.	Suspensions, slurries, solids, etc. Provide reference.	Vapor, liquid, solid	How much material is present in gassing, cooling, etc. Include units. Provide reference.	Can the material be released, or moved, yes or no.	Number of tanks, containers, etc. (if applicable). Provide reference if applicable.	Notes
AN-104	NA	NA	NA	Vapor	1311 M ³ . No H ₂ S present". [D4] See radionuclide concentrations. Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SWS cabinet has an ammonia monitor
AN-105	NA	NA	NA	Vapor	1053 M ³ . No H ₂ S present". [D4] See radionuclide concentrations. Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SWS cabinet has an ammonia monitor
AN-106	NA	NA	NA	Vapor	3745 M ³ . No H ₂ S present". [D4] See radionuclide concentrations. Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SWS cabinet has an ammonia monitor
AN-107	NA	NA	NA	Vapor	1322 M ³ . No H ₂ S present". [D4] See radionuclide concentrations. Note 1.	Yes"	NA	"Continuously vented to the atmosphere with the active ventilation system "Cognizant engineer reports ammonia is present, and that primary exhaust SWS cabinet has an ammonia monitor

5/31/05

NA = Not applicable or not required.

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<u>Legend Box</u> →	Capacity Provide reference	Type of material in the tank, pit, etc. (see instructions for abbreviations) Provide reference	Supervisors, students, utilities, etc. Provide reference	Vapors, liquid, solid	How much material is present in piping, tanks, etc. Include units. Provide reference	Can this material be released or moved just or no.	Number of large containers, etc. If applicable, Provide reference if applicable.	Notes
3. Rail or Truck Trailer Contents	NA	NA	NA	NA	NA	NA	NA	There are no rails or trucks in AN Farm [ndf]
4. Contamination on Vehicle	NA	NA	NA	NA	NA	NA	NA	There are no vehicles in AN Farm [ndf]
5. Contamination on Equipment or Tools	NA	NA	NA	NA	NA	NA	NA	NA
6. Ventilation Filter Contents								
Primary	200 m ³ /hr maximum for all HEPA filters [DG]	NA	NA	Particulate	<200 m ³ /hr [DG] WHC-SD-WM-BMP-031, Rev 2, summarizes the assay results of HEPA filters for the DOST block 206-A-29.	Yes - disposal in accordance with C-EP-0083-4 (R03)	NA	HEPA filters monitored for DP droploading in accordance with manufacturer's spec

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transfer Y/N		
Legend Box ->	Capacity	Provide reference	Supernatant, etc. Provide reference	Vapor, liquid	How much material is present, in galling, cutting, etc. Include units. Provide reference	Can the material be released or moved yes or no	Number of bags, containers, etc. (if applicable, provide reference if applicable)	Notes
		Type of material in the tank, i.e., gas, liquid, etc. Provide reference for abbreviations						
Airlock	200 m ³ /hr HEPA filters for all [DG]	NA	NA	Particulate	<200 m ³ /hr [DG]	Yes - deposit in accordance with HC-EP-003-4 (B93)	NA	HEPA filters monitored for DP deploding in accordance with manufacturer's spec
Breather	NA	NA	NA	NA	NA	NA	NA	There are no breathers on AN tanks. (ndt1)
7. Contamination in Ventilation System								
Damsters	NA	Process condensate	NA	Liquid	Residual	NA	NA	NA
Seal loop	NA	Process condensate	NA	Liquid	Residual	NA	NA	NA
8. Contents of Source Tank or Piping During Transfer	NA	NA	NA	NA	NA	NA	NA	Refer to Transfer Line Table 7

5/31/96

NA = Not applicable or not required

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TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<u>Legend Box</u> →	Capacity Provide reference	Type of material in the tank, pit, etc. (see instructions for abbreviations) Provide reference	Specimens, sketches, etc. Provide reference	Vapors, liquid, solid	How much material is present in gassing, cooking, etc. Include units. Provide reference	Can the material be released or moved yes or no	Number of bags, containers, etc. if applicable. Provide reference if applicable	Notes
9. Contents of Sump or Encasement	NA	NA	NA	NA	NA	NA	NA	Refer to Transfer Line Table 7.
10. Contamination in Pit or Box								
Control pump pit: AN 01A-07A	3.8 K gal ea. [AN27]	Residual contamination	NA	Residue	Unknown	No	7 pits	NA
Annulus pump pit: AN 01B-07B	1.7 K gal ea. [AN28]	Residual contamination	NA	Residue	Unknown	No	7 pits	NA
Leak detection pump pit: AN 01C-07C	1.7 K gal ea. [AN29]	Residual contamination	NA	Residue	Unknown	No	7 pits	NA
Condensate pit AN 01D	2.4 K gal ea. [AN23,28,37]	Residual contamination	NA	Residue	Unknown	No	2 pits	NA
Supermate receiver pit AN 01E	1.4 K gal [AN24]	Residual contamination	NA	Residue	Unknown	No	1 pit	NA
AN tank pit	1.9 K gal (ANA)	Residual contamination	NA	Residue	Unknown	No	1 pit	Exists on drawing. Not found in the field.
Valve Pit ANA	5.4 K gal [AN31]	Residual contamination	NA	Residue	Unknown	No	twelve pit	NA

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory						Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N			
Legend Box-> Capacity: Provide references Type of material in storage: Provide references Supplements: Provide references HAZOP: Liquid HAZOP: Solid HAZOP: Gas HAZOP: Other	Capacity	Type of material in storage: Provide references Supplements: Provide references HAZOP: Liquid HAZOP: Solid HAZOP: Gas HAZOP: Other	Type	Physical Form	How much material is present in gaseous, critical, etc. Provide references	Can the material be released or moved yes or no	Number of bags, applicators, provide references if applicable	Notes	
Valve PN A4-B	5.4 K gal [AN31]	Residual contamination	NA	Residue	Unknown	No	1 valve pit	NA	
Flush pit	1 K gal [AN30]	Residual contamination	NA	Residue	Unknown	No	1 flush pit	NA	
Service pit	2.4 K gal [AN31, 32]	Raw Water	NA	Residue	No	No	1 service pit	NA	
Clean out box AN 1-9	0.47 K gal ea. [AN3]	Residual contamination	NA	Residue	Unknown	No	9 COBs	NA	
Vent pits AN #1, 2, 3, 4	6 K gal ea. [AN22, 35]	Residual contamination	NA	Residue	Unknown	No	4 vent pits	NA	
Dewater pit	1.9 K gal [AN4]	Residual contamination	NA	Residue	Unknown	No	dewater pit	NA	
11. SARA 313 Materials									
Bottles support PC41B personal red monitor [nd1]	480 F [D7]	10% methanol/ 80% argon	NA	Gas	NA	Yes	2 bottles	Located outside change trailer	

5/31/86
NA = Not applicable or not required

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
Legend Box->	Capacity: Provide reference.	Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.	Supernatant, sludge, solids, etc. Provide reference.	Vapor, liquid, solid	How much material is present, in gallons, cubic feet, etc. Include units. Provide reference.	Can the material be relocated, or moved, yes or no.	Number of bags, containers, etc. (if applicable). Provide reference if applicable.	Notes
12. Other								
Caustic addition building and skid	1 unit	See comment	NA	NA	NA	NA	NA	No caustic present at this time. [wd1]
Satellite accumulation area	6 55gal mixed waste drums (maximum) [wd1]	RCRA Mixed Waste	Soil, paint waste, tank contacted, mask cartridges, HEPA filters, misc. RMW wastes	Solid	Low level (less than class C)	Yes	6 55 gal drums max capacity for SAA	Inventories removed when filled, transported to 208-E 90 day storage facility
Buildings	2 small buildings roped off for rad buffer area [wd1]	Low level waste	SNPs, other low level waste	Solid	Low level	Yes	Did not look in buildings as they were roped off [wd1]	2 small buildings near change trailer [wd1]

Note 1: (1)= Inventory contribution in Bq/L of major radionuclides to the total unit liter dose due to inhalation/ingestion for liquids in tanks (Tables 4/5, WHC-SD-WM-SARR-037 Rev.0) Co80- 6.97 E+06, Sr90-4.59 E+06, Y90 4.56 E+06, Cs137-5.86 E+10, Eu15-4.18 E+07, Np237-2.30 E+06, Pu238-1.78 E+06, Pu239-7.65 E+06, Pu241-1.84 E+07, Am241-3.40 E+07, Cm244-1.22 E+05. These are bounding concentrations.

Inventory contribution in Bq/L of major radionuclides to the total unit liter dose due to inhalation/ingestion for solids in tanks (Tables 4/5, WHC-SD-WM-SARR-037 Rev.0)

Co80- 1.5 E+07, Sr90-5.2 E+10, Y90 5.2 E+10, Cs137-5.9 E+10, Eu15-3.00 E+06, Np237-3.1 E+05, Pu238-7.2 E+07, Pu239-1.6 E+06, Pu241-3.8 E+06, Am241-2.7 E+06, Cm244-1.6 E+07. These are bounding concentrations.

[D1] "Waste Tank Summary Report for Month Ending December 31, 1995," WHC-EP-0182093 (B.M. Henton)

[D2] "Double-Shell Tank Composition Status - Quarterly Report," Internal Memo 74A30-96-006 (L.A. Tuxler)

[D3] SD-WM-SAR-106, Rev 1

[D4] "TWINS" data base, Jim Huckaby of PNNL

[D5] WHC-SD-WM-SARR-037, Rev 0 (created by Bill Cowley)

[D6] SD-WM-SAR-016, Rev 1

[D7] "Hazardous Material Inventory Database," 1/10/96, provided by Michael R Weil

[I1] Cognizant Engineer comments, 5/28/96 Bob Nicholson

5/31/96

NA = Not applicable or not required.

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reactive	G- Friction	H- Electrical	I- Kinetic Rotation	J- Kinetic Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend Boxes -->		<i>Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below.</i>													<i>Notes</i>
AN TANK FARM		NA	NA	NA	NA	NA	NA	5 (c)	6 (b)	2, 3 (b)	NA	11 (c)	NA	NA	NA
241-AN-101	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1)	NA	NA	2(b)(3), 3(d)(b)	4,6,9,10, 14 (b)	3 (b)	(c)(b)	11,15(b)(c)	NA	NA	(1) Hydrogen not above LFL
241-AN-102	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1)	NA	NA	2(b)(3), 5,(b) 3(d)(b)	4,6,9,10, 14 (b)	3 (b)	(c)(b)	11,15(b)(c)	NA	NA	(2) Ammonia (3) Pump bearings
241-AN-103	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1), 14(a)(2)	NA	NA	2(b)(3), 3(d)(b), 7(5)(b)	4,6,9,10, 14 (b),10(6)	2,3 (b)	(c)(b)	11,15(b)(c)	NA	NA	AN-103 is a watchlist tank (hydrogen/ flammable gas). (a) (4) Mixer pump motor (caustic addition)
241-AN-104	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1), 14(a)(2)	NA	NA	2(b)(3), 3(d)(b), 7(5)(b)	4,6,9,10, 14 (b),10(6)	2,3 (b)	(c)(b)	11,15(b)(c)	NA	NA	AN-104 is a watch list tank (hydrogen/ flammable gas) . (a) (5) Sealed camera units in the dome space (6) Camera motor
241-AN-106	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1), 14(a)(2)	NA	NA	2(b)(3), 3(d)(b), 7(5)(b)	4,6,9,10, 14 (b),10(6)	2,3 (b)	(c)(b)	11,15(b)(c)	NA	NA	AN-106 is a watch list tank (hydrogen/ flammable gas). (a) (7) Mixer pump motor
241-AN-108	DST	2 (b), 4 (b)	6,7,8 (b)	15 (b)	11(b)(1)	NA	NA	2(b)(3), 3(d)(b)	4,6,9,10, 14 (b)	3 (b)	(c)(b)	11,15(b)(c)	NA	NA	NA
241-AN-107	DST	2 (b)	6,7,8 (b)	15 (b)	11(b)(1), 14(a)(2)	NA	NA	2(b)(3), 3(d)(b), 7(5)(b)	4,6,9,10, 14 (b),10(6)	2,3 (b)	(c)(b)	11,15(b)(c)	NA	NA	NA
COB-AN-1	Cleanout box	2 (b)	6,7,8 (b)	NA	NA	NA	NA	NA	4 (b)	NA	NA	NA	NA	NA	NA
COB-AN-2	Cleanout box	2 (b)	6,7,8 (b)	NA	NA	NA	NA	NA	4 (b)	NA	NA	NA	NA	NA	NA
COB-AN-3	Cleanout box	2 (b)	6,7,8 (b)	NA	NA	NA	NA	NA	4 (b)	NA	NA	NA	NA	NA	NA
COB-AN-4	Cleanout box	2 (b)	6,7,8 (b)	NA	NA	NA	NA	NA	4 (b)	NA	NA	NA	NA	NA	NA

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reactive	G- Friction	H- Electrical	I- Kinetic Rotation	J- Kinetic Linear	K- Mass, Gravity, Height	L- Pressure/ Volume	M- Thermal (except radiant)	Comments
Legend: NA = Not applicable; NA = Not applicable or not required															
Select applicable hazard from attached table and place corresponding hazard numbers in the boxes below.															
COB-AN-5	Clearout box	2 [b]	6,7,8 [b]	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
COB-AN-6	Clearout box	2 [b]	6,7,8 [b]	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
COB-AN-7	Clearout box	2 [b]	6,7,8 [b]	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
COB-AN-8	Clearout box	2 [b]	6,7,8 [b]	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
COB-AN-9	Clearout box	2 [b]	6,7,8 [b]	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
241-AN-273	Compressor building	NA	NA	NA	NA	NA	NA	1,2,3, 5 [b]	4,7,8,9,10,11, 14 [b]	2,3,4 [b]	5 [b]	7,13 [b]	2,6 [b]	1,3 [b]	NA
241-AN-01D	Condensate receiver pit	NA	NA	NA	NA	NA	NA	NA	4 [b]	NA	5 [b]	3 [b]	NA	NA	NA
241-AN	Flush pit	NA	NA	NA	NA	NA	NA	NA	4 [b]	NA	NA	NA	NA	NA	NA
241-AN-271	Instrument building	NA	NA	NA	NA	NA	NA	2,3,5 [b]	3,4,5, 6,7,8, 11,14, 16[6][b]	2,4 [b]	NA	NA	NA	3 [b]	(B) 480 V. considered high voltage
	Service pit	NA	NA	NA	NA	NA	NA	NA	4 [b]	NA	NA	10 [b]	NA	3 [b]	NA
241-AN-A	Valve pit	NA	NA	NA	NA	NA	NA	NA	4 [b]	NA	5 [b]	3,10 [b]	NA	NA	NA
241-AN-B	Valve pit	NA	NA	NA	NA	NA	NA	NA	4 [b]	NA	5 [b]	3,10 [b]	NA	NA	NA
	Scallop accumulation area	1, 2, 4	NA	NA	2, 10, 17 (tank contact treated)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Annular pits (7)	NA	NA	NA	NA	NA	NA	2,5 [b]	4 [b]	2,3 [b]	5 [b]	3 [b]	NA	NA	NA
	Leak detector pits (7)	NA	NA	NA	NA	NA	NA	2,5 [b]	4 [b]	2,3 [b]	5 [b]	3 [b]	NA	NA	NA

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Rxnns.	G- Friction	H- Electrical	I- Kinetic- Rotation	J- Kinetic- Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend Boxes ->		Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below.													Hazards
	Central pump pits (7)	NA	NA	NA	NA	NA	NA	2,5 (b)	4 (b)	2,3 (b)	5 (b)	3 (b)	NA	NA	NA
241-AN-01E	Supernova receiver pit (1)	NA	NA	NA	NA	NA	NA	NA	4 (b)	NA	5 (b)	3 (b)	NA	NA	NA
	Ventilation pits (4)	NA	NA	NA	NA	NA	NA	NA	4 (b)	NA	5 (b)	3 (b)	NA	NA	NA
241-AN-274	Caustic addition control building	2 (b)	NA	NA	NA	NA	NA	2,4 (b)	4,9,10, 11 (b)	2,3 (b)	NA	NA	NA	3(9)(b)	(9) Heat trace
	Ventilation pad	NA	6,7 (b)	NA	11,14 (b)	NA	NA	1,2,3,4,5 (b)	4,6,10, 11,16 (b)	2,4 (b)	NA	NA	NA	3 (b)	NA
	Change trailer	NA	NA	NA	NA	NA	NA	NA	4,6,11 (b)	NA	NA	NA	5 (b)	3 (b)	NA

(a) OSD-T-151-00030 B-17

(b) COG Engineers: Bob Nicholson, Bill Meuwissen, 4/4/96

(c) Crane loads in farm, tank

(d) Component part of Ventilation system

TABLE 3
UNIQUE PHENOMENA CHECKLISTWHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO ₂ , HCl) limits in OGD-T-151-0007	Other	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend: None ->													
AN FARM													
241-AN-101	DST	N Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Bonheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	N Tusler 1996 74430-96-008	N personal communications Don with Don Reynolds	Unknown or currently undocumnted (1)	N Pu Inv Database (WHC140 /PLUTNY)	N Tusler 1996 74430-96-008	NA	No known separable phase organics
241-AN-102	DST	N Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Bonheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	N Tusler 1996 74430-96-008	N personal communications Don with Don Reynolds	Unknown or currently undocumnted (1)	N Pu Inv Database (WHC140 /PLUTNY)	Y Tusler 1996 74430-96-008	NA	No known separable phase organics
241-AN-103	DST	Y Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Bonheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	N Tusler 1996 74430-96-008	N personal communications Don with Don Reynolds	Unknown or currently undocumnted (1)	N Pu Inv Database (WHC140 /PLUTNY)	N Tusler 1996 74430-96-008	NA	No known separable phase organics Chemical Hydrolysis on Watch List
241-AN-104	DST	Y Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Bonheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	Dose 2 solid? (Tested) Provide references	N Tusler 1996 74430-96-008	N personal communications Don with Don Reynolds	Unknown or currently undocumnted (1)	N Pu Inv Database (WHC140 /PLUTNY)	N Tusler 1996 74430-96-008	NA	No known separable phase organics Chemical Hydrolysis on Watch List

5/31/96

NA = Not applicable or not required

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TABLE 3
UNIQUE PHENOMENA CHECKLIST

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (> 70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (> 1 g/L in solids)	Corrosivity (OH, NO2,NO3) limits in OSD-T-151-0007	Other	Comments
				Separable Phase	TOC in liquids (> 10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes-->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	List documented incidents. Provide references.	Notes
241-AN-105	DST	Y Hodgeson 1996 WHC-SD-WM-ER-526 Rev. 1	N Borshelm & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Reynolds 1994 WHC-EP-0717	Unknown or currently undocume nted	Y (Slurry) Tusler 1996 74A30-98-008	N Tusler 1996 74A30-98-008	N personal communica tion with Dan Reynolds	Unknown or currently undocume nted (1)	N Pu Inv Database (WHC140 /PLUTINV)	N Tusler 1996 74A30-98-008	NA	No known separable phase organics Currently on Hydrogen Watch List
241-AN-106	DST	N Hodgeson 1996 WHC-SD-WM-ER-526 Rev. 1	N Borshelm & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Each 1996 WHC-SD-WM-OP-168 Rev. 0	N Tusler 1996 74A30-98-008	Unknown or currently undocume nted	N Tusler 1996 74A30-98-008	N personal communica tion with Dan Reynolds	Unknown or currently undocume nted (1)	N Pu Inv Database (WHC140 /PLUTINV)	N Tusler 1996 74A30-98-008	NA	No known separable phase organics
241-AN-107	DST	Y Hodgeson 1996 WHC-SD-WM-ER-526 Rev. 1	N Borshelm & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Herting 1993 12110-PCL93-042	Y Tusler 1996 74A30-98-008	Y Tusler 1996 74A30-98-008	N Tusler 1996 74A30-98-008	N personal communica tion with Dan Reynolds	Unknown or currently undocume nted (1)	N Pu Inv Database (WHC140 /PLUTINV)	Y Tusler 1996 74A30-98-008	NA	Tank failed the flammable gas watchlist criteria (WHC-EP-0702 Rev. 0). Treated with watch list controls pending further direction from DOE (OSD-T-151-00030, B-20)

TABLE 3
UNIQUE PHENOMENA CHECKLIST

- [1] Group Hazards Analysis performing independent siphoning evaluation study.

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>Is equipment existing, yes/no. Provide reference.</i>	<i>Is equipment operable, yes/no. Provide reference.</i>	<i>Equipment condition, Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
Tanks AN 101-107					
Tank Waste Instrumentation					
Specific gravity instr. system	NA	No	No	NA	NA
Temperature probes (T.C Tree)	NA	Yes [wd1] [AN14-20]	Yes [wd1]	NA	NA
Liquid level (Primary)	NA	Yes [wd1] [AN14-20]	Yes [wd1]	NA	Tanks with FICs: 101,102,106,107. Tanks AN 103, 104, and 105 have ENRAFs for liquid level. These are watch list tanks. Tank AN 107 has also been added to the watch list. AN 107 has 2 ENRAFs, used as densitometers to measure density; it has no ENRAF yet for level measurement. [wd1]
Liquid level (Backup)	NA	Yes [wd1] [AN14-20]	Yes [wd1]	NA	Manual tapes. [wd1]
High level probe	NA	Yes [AN14-20]	See comment	NA	Operable on the following tanks: 101, 102, 106. Disconnected because of watch list status: 103, 104, 105 (and soon 107). [wd1]
Tank primary vapor space pressure monitor	NA	Yes [AN41]	Yes [AN41]	NA	NA
Gas monitoring / SHMS	AN-103, 104, 105	Yes [wd1] [AN1]	Yes [wd1]	NA	NA
Mass spectrometer	AN-105 only	Yes [wd1] [AN7]	Yes [wd1] [AN7]	NA	For gas characterization
TMACS	NA	Yes [wd1]	Yes [wd1]	NA	For pressure and temperature
Multi-function instrument tree (MIT)	AN-103, 104, 105	Yes [wd1]	Yes [wd1]	NA	NA
TV Cameras	AN-103, 104, 105	Yes [wd1]	Yes [wd1]	NA	Cameras have a special SS cover block for the multi-port riser. [wd1] Cameras have local control stations. [wd1] AN-107 has a TV monitor, but it is not intrinsically safe, as AN-107 is being treated as a watch list tank. [I2]
Vapor sampler	AN-103, 104, 105	Yes [wd1]	See comment	NA	For flammable gas tanks, temporarily stored in AN Farm. [wd1]
Sludge level indicator	NA	Yes [AN14-20]	NA	NA	Many sludge level indicators are missing; sludge level can be taken by bringing sludge level measuring equipment into the farm. [wd1]

TABLE 4
FACILITY CONFIGURATIONWHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment existing, yes/no, provide reference.	Is equipment operable, provide reference.	Equipment condition	Notes, description, references, etc.
Legend	Supply any associated ID numbers.	Is equipment existing, yes/no, provide reference.	Is equipment operable, provide reference.	Equipment condition	Notes, description, references, etc.

Tank Annulus Instrumentation					
Leak detection manual tape	NA	NA	NA	NA	See leak detection conductivity probe.
CAM Had Monitor	NA	Yes [AN42]	Yes [AN42]	NA	NA
Pump pit leak detection	NA	Yes [wd1]	Yes [wd1]	NA	NA
Leak detection conductivity probe	NA	Yes [wd1] [AN14-20]	Yes [wd1]	NA	NA
Temperature	NA	NA	NA	NA	See thermocouples.
Tank annulus pressure gage	NA	Yes [wd1]	Yes [wd1]	NA	Gauges are not regularly calibrated. [wd1]

Tank Structure Instrumentation					
Thermocouple data acquisition	9 each	Yes [AN-13]	Yes [AN-13]	NA	Insulating concrete below primary tank [AN13]
Thermocouple data acquisition	18 each	Yes [AN-13]	Yes [AN-13]	NA	Concrete dome of secondary tank [AN13]
Thermocouple data acquisition	30 each	Yes [AN-13]	Yes [AN-13]	NA	Concrete wall of secondary tank [AN13]
Instrument Enclosures	NA	Yes [wd1]	Yes [wd1]	NA	NA
Air Bt calculators	AN-107	Yes [wd1]	Yes [wd1]	NA	NA
Steam coil	NA	NA	NA	NA	Steam has been isolated to AN Farm [wd1]
Calson	NA	NA	NA	NA	NA

6/21/98
NA = Not applicable or not required

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>Is equipment existing, yes/no. Provide reference.</i>	<i>Is equipment operable, yes/no. Provide reference.</i>	<i>Equipment condition, Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
HVAC Systems					
Ventilation System(s)	K1, K2	Yes [wd1]	Yes [wd1]	See comment	AN tank farm electrical system is rated as "adequate", 5. The primary and annulus duct assemblies are rated as "adequate", 7. The above-ground annulus duct condition is rated as "adequate", 5. [D1]
-Passive	NA	Yes [wd1]	Yes [wd1]	NA	Annul have filtered inlets [wd1]. Primary intakes will be installed on all tanks [11]
-Active	Yes [wd1] [AN1]	Yes [11] [wd1] [AN1]	Yes [11] [wd1]	NA	K1: 2 trains [wd1] [AN1] K2: 2 trains [wd1] [AN1]
-Shared / common vent system? (Describe in comments section)	NA	Yes [wd1] [AN1]	Yes [wd1] [AN1]	NA	Exhaust pipe ss. tank routed to common plenum at exhaust station [AN1]
-Exhaust vent/hatchway	No [AN1]	No [wd1]	No [wd1]	NA	The access ports to the HEPA filters are properly sealed. [wd1]
-Annulus air intake assemblies	K2	Yes [wd1]	Yes [wd1]	NA	AN-2 1 HEPA, 1 prefilter [AN1]
-Primary air intake assemblies	NA	No [wd1] [AN1]	NA	NA	To be installed [11]
-Pre-filters (yes/no)	NA	Yes [wd1]	Yes [wd1]	NA	NA
-HEPA filters (how many filters, stages, parallel vs series etc.)	NA	Yes [wd1]	Yes [wd1]	See comment	The annulus HEPA filter banks are rated as "fair", 5. The primary HEPA filters are rated as "good", 8. [D1] Primary HVAC: There are two stages of 4 HEPAs each. [wd1] Annulus HVAC: There are two stages of 2 HEPAs each. [wd1]
-Fans	NA	Yes [wd1]	Yes [wd1]	See comment	AN tank farm annulus fans electrical system is rated "adequate", 5. The primary exhaust fan assemblies are rated as "fair", 5. The K2-S-1 exhaust fan is rated as "fully capable", 10. The K2-S-2 exhaust fan is rated as "poor", 4, because of its inability to operate to original design. [D1]
-De-entrainers	NA	Yes [wd1]	Yes [wd1]	NA	1 ss train [wd1] [AN1]
-Demister pit	NA	Yes [AN4]	NA	NA	Located edge of AN-10S adjacent to central exhaust system. Also called the demister pit. [AN4]
-Heaters	NA	Yes [AN1]	See comment	NA	1 ss. train [AN1] Electric heaters are often broken, and are not usually needed. [11]

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>If equipment existing, yes/no. Provide reference.</i>	<i>If equipment operable, yes/no. Provide reference.</i>	<i>Equipment condition, Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
HVAC Instrumentation					
Main stack monitor	NA	Yes [wd1] [AN1]	Yes [wd1]	NA	SHMS to be installed on the main exhauster stack. [wd1]
Primary tank pressure	NA	Yes [wd1] [AN1]	Yes [wd1] [AN1]	NA	Measured in tank riser.
Differential pressure indicators	NA	Yes [wd1] [AN1]	Yes [wd1] [AN1]	NA	Across all HEPAs
Temperature indicators	NA	Yes [AN1]	Yes [AN1]	NA	Across heaters
Stack flow meter	K1,2	Yes [AN1]	Yes [AN1]	NA	Stack flow meter results are usually not used. Vent and Balance testing is used. [11]
Primary Seal Pot	NA	Yes [AN3]	Yes [AN3] [11]	NA	For stack plenum condensate drain lines.
-Level element	NA	No [AN1,4]	NA	NA	NA
-Drain	NA	Yes [AN1,4]	Yes	NA	Assumed operable.
-Heat trace	NA	Yes [AN6]	Yes	NA	Assumed operable.
Annulus Seal Pot Plt	NA	Yes [AN1,4]	Yes [AN1,4] [11]	NA	NA
-Level element	NA	No [AN4]	NA	NA	NA
-Drain	NA	Yes [AN4]	Yes	NA	Assumed operable.
Ventilation Plt					
Ventilation Plt #1	AN-102, 103	Yes [11] [AN8]	Yes [AN8] [11]	NA	NA
- Annulus duct pressure	NA	Yes [AN8]	Yes [AN8] [11]	NA	NA
- CAM	NA	Yes [AN8]	Yes [AN8] [11]	NA	Annulus leak detection CAM.
-Flow control valve	NA	Yes [AN8]	Yes [AN8] [11]	NA	NA

5/31/98

NA = Not applicable or not required

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System/ Equipment Identifier	Supply any associated ID numbers.	If equipment existing, provide reference.	If equipment operable, provide reference.	Equipment condition, provide reference.	Notes, describe equipment, etc.
Legend						Comments

Ventilation Pit #2	AN-101,104	Yes [ANB]	Yes [ANB] (11)	NA		
-Arxius duct pressure	NA	Yes [ANB]	Yes [ANB] (11)	NA	NA	
-CAM	NA	Yes [ANB]	Yes [ANB] (11)	NA	Arxius leak detection CAM.	
-Flow control valve	NA	Yes [ANB]	Yes [ANB] (11)	NA	NA	
-CAM	NA	Yes [ANB]	Yes [ANB] (11)	NA	Arxius leak detection CAM.	
-Flow control valve	NA	Yes [ANB]	Yes [ANB] (11)	NA	NA	
Ventilation Pit #4	AN-107	Yes [ANB]	Yes [ANB] (11)	NA	NA	
-Arxius duct pressure	NA	Yes [ANB]	Yes [ANB] (11)	NA	Arxius leak detection CAM.	
-CAM	NA	Yes [ANB]	Yes [ANB] (11)	NA	NA	
-Flow control valve	NA	Yes [ANB]	Yes [ANB] (11)	NA	NA	
Ventilation Inertment Pit				Yes	NA	Assumed operable.
- Drains	Pits 1,2,3 No for pit 4	Yes [AN 21,22]	Yes	NA		

Pits						
Arxius Pump Pit	NA	Yes (11)	Yes (11)	NA	NA	
-Floor drain	NA	Yes [ANB]	Yes (11)	NA	NA	
-Sump	NA	No [ANB]	NA	NA	NA	
-Leak detection	NA	Yes [wd1] [ANB]	Yes [wd1]	NA	NA	
-Roof spray ring	NA	Yes [ANB]	Yes	NA	Assumed operable.	

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>If equipment existing, yes/no. Provide reference.</i>	<i>If equipment operable, yes/no. Provide reference.</i>	<i>Equipment condition. Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
Central Pump Pit	NA	Yes [I1] [wd1]	Yes [I1]	NA	NA
-Leak detection	NA	Yes [wd1] [AN23]	Yes [wd1]	NA	NA
-Floor drain	NA	Yes [AN24]	Yes	NA	Assumed operable.
-Check Valve	NA	Yes [AN24]	Yes	NA	Assumed operable.
-Portable pit spray (1" RW)	NA	Yes [AN24]	Yes	NA	Assumed operable.
Distributor Pit	NA	NA	NA	NA	NA
Stilts Pit	NA	NA	NA	NA	NA
Heel Pit	NA	No	NA	NA	NA
Leak detection pump pit	NA	Yes [I1]	Yes [I1]	NA	NA
-Level sensing system (SpG-WF sump)	NA	Yes [wd1] [AN13]	Yes, except for AN-103 [wd1]	NA	The SpG-WF on AN-103 is plugged; a zip cord is used instead. [wd1] SpG readings are no longer taken. [I2]
-Radiation monitor (sump)	NA	Yes [AN13] [I1]	Yes	NA	Assumed operable.
-Leak detection system (pit)	NA	Yes [wd1] [AN13]	Yes [wd1]	NA	NA
-Temperature	NA	Yes [AN10]	Yes [wd1]	NA	Temp. well in leak pit [AN10]
-Well	NA	Yes [AN13]	Yes	NA	Assumed operable.
-Drain	NA	Yes [AN10]	Yes	NA	Assumed operable.

System	Legend	System/ Equipment Identifier	Existing/present	Operate	Equipment Condition	Comments
		Supply any associated ID numbers.	Is equipment existing, provide reference.	Is equipment operable, provide reference.	Equipment condition, provide reference.	Notes, descriptive information, etc.
Flare spray	NA	NA	Yes [AN10]	Yes	NA	Assumed operable.
Dry wells	NA	NA	NA	NA	NA	There are no dry wells in Aft Farm. [wd1]
Condensate Receiver pit	OID	Yes [wd1]	Yes [wd1]	NA	Located on Tank Aft-101 [wd1]	
Leak detection	NA	Yes [t1] [wd1]	Yes [t1] [wd1]	NA	NA	
Sludge pump pit	NA	No	NA	NA	NA	
Salt well pump pit	NA	No	NA	NA	NA	
Drain pit	NA	No [wd1] [t1]	NA	NA	The valve pits drain directly to 101 AN. [t1]	
Valve Pits (2)	AN-A, AN-B	Yes [t1] [wd1]	Yes [wd1]	NA	NA	
Leak detection	NA	Yes [wd1] [AN23,37,39]	Yes [wd1]	NA	NA	
-Valve position indication	NA	Yes [t1]	Yes [t1]	NA	Manual valve position indication.	
-Pneumatic flow monitoring	NA	NA	NA	NA	NA	
-Drain	NA	Yes [AN39]	Yes	NA	Assumed operable.	
-Steam	NA	No [wd1]	NA	NA	Steam has been isolated to the Aft Farm. [wd1]	
-Pressure switches	NA	NA	NA	NA	NA	
-Drain line flow alarm	NA	NA	NA	NA	NA	

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>Is equipment existing, positive. Provide reference.</i>	<i>Is equipment operable, positive. Provide reference.</i>	<i>Equipment condition, Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
Clean Out Boxes	COB 1-9 [wd1]	Yes [wd1]	Yes [wd1]	NA	SAR Ch 2 shows 8 COBs
-Leak Detection	NA	Yes [wd1] [AN23,39]	Yes [wd1]	NA	NA
Feed Pump Pit	NA	No	NA	NA	NA
Mixer Pump Pit	NA	NA	NA	NA	NA
Service Pit	NA	Yes [t1] [wd1]	Yes [wd1]	NA	NA
-Flow monitoring	NA	Yes [wd1] [AN37]	Yes [wd1]	NA	NA
-Rad monitor	NA	Yes [wd1] [AN37]	Yes [wd1]	NA	NA
-Backflow preventer	NA	Yes [wd1]	Yes [wd1]	NA	NA
-Leak detection	NA	Yes [wd1] [AN37]	Yes [wd1]	NA	NA
-Pressure Gauges	NA	Yes [wd1] [AN37]	Yes [wd1]	NA	NA
-Sump	NA	No [wd1] [AN30]	No [wd1] [AN30]	NA	NA
-Drain	NA	Yes [wd1]	Yes	NA	Assumed operable.
-Sump level element	NA	No [AN30]	No	NA	Assumed operable.
-Heater	NA	NA	NA	NA	NA
Flush pit	241-AN	Yes [t1]	Yes [t1]	NA	NA
-Flow monitoring	NA	NA	NA	NA	NA

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System/ Equipment Identifier	Is equipment existing? yes/no. Provide reference.	Is equipment operable? yes/no. Provide reference.	Equipment condition. Provide reference.	Notes, descriptive information, etc.
Leak detection	NA	Yes [wd1] [AN23, 30]	Yes [wd1]	NA	NA
API pressure switch	NA	Yes [AN30]	Yes	NA	Assumed operable.
Drain	NA	Yes [AN30, 40]	Yes	NA	Assumed operable.
Sump	NA	NA	NA	NA	NA
Level element	NA	NA	NA	NA	NA
Heater	NA	Yes [I2]	Yes	NA	Assumed operable.
Radiation monitor	NA	NA	NA	NA	NA
Steam	NA	No	NA	NA	Steam has been isolated to the AN Farm. [wd1]
Supernova Receiver Pn	OIE	Yes [wd1]	Yes [wd1]	NA	Located on Tank AN-101 [wd1]
- Leak detection	NA	Yes [wd1]	Yes [wd1]	NA	NA
Transfer Piping					
Transfer Lines	AN-B	Yes [wd1]	Yes [wd1]	NA	There are 4 leak detectors at valve pit AN-B for the encasement lines. [wd1]
Buildings					
Compressor Building	241-AN-273	Yes [wd1]	Yes [wd1]	See comment	The physical condition of Joy compressor SA-CMP-101 is rated "good", B. ID11
-Holding Tanks	NA	NA	NA	NA	NA
- Receiver tank	NA	Yes [wd1]	Yes [wd1]	NA	NA
- Air dryer	NA	Yes [wd1]	Yes [wd1]	NA	NA

Tank Farm or Miscellaneous Facility AN Tank Farm

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System/ Equipment Identifier	Is equipment existing? If equipment existing, provide reference.	Is equipment operable? If equipment operable, provide reference.	Equipment condition	Comments
Legend	Supply any associated ID numbers.	Is equipment existing? If equipment existing, provide reference.	Is equipment operable? If equipment operable, provide reference.	Notes, describe information, etc.	
-Flammable storage cabinet	NA	No [wdt]	NA	NA	
Instrument Building	241-AN-271	Yes [wdt]	Yes [wdt]	NA	
-TMACS connection	NA	Yes [wdt]	Yes [wdt]	NA	Measures pressure and temperature [11]
-CAM	NA	Yes [wdt]	Yes [wdt]	NA	
-Remote alarm location(s) (describe in comment section)	NA	Yes [wdt]	Yes [wdt]	NA	Remote alarm to TMACS. [wdt]
-TV monitor	AN-103, 104, 105	Yes [wdt]	Yes [wdt]	NA	
-Heat trace	NA	Yes [wdt]	Yes [wdt]	NA	
-Vacuummeter	NA	Yes [wdt]	See comment	NA	Temporarily located inside the fence near the air compressor building. Used for all facilities. [wdt]
-Area radiation monitors (4 in tank farm)	NA	Yes [wdt]	Yes [wdt] [11]	NA	The A/Rate will soon be disconnected. [12]
Steam					
-Steam traps	NA	No	NA	NA	Steam has been isolated to the AN Farm. [wdt]
Miscellaneous Facilities					
Electrical Substation	NA	Yes [wdt]	Yes [wdt]	NA	
Motor Control Station	NA	Yes [wdt]	Yes [wdt]	NA	
Bottle Storage Area	NA	No [wdt]	NA	NA	

5/31/96
NA = Not applicable or not required

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
<i>Legend</i>	<i>Supply any associated ID numbers.</i>	<i>Is equipment existing, yes/no. Provide reference.</i>	<i>Is equipment operable, yes/no. Provide reference.</i>	<i>Equipment condition. Provide reference.</i>	<i>Notes, descriptive information, etc.</i>
Heat Trace Transformer/Panel	NA	Yes [wd1]	Yes [wd1]	NA	NA
Change Trailer	NA	Yes [wd1]	Yes [wd1]	NA	NA
Mixer Pump AN-107 (Caustic Addition) Building	For Tank AN-107	Yes [11] [wd1]	Yes [wd1]	NA	Caustic building contains a TV monitor for AN-107 [wd1]
Caustic Addition Control Bldg.	AN-274	Yes [11] [wd1]	Yes [wd1]	NA	NA
Satellite Accumulation Area (6 drums)	NA	Yes [11] [wd1]	Yes [11] [wd1]	NA	NA
Conex Box	NA	Yes [wd1]	See comment	NA	Contents not known
Two small buildings roped off for rad buffer area	NA	Yes [wd1]	See comment	NA	Contents not known

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

[I1] Interview with Cognizant Engineers, Bill Meuwissen and Bob Nicholson, 4/4/98

[I2] Cognizant Engineer comments, 5/28/98 Bob Nicholson

[D1] Condition Assessment Survey

[wd1] Walkdown of AN Tank Farm, 4/12/98: Charlotte Zaccaro, P.K. Brockman, Bob Nicholson, Ron Reed, Susanne Lindberg

[AN-1] H-2-71935/2 REV 2, [AN-2] H-2-71937/2 REV 1, [AN-3] H-27193336/3 REV 2, [AN-4] H-2-90835 REV 2, [AN-5] EON W-399-42 10/28/95, [AN-6] H-2-95396 REV 0, [AN-7] EON W-451-2 1/8/95, [AN-8] H-14-020201/3 REV 0, [AN-9] H-2-71959/1 REV 3, [AN-10] H-2-71967/1 REV 6, [AN-11] H-2-71910, REV 3, [AN-12] H-2-71905 REV 2, [AN-13] H-14-020501 REV 2, [AN-14] H-2-71978, REV 8, [AN-15] H-2-71980 REV 8, [AN-16] H-2-71981 REV 8, [AN-17] H-2-71982 REV 8, [AN-18] H-2-71983 REV 1, [AN-19] H-2-71984, REV 8, [AN-20] H-2-77037 REV 6, [AN-21] H-2-72031, [AN-22] H-2-72042, [AN-23] H-2-71945, [AN-24] H-2-71998, [AN-25] H-2-71910, [AN-26] H-271911, [AN-27] H-2-71912, [AN-28] H-2-71913, [AN-29] H-2-73791, [AN-30] H-2-72001, [AN-31] H-2-72002, [AN-32] H-2-78808, [AN-33] H-2-72003, [AN-34] H-2-71938, [AN-35] H-2-71932, [AN-36] H-2-71117, [AN-37] H-2-71944, [AN-38] H-2-72031, [AN-39] H-2-71978, [AN-40] H-2-71988, [AN-41] H-14-20801/1,3,4 REV 2, [AN-42] H-14-20201/1,2,3 REV 0

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

System	System ID	Radiation Source ≥ 100mR/hr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes-->	List any associated ID numbers.	Source or hotspot ≥ 100mR/hr? Yes or no.	Physical features (shielding, overblocks, lead, etc.)	Thickness of overblock, number of penetrations, etc. Provide reference.	Notes
Tanks	101-107	Yes	Soil/gravel Cover	≤ 7 ft above tank dome crown [D1]	Soil cover monitored for shielding/loading
Central pump pits	01A-07A	Yes	Cover block	1'8" thick conc; Penetrations: 1-42", 1-12", 1-4" [AN26] [wd1]	7 central pump pits
Annulus pump pits	01B-07B	Yes	Cover block	1'8" thick conc; Penetrations: 1-12", 1-4" [AN26] [wd1]	7 annulus pump pits
Leak detection pump pits	01C-07C	Yes	Cover block	1'8" thick conc; Penetrations: 1-4", 1-6" [AN25] [wd1]	7 leak detection pits
Drain pit	01D, 02D	Yes	Cover block	1'8" thick conc; 2 penetrations [AN29]	2 drain pits
Supernate receiver pit	01E	Yes	Cover block	1'8" thick conc; 1 penetration [AN25]	1 supernate receiver pit
Other pits					
Valve Pit	AN-A	Yes	Cover block	1'8" thick conc; [AN31]	1 valve pit
Valve Pit	AN-B	Yes	Cover block	1'8" thick conc; [AN31]	1 valve pit
Flush pit	241-AN	Potentially yes	Metal plate	14 ga sheet metal cover [AN30]	1 flush pit
Service pit	NA	No [wd1]	Grating floor	Open grating [AN32]	Service pit inside shed with grated floor
Clean out box	AN 1-9	No	Metal plate	12 ga sheet metal [AN33]	9 COBs
Vent pits	AN #1,2,3,4	Yes	Cover block	8" thick conc; [AN22]	4 vent pits. The vent pits are entered about once a month for Vent and Balance work. The frequency is being decreased to quarterly. [11]
Demister pit	T4-AN	Yes	Metal plate	1.5" steel plate cover [AN4]	1 demister pit
Primary seal pot pit	For K1 system	Yes	Cover block	6.5" thick concrete [AN3]	1 seal pot

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

System	System ID	Radiation Source ≥100mR/hr	Protective Feature	Description of Protective Feature	Comments
<i>Legend Boxes -></i>	<i>List any associated ID numbers.</i>	<i>Source or hotspots ≥ 100mR/hr? Yes or no.</i>	<i>Physical features (shielding, overpacks, lead, etc.)</i>	<i>Thickness of overpack, number of penetrations, etc. Provide reference.</i>	<i>Notes</i>
Steam System					
-Steam traps	NA	NA	NA	NA	There is no steam to the AN Farm. [wd1]
HVAC					
-Tank Ventilation Systems	K1/K2 [wd1]	Yes	K1 and K2 HEPA filters and de-entrainers.	Metal duct housing; the access ports are properly sealed. [wd1]	Primary : two stages of 4 HEPA's each. Annulus: two stages of 2 HEPA's each. One de-entrainer each stage. [wd1] WHC-SD-WM-EMP-031, Rev 2, summarizes the assay results of HEPA filters for the DCRT stack 296-A-29.
-Other Ventilation Systems	NA	NA	NA	NA	NA
Transfer Lines	NA	NA	NA	NA	See Table 7.
Dry walls	NA	NA	NA	NA	There are no dry walls in AN Farm. [wd1]
Buildings					
-Compressor Building	AN-273	No [wd1]	NA	NA	The compressor building contains the air compressor and receiver tanks. [wd1]
-Instrument Building	AN-271	No [wd1]	Radiation monitor	CAM	NA
-Service building	AN-273	No [wd1]	Radiation monitor	CAM	NA
-Change trailer	MO-820	No [wd1]	Radiation monitor	PCM1-B, HPT equipment [wd1]	Change trailer controlled by HPTs. [wd1]
-Caustic addition control building	AN-274	No [wd1]	NA	NA	There is no rad source for the caustic addition building [wd1]

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

System	System ID	Radiation Source ≥ 100mR/hr	Protective Feature	Description of Protective Feature	Comments
<i>Legend Boxes -></i>	<i>List any associated ID numbers.</i>	<i>Source or hotspot ≥ 100mR/hr? Yes or no.</i>	<i>Physical features (shielding, overblocks, lead, etc.)</i>	<i>Thickness of overblock, number of penetrations, etc. Provide reference.</i>	<i>Notes</i>
-Two small buildings roped off for rad buffer area.	Buildings do not have IDs.	No [wd1]	See comment	NA	Buildings are controlled by HPTs. [wd1]
-Satellite accumulation area	No ID.	No [wd1]	See comment	NA	Inventories removed when filled, transported to 209-E 90 day storage facility.
-Camera station	AN-103	No [wd1]	Cover plate	SS cover plate; Penetrations: 2-6", 1-18", 1-24" [wd1]	NA

[d1] OSD-T-151-00007, Rev. H-17

[wd1] Walkdown of AN Tank Farm, 4/12/98: Charlotte Zaccaro, P.K. Brockman, Bob Nicholson, Ron Reed, Susanne Lindberg

[f1] Comments from Cognizant Engineer, Bob Nicholson, 5/28/98

[AN-1] H-2-71935/2 REV 2, [AN-2] H-2-71937/2 REV 1, [AN-3] H-27193336/3 REV 2, [AN-4] H-2-80635 REV 2, [AN-5] ECN W-369-42 10/26/95, [AN-6] H-2-95396 REV 0, [AN-7] ECN W 451-2 1/8/96, [AN-8] H-14-020201/3 REV 0, [AN-9] H-2-71999/1 REV 3, [AN-10] H-2-71997/1 REV 6, [AN-11] H-2-71910, REV 3, [AN-12] H-2-71905 REV 2, [AN-13] H-14-020501 REV 2, [AN-14] H-2-71979, REV 8, [AN-15] H-2-71980 REV 9, [AN-16] H-2-71981 REV 8, [AN-17] H-2-71982 REV 8, [AN-18] H-2-71983 REV 1, [AN-19] H-2-71984, REV 8, [AN-20] H-2-77037 REV 6, [AN-21] H-2-72031, [AN-22] H-2-72042, [AN-23] H-2-71945, [AN-24] H-2-71998, [AN-25] H-2-71910, [AN-26] H-271911, [AN-27] H-2-71912, [AN-28] H-2-71913, [AN-29] H-2-73791, [AN-30] H-2-72001, [AN-31] H-2-72002, [AN-32] H-2-78608, [AN-33] H-2-72003, [AN-34] H-2-71938, [AN-35] H-2-71932, [AN-36] H-2-71117, [AN-37] H-2-71944, [AN-38] H-2-72031, [AN-39] H-2-71978, [AN-40] 71989

Tank Farm or Miscellaneous Facility

AN

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Tanks AN 101-107	NA	NA	NA	NA	
Tank Waste Instrumentation	NA	NA	NA	NA	
Specific gravity Instr. system	NA	NA	NA	NA	
Temperature probes (T.C Tree)	WHC-SD-WM-OSR-016 SL 2.2	NA	TF-OR-A-03 TF-OR-EF-AN TF-OR-WST-01-D TF-OR-WST-01-W TO-001-084 TO-001-180 TO-020-595 TO-040-035 TO-040-200 TO-040-660 TO-060-230 TO-200-460 TO-200-464 TO-220-019 TO-220-027 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-014	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.2	NA	TO-270-040 TO-270-221 TO-270-235 TO-270-251 TO-270-252 TO-270-266 TO-270-624 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.2.1	NA	NA	FV	LCO - Not Implemented by ECN
	WHC-SD-WM-OSR-016 SR 3.2.2.1	NA	TF-OR-A-03 TF-OR-EF-AN TF-OR-WST-01-D TF-OR-WST-01-W TO-001-184 TO-040-660 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-270-007 TO-270-011 TO-270-012 TO-270-035 TO-270-040 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	SR- Not Implemented by ECN

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.6.a	TO-001-182 TO-001-184 TO-040-780 TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-800-080	NA	
	NA	OSD-T-151-00007 7.2.6.b	TO-001-182 TO-001-184 TO-040-780 TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-800-080	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.6.c	TO-001-182 TO-001-184 TO-040-760 TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-800-080	NA	
Liquid level (Primary)	WHC-SD-WM-OSR-016 SL 2.1	NA	TF-OR-WST-01-D TF-OR-EF-AN TO-020-330 TO-020-820 TO-040-200 TO-060-230 TO-060-340 TO-220-019 TO-220-095 TO-230-095 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-274 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-231-00102 ARP-T-231-00103	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-OR-A-03 TF-OR-EF-AN TF-OR-WST-01-D TO-001-084 TO-001-180 TO-001-184 TO-020-025 TO-020-330 TO-020-595 TO-020-820 TO-040-200 TO-080-105 TO-080-230 TO-080-340 TO-200-480 TO-220-027 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-012 TO-270-014 TO-270-235 TO-270-251	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AN

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.12	NA	TO-270-252 TO-270-824 TO-400-200 TO-430-480 TO-430-485 TO-440-002	NA	
	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2 a	TF-OR-EF-AN TF-OR-EF-AVAZ-D TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-580 TO-230-065 TO-230-274 TO-270-204 TO-270-221 TO-270-235 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
Liquid level (Backup)	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2 a	TF-OR-EF-AN TF-OR-EF-AVAZ-D TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-580 TO-230-065 TO-230-274 TO-270-204 TO-270-221 TO-270-235 TO-270-252 TO-270-266 TO-270-826	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2.a	TO-270-828	NA	
High level probe	NA	NA	NA	NA	
Tank primary vapor space pressure monitor	WHC-SD-WM-OSR-016 SL 2.3	NA	TF-FT-239-001 TF-FT-279-001 TF-OR-WST-01-D TO-040-035 TO-080-101 TO-080-230 TO-080-340 TO-230-085 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	ARP-T-231-00102 ARP-T-231-00103 ARP-T-231-00104 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-FT-239-001 TF-FT-279-001 TO-001-084 TO-001-184 TO-040-035 TO-080-101 TO-080-230 TO-080-340 TO-200-019 TO-200-464	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	TO-220-027 TO-220-095 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-235 TO-270-824 TO-400-200 TO-430-480	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.2	NA	ARP-T-231-00101 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 ARP-T-801-00295 TF-OR-A-03 TF-OR-EF-AN TF-OR-WST-01-D TO-040-035 TO-080-101 TO-080-230 TO-080-340 TO-230-095 TO-230-133 TO-230-142	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-018 SR 3.3.2.1	NA	ARP-T-231-00101 TF-OR-A-03 TF-OR-EF-AN TF-OR-WST-01-D TO-040-035 TO-060-101 TO-060-340	FV DR	
	WHC-SD-WM-SAR-016 11.6	OSD-T-151-00007 7.2.5	TO-060-105 TO-060-341 TO-400-245	NA	
Gas monitoring / SHMS	NA	NA	NA	NA	
Mass spectrometer	NA	NA	NA	NA	
TMACS	NA	NA	NA	NA	
Multi-function instrument tree (MIT)	NA	NA	NA	NA	
TV Cameras	NA	NA	NA	NA	
Vapor sampler	NA	NA	NA	NA	
Sludge level indicator	NA	NA	NA	NA	
Tank Annulus Instrumentation	NA	NA	NA	NA	
Leak detection manual tape	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit			OSD Limit		Implementing Procedures	Verification	Comments
CAM Rad Monitor	NA			NA		NA	NA	
Pump pit leak detection	NA			NA		NA	NA	
Leak detection conductivity probe	NA			NA		NA	NA	
Temperature	NA			NA		NA	NA	
Tank annulus diff. pressure monitor	NA			NA		NA	NA	
Tank Structure Instrumentation	NA			NA		NA	NA	
Thermocouple data acquisition	WHC-SD-WM-OSR-016	AC	5.28.1	OSD-T-151-00007	7.2.7	TO-270-040 TO-600-080	NA	SR- Not Implemented by ECN
Thermocouple data acquisition	NA			NA		NA	NA	
Thermocouple data acquisition	NA			NA		NA	NA	
Instrument Enclosures	NA			NA		NA	NA	
Air lift circulators	NA			NA		NA	NA	
Steam coil	NA			NA		NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
-De-entrainers	NA	NA	NA	NA	
-Demister pit	NA	NA	NA	NA	
-Heaters	NA	NA	NA	NA	
HVAC Instrumentation	NA	NA	NA	NA	
Main stack monitor	NA	OSD-T-151-00007 7.3.1.D	TO-060-240	NA	
	NA	OSD-T-151-00031 31.2.2.2	TO-040-590	NA	
Stack monitor	NA	OSD-T-151-00007 7.3.1.D	TO-060-240	NA	
Primary tank pressure	WHC-SD-WM-OSR-016 SL 2.4	NA	TF-OR-A-03 TF-OR-A-03 TF-FT-239-001 TF-FT-239-001 TF-FT-279-001 TF-FT-279-001 TF-OR-WST-01-D TF-OR-WST-01-D TO-040-035 TO-040-035 TO-060-101 TO-060-101 TO-060-230 TO-060-230 TO-060-340 TO-060-340 TO-230-095 TO-230-095 TO-230-133	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.4	NA	TO-230-133 TO-230-142 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.4.1	OSD-T-151-00007 7.3.1.A	TO-060-101 TO-060-104 TO-060-105 TO-060-230 TO-060-240 TO-060-340 TO-060-341	NA	LCO- Not Implemented by ECN
	NA	OSD-T-151-00007 7.3.1.B	TO-060-105 TO-060-230 TO-060-240 TO-060-340 TO-060-341	NA	
Differential pressure indicators	NA	NA	NA	NA	
Temperature indicators	NA	NA	NA	NA	
Stack flow meter	NA	NA	NA	NA	
Primary Seal Pot	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Heat trace	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Annulus Seal Pot Pit	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Ventilation Pit	NA	NA	NA	NA	
Ventilation Pit #1	NA	NA	NA	NA	
Annulus duct pressure	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	
Flow control valve	NA	NA	NA	NA	
Ventilation Pit #2	NA	NA	NA	NA	
Annulus duct pressure	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	
Flow control valve	NA	NA	NA	NA	
Ventilation Pit #3	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AN

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Annulus duct pressure	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	
Flow control valve	NA	NA	NA	NA	
Ventilation Pit #4	NA	NA	NA	NA	
Annulus duct pressure	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	
Flow control valve	NA	NA	NA	NA	
Ventilation Instrument Pit	NA	NA	NA	NA	
Drains	NA	NA	NA	NA	
Pits	NA	NA	NA	NA	
Annulus Pump Pit	NA	NA	NA	NA	
Annulus Pump Pit Contents	NA	NA	NA	NA	
Floor drain	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

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TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Sump	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Riser spray ring	NA	NA	NA	NA	
Central Pump Pit	NA	NA	NA	NA	
Central Pump Pit Contents	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Floor drain	NA	NA	NA	NA	
Check Valve	NA	NA	NA	NA	
Portable pit spray (1" RW)	NA	NA	NA	NA	
Distributor Pit	NA	NA	NA	NA	
Distributor Pit Contents	NA	NA	NA	NA	
Sluice Pit	NA	NA	NA	NA	
Sluice Pit Contents	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Heel Pit	NA	NA	NA	NA	
Heel Pit Contents	NA	NA	NA	NA	
Leak detection pump pit	NA	NA	NA	NA	
Leak Detection Pit/Sump Instrumentation	NA	NA	NA	NA	
Level sensing system (SpG-WF sump)	NA	OSD-T-151-00007 7.2.2.b	TF-OR-EF-AN TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	SpG-WF on 241-AN-103 is plugged; a zip cord is used instead
Radiation monitor (sump)	NA	NA	NA	NA	
Leak detection system (pit)	NA	NA	NA	NA	
Temperature	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Well	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Riser spray	NA	NA	NA	NA	
Dry wells	NA	NA	NA	NA	
Condensate Receiver pit	NA	NA	NA	NA	
Condenser Pit Contents	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Sludge pump pit	NA	NA	NA	NA	
Sludge pump pit contents	NA	NA	NA	NA	
Salt well pump pit	NA	NA	NA	NA	
Saltwell Pumping Instrumentation	NA	NA	NA	NA	
Hydrogen monitor	NA	NA	NA	NA	
Weight factor / specific gravity	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Drain pit	NA	NA	NA	NA	
Drain Pit Contents	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Portable pit spray	NA	NA	NA	NA	
Valve Pit / Transfer Pit / Diversion Boxes (2)	NA	NA	NA	NA	
Pit or Diversion Box Contents	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Valve position indication	NA	NA	NA	NA	
Pipeline flow monitoring	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Steam	NA	NA	NA	NA	
Pressure switches	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AN

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Drain the flow alarm	NA	NA	NA	NA	
Clean Out Boxes	NA	NA	NA	NA	
Clean Out Box Contents	NA	NA	NA	NA	
Leak Detection	NA	NA	NA	NA	
Feed Pump Pit	NA	NA	NA	NA	
Feed Pump Pit Contents	NA	NA	NA	NA	
Mixer Pump Pit	NA	NA	NA	NA	
Mixer Pump Pit Contents	NA	NA	NA	NA	
Service Pit	NA	NA	NA	NA	
Service pit instrumentation	NA	NA	NA	NA	
Flow monitoring	NA	NA	NA	NA	
Radiation monitor	NA	NA	NA	NA	
Backflow preventer	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

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TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Leak detection	NA	NA	NA	NA	
Pressure Gauges	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Sump level element	NA	NA	NA	NA	
Heater	NA	NA	NA	NA	
Flush pit	NA	NA	NA	NA	
Flow monitoring	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
RW pressure switch	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AN

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Heater	NA	NA	NA	NA	
Radiation monitor	NA	NA	NA	NA	
Steam	NA	NA	NA	NA	
Supermate Receiver Pit	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Transfer Piping (Look for evidence of leak detection)	NA	NA	NA	NA	
Transfer Lines	NA	NA	NA	NA	
Buildings	NA	NA	NA	NA	
Compressor Building	NA	NA	NA	NA	
Holding Tanks	NA	NA	NA	NA	
Receiver tank	NA	NA	NA	NA	
Air dryer	NA	NA	NA	NA	
Flammable storage cabinet	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

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TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Instrument Building	NA	NA	NA	NA	
TMACS connection	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	
Remote alarm location(s) (describe in comment section)	NA	NA	NA	NA	
TV monitor	NA	NA	NA	NA	
Miscellaneous instrumentation	NA	NA	NA	NA	
Heat trace	NA	NA	NA	NA	
Viscometer	NA	NA	NA	NA	
Area radiation monitors (4 in tank farm)	NA	NA	NA	NA	
Steam	NA	NA	NA	NA	
Steam traps	NA	NA	NA	NA	
Miscellaneous Facilities	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Electrical Substation	NA	NA	NA	NA	
Motor Control Station	NA	NA	NA	NA	
Bottle Storage Area	NA	NA	NA	NA	
Heat Trace Transformer/Panel	NA	NA	NA	NA	
Change Trailer	NA	NA	NA	NA	
Mixer Pump AN-107 (Caustic Addition) Building	NA	NA	NA	NA	
Caustic Addition Skid	NA	NA	NA	NA	
Satellite Accumulation Area (6 drums)	NA	NA	NA	NA	
Conex Box	NA	NA	NA	NA	
Two small buildings roped off for rad buffer area	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

AP FARM TABLES

**TWRS FSAR MATRIX TABLE
VERIFICATION REVIEW APPROVALS
May 31, 1996**

The following information has been assembled, organized, and documented in the attached TWRS Final Safety Analysis Report (FSAR) Matrix Tables in support of Tank Farms FSAR development. Science Applications International Corporation (SAIC), along with the assistance of ICF Kaiser Hanford and the Westinghouse Hanford Company, assembled this data from controlled drawings and databases, supporting documents, as well as other site documentation. Where possible, the data has been field verified by performing field walkdowns of the particular facility of interest. The data also have been reviewed for its completeness and accuracy by the TWRS Facility Operations Design Authority and the Cognizant Engineer assigned to the respective facility. The information, to the best of the knowledge and the time allotted by the undersigned, is true, accurate, and complete as permitted by the referenced documents and drawings shown on the respective tables. No efforts were attempted or made by the authors and/or reviewers to substantiate the reference information shown on the tables beyond the stated qualifiers as noted on the individual facility matrix tables.

AP Tank Farm

Tank Farm or Facility

PK Brockman

SAIC Lead

5/31/96
Date

Kathleen Rich
WHC Cognizant Engineer Review

9/14/96
Date

Ronald W. Reed
WHC Design Authority Review

4 Sep 96
Date

SCALE: NONE

LEGEND

- [illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13</																																																																																							

AP FARM MASTER CHECKLIST

WHC:SD WMA-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
AP FARM								
241-AP-101	DST	X	X	X	X	X	X	NA
241-AP-102	DST	X	X	X	X	X	X	NA
241-AP-103	DST	X	X	X	X	X	X	NA
241-AP-104	DST	X	X	X	X	X	X	NA
241-AP-105	DST	X	X	X	X	X	X	NA
241-AP-106	DST	X	X	X	X	X	X	NA
241-AP-107	DST	X	X	X	X	X	X	NA
241-AP-108	DST	X	X	X	X	X	X	NA
241-AP-109	DST	X	X	X	X	X	X	NA
241-AP	Valve pit	NA	NA	NA	NA	NA	NA	Same as 241-AP-A valve pit
COB-AP-07D	Clean out box	NA	NA	NA	NA	NA	NA	no COBs in AP
COB-AP-07E	Clean out box	NA	NA	NA	NA	NA	NA	no COBs in AP
COB-AP-07F	Clean out box	NA	NA	NA	NA	NA	NA	no COBs in AP
241-AP	Flush pit	X	X	NA	NA	X	X	NA
241-AP-273	Service pit	X	X	NA	NA	X	X	NA
241-AP-02A	Feed pump pit	X	X	NA	NA	X	X	NA
241-AP-02-D	Feed pump pit	X	X	NA	NA	X	X	NA
241-AP-04-D	Feed pump pit	NA	NA	NA	NA	NA	NA	Does not exist
241-AP-07D	Water pump pit	NA	NA	NA	NA	X	X	Inactive, part of grou

5/31/95. Master checklist matrix establishes TWRPS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards). NA = Not applicable or not required

B-64

**AP FARM
MASTER CHECKLIST**

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
241-AP-07E	Mber pump pit	NA	X	NA	X	X	X	Inactive, part of grout
241-AP-07F	Mber pump pit	NA	X	NA	X	X	X	Inactive, part of grout
241-AP-271	Instrument building	NA	X	NA	X	X	X	NA
241-AP-701	Compressor building	X	X	NA	X	X	X	NA
241-AP-273	Service building	NA	NA	NA	NA	NA	NA	Same as 241-AP-273 service pit
241-AP-A	Valve pit	X	X	NA	X	X	X	NA
	Satellite accumulation area	X	X	NA	X	X	X	NA
	Change trailer	X	X	NA	X	X	X	NA

5/31/96. Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)

NA = Not applicable or not required

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
Legend Box→	Capacity: Provide reference.	Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.	Supernate, sludge, sediment, etc. Provide reference.	Vapor, liquid, solid	How much material is present, in gallons, cubic, etc. Include units. Provide reference.	Can the material be relocated, or moved, yes or no.	Number of bags, containers, etc. (if applicable). Provide reference if applicable.	Notes
1. Tank Contents								
241-AP-101	1.16 Mgal (a)	DSSF (a)	supernate (a)	liquid (b)	735 Kgal (c)	No	NA	NA
241-AP-102	1.16 Mgal (a)	CP (a)	supernate (a)	liquid (b)	1098 Kgal (c)	No	NA	NA
241-AP-103	1.16 Mgal (a)	DN (a)	supernate (a)	liquid (b)	25 Kgal (c)	No	NA	NA
241-AP-104	1.16 Mgal (a)	DN (a)	supernate (a)	liquid (b)	1123 Kgal (c)	No	NA	NA
241-AP-105	1.16 Mgal (a)	DSSF (a)	sludge (f)	solid (f)	155 Kgal (c)	No	NA	NA
241-AP-106	1.16 Mgal (a)	DN (a)	supernate (a)	liquid (b)	107 Kgal (c)	No	NA	NA
241-AP-107	1.16 Mgal (a)	DN (a)	supernate (a)	liquid (b)	25 Kgal (c)	No	NA	NA
241-AP-108	1.16 Mgal (a)	DN (a)	supernate (a)	liquid (b)	29 Kgal (c)	No	NA	NA
2. Tank Headspace								

NA = Not applicable or not required
5/31/96

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Treatment Y/N		
Legend Box-> Capacity Provides reference	Type of material in tank, pit, etc. Provides reference	Supernatant etc. Provides reference	Liquid, solid	How much material is present in gallons, cubic feet, barrels, etc. Provides reference	Can this material be removed, or moved, yes or no.	Number of bags, containers, etc. If applicable, provide reference if applicable.	Notes	
241-AP-101	NA	NA	NA	vapor	2533 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA
241-AP-102	NA	NA	NA	vapor	1107 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA
241-AP-103	NA	NA	NA	vapor	5228 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA
241-AP-104	NA	NA	NA	vapor	2108 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA
241-AP-105	NA	NA	NA	vapor	4740 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA
241-AP-106	NA	NA	NA	vapor	4918 cubic meters. No H-3 present (G). see radioactive concentrations note 1	No	NA	NA

NA = Not applicable or not required
5/31/89

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory				Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Tolerant Y/N	
Legend Item-2	Capacity Provide reference	Type of material in the tank, etc. (see instructions for abbreviations). Provide reference.	Supernatant, sludge, solids, etc. Provide reference.	Aqueous liquid, solid	How much material is present in gallons, cubic feet, etc. Include units. Provide reference.	Can the material be relocated or moved, yes or no.	Notes
241-AP-107	NA	NA	NA	vapor	5226 cubic meters. No NH3 present (g). See radionuclide concentrations note 1	No	NA
241-AP-108	NA	NA	NA	vapor	5217 cubic meters. No NH3 present (g). See radionuclide concentrations note 1	No	NA
3. Rail or Truck Transfer Contents							
None (c)	NA	NA	NA	NA	NA	NA	No rail or truck tankers at AP location
4. Contamination on Vehicle							
Contaminated vehicles	Surface residual (c)	Residual surface contamination on farm vehicles (c)	Residual (c)	NA	Unknown	NA	Contaminated vehicle housed in storage area (outside of AP farm fence)(c)

NA = Not applicable or not required
5/31/93

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Can the material be relocated or moved yes or no		
Legend Box ->	Capacity Provides reference	Type of material in the tank, etc. See instructions etc. Provides reference	Separates liquids, solids, and gases. Provides reference	Vapors, liquid and solid	How much material is present in system, tanks, etc. Includes units Provides reference	Can the material be relocated or moved yes or no	Number of bags containers, etc. (if applicable). Provides reference if applicable	Notes
5. Contamination on Equipment or Tools								
None (c)	NA	NA	NA	NA	NA	NA	NA	Tank or located in AP farm contained mfrs. small tools, no contamination detected on rad survey (c)
6. Ventilation Filter Contents								
Primary	200 m ³ /hr medium for all HEPA filters (a)	NA	particulate	unknown	Yes - Disposal in accordance with H-C- EP-0063-4 (g)(9)	NA	NA	HEPA filters monitored for DP detracting in accordance with manufacturers specs
Auxiliary	200 m ³ /hr medium for all HEPA filters (a)	NA	particulate	unknown	Yes - Disposal in accordance with H-C- EP-0063-4 (g)(9)	NA	NA	HEPA filters monitored for DP detracting in accordance with manufacturers specs
Breather	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not applicable or not required
5/31/89

TABLE 1
MATERIALS INVENTORY

Material at Risk (HAZ) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Treatment Y/N		
Legend Box-2	Capacity provides reference	Type of material in the tank, etc. Provide reference	Supernatant	Vapors, liquid, and solid	How much material is present in gassing, coating, etc. Include units. Provide reference	Can the material be relocated or moved, yes or no.	Number of bags, containers, etc. (if applicable). Provide reference if applicable	Notes
		Type of material in the tank, etc. Provide reference	Process condensate (d)	Process condensate (d)	Residual (d)	Residual (d)		
De-entrainers	NA	Process condensate (d)	NA	liquid	Residual (d)	NA	NA	NA
Seal loop	NA	Process condensate (d)	NA	liquid	Residual (d)	NA	NA	NA
7. Contamination in Ventilation System								
2. Contents of Pipelines and/or Source Tank During Transfer								
NA	NA	NA	NA	NA	NA	NA	NA	Refer to transfer line Table 7
3. Contents of Sump								
Service pit sump	NA	raw water	NA	liquid	NA	NA	NA	No standing water noted during site shutdown (c)

NA = Not applicable or not required
5/31/98

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<i>Legend Box-></i>	<i>Capacity: Provide reference.</i>	<i>Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.</i>	<i>Supernats, sludge, sediments, etc. Provide reference.</i>	<i>Vapor, liquid, solid</i>	<i>How much material is present, in gallons, cubic, etc. Include units. Provide reference.</i>	<i>Can the material be relocated or moved, yes or no.</i>	<i>Number of bags, containers, etc. (if applicable). Provide reference if applicable.</i>	<i>Notes</i>
10. Contamination in Pit or Box								
Process pits	NA	residual contamination (d)	NA	residue	unknown	no	NA	No standing water noted (e)
241 AP Valve pit	~21.5 K gal (d)	residual contamination (d)	NA	residue	unknown	no	1 central valve pit to AP	NA
Central Pump Pits (101-106)	~5.4 K gal (e)	residual contamination (d)	NA	residue	unknown	no	8 pits total (1 pit per tank)	NA
11. SARA 313 Materials								
Flammable storage cabinet - compressor bldg. (c)	NA	NA	NA	Liquids	Unknown	Yes	NA	Standard small quantity classified materials (paints, cleaning solvents)
Flammable storage cabinet - near change trailer (c)	NA	NA	NA	Liquids	Unknown	Yes	NA	Standard small quantity classified materials (paints, cleaning solvents)
12. Other								

NA = Not applicable or not required
5/31/96

TABLE 1
MATERIALS INVENTORY

WMC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory					Comments
		Classification	Type	Physical Form	Volume or Activity	Treatment	
Legend Box ->	Capacity	Type or material in the tank, pit, etc. for atmospheric reference	Supernatant	Vapors, fumes, and	How much material is present in gaskets, valves, etc. Provide reference	Can the material be relocated or moved, yes or no.	Number of bags, containers, etc. if applicable. Provide reference if applicable
		Provides reference					
Bottle storage area (c)	28 bottles (max)	Nitrogen	NA	Gas	450 ft ³ per bottle	Yes	28 bottles
							Bottle storage area located adjacent to AP instrument Bld.
	3 bottles	-Hydrogen	NA	Gas	450 ft ³ per bottle	Yes	1 bottle
							Bottle storage area located adjacent to AP instrument Bld.
	14 bottles	H ₂ / H ₂ Mix	NA	Gas	450 ft ³ per bottle	Yes	4 bottles
							Bottle storage area located adjacent to AP instrument Bld.
	14 bottles	10% Methane / 90% Argon	NA	Gas	450 ft ³ per bottle	Yes	9 bottles
							Bottle storage area located adjacent to AP instrument Bld.
Outside storage (c)	2 bottles	10% methane / 90% Argon	NA	Gas	450 ft ³ per bottle	Yes	2 bottles
							Bottles support PCHIB personnel and monitor
Satellite accumulation area (c)	6-55 gallon drums mixed waste (maximum)	RCRA Mixed Wastes	soil, paint wastes, tank contents, HEMA, BAW, misc. PMAV, wastes	Solid	Low Level (less than class C)	Yes	6-55 gal drums max capacity for each satellite enclosure
							inventories removed when fixed, transported to 209-E 90 day storage facility

(1) = Inventory contribution in Bq/L or major radionuclides to the total unit after decay due to translocation for liquids in tanks (Tables 4/5, WMC-SD-WM-SARF-037 Rev.0)
C050- 6.87 E+05, S90-4.59 E+09, Y90 4.59 E+09, C0137-5.86 E+10, E015-4.16 E+07, N0237-2.30 E+05, P0238-1.78 E+05, P0239-7.95 E+09, P041-1.94 E+07, A0041-2.22 E+05. These are bounding concentrations.
Inventory contribution in Bq/L of major radionuclides to the total unit after decay due to translocation for solids in tanks (Tables 4/5, WMC-SD-WM-SARF-037 Rev.0)
C050- 1.5 E+07, S90-5.2 E+10, Y90 5.2 E+10, C0137-5.9 E+10, E015-3.00 E+09, N0237-4.1 E+05, P0238-7.2 E+07, P0239-1.6 E+09, P041-3.8 E+09, A0041-2.7 E+09, C0044-1.6 E+07. These are bounding concentrations.

(a) =SD-WM-SARF-016, Revision 1
(b) =WMC-EP-0102-83, Dec. 31, 1985
(c) =Observed on field walkdown, 3/23/85, PK Brodman, Sue Brewa, Kate White, Corey Segel

NA = Not applicable or not required
5/31/86

TABLE 4
MATERIALS INVENTORY

- (c) =Osg engineer interview, 3/23/88
- (e) = Drawing H-2-80448, dated 1988
- (f) = Drawing H-2-80447 Shts 1/2, dated 1988
- (g) =TWINS database from J. Huchaby PNL
- (h) =WHC-SD-WM-SARR-037, Rev.0 Cowley Report
- (i) =observed in in-tank video

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reins.	G- Friction	H- Electrical	I- Kinetic- Rotation	J- Kinetic- Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend: Boxed →		Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below													Notes
AP TANK FARM		NA	NA	NA	NA	NA	NA	5 (c)	6 (b)	2, 3 (b)	NA	11 (c)	NA	NA	NA
241-AP-101	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-102	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-103	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-104	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-105	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-106	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-107	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP-108	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	*Tank waste (b)
241-AP	Valve pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
COB-AP-07D	Clean out box	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO COBs in AP Farm (b)
COB-AP-07E	Clean out box	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO COBs in AP Farm (b)
COB-AP-07F	Clean out box	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO COBs in AP Farm (b)
241-AP	Flush pit	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	leak detection in sump
241-AP-273	Service Bldg.	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	11, 14 (c)	NA (c)	NA (c)	NA (c)	NA (c)	3 (c)	Space heater in service Bld.
241-AP-02D	Feed pump pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA

NA = Not applicable or not required
5/31/95

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Tank Farm or Miscellaneous Facility AP Tank Farm

Facility	Type	A. Corrosive	B. Explosive/ Pyrophoric	C. Nuclear Criticality	D. Flammable Materials	E. Thermal Radiation	F. Chem. Reacts	G. Friction	H. Electrical	I. Kinetic- Rotation	J. Kinetic- Linear	K. Mass, Gravity, Height	L. Pressure, Volume	M. Thermal (except radiant)	Comments
Legend Based on: Select applicable hazard numbers from attached table and place corresponding hazard numbers in the boxes below															
241-AP-07D	Misc pump pit	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	07D pit empty
241-AP-07E	Misc pump pit	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	07E pit empty
241-AP-07F	Misc pump pit	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	07F pit empty
241-AP-271	Instrument building	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	4, 3, 16, 5, 6, 7, 8, 11, 14 (c)	NA (c)	NA (c)	NA (c)	5 (c)	3 (c)	NA
241-AP-701	Compressor building	NA (c)	NA (c)	NA (c)	4, 5, 10 (c)	NA (c)	NA	1, 2, 3, 5 (c)	4, 6, 8, 10, 11, 14, 16 (c)	2, 4 (c)	NA (c)	NA (c)	6, 8 (c)	3, 4 (c)	Small flammable storage cabinet located in compressor Bld. See SARGA 313 report
K1 & K2	Vent Systems (Primary and secondary seal pot pits)	2 (b)	6, 7 (b)	NA (b)	4, 10, 11, 14 (b)	NA (b)	NA (b)	1, 2, 3, 5 (b)	4, 5, 6, 7, 10, 11, 14 (b)	2, 4 (b)	NA (b)	15" (b)	NA (b)	3 (b)	Handways are a mass gravity, height hazard
01A-08A	Central Pump pits (101-109)	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	9, 14 (b)	3 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
01B-08B	Annulus Pump pits (101-109)	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	9, 14 (b)	3 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
03C, 08C	Leak Detection Pit	NA (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	9, 14 (b)	3 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
03D	Drain Pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA

NA = Not applicable or not required
5/31/98

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reins.	G- Friction	H- Electrical	I- Kinetic- Rotation	J- Kinetic- Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend Basis ->		<i>Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below</i>													<i>Notes</i>
Change trailer	MO 815	NA (b, c)	NA (b)	NA (b)	7, 13 (b), did not open cabinet, assumed contents	NA (b)	NA (b)	NA (b)	14 (b)	NA (b)	1 (b) (transport vehicles)	NA (b)	5 (b) 2 gas bottles outside trailer supporting PCM1B	3 (b) space heaters in trailer	NA
AP Tank Farm	Satellite Accumulation Area	1, 2, 4	NA	NA	2, 10, 17 (tank contact wastes)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

(a) = OSD-T-151-00007

(b) = Cognizant engineer judgement, Katie White, 3/25/98

(c) = Walkdown, 3/23/96, P.K. Brockman, S. Brews, K. White, C. Segel

* All from reference b

NA = Not applicable or not required
5/31/96

Table 3
Unique Phenomena Checklist
AP Tank Farm

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO2, NO3) limits in OSD-T-151-0007	Other-1	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	List documented events. Provide reference.	Notes
AP FARM													
241-AP-101	DST	N Hodgson 1998 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133 R.0	N WHC-SD-WM-ER-161 R.1	N Tusler 1998 74A30-98-008	Data not available	N Tusler 1998 74A30-98-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (WHC140/PLUT INV)	N Tusler 1998 74A30-98-008	NA	No known separable phase organics
241-AP-102	DST	N Hodgson 1998 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N WHC-SD-WM-ER-358	N Tusler 1998 74A30-98-008	Data not available	N Tusler 1998 74A30-98-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (WHC140/PLUT INV)	N Tusler 1998 74A30-98-008	NA	No known separable phase organics
241-AP-103	DST	N Hodgson 1998 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N WHC-SD-WM-ER-459	N Tusler 1998 74A30-98-008	Data not available	N Tusler 1998 74A30-98-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (WHC140/PLUT INV)	N Tusler 1998 74A30-98-008	NA	No known separable phase organics

NA = Not applicable or not required
 5/31/98

Table 3
Unique Phenomena Checklist
AP Tank Farm

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO ₂ , NO ₃) limits in OSD-T-151-0007	Other-1	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	List documented undocumented events? Provide reference.	Notes
241-AP-104	DST	N Hodgson 1988 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N Suley 1985 71720-85-008	N Tusler 1985 74A30-85-008	Data not available	N Tusler 1985 74A30-85-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (VHC140/PLUT INV)	N Tusler 1985 74A30-85-008	NA	No known separable phase organics
241-AP-105	DST	N Hodgson 1988 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N VHC-SD-WM-ER-380	N Tusler 1985 74A30-85-008	Unknown or currently undocumented	N Tusler 1985 74A30-85-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (VHC140/PLUT INV)	N Tusler 1985 74A30-85-008	Video taken in AP-105 showed sludge in tank. Other documents give sludge level of zero.	No known separable phase organics.
241-AP-106	DST	N Hodgson 1988 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N VHC-SD-WM-DP-078 R.O	N Tusler 1985 74A30-85-008	Data not available	N Tusler 1985 74A30-85-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (VHC140/PLUT INV)	N Tusler 1985 74A30-85-008	NA	No known separable phase organics
241-AP-107	DST	N Hodgson 1988 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133	N VHC-SD-WM-DP-088 R.OA	N Tusler 1985 74A30-85-008	Data not available	N Tusler 1985 74A30-85-008	N personal communication with Dan Reynolds	Unknown or currently undocumented-see note 1	N Pu Inv Database (VHC140/PLUT INV)	N Tusler 1985 74A30-85-008	NA	No known separable phase organics

NA = Not applicable or not required
 5/31/86

NA = Not applicable or not required
5/31/98

B-79

1. Hazards analysis group performing independent siphoning evaluation study.

[illegible]

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment existing yes/no. Provide reference	Is equipment operating yes/no. Provide reference	Equipment Condition	Notes, describe information etc.
Legend	Supply as installed ID number	Is equipment existing yes/no. Provide reference	Is equipment operating yes/no. Provide reference	Equipment Condition	Comments

Tanks - Double-Shell Tanks 241-AP-101 through 108

Tank Waste Instrumentation					
Specific gravity inst. system	NA	no (c)	NA	NA	NA
Temperature probes (T/C Trns)	NA	yes (a)	yes (a)	Suspect	"Each tank AP-101 thru 108 has 18 thermocouples located in waste instrumentation system relays to instrument building is chronically bad. Data is collected manually at instrument enclosure. (a,b)
Liquid level (Primary)	NA	yes (a)	yes (a)	S (c)	NA
Liquid level (Backup)	NA	yes (a)	yes (a)	S (c)	"Some manual tapes in poor shape. Tank 108 has new manual tape, tank 107 is in very bad shape. (a)
High level probe	NA	yes (a)	yes (a) see notes	S (c)	"High level probes operational with the exception of 102-AP which was disconnected because of potential flammable gas concerns. 105-AP broken, work order in to fix. (a, b)
Tank primary diff. pressure monitor	NA	yes (a)	yes (a)	S (c)	Primary and backup systems operational, automatic and field measurements maintained. (a)
Gas monitoring / SH-SIS	NA	NA	NA	NA	No SH-SIS cabinets located in AP tank farm. (a)
Tank Annulus Instrumentation					
Leak detection manual tape (conductivity probe)	NA	yes (a, e, f)	yes (a)	S (c)	3 systems per tank (a)
CAM Read Monitor	NA	yes (a, f)	yes (a)	S (c)	1 system per tank (a)
Pump pit leak detection	NA	yes (a, e, f)	yes (a)	S (c)	1 system per pit (a)
Temperature	NA	yes (a, e, f)	no (a)	Suspect	Instrumentation system relays to instrument building is chronically bad. Data is collected manually at instrument enclosure. (a,b)
Tank annulus diff. pressure monitor	NA	yes (a)	yes (a)	S (c)	NA

NA = Not applicable or not required
5/31/95

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007

System	System Equipment Identifier	Is equipment working	Is equipment quickly started, trouble releases	Equipment condition	Notes, describe information, etc.	Comments
Legend						
Tank Structure Instrumentation						
- Thermocouple data acquisition	NA	yes (a, e, f)	no (a)	Suspect	82 thermocouples check concrete foundation and insulation temperatures. Data is collected manually at instrument enclosure. (a,b)	
Instrument Enclosures	NA	yes (a)	yes (a)	NA	Many instrument enclosures per tank, enclosures visibly appeared in good condition. (a)	
Air lift circulators	NA	no (a)	NA	NA	No lift circulators in AP tank farm	
Steam coil	NA	no (a)	NA	NA	No steam coils in AP tank farm	
Calson	NA	no (a)	NA	NA	No calsons in AP tank farm	
HVAC Systems						
Ventilation System(s)	K1(primary tank/ K2(tank annulus)	yes (a)	yes (a)	9 (c)	K1 Primary vent system, K2 = Annulus vent system	
Passive	NA	no (a)	NA	NA	No passive ventilation systems in AP tank farm	
-Active	K1/K2	yes (a)	yes (a)	9 (c)	NA	
Shared / common vent system? (Describe in comments section)	NA	yes (a)	yes (a)	9 (c)	As 8 tanks share the same active K1/K2 ventilation system (a,b)	
Exhaust vent/hedway	NA	yes (a)	yes (a)	9 (c)	Hedway appeared in good condition	

NA = Not applicable or not required
5/31/86

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment used? yes/no. Provide reference.	Is equipment quantity yes/no. Provide reference.	Equipment condition yes/no. Provide reference.	Comments
Legend	Supply any associated ID numbers	Is equipment used? yes/no. Provide reference.	Is equipment quantity yes/no. Provide reference.	Equipment condition yes/no. Provide reference.	Notes, descriptive information, etc.
Arrivals at intake assemblies	NA	yes (a)	yes (a)	8 (c)	one for every two tanks, four total (b)
Primary air intake assemblies	NA	no (a)	NA	NA	Air filtration is provided via pit cover blocks and conveyed through the duct system to the exhauster.
Pre-filters (yes/no)	NA	yes (a)	yes (b)	8 (c)	NA
HEPA filters (how many filters, stages, parallel or series etc.)	K1/K2	yes (a)	yes (a)	8 (c)	K1-5-1/K1-5-2 (primary exhaust) contains the de-exhauster, electric heater, pre-filter and first and second stage HEPA filters. K2-5-1/K2-5-2 (secondary exhaust) provides ventilation for the service space of the tanks. Air filtration is via 4 intake stations (2 tanks each) which are filtered through first and second stage HEPA filtration.
Fans	K1 and K2	yes (a)	yes (a)	8 (c)	NA
De-exhausters	K1 only	yes (a)	yes (a)	8 (c)	De-exhauster for primary ventilation system only.
Heaters	K1 and K2	yes (a)	yes (a)	Snapped	Test controllers in need of repair (a,b)
HVAC instrumentation					
Main stack monitor	K1 monitor	yes (a)	yes (a)	8 (c)	Record sampler and CxHh located on K1 main stack monitor (a,b)
Stack monitor	K2 monitor	yes (a)	yes (a)	8 (c)	Record sampler and CxHh located on K2 stack monitor (a,b)
Primary header pressure	K1 monitor	yes (c)	yes (a)	8 (c)	NA
Arrivals header pressure	K2 monitor	yes (c)	yes (a)	8 (c)	NA
Primary Seal Pot PG	241-AP K1	yes (a)	NA	NA	NA
Sump pump	P- K1-1	yes (b)	yes (b)	NA	NA
Sump leak detection	LDE-K1-1	yes (b)	yes (b)	8 (c)	NA
-Level element	LE K1-1	yes (b)	yes (b)	8 (c)	NA

NA = Not applicable or not required
5/31/85

TABLE 4
FACILITY CONFIGURATION

System	System Equipment Identifier	Is equipment used? yes/no. Provide reference	Is equipment repaired? yes/no. Provide reference	Equipment Condition	Comments
Legend	Supply any associated ID numbers	Is equipment used? yes/no. Provide reference	Is equipment repaired? yes/no. Provide reference	Equipment condition yes/no. Provide reference	Item, descriptive information, etc.
Drain	NA	yes (d)	yes (b)	NA	NA
Head trace	NA	yes (d)	yes (b)	NA	NA
Arrivals Steel Pct PG	241-AP IC2	yes (a)	yes (b)	NA	NA
Level element	LE IC2-1	yes (d)	yes (b)	S (c)	NA
Drain	NA	yes (d)	yes (b)	NA	NA
Ventilation Instream PG	AP VIP 1 and 2	yes (a)	Yes (a) (b)	NA	The vent pits provide access to the exhaust ducts, for sampling etc.
Pits					
Arrivals Pump PG	241-AP-01B Rev 008	yes (a)	NA	NA	One arrivals pump pit per tank (a)
Floor drain	NA	yes (a, f)	yes (b)	NA	Floor drain assumed operable, no occurrences noted
Sump	NA	yes (a, f)	yes (b)	NA	Sump assumed operable
Leak detection	NA	yes (a, f)	yes (b)	S (c)	NA
Central Pump PG	241-AP-01A Rev 00A	yes (a)	NA	NA	One central pump pit per tank (a)
Leak detection	NA	yes (a, f)	yes (b)	S (c)	NA
Floor drain	NA	yes (a, f)	yes (b)	NA	Floor drain assumed operable, no occurrences noted

NA = Not applicable or not required
5/31/86

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM HIE-007

System	System Equipment Identifier	Is equipment existing? yes/no. Provide reference.	Is equipment operating? yes/no. Provide reference.	Equipment Condition	Notes, descriptive information, etc.	Comments
Distributor Pk.	NA	no (a)	NA	NA	Distributor pk is another name for valve pk AP 241	
Salvo Pk.	NA	no	NA	NA		
Heat Pk.	NA	no	NA	NA		
Leak detection pump pk	03C, 05C	yes (a)	NA	NA	03C is the leak detection pump pk for tanks 101-104, 05C is the leak detection pump pk for tanks 105-108 (b)	
Level sensing system (SPG-MF - sump) dip tubes	NA	yes (a, e)	no (a)	not operating as designed	Problem with P/V dip tube piping for compressed air. Intend to fix (b)	
-Gamma rad monitor	NA	yes (a, e)	no (a)	not operating as designed	Do not intend to repair. Cannot disconnect because of IOSRA/ISO houses.	
-Leak detection system	NA	yes (a, e)	yes (a)	B (c)	NA	
-Level element	NA	yes (a, e)	yes (a)	B (c)	NA	
-Temperature	NA	yes (a, e)	no ¹ (a)	suspect	¹ probe per system, data acquisition system is chronically bad. Data is collected manually. (a,b)	
-Sump	NA	yes (a, e)	yes (b)	NA		
-Drain	NA	yes (a, e)	yes (b)	NA		
Dry wells	NA	no (a)	NA	NA		
Condenser pk	NA	no (a)	NA	NA		

NA = Not applicable or not required

TABLE 4
FACILITY CONFIGURATION

System	System Equipment Identifier	Existing/Proposed	Is equipment existing? If not, provide reference	Is equipment operable? If not, provide reference	Equipment Condition	Comments
Legend	Supply eq associated ID numbers	Is equipment existing? If not, provide reference	Is equipment operable? If not, provide reference	Equipment condition If not, provide reference	Notes, describe otherwise, etc.	
Sludge pump pit	NA	no (a)	NA	NA	NA	
Stk well pump pit	NA	no (a)	NA	NA	NA	
Drain pit	030	yes (a)	NA	NA	Required for tank 241-AP-103 only	
Drain	NA	yes (b)	yes (b)	2 (c)	NA	
Leak detection	NA	yes (b)	yes (b)	2 (c)	NA	
Valve Pit	241-AP	yes (a)	NA	NA	NA	
Leak detection	NA	yes (b)	yes (a)	2 (c)	NA	
Valve position indication	NA	yes (a)	no ^a (a)		*Manual verification method used. Little don't work, never have. (a,b)	
Pipeline flow monitoring	NA	no (a)	NA	NA	NA	
Drain	NA	yes (b)	yes (b)	NA	NA	
SL line	SL509/510	yes (b, i)	yes (b)	NA	NA	
SN line	SN809/810	yes (b)	yes (b)	NA	NA	
Pressure switches	NA	yes (i)	yes (b)	2 (c)	NA	
Drain line flow alarm	NA	yes (i)	yes (b)	2 (c)	NA	
Feed Pump Pit	241-AP-020	yes (a)	No (b)	NA	Pump pit exists, but are not operable (support for gravel program) (b)	

NA = Not applicable or not required
5/31/96

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007

System	System Equipment Identifier	Existing/Present	Operable	Equipment Condition	Comments
Legend	Supply any associated ID numbers	Is equipment existing Identify, Provide reference	Is equipment operable Identify, Provide reference	Equipment condition Provide reference	Notes, describe information, etc.
Water Pump Pk	OTD, OTE, OTF	Yes (a)	No (b)	NA	Pk exists, but are not operate (support for golf program) (b)
Service Pk	241-AP-001 (Service Bldg)	Yes (a)	Yes (b)	g (c)	Raw water inlet to AP farm (a)
Service pit instrumentation					
Flow monitoring	NA	yes (a, g, h)	yes (a)	g (c)	NA
Flow monitor	NA	yes (a, g, h)	yes (a)	g (c)	NA
Backflow preventer	NA	yes (a, g, h)	yes (a)	NA	Backflow prevention SP-1 and SP-2 service 3" RVW inlet to 241 AP tank farm
Leak detection	NA	yes (a, g, h)	yes (a)	g (c)	NA
Sump level element	NA	yes (a, g, h)	yes (a)	g (c)	NA
Pressure Gauges	NA	yes (a, g, h)	yes (a)	g (c)	NA
Sump	NA	yes (g, h)	yes (a)	NA	NA
Drain	NA	yes (g, h)	yes (a)	NA	NA
Heater	NA	yes (h)	yes (a)	NA	Space heater within Bld. enclosure
Flump pit	241-AP	yes (a)	yes (a)	NA	NA
Flow monitoring	NA	no (a)	NA	NA	no flow monitoring instrumentation in flush pit
Leak detection	NA	yes (g, h)	yes (a, b)	g (c)	NA
RVW pressure switch	NA	yes (g, h)	yes (a, b)	g (c)	NA
Limit switch	NA	yes (g, h)	yes (b)	g (c)	NA
Drain	NA	yes (g, h)	yes (b)	NA	3" DR (715-426) sump drain

NA = Not applicable or not required
5/31/96

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007

System	System Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
Legend	Supply any associated ID numbers	Is equipment existing yes/no. Provide reference	Is equipment operable yes/no. Provide reference	Equipment condition Provide reference	Notes, describe frequency, etc.
Sump	NA	yes (I)	yes (b)	NA	NA
Barrier dams	NA	yes (f)	yes (b)	NA	NA
Level element	NA	yes (f)	yes (a, b)	5 (c)	NA
Header	NA	yes (f)	yes (a, b)	NA	Space heater within pit box enclosure
Flotation monitor	NA	no (b)	NA	NA	NA
Transfer Piping					
Transfer Line	SL508 (slurry)	yes	yes (b)	NA	Encased transfer lines (3" in 6") from A/VV to AP valve box-see Table 7
Transfer Line	SE610 (slurry)	yes	yes (b)	NA	Encased transfer lines (3" in 6") from A/VV to AP valve box-see Table 7
Transfer Line	SN608 (supernatant)	yes	yes (b)	NA	Encased transfer lines (3" in 6") from A/VV to AP valve box-see Table 7
Transfer Line	SN610 (supernatant)	yes	yes (b)	NA	Encased transfer lines (3" in 6") from A/VV to AP valve box-see Table 7
Buildings					
Compressor Building	241-AP-701	yes (a)	NA	NA	Physical building
Holding Tanks	NA	yes (a)	yes (a)	NA	Two tanks in building (a).
Flammable storage cabinet	NA	yes (a)	NA	NA	Cabinet not opened (a). Assumed to contain small quantities of flammable materials (paint cans, cleaners, etc)
Instrument Building	241-AP-271	yes (a)	NA	NA	Physical building
Adjustable Frequency AC Drive for AP-102 fiber pump	NA	yes (a)	no (a, b)	NA	Unit present within facility, never hooked up
Instrument Building Instrumentation					

NA = Not applicable or not required
5/31/96

Tank Farm or Miscellaneous Facility AP Tank Farm

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007

Rev. 0

System	System Equipment Identifier	Is equipment existing? If not, provide reference	Is equipment operating? If not, provide reference	Equipment Condition	Comments
CASS connection	NA	yes (b)	yes (b)	5 (c)	Instrumentation Bld interfaces with CASS
CAM	NA	yes (a)	yes (a)	NA	Personnel monitoring (b) within Bld
Remote alarm location(s) (describe in context section)	NA	yes (a)	yes (a)	NA	Alarms are transmitted to the 242-A Evaporator. (b)
Miscellaneous instrumentation					
Heat trace	NA	yes (a)	no ^a (a)	NA	^a Heat traces are all over for winterization. Turned off in summer. Some pipelines heat trace section do not work. Trying to justify decommissioning system. (b)
Steam					
Steam traps	NA	no (a,b)	NA	NA	No steam present in AP tank farm
Miscellaneous Facilities					
Electrical Substation	241-AP	yes (a)	yes (a)	5 (c)	13.8kV overhead power to 1000 VAC transformer feeds step-down (480V) transformer at treatment Bld
Motor Control Station	MCC-241-AP	yes (a)	yes (a)	5 (c)	Motor control station at treatment Bld
Bottle Storage Area	NA	yes (a)	NA	NA	Bottles inventoried under Table 1 Material Inventory
Heat Trace Transformer/Panel	NA	yes (a)	yes (b)	NA	Assumed operable. Heat trace for the evaporator lines. (b)
Change Trailer	MO 815	yes (a)	yes (a)	NA	Two bottles of Argon/air gases change trailer (a) to support the FCUBS1 personnel radiation monitor.

a = field walkdown, 3/23/98, PK Brockman, S Brewe, KA White, C Sagel
b = interview with cognizant engineer, KA White, 3/25/98
c = 241 AP Condition Assessment Survey (non released document)

Tank Farm or Miscellaneous Facility AP Tank Farm

d = H-2-805142 Rev. 1.
e = H-2-805171 Rev. 1.
f = H-2-804872 Rev. 8.
g = H-2-804882 Rev. 8.
h = H-2-804885 Rev. 4.
i = H-2-804884 Rev. 5.
j = H-2-805221 Rev. 4.
k = H-2-805281 Rev. 3.
l = H-2-805282 Rev. 0.
m = H-2-805271 Rev. 2.
n = H-2-805281 Rev. 4.
o = H-2-805281 Rev. 4.
p = H-2-805281 Rev. 3.
r = H-2-805321 Rev. 3.
s = H-2-805331 Rev. 3.

NA = Not applicable or not required
53/186

**TABLE 4
FACILITY CONFIGURATION**

WHC-SD WM HIE-007
Rev. 0

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTIONWHC-SD-WM-HIE-007
Rev. 0

System	System ID	Radiation Source 2100MWhr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes ->	Let any associated ID numbers. Provide references.	Source or isotopic $\geq 1000\text{mWhr}^7$ (see or no. Provide references.	Physical features (shielding, containment, etc.)	Thickness of overpack, number of penetrations, etc.	Notes
Tanks	101 through 106	yes	Soil/gravel cover	≤ 7 ft above tank dome crown (D1)	Soil cover monitored for shielding/cosmogenic
Aerulius Pump Pile	241-AP-01B thru 06B	yes	cover blocks (a)	1.5ft thick, 2-4" penetrations (c)	good condition (a)
Central Pump Pile	241-AP-01A thru 06A	yes	cover blocks (a)	1.5ft thick, 1-2" cable slot penetration (c)	good condition (a)
Dewatering Pile	NA	NA	NA	NA	Does not exist in AP
Sludge Pile	NA	NA	NA	NA	Does not exist in AP
Head Pile	NA	NA	NA	NA	Does not exist in AP
Leak detection pump pile	03C, 05C	yes	cover blocks (a)	1.5ft thick, 1-2", 1-4" penetrations (b)	good condition (a)
Condenser pile	NA	NA	NA	NA	Does not exist in AP
Sludge pump pile	NA	NA	NA	NA	Does not exist in AP
Salt well pump pile	NA	NA	NA	NA	Does not exist in AP
Drain pile	03D	yes	cover blocks (a)	1.5ft thick, 1/4" cable slot penetration (f)	good condition (a)
Valve pile	241-AP	yes	cover blocks (a)	1.5ft thick, 52-4" penetrations (a)	good condition (a)
Primary seal pot pile	241-AP K1	yes	cover blocks (a)	3/8" metal plate (f)	good condition (a)
Aerulius seal pot pile	241-AP K2	yes	cover blocks (a)	3/8" metal plate (f)	good condition (a)
Feed pump pile	241-AP-02A, -02D	yes	cover blocks (a)	3/4" penetrations, cover block thickness 1.5 feet (f)	good condition (a)
Water pump pile	241-AP-07D, -07E, -07F	yes	cover blocks (a)	3/4" penetrations, cover block thickness unknown	good condition (a)
Verification instrument pile	AP VIP 1 and 2	no	covers (a)	3/16 thick aluminum alloy (b)	good condition (a)
Transfer pile	same as valve pit 241 AP	NA	NA	NA	NA

NA = Not applicable or not required
5/31/96

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTIONWHC-SD-WM-HIE-007
Rev. 0

System	System ID	Radiation Source ≥100Mktr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes ->	Let any attached ID numbers. Provide references.	Source or isotope > 100Mktr? Yes or no. Provide references.	Physical features (shielding, containment, and etc.) Provide references.	Thickness of shield, number of penetrations, etc.	Notes
Service pit	NA (see Service Bldg.)	NA	NA	NA	NA
Flush pit	241-AP	no	covers (a)	12 gauge galvanized cover, 2'-4" penetrations (f)	good condition (a)
Dry wells	NA	NA	NA	NA	NA
Other pits	NA	NA	NA	NA	NA
Direction Boxes	NA	NA	NA	NA	NA
Clean Out Boxes	NA	NA	NA	NA	NA for AP Farm
Steam System					
-Steam traps	NA	NA	NA	NA	NA
HVAC					
-Tank Ventilation Systems	K1 / K2 (a)	yes	K1 HEPA filters and de-aerators have concrete walls around them. (a)	1.5ft thick walls @ 8.0ft high (f)	K1 = Primary vent system, K2 = annulus vent system (a)
-Other Ventilation Systems	NA	NA	NA	NA	NA
Transfer Lines	SL508, SL510, SL608, SL610	NA	NA	NA	For Transfer Lines refer to Table 7.

NA = Not applicable or not required
5/31/86

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

System	System ID	Radiation Source ≥100mR/hr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes→	<i>List any associated ID numbers. Provide reference.</i>	<i>Source or hotspot ≥ 100mR/hr? Yes or no. Provide reference.</i>	<i>Physical features (shielding, coverblocks, lead, etc.) Provide reference.</i>	<i>Thickness of coverblock, number of penetrations, etc.</i>	<i>Notes</i>
Buildings					
-Change trailer	NA	No	NA	NA	1 change trailer
-Satellite accumulation area	NA	No (a)	See comment	NA	Inventories removed when filled, transported to 208-E 90 day storage facility.
- Service Building	241-AP-801 (a)	no (a)	NA	NA	radiation monitor to check water (a)
-Compressor Building	241-AP-701 (a)	no (a)	NA	NA	NA
-Instrument Building	241-AP-271 (a)	no (a)	NA	NA	CAM in building (a)

[D1] OSD-T-151-00007, Rev. H-17

(a) = field walkdown, 3/23/98, PK Brockman, S Brews, KA White, and C Segel.

(b) = Drawing H-2-90445

(c) = Drawing H-2-90446

(d) = Drawing H-2-90447

(e) = Drawing H-2-90448

(f) = Drawing H-2-90449

(g) = Drawing H-2-90450

(h) = Drawing H-2-90451

(i) = Drawing H-2-90456

(j) = Drawing H-2-90537

(k) = Drawing H-2-90638

(l) = information from Katie A White, June 1998.

NA = Not applicable or not required

5/31/98

Tank Farm or Miscellaneous Facility

AP

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Tanks - Double-Shell Tanks 241-AP-101 through 108	NA	NA	NA	NA	
Tank Waste Instrumentation	NA	NA	NA	NA	
Specific gravity Instr. system	NA	NA	NA	NA	
Temperature probes (T.C Tree)	WHC-SD-WM-OSR-016 SL 2.2	NA	TF-OR-A-03 TO-001-084 TO-001-180 TO-020-595 TO-040-035 TO-040-200 TO-040-880 TO-060-230 TO-200-460 TO-200-464 TO-220-019 TO-220-027 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-014 TO-270-040 TO-270-221	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.2	NA	TO-270-235 TO-270-251 TO-270-252 TO-270-266 TO-270-824 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.2.1	NA	NA	FV	LCO - Not Implemented by ECN
	WHC-SD-WM-OSR-016 LCO 3.2.2	NA	NA	NA	ECN 618396
	WHC-SD-WM-OSR-016 SR 3.2.2.1	NA	TF-OR-A-03 TO-001-184 TO-040-680 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-270-007 TO-270-011 TO-270-012 TO-270-035 TO-270-040 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	ECN 618396
	NA	OSD-T-151-00007 7.2.8.a	TO-001-182 TO-001-184 TO-040-760	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.6.a	TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-600-080	NA	
	NA	OSD-T-151-00007 7.2.6.b	TO-001-182 TO-001-184 TO-040-760 TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-600-080	NA	
	NA	OSD-T-151-00007 7.2.6.c	TO-001-182 TO-001-184 TO-040-760	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.6.c	TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-600-080	NA	
Liquid level (Primary)	WHC-SD-WM-OSR-016 SL 2.1	NA	TF-OR-A-03 TO-020-330 TO-020-820 TO-040-200 TO-060-230 TO-060-340 TO-220-019 TO-220-095 TO-230-095 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-274 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-231-00102 ARP-T-231-00103 ARP-T-231-00105 ARP-T-231-00108 ARP-T-271-00101 ARP-T-271-00102	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-OR-A-03 TO-001-084 TO-001-180 TO-001-184 TO-020-025 TO-020-330 TO-020-585 TO-020-820 TO-040-200 TO-060-105 TO-060-230 TO-060-340 TO-200-460 TO-220-027 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-012 TO-270-014 TO-270-235 TO-270-251 TO-270-252 TO-270-824 TO-400-200 TO-430-480 TO-430-485	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	TO-440-002	NA	
	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2.a	TF-OR-A-03 TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-230-274 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
Liquid level (Backup)	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2.a	TF-OR-A-03 TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-230-274 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
High level probe	WHC-SD-WM-OSR-016 SR 3.1.2.1	NA	TF-OR-A-03 TO-001-084 TO-001-180 TO-001-184	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SR 3.1.2.1	NA	TO-020-025 TO-020-330 TO-020-595 TO-020-820 TO-040-200 TO-060-340 TO-200-400 TO-200-460 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-270-007 TO-270-012 TO-270-014 TO-270-235 TO-270-251 TO-270-252 TO-400-200 TO-430-480 TO-430-485 TO-440-002	NA	
Tank primary diff. pressure monitor	WHC-SD-WM-OSR-016 SL 2.3	NA	TF-FT-239-001 TF-FT-279-001 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-095 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 SL 2.4	NA	TF-FT-239-001	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.4	NA	TF-FT-279-001 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-095 TO-230-095 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	ARP-T-231-00102 ARP-T-231-00103 ARP-T-231-00104 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-FT-239-001 TF-FT-279-001 TO-001-084 TO-001-184 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-200-019 TO-200-464 TO-220-027 TO-220-095 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142	FV DR	

05/31/96

NA = Not applicable or not required

Tank Farm or Miscellaneous Facility

AP

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-235 TO-270-824 TO-400-200 TO-430-480	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.2	NA	ARP-T-231-00101 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 ARP-T-601-00295 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-085 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 SR 3.3.2.1	NA	ARP-T-231-00101 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-340	FV DR	
	WHC-SD-WM-SAR-016 11.6	OSD-T-151-00007 7.2.5	TO-060-105 TO-060-341	NA	

05/31/96

NA = Not applicable or not required

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WHC-SD-WM-HIE-007
REV 0

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.6	OSD-T-151-00007 7.2.5	TO-400-245	NA	
Gas monitoring / SHMS	NA	NA	NA	NA	Does not exist in AP Farm
Tank Annulus Instrumentation	NA	NA	NA	NA	
Leak detection manual tape (conductivity probe)	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TO-001-184 TO-020-210 TO-040-590 TO-060-185 TO-060-240 TO-060-341 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-040 TO-400-200 TO-430-480	NA	
CAM Rad Monitor	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00107 ARP-T-271-00108 TO-001-184 TO-020-210 TO-040-590 TO-060-185 TO-060-240 TO-060-341 TO-220-085 TO-230-099 TO-230-133 TO-230-274 TO-270-040 TO-400-200 TO-430-480	NA	
Pump pit leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Temperature	NA	NA	NA	NA	
Tank annulus diff. pressure monitor	NA	NA	NA	NA	
Tank Structure Instrumentation	NA	NA	NA	NA	
Thermocouple data acquisition	WHC-SD-WM-OSR-016 AC 5.28.1	OSD-T-151-00007 7.2.7	TF-OR-A-03 TO-270-040	NA	AC- Not Implemented by ECN

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit			OSD Limit		Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016	AC	5.28.1	OSD-T-151-00007	7.2.7	TO-600-080	NA	
Instrument Enclosures	NA			NA		NA	NA	
Air lift circulators	NA			NA		NA	NA	Does not exist in AP Farm
Steam coil	NA			NA		NA	NA	Does not exist in AP Farm
Caisson	NA			NA		NA	NA	Does not exist in AP Farm
HVAC Systems	NA			NA		NA	NA	
Ventilation System(s)	NA			NA		NA	NA	
Passive	NA			NA		NA	NA	
Active	NA			OSD-T-151-00007 7.3.2		TO-001-182 TO-001-184 TO-020-155 TO-020-925 TO-060-230 TO-060-340 TO-060-403 TO-060-500 TO-060-503 TO-060-516 TO-230-085 TO-230-133 TO-230-274 TO-270-204 TO-270-221 TO-270-236	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.3.2	TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
Shared / common vent system? (Describe in comments section)	NA	NA	NA	NA	
Exhaust vent/hatchway	NA	NA	NA	NA	
Annulus air intake assemblies	NA	NA	NA	NA	
Primary air intake assemblies	NA	NA	NA	NA	Does not exist in AP Farm
Pre-filters (yes/no)	NA	NA	NA	NA	
HEPA filters (how many filters, stages, parallel vs series etc.)	NA	NA	NA	NA	
Fans	NA	NA	NA	NA	
De-entrainers	NA	NA	NA	NA	
Heaters	NA	NA	NA	NA	
HVAC instrumentation	WHC-SD-WM-OSR-016 LCO 3.4.1	OSD-T-151-00007 7.3.1.A	TO-060-101 TO-060-104 TO-060-105 TO-060-230	NA	LCO- Not Implemented by ECN

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AP

System/Structures/Components	OSR Limit WHC-SD-WM-OSR-016 LCO 3.4.1	OSD Limit OSD-T-151-00007 7.3.1.A	Implementing Procedures TO-060-240 TO-060-340 TO-060-341	Verification NA	Comments
	NA	OSD-T-151-00007 7.3.1.B	TO-060-105 TO-060-230 TO-060-240 TO-060-340 TO-060-341	NA	
Main stack monitor	NA	OSD-T-151-00007 7.3.1.D	TO-060-240	NA	
Stack monitor	NA	OSD-T-151-00031 31.2.2.2	TO-040-590	NA	
Primary header pressure	NA	OSD-T-151-00007 7.3.1.D	TO-060-240	NA	
Annulus header pressure	NA	NA	NA	NA	
Primary Seal Pot Pit	NA	NA	NA	NA	
Primary Seal Pot Pit Contents	NA	NA	NA	NA	
Sump pump	NA	NA	NA	NA	
Sump leak detection	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

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Tank Farm or Miscellaneous Facility

AP

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Drain	NA	NA	NA	NA	
Heat trace	NA	NA	NA	NA	
Annulus Seal Pot Pit	NA	NA	NA	NA	
Annulus Seal Pot Pit Contents	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Ventilation Instrument Pit	NA	NA	NA	NA	
Ventilation Instrument Pit Contents	NA	NA	NA	NA	
TBD	NA	NA	NA	NA	
Pits	NA	NA	NA	NA	
Annulus Pump Pit	NA	NA	NA	NA	
Annulus Pump Pit Contents	NA	NA	NA	NA	
Floor drain	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AP

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Sump	NA	NA	NA	NA	
Leak detection	11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Central Pump Pit	NA	NA	NA	NA	
Central Pump Pit Contents	NA	NA	NA	NA	
Leak detection	11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Floor drain	NA	NA	NA	NA	
Distributor Pit	NA	NA	NA	NA	Does not exist in AP Farm
Distributor Pit Contents	NA	NA	NA	NA	Does not exist in AP Farm

05/31/96
NA = Not applicable or not required

TABLE 6
AP _____
Tank Farm or Miscellaneous Facility
OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Sluice Pit	NA	NA	NA	NA	Does not exist in AP Farm
Sluice Pit Contents	NA	NA	NA	NA	Does not exist in AP Farm
Heel Pit	NA	NA	NA	NA	Does not exist in AP Farm
Heel Pit Contents	NA	NA	NA	NA	Does not exist in AP Farm
Leak detection pump pit	NA	NA	NA	NA	
Leak Detection Piv/Sump instrumentation - OSC and OSC	NA	NA	NA	NA	
Level sensing system (SpG-WF sump) - dip tubes	NA	OSD-T-151-00007 7.2.2.b	TF-OR-A-03 TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
Gamma rad monitor	NA	NA	NA	NA	

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Leak detection system	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Temperature	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Dry wells	NA	NA	NA	NA	
Condenser pit	NA	NA	NA	NA	Does not exist in AP Farm
Condenser Pit Contents	NA	NA	NA	NA	Does not exist in AP Farm
Sludge pump pit	NA	NA	NA	NA	Does not exist in AP Farm
Sludge pump pit contents	NA	NA	NA	NA	Does not exist in AP Farm
Salt well pump pit	NA	NA	NA	NA	Does not exist in AP Farm
Saltwell Pumping Instrumentation	NA	NA	NA	NA	Does not exist in AP Farm
Hydrogen monitor	NA	NA	NA	NA	Does not exist in AP Farm

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Weight factor / specific gravity	NA	NA	NA	NA	Does not exist in AP Farm
Drain pit	NA	NA	NA	NA	
Drain Pit Contents	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Valve Pit / Transfer Pit / Diversion Box	NA	NA	NA	NA	
Valve Pit/Transfer pit/ Diversion Box Contents	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-450-150	NA	
Valve position indication	NA	NA	NA	NA	
Pipeline flow monitoring	NA	NA	NA	NA	Does not exist in AP Farm
Drain	NA	NA	NA	NA	
SL lines	NA	NA	NA	NA	
SN lines	NA	NA	NA	NA	
Pressure switches	NA	NA	NA	NA	
Drain line flow alarm	NA	NA	NA	NA	
Feed Pump Pit	NA	NA	NA	NA	
Feed Pump Pit Contents	NA	NA	NA	NA	
Mixer Pump Pit	NA	NA	NA	NA	
Mixer Pump Pit Contents	NA	NA	NA	NA	
Service Pit	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Service pit instrumentation	NA	NA	NA	NA	
Flow monitoring	NA	NA	NA	NA	
Rad monitor	NA	NA	NA	NA	
Backflow preventer	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Sump level element	NA	NA	NA	NA	
Pressure Gauges	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Heater	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Flush pit	NA	NA	NA	NA	
Flow monitoring	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
RW pressure switch	NA	NA	NA	NA	
Limit switch	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Barrier dams	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Heater	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

Tank Farm or Miscellaneous Facility

AP

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Radiation monitor	NA	NA	NA	NA	
Transfer Piping	NA	NA	NA	NA	
Transfer Lines	NA	NA	NA	NA	
Buildings	NA	NA	NA	NA	
Compressor Building	NA	NA	NA	NA	
Holding Tanks	NA	NA	NA	NA	
Flammable storage cabinet	NA	NA	NA	NA	
Instrument Building	NA	NA	NA	NA	
Adjustable Frequency AC Drive for AP-102 Mixer pump	NA	NA	NA	NA	
Instrument Building Instrumentation	NA	NA	NA	NA	
CASS connection	NA	NA	NA	NA	
CAM	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Remote alarm location(s) (describe in comment section)	NA	NA	NA	NA	
Miscellaneous Instrumentation	NA	NA	NA	NA	
Heat trace	NA	NA	NA	NA	
Steam	NA	NA	NA	NA	Does not exist in AP Farm
Steam traps	NA	NA	NA	NA	Does not exist in AP Farm
Miscellaneous Facilities	NA	NA	NA	NA	
Electrical Substation	NA	NA	NA	NA	
Motor Control Station	NA	NA	NA	NA	
Bottle Storage Area	NA	NA	NA	NA	
Heat Trace Transformer/Panel	NA	NA	NA	NA	
Change Trailer	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

AW FARM TABLES

**TWRS FSAR MATRIX TABLE
VERIFICATION REVIEW APPROVALS
May 31, 1996**

The following information has been assembled, organized, and documented in the attached TWRS Final Safety Analysis Report (FSAR) Matrix Tables in support of Tank Farms FSAR development. Science Applications International Corporation (SAIC), along with the assistance of ICF Kaiser Hanford and the Westinghouse Hanford Company, assembled this data from controlled drawings and databases, supporting documents, as well as other site documentation. Where possible, the data has been field verified by performing field walkdowns of the particular facility of interest. The data also have been reviewed for its completeness and accuracy by the TWRS Facility Operations Design Authority and the Cognizant Engineer assigned to the respective facility. The information, to the best of the knowledge and the time allotted by the undersigned, is true, accurate, and complete as permitted by the referenced documents and drawings shown on the respective tables. No efforts were attempted or made by the authors and/or reviewers to substantiate the reference information shown on the tables beyond the stated qualifiers as noted on the individual facility matrix tables.

AW Tank Farm

Tank Farm or Facility

Charlotte Zaccone
SAIC Lead

5/31/96
Date

Kati W. Cite
WHC Cognizant Engineer Review

9/4/96
Date

Ronald W. Reed
WHC Design Authority Review

4 Sep 96
Date

* Stone and Webster support

NOTE:
DURING SITE VISIT 3/31/96 WHC
CORING TRAILER WAS LOCATED ON TANK 101.

KEY PLAN
SCALE: NONE

LEGEND

- [illegible]

THIS MAP IS TO BE USED FOR REFERENCE PURPOSES ONLY.
DO NOT USE THIS MAP FOR CONSTRUCTION PURPOSES.

NAME	AW TANK FARM
ADDRESS	U.S. DEPARTMENT OF ENERGY Washington, D.C. 20545
CITY	Washington, D.C.
STATE	D.C.
ZIP	20545
PHONE	202-546-1450
FAX	202-546-1450
E-MAIL	H-7-XXXXX
TELETYPE	14500

REF NUMBER	TITLE
86-13-10300	100% NEW AREA
86-13-10301	100% NEW AREA
86-13-10302	100% NEW AREA
86-13-10303	100% NEW AREA
86-13-10304	100% NEW AREA
86-13-10305	100% NEW AREA
86-13-10306	100% NEW AREA
86-13-10307	100% NEW AREA
86-13-10308	100% NEW AREA
86-13-10309	100% NEW AREA
86-13-10310	100% NEW AREA
86-13-10311	100% NEW AREA
86-13-10312	100% NEW AREA
86-13-10313	100% NEW AREA
86-13-10314	100% NEW AREA
86-13-10315	100% NEW AREA
86-13-10316	100% NEW AREA
86-13-10317	100% NEW AREA
86-13-10318	100% NEW AREA
86-13-10319	100% NEW AREA
86-13-10320	100% NEW AREA
86-13-10321	100% NEW AREA
86-13-10322	100% NEW AREA
86-13-10323	100% NEW AREA
86-13-10324	100% NEW AREA
86-13-10325	100% NEW AREA
86-13-10326	100% NEW AREA
86-13-10327	100% NEW AREA
86-13-10328	100% NEW AREA
86-13-10329	100% NEW AREA
86-13-10330	100% NEW AREA
86-13-10331	100% NEW AREA
86-13-10332	100% NEW AREA
86-13-10333	100% NEW AREA
86-13-10334	100% NEW AREA
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86-13-10340	100% NEW AREA
86-13-10341	100% NEW AREA
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86-13-10345	100% NEW AREA
86-13-10346	100% NEW AREA
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86-13-10350	100% NEW AREA
86-13-10351	100% NEW AREA
86-13-10352	100% NEW AREA
86-13-10353	100% NEW AREA
86-13-10354	100% NEW AREA
86-13-10355	100% NEW AREA
86-13-10356	100% NEW AREA
86-13-10357	100% NEW AREA
86-13-10358	100% NEW AREA
86-13-10359	100% NEW AREA
86-13-10360	100% NEW AREA
86-13-10361	100% NEW AREA
86-13-10362	100% NEW AREA
86-13-10363	100% NEW AREA
86-13-10364	100% NEW AREA
86-13-10365	100% NEW AREA
86-13-10366	100% NEW AREA
86-13-10367	100% NEW AREA
86-13-10368	100% NEW AREA
86-13-10369	100% NEW AREA
86-13-10370	100% NEW AREA
86-13-10371	100% NEW AREA
86-13-10372	100% NEW AREA
86-13-10373	100% NEW AREA
86-13-10374	100% NEW AREA
86-13-10375	100% NEW AREA
86-13-10376	100% NEW AREA
86-13-10377	100% NEW AREA
86-13-10378	100% NEW AREA
86-13-10379	100% NEW AREA
86-13-10380	100% NEW AREA
86-13-10381	100% NEW AREA
86-13-10382	100% NEW AREA
86-13-10383	100% NEW AREA
86-13-10384	100% NEW AREA
86-13-10385	100% NEW AREA
86-13-10386	100% NEW AREA
86-13-10387	100% NEW AREA
86-13-10388	100% NEW AREA
86-13-10389	100% NEW AREA
86-13-10390	100% NEW AREA
86-13-10391	100% NEW AREA
86-13-10392	100% NEW AREA
86-13-10393	100% NEW AREA
86-13-10394	100% NEW AREA
86-13-10395	100% NEW AREA
86-13-10396	100% NEW AREA
86-13-10397	100% NEW AREA
86-13-10398	100% NEW AREA
86-13-10399	100% NEW AREA
86-13-10400	100% NEW AREA

AW FARM MASTER CHECKLIST

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
AWFARM								
241-AW-101	DST	X	X	X	X	X	X	NA
241-AW-102	DST	X	X	X	X	X	X	NA
241-AW-103	DST	X	X	X	X	X	X	NA
241-AW-104	DST	X	X	X	X	X	X	NA
241-AW-105	DST	X	X	X	X	X	X	NA
241-AW-106	DST	X	X	X	X	X	X	NA
COB-AW01	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW02	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW03	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW04	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW05	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW06	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW07	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW08	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator

NA = Not applicable or not required

5/31/96. Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-8. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)

AW FARM MASTER CHECKLIST

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
COB-AW-08	Cleanout box	X	X	NA	X	X	X	NA
COB-AW-10	Cleanout box	X	X	NA	X	X	X	NA
COB-AW-11	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-AW-12	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
COB-A-30	Cleanout box	NA	NA	NA	NA	NA	NA	Belongs to 242-A Evaporator
241-AW-701	Compressor building	NA	X	NA	X	X	X	NA
241-AW-02E	Feed pump pit	X	X	NA	X	X	X	NA
241-AW	Flush pit	X	X	NA	X	X	X	NA
241-AW-271	Instrument building	NA	X	NA	X	X	X	NA
241-AW-272	Operations support facility	X	X	NA	X	NA	X	NA
241-AW-801	Service pit	NA	NA	NA	NA	NA	NA	Same facility as 241- AW-273
241-AW-273	Service building	X	X	NA	X	X	X	NA
241-AWA	Valve pit	X	X	NA	X	X	X	NA
241-AWB	Valve pit	X	X	NA	X	X	X	NA
	Satellite Accumulation Area	X	X	NA	X	X	X	NA

NA = Not applicable or not required
5/31/98. Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)

AW FARM MASTER CHECKLIST

WHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Material Inventory, (Table 1)	Hazards ID, (Table 2)	Unique Phenomena, (Table 3)	Facility Configuration, (Table 4)	Rad Level, (Table 5)	Controls, (Table 6)	Comment
Other facilities found during walkdown or drawing search								
	Change trailer	X	NA	NA	X	X	X	NA
	Acid sewer manhole	X	NA	NA	X	X	NA	Not part of AW Farm, is now isolated. Provided access to PUREX chemical sewer.

NA = Not applicable or not required

5/31/86. Master checklist matrix establishes TWRS FSAR associated facilities and specific checklists for categories 1-6. Check appropriate category for individual facility checklists (i.e., 241-A-101, a material inventory, hazard ID, facility configuration and controls checklist is required based on known facility hazards.)

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<i>Legend Box-></i>	<i>Capacity: Provide reference.</i>	<i>Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.</i>	<i>Supernate, sludge, saltcake, etc. Provide reference.</i>	<i>Vapor, liquid, solid</i>	<i>How much material is present, in gallons, cubic, etc. Include units. Provide reference.</i>	<i>Can the material be relocated or moved, yes or no</i>	<i>Number of bags, containers, etc. if applicable. Provide reference if applicable.</i>	<i>Notes</i>
1. Tank Contents								
241-AW-101	1.16 Mgal [d3]	DSSF [d1]	supernate [d1]	liquid [d2]	1043 lgal [d2]	No	NA	NA
241-AW-101	NA	DSSF [d1]	saltcake [d1]	solid [d2]	84 lgal [d2]	No	NA	NA
241-AW-102	1.16 Mgal [d3]	DN [d1]	supernate [d1]	liquid [d2]	39 lgal [d2]	No	NA	NA
241-AW-102	NA	DN [d1]	saltcake [d1]	solid [d2]	55 lgal [d2]	No	NA	NA
241-AW-103	1.16 Mgal [d3]	DNPD [d1]	supernate [d1]	liquid [d2]	149 lgal [d2]	No	NA	NA
241-AW-103	NA	DNPD [d1]	saltcake [d1]	solid [d2]	363 lgal [d2]	No	NA	NA
241-AW-104	1.16 Mgal [d3]	DN [d1]	supernate [d1]	liquid [d2]	834 lgal [d2]	No	NA	NA
241-AW-104	NA	DN [d1]	saltcake [d1]	solid [d2]	290 lgal [d2]	No	NA	NA
241-AW-105	1.16 Mgal [d3]	DNPD [d1]	supernate [d1]	liquid [d2]	136 lgal [d2]	No	NA	NA
241-AW-105	NA	DNPD [d1]	saltcake [d1]	solid [d2]	260 lgal [d2]	No	NA	NA
241-AW-106	1.16 Mgal [d3]	DN [d1]	supernate [d1]	liquid [d2]	306 lgal [d2]	No	NA	NA
241-AW-106	NA	DN [d1]	saltcake [d1]	solid [d2]	226 lgal [d2]	No	NA	NA

NA = Not applicable or not required
5/31/86

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
Legend Box→	Capacity: Provide reference.	Type of material in the tank, pit, etc. (use abbreviations for abbreviations). Provide reference.	Supernatant, sludge, solids, etc. Provide reference.	Vapor, liquid, solid	How much material is present, in gallons, cubic, etc. Include units. Provide reference.	Can the material be relocated or moved, yes or no.	Number of bags, containers, etc. if applicable. Provide reference if applicable.	Notes
2. Tank Headspace								
241-AW-101	NA	NA	NA	Vapor	1057 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA
241-AW-102	NA	NA	NA	Vapor	4983 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA
241-AW-103	NA	NA	NA	Vapor	3377 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA
241-AW-104	NA	NA	NA	Vapor	1089 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA
241-AW-105	NA	NA	NA	Vapor	3911 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA
241-AW-106	NA	NA	NA	Vapor	3290 M ³ [d7]. No NH ₃ present. [D4] See radionuclide concentrations, note 1.	No	NA	NA

NA = Not applicable or not required
5/31/86

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<u>Legend Box</u> →	Capacity: Provide reference	Type of material in the tank, pit, etc. (see Instructions for abbreviations) Provide reference.	Supernatant, sludge, solids etc. Provide reference.	Major, liquid solid	How much material is present in gallons, cubic etc. Include units. Provide reference.	Can the material be relocated or moved yes or no.	Number of bags, containers etc. if applicable. Provide reference if applicable.	Notes
3. Rail or Truck Transfer Containers								
None [d4]	NA	NA	NA	NA	NA	NA	NA	NA
4. Contamination on Vehicle								
None [d4]	NA	NA	NA	NA	NA	NA	NA	Contaminated vehicle staging area present - no vehicles noted.
5. Contamination on Equipment or Tools								
None [d4]	NA	NA	NA	NA	NA	NA	NA	NA
6. Ventilation Filter Containers								
Primary	200 mR/hr maximum for all HEPA filters [d5]	NA	NA	Particulate	Yes - Disposed in accordance with CER- 0053-4 (8/93)	Yes	NA	HEPA filters monitored for DP deploding [d4]

NA = Not applicable or not required
5/31/98

TABLE 1
MATERIALS INVENTORY

Material at Risk (NARS) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
Legend Row-->	Capacity: Provide reference	Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.	Supernatant, sludge, miscella, etc. Provide reference.	Misc. liquid acid	How much material is present. If gallons, outline etc. Include unit. Provide reference.	Can the material be relocated or moved just in case.	Number of bags, containers, etc. If applicable. Provide reference if applicable.	Notes
Annulus	200 m³/hr maximum for all HEPA filters [6]	NA	NA	Particulate	Yes - Disposed in accordance with C-EP- 0083-4 (R63)	Yes	NA	HEPA filters monitored for DP deploughing [64]
Breather	NA	NA	NA	NA	NA	NA	NA	NA
7. Contamination in Ventilation System								
De-entrainers	NA	Process condensate	NA	Liquid	Residual	NA	NA	NA
Seal loop	NA	Process condensate	NA	Liquid	Residual	NA	NA	NA
8. Contents of Pipeline and/or Source Tank During Transfer								
none	NA	NA	NA	NA	NA	NA	NA	NA
9. Contents of Sump								

NA = Not applicable or not required
5/31/88

TABLE 1
MATERIALS INVENTORY

WHC-SD-WM-HIE-007
Rev. 0

Material at Risk (HAZ) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
Legend Box -> Capacity: Provide reference Type of material in the tank, pit, etc. (see table); substance, etc. Provide reference Substance: Provide reference Vapor: Liquid How each material is present in process control; etc. Include units. Provide reference Can the material be released or moved; yes or no Number of bags, containers, etc. If reference is applicable Notes	NA	NA	NA	NA	NA	NA	NA	There are no tanks in AMV Farm. (not)
	10. Contamination in Pit or Box							
	Annulus pump pits 01B-06B	Residual contamination	NA	Residue	Unknown	No	6 pbs	NA
	Central pump pits 01A-06A	Residual contamination	NA	Residue	Unknown	No	6 pbs	NA
	Leak detection pump pits 01C-06C	Residual contamination	NA	Residue	Unknown	No	6 pbs	NA
	Drain pit 02D	Residual contamination	NA	Residue	Unknown	No	1 pit	NA
	Valve pits AMVA and B	Residual contamination	NA	Residue	Unknown	No	2 pbs	NA
	Primary seal pit AMVK1	Residual contamination	NA	Residue	Unknown	No	1 pit	NA
	Annulus seal pit AMVK2	Residual contamination	NA	Residue	Unknown	No	1 pbs	NA
	Feed pump pit 02E	Residual contamination	NA	Residue	Unknown	No	1 pbs	NA

NA = Not applicable or not required
5/31/96

TABLE 1
MATERIALS INVENTORY

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<i>Legend Box-></i>	<i>Capacity: Provide reference</i>	<i>Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.</i>	<i>Supernatants, sludge, effluents, etc. Provide reference.</i>	<i>Vapor, liquid, solid</i>	<i>How much material is present, in gallons, crates, etc. Include units. Provide reference.</i>	<i>Can the material be released or moved? yes or no.</i>	<i>Number of bags, containers, etc. if applicable. Provide reference if applicable.</i>	<i>Notes</i>
Ventilation instrument pits VIF-1,2,3	5.2 Kgal [aw37,38]	Residual contamination	NA	Residue	Unknown	No	3 pits	NA
Flush pit	.8 Kgal [aw13]	Residual contamination	NA	Residue	Unknown	No	1 pit	NA
Clean out boxes AWB, 10	.047 Kgal [aw31]	Residual contamination	NA	Residue	Unknown	No	2 COBs	NA
11. SARA 313 Materials								
Cylinder [d5]	480 cuft [d5]	90% Argon / 10% Methane [d5]	NA	Gas mixture [d5]	480 cuft [d5]	Yes	2 bottles	For PCM1-B. [d4]
12. Other								
Service building	NA	Raw water	NA	Residue	NA	no	NA	NA
Change trailer	NA	Low level waste	SWFs, other low level waste	Solid	Low level	Yes	NA	Controlled by HPTs. [d4]
Operations support facility 272-AW	See comment	See comment	See comment	See comment	See comment	See comment	See comment	For maintenance shop materials refer to the "Hazardous Materials Inventory Database," 1/10/86

NA = Not applicable or not required
5/31/86

TABLE 1
MATERIALS INVENTORYWHC-SD-WM-HIE-007
Rev. 0

Material at Risk (MAR) Category	Capacity	Material Inventory					Quantity	Comments
		Material Classification	Type	Physical Form	Volume or Activity	Transient Y/N		
<i>Legend Box -></i>	<i>Capacity: Provide reference.</i>	<i>Type of material in the tank, pit, etc. (see instructions for abbreviations). Provide reference.</i>	<i>Supernats, sludge, saltcake, etc. Provide reference.</i>	<i>Vapor, liquid, solid</i>	<i>How much material is present, in gallons, cubic, etc. Include units. Provide reference.</i>	<i>Can the material be relocated, or moved, yes or no.</i>	<i>Number of bags, containers, etc. (if applicable). Provide reference if applicable.</i>	<i>Notes</i>
Acid sewer manhole	See comment	See comment	See comment	See comment	See comment	See comment	See comment	The acid sewer manhole is located outside of the AW Farm. It is now isolated, and was used for access to the PUREX chemical sewer.
Satellite accumulation area	6 - 55 gallon mixed waste drums (maximum) [wd1]	RCRA mixed waste	Soil, tank contacted, HEPA filters, misc. RMW wastes	Solid	Low Level (less than class C)	Yes	6 - 55 gal drums max capacity	NA

Note 1: (1)= Inventory contribution in Bq/L of major radionuclides to the total unit liter dose due to inhalation/ingestion for liquids in tanks (Tables 4/5, WHC-SD-WM-SARR-037 Rev.0) Co60- 6.97 E+06, Sr90-4.59 E+08, Y90 4.59 E+08, Cs137-6.86 E+10, Eu15-4.18 E+07, Np237-2.30 E+05, Pu238-1.78 E+06, Pu239-7.65 E+06, Pu241-1.84 E+07, Am241-3.40 E+07, Cm244-1.22 E+06. These are bounding concentrations.
Inventory contribution in Bq/L of major radionuclides to the total unit liter dose due to inhalation/ingestion for solids in tanks (Tables 4/5, WHC-SD-WM-SARR-037 Rev.0)
Co60- 1.5 E+07, Sr90-5.2 E+10, Y90 5.2 E+10, Cs137-6.9 E+10, Eu15-3.00 E+06, Np237-8.1 E+05, Pu238-7.2 E+07, Pu239-1.6 E+08, Pu241-3.6 E+08, Am241-2.7 E+08, Cm244-1.6 E+07. These are bounding concentrations.

d1 = WHC-EP-0182-93

d2 = Tusler 1996, 74A30-96-008

d3 = SD-WM-SAR-018, Rev 1

d4 = Field wellhead, 3/31/98, PK Brockman, S Brews, KA White, C Segel, C Zaccaro, S Gwin, D Mendoza, G Dunford

d5 = SD-WM-SAR-018

d6 = Hazardous Material Inventory Database, Inventory Verification Report by Report, File name HMD242A.1a, 01/10/98, provided by Michael R Weil

d7 = "TWINN" data base, Jim Huckaby of PNNL

d8 = WHC-SD-WM-SARR-037, Rev 0 (created by Bill Cowley)

sw0 = H-2-905142 Rev. 1.

sw1 = H-14-020502/1 Rev. 2.

sw2 = H-2-70348/1 Rev. 11.

sw3 = H-2-70349/1 Rev. 15.

sw4 = H-2-70350/1 Rev. 13.

sw5 = H-14-020602 sh1 Rev. 2.

NA = Not applicable or not required

5/31/96

TABLE 1
MATERIALS INVENTORY

sw6 = H-14-020902-sh2 Rev. 0.
sw7 = H-14-020902-sh3 Rev. 0.
sw8 = H-2-70412 Rev. 4.
sw9 = H-2-70411/1 Rev. 5.
sw10 = H-2-70413 Rev. 4.
sw11 = H-2-70414 Rev. 5.
sw12 = H-2-70415 Rev. 5.
sw13 = H-2-70416 Rev. 5.
sw14 = H-2-70401 Rev. 7.
sw15 = H-2-70329/2 Rev. 0.
sw16 = H-2-70399 Rev. 10.
sw17 = H-2-70400 Rev. 8.
sw18 = H-2-70409 Rev. 2.
sw19 = H-2-70417 Rev. 7.
sw20 = H-2-70387
sw21 = H-2-70411/2 Rev. 0.
sw22 = H-2-69428/1,2,3
sw23 = H-2-70313 Rev. 8.
sw24 = H-2-70402 Rev. 5.
sw25 = H-2-90805 Rev. 4.
sw26 = H-2-70387/1, Rev. 9.
sw27 = H-2-70336, Rev. 6.
sw28 = H-2-90805, Rev. 7
sw29 = H-2-70315, Rev. 0
sw30 = H-2-70311, Rev. 0
sw31 = H-2-70416, Rev. 2
sw32 = H-2-70314, Rev. 0
sw33 = H-2-70313, Rev. 0
sw34 = H-2-70312, Rev. 0
sw35 = H-2-70310, Rev. 0
sw36 = H-2-90823
sw37 = H-2-70341
sw38 = H-2-70337

TABLE 2
HAZARDS IDENTIFICATION CHECKLIST

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reactive	G- Friction	H- Electrical	I- Kinetic- Rotation	J- Kinetic- Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend Boxes →		Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below													Notes
AW TANK FARM		NA	NA	NA	NA	NA	NA	5 (c)	6 (b)	2, 3 (b)	NA	11 (c)	NA	NA	NA
241-AW-101	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3	NA (c)	11 (c)	NA (c)	NA (c)	AW-101 is a watch list tank (hydrogen/flammable gas) (d) *Tank waste (b)
241-AW-102	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3	NA (c)	11 (c)	NA (c)	NA (c)	*Tank waste (b)
241-AW-103	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3 (c)	NA (c)	11 (c)	NA (c)	NA (c)	*Tank waste (b)
241-AW-104	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3 (c)	NA (c)	11 (c)	NA (c)	NA (c)	*Tank waste (b) Recommended to be added as a watchlist tank. (d)
241-AW-105	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3 (c)	NA (c)	11 (c)	NA (c)	NA (c)	*Tank waste (b)
241-AW-106	DST	2 (a)	6, 7, 8 (a)	15 (a)	4, 11, 14 (a)	5* (a)	NA (a)	5 (c)	4, 6, 8, 10, 14 (c)	3 (c)	NA (c)	11 (c)	NA (c)	NA (c)	*Tank waste (b)
COB-AW-09	Cleanout box	2 (a)	6, 7, 8 (a)	NA	NA	NA	NA	NA	4 (c)	NA	NA	NA	NA	NA	NA
COB-AW-10	Cleanout box	2 (a)	6, 7, 8 (a)	NA	NA	NA	NA	NA	4 (c)	NA	NA	NA	NA	NA	NA
241-AW-701	Compressor building	NA (c)	NA (c)	NA (c)	4, 5, 10 (c)	NA (c)	NA	1, 2, 3, 5 (c)	4, 6, 8, 10, 11, 14, 16 (c)	2, 4 (c)	NA (c)	NA (c)	6, 8 (c)	3, 6 (c)	Small flammable storage cabinet located in compressor Bld. See SARA 313 report

NA = Not applicable or not required
5/31/08

TABLE 2
HAZARDS IDENTIFICATION CHECKLISTWHC-SD-WM-HIE-007
Rev. 0

Facility	Type	A- Corrosive	B- Explosive/ Pyrophoric	C- Nuclear Criticality	D- Flammable Materials	E- Thermal Radiation	F- Chem. Reins.	G- Friction	H- Electrical	I- Kinetic- Rotation	J- Kinetic- Linear	K- Mass, Gravity, Height	L- Pressure- Volume	M- Thermal (except radiant)	Comments
Legend Boxes ->		Select applicable hazards from attached table and place corresponding hazard numbers in the boxes below													Notes
241-AW-02E	Feed pump pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (c)	9, 14 (c)	3 (c)	NA (c)	NA (c)	NA (c)	NA (c)	The feed pump pit belongs to the 242-A Evaporator.
241-AW	Flush pit	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	Leak detection in sump
241-AW-271	Instrument building	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	4, 3, 16, 5, 6, 7, 8, 11, 14 (c)	NA (c)	NA (c)	NA (c)	5 (c)	3 (c)	NA
241-AW-272	Operations support facility	See comment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	For maintenance shop materials refer to "Hazardous Materials Inventory Database," 1/10/96
241-AW-273	Service building	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	NA (c)	11, 14 (c)	NA (c)	NA (c)	NA (c)	NA (c)	3 (c)	Space heater in service Bld.
241-AW-A	Valve pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
241-AW-B	Valve pit	2 (b)	NA (b)	15 (b)	NA (b)	NA (b)	NA (b)	5 (b)	14 (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA (b)	NA
	Satellite Accumula- tion Area	1, 2, 4	NA	NA	2, 10, 17 (tank contact wastes)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

(a) = OSD-T-151-00007

(b) = Cognizant engineer interview, Katie White, 3/25/96

(c) = Walkdown, 3/23/96, P.K. Brockman, S. Brews, K. White, C. Segal

* All from reference b

(d) = OSD-T-151-00030, Rev B-17, "Operating Specifications for Watch List Tanks"

NA = Not applicable or not required
5/31/96

TABLE 3
UNIQUE PHENOMENA CHECKLIST

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO2,NO3) limits in OSD-T-151-0007	Other	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	List documented events. Provide references.	Notes
AW FARM													
241-AW-101	DST	Y Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Baldwin 1995 WHC-SD-WM-ER-470	N Tusler 1996 74A30-95-008	Unknown or currently undocume nted	N Tusler 1996 74A30-95-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A PLUTINV)	N Tusler 1996 74A30-95-008	NA	No known separable phase organics. Currently on Hydrogen Watch List
241-AW-102	DST	N Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Each 1995 WHC-SD-WM-DP-149	N Tusler 1996 74A30-95-008	Unknown or currently undocume nted	N Tusler 1996 74A30-95-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A PLUTINV)	N Tusler 1996 74A30-95-008	NA	No known separable phase organics
241-AW-103	DST	N Hodgson 1986 WHC-SD-WM-ER-526 Rev. 1	N Borshheim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Hodgson 1985 WHC-SD-WM-ER-455	N Tusler 1996 74A30-95-008	Unknown or currently undocume nted	N Tusler 1996 74A30-95-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A PLUTINV)	N Tusler 1996 74A30-95-008	NA	No known separable phase organics

NA = Not applicable or not required
5/31/96

TABLE 3
UNIQUE PHENOMENA CHECKLISTWHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO ₂ , NO ₃) limits in OSD-T-151-0007	Other	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	Does potential exist? Provide reference.	List documented discounted events. Provide reference.	Notes
241-AW-104	DST	Y Hodgeon, 1996 WHC-SD-WM-ER-526 Rev. 1	N Borshaim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Tusler 1996 WHC-SD-WM-ER-453	N Tusler 1996 74A30-96-008	Unknown or currently undocume nted	N Tusler 1996 74A30-96-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A, PLUTINV)	N Tusler 1996 74A30-96-008	NA	Tank failed the flammable gas watchlist criteria (WHC-EP-0702 Rev. 0). Treated with watch list controls pending further direction from DOE (OSD-T-151-00030, B-20)
241-AW-105	DST	N Hodgeon 1998 WHC-SD-WM-ER-526 Rev. 1	N Borshaim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Each 1995 WHC-SD-WM-DP-146	Data not available	N Tusler 1996 74A30-96-008	N Tusler 1996 74A30-96-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A, PLUTINV)	N Tusler 1996 74A30-96-008	NA	No known separable phase organics
241-AW-106	DST	N Hodgeon 1998 WHC-SD-WM-ER-526 Rev. 1	N Borshaim & Simpson 1991 WHC-SD-WM-ER-133 Rev. 0	N Each 1995 WHC-SD-WM-DP-147	N Tusler 1996 74A30-96-008	Unknown or currently undocume nted	N Tusler 1996 74A30-96-008	N personal communicat ion with Dan Reynolds	Unknown or currently undocume nted [1]	N Pu Inv Database (WHC140A, PLUTINV)	N Tusler 1996 74A30-96-008	NA	No known separable phase organics

NA = Not applicable or not required
5/31/96

TABLE 3
UNIQUE PHENOMENA CHECKLISTWHC-SD-WM-HIE-007
Rev. 0

Facility	Type	Flammable Gas	Ferrocyanide	Organics			High Heat (>70,000 BTU/hr)	Pyrophorics	Siphoning	Criticality (>1 g/L in solids)	Corrosivity (OH, NO2,NO3) limits in OSD-T-151-0007	Other	Comments
				Separable Phase	TOC in liquids (>10 g/L)	TOC in solids 3 wt% (dry basis)							
Legend Boxes->		Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	Does it exist? (yes/no) Provide reference.	List documented documented events Provide reference.	Notes

[1] Group Hazards Analysis performing independent siphoning evaluation study.

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Existing/ Present	Operable	Equipment Condition	Comments
Legend	Supply any associated ID numbers	Is equipment existing yes/no. Provide reference	Is equipment operable yes/no. Provide reference	Equipment condition Provide reference	Notes, descriptive information, etc.
Tanks 241-AV-101 through 105					
Tank Waste Instrumentation					
Specific gravity int. system	NA	Yes (d2, wd)	No" (wd)	S (d1)	"only exists on tanks 102 (wd) "out of service (wd)
Temperature probes (T/C Tree)	NA	Yes (d2, wd)	Yes (wd)	S (d1)	NA
Liquid level (Primary)	AV-101: Manual taps, ENRAF, AV-102: Manual Taps, AV-102: ENRAF, FC, ENRAF, AV-103: Manual taps, FC, AV-104: Manual taps, ENRAF, AV-105: Manual taps, FC, AV-106: Manual taps, FC (wd)	Yes (d2, wd)	Yes (wd)	S (d1)	NA
Liquid level (Backup)	See Liquid level primary	NA	NA	NA	NA
High level probe	NA	Yes (d2, wd)	No" (wd)	S (d1)	"disconnected on 101, 104 (wd)
Tank primary dft. pressure monitor	NA	Yes (d2, wd)	Yes (wd)	S (d1)	NA
Gas monitoring / S-HMS	AV-101, vent stack	Yes (d2, wd)	Yes (wd)	S (d1)	NA
Mid-port near welders	AV-101	Yes (wd)	Yes (wd)	S (d1)	NA
Pressure	NA	Yes (wd)	Yes (wd)	S (d1)	NA
Tank Available Instrumentation					

NA = Not applicable or not required
5/31/95

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Supply w/ associated ID numbers	Is equipment sealed? Provide reference	Is equipment operated? Provide reference	Equipment Condition	Comments
CAM Rad Monitor	NA	Yes [d2, wd]	Yes [wd]	5 [d1]	NA	
Pump oil leak detection	NA	Yes [wd]	Yes [wd]	5 [d1]	NA	
Leak detection conductivity (manual type)	NA	Yes [wd]	Yes [wd]	NA	NA	"Telling apart on some tanks [wd]
Temperature	NA	Yes [awt, awb, awb, awt, wd]	Yes [wd]	5 [d1]	NA	
Tank annulus diff. pressure monitor	NA	Yes [wd]	Yes [wd]	5 [d1]	"1 fan typically broken (variation system) [wd]	
Tank Structure instrumentation						
Thermocouple data acquisition	NA	Yes [awt, wd]	Yes [wd]	5 [d1]	19 elements	
Instrument Enclosures	NA	Yes [wd]	NA	5 [d1]	NA	
Air fire detectors	NA	Yes [wd]	Yes [wd]	NA	"2 on tank 102 only [wd]	
Steam coil	NA	No	NA	NA	NA	
Calezon	NA	Yes [awb]	Yes [wd]	NA	NA	
-drains	NA	Yes [awb]	Yes	NA	NA	Drains to tank 102 [awb] Assumed operates
HVAC Systems						

NA = Not applicable or not required
5/31/86

TABLE 4
FACILITY CONFIGURATIONWHS SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Existing/Proposed	Operable	Equipment Condition	Comments
Legend	Supply only associated ID numbers	Is equipment working properly. Provide references	Is equipment operable. Provide references	Equipment condition. Provide references	Notes, descriptive information, etc.
Verification System(s)	K1 / K2 [mw25, mw27, wcl]	Yes [cl, mw25, mw27, wcl]	Yes [wcl]	5 [cl]	K1 = primary tank ventilation system [mw25] K2 = auxiliary ventilation system [mw27]
Pressure	NA	No [cl, mw25, mw27, wcl]	NA	NA	NA
Active	NA	Yes [cl, mw25, mw27, wcl]	Yes [wcl]	5 [cl]	NA
Standard / common vent system? (Describe in comments section)	NA	Yes [mw25, mw26, wcl]	Yes [wcl]	5 [cl]	One for all six tanks [mw25, mw27, wcl]
Exhaust vent/ductway	NA	Yes [wcl]	Yes [wcl]	5 [cl]	NA
Auxiliary air intake assemblies	NA	Yes [wcl]	Yes [wcl]	5 [cl]	1 at each tank [wcl]
Primary air intake assemblies	NA	Yes [wcl]	Yes [wcl]	5 [cl]	1 at each tank [wcl]
Pre-filters (reaches)	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	Each vent system has two banks of filters with one stage of pre-filtration in each [wcl]
HEPA filters (how many filters, stages, parallel vs series etc.)	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	Each vent system has two banks of filters with two stages of HEPA filtration in each [wcl]
Fans	NA	Yes [cl, wcl]	No [wcl]	5 [cl]	Two fans for the auxiliary ventilation system; one is usually broken [wcl]
Re-entrainers	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	Primary tank vent system only has a de-entrainer [cl, wcl]
Heaters	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	NA
HVAC instrumentation					
Main stack monitor	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	NA
Stack monitor for auxiliary system	NA	Yes [cl, wcl]	Yes [wcl]	5 [cl]	NA
Primary stack pressure	NA	Yes [cl]	Yes [cl]	NA	NA
Auxiliary stack pressure	NA	Yes [cl]	Yes [cl]	NA	NA

NA = Not applicable or not required
5/31/96

TABLE 4
FACILITY CONFIGURATIONWHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment working properly. Provide references.	Is equipment operating properly. Provide references.	Equipment condition	Equipment Condition	Comments
Detector sensor	NA	Yes [wd]	No [wd]	5 [dt]	Sensor was in alarm condition; not sure if this was a high/low alarm or if instrument was broken [wd]	
	NA	Yes [wd]	No [wd]	5 [dt]	Instrument problem [wd]	
Primary Seal Pot Pk	241-AVH1	Yes [wd]	Yes [wd]	NA	NA	
Leak detection	NA	No [AV25]	NA	NA	NA	
Level element	NA	Yes [AV25]	Yes	5 [dt]	Both high level and low level elements [AV25] Assumed operable	
Drift	NA	Yes [AV25]	Yes	NA	Assumed operable	
Leak trace	NA	Yes [AV25]	Yes	5 [dt]	Assumed operable	
Air/Inleak Seal Pot Pk	241-AVH2	Yes [wd]	Yes [wd]	5 [dt]	NA	
Level element	NA	Unknown	Unknown	5 [dt]	NA	
Drift	NA	Unknown	Unknown	TBD	NA	
Verification Instrument PK	241-AVVP-1, 2, and -3	Yes [wd]	Yes [wd]	5 [dt]	3 in the farm	
COAB	NA	Yes [wd]	Yes [wd]	5 [dt]	NA	
Air/Inleak pressure	NA	Yes [wd]	Yes [wd]	5 [dt]	NA	
Pkg						

NA = Not applicable or not required
5/31/99

TABLE 4
FACILITY CONFIGURATION

System	System Equipment Identifier	Is equipment existing? yes/no. Provide reference	Is equipment operable? yes/no. Provide reference	Equipment Condition	Notes, describe information, etc.
Legend					

Artesian Pump Pit	241-AW-018 trough - 088	Yes [aw2, aw3, aw4, wd]	Yes [wd]	NA	One for each tank [aw4, wd]
Floor drain	NA	Yes[aw2, aw3, aw4]	Yes	NA	Assumed operable
Sump	NA	No	NA	NA	NA
Leak detection	NA	Yes [aw2, aw3, aw4, wd]	Yes [wd]	5 [dt]	NA
Portable pit spray	NA	Yes [aw5]	Yes [wd]	NA	Pit spray, no hose bib connection [aw5]
Pump motor	None	Yes [aw2, aw3, aw4, wd]	No	NA	NA
Control Pump Pit	241-AW-01A trough - 08A	Yes [aw2, aw3, aw4, wd]	Yes [wd]	NA	NA
Leak detection	NA	Yes [aw2, aw3, aw4, aw5]	Yes [wd]	5 [dt]	Two wire sensors
Floor drain	NA	Yes [aw2, aw2?]	Yes	NA	Assumed operable
Portable pit spray	NA	Yes [aw2?]	Yes	NA	Assumed operable
Pump Motor	NA	Yes [aw2, aw4]	Yes	NA	Assumed operable
Surge distributor	NA	Yes? [wd]	Yes	NA	None on tank 102 [wd] Assumed operable
Distributor Pit	NA	NA	NA	NA	NA
Status Pit	NA	NA	NA	NA	NA
Heat Pit	NA	NA	NA	NA	NA

NA = Not applicable or not required
5/31/85

TABLE 4
FACILITY CONFIGURATIONWHC-SD-WM-HIE-007
Rev. 0

System	System/ Equipment Identifier	Existing/present	Operable	Equipment Condition	Comments
Legend/	Supply any associated ID numbers	Is equipment existing, yes/no. Provide reference.	Is equipment operable, yes/no. Provide reference.	Equipment condition. Provide reference.	Notes, descriptive information, etc.
Leak detection pump pit	241-AW-01C through -06C	Yes [aw1, wd]	Yes [wd]	NA	One for each tank
-Level sensing system (SpG-WF sump)	NA	Yes [aw1]	Yes [wd]	5 [d1]	NA
-Gamma rad monitor (sump)	NA	Yes [aw1]	No [wd]	5 [d1]	Does not work on any pit [wd]
-Leak detection system (pit)	NA	Yes [aw1]	Yes [wd]	5 [d1]	NA
-Temperature	NA	Yes [aw1]	Yes [wd]	5 [d1]	NA
-Sump	NA	No [aw1]	NA	NA	NA
-Drain	NA	Yes [aw1, aw10]	Yes	NA	Assumed operable
-Portable pit spray	NA	Yes [aw10]	Yes	NA	Assumed operable
-Pump, motor	NA	Yes [aw2, aw3, aw4]	No [wd]	NA	Not hooked up. Only installed in AW-101. [wd]
-Pump	NA	Yes [aw2, aw3, aw4]	No [wd]	NA	6" dia. inlet line
Dry wells	NA	Yes [aw17]	Yes [wd]	NA	Standard; Dry well next to each leak detector pit [d3]
Condenser pit	NA	NA	NA	NA	NA
Sludge pump pit	NA	NA	NA	NA	NA
Salt well pump pit	NA	NA	NA	NA	NA

NA = Not applicable or not required
5/31/96

TABLE 4
FACILITY CONFIGURATIONWHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment selected? Justify. Provide reference.	Is equipment operable? Justify. Provide reference.	Equipment Condition	Comments
Legend	Supply any associated ID numbers.				
Drain P&ID	241-AV/02D	Yes [wd]	Yes [wd]	NA	Only on tank 102
Drain	NA	Yes [wd]	Yes	NA	Assumed operable
Leak detection	NA	Yes [wd]	Yes [wd]	5 [rt]	Two-wire sensor
Portable PK spray	NA	Yes [wd]	Yes	NA	Spray with bb connection [wd] 1) Assumed operable
2 - 10" dia. lines w/ leak detection	NA	Yes [wd]	Yes [wd]	5 [rt]	Whisk detection
Valve P&ID	241-AVA and 8	Yes [wd]	Yes [wd]	NA	Two for the entire tank farm
Leak detection	NA	Yes [wd2, wd25]	Yes [wd]	5 [rt]	Two-wire sensor
Valve position indication	NA	Yes [wd22, wd25]	Yes [wd]	NA	Diagrams on cover blocks
Flow monitoring	NA	No [wd]	NA	NA	NA
Drain	NA	Yes [wd23]	Yes	NA	Assumed operable
SL Lines	NA	NA	NA	NA	Evidence of leak detection [wd]
SN Lines	NA	NA	NA	NA	Evidence of leak detection [wd]
Pressure switches	NA	Yes [wd25]	Yes	5 [rt]	Assumed operable
Drain line flow alarm	NA	Yes [AV/25]	Yes	5 [rt]	Assumed operable
Clean Out Boxes	COBAW 9, 10	Yes [wd]	Yes [wd]	NA	Other COB boxes w/AVV designator belong to the evaporator. [wd]
Leak detection	NA	Yes [wd]	Yes [wd]	5 [rt]	NA
-Filter (DF)	NA	Yes [wd]	Yes [wd]	5 [rt]	NA

NA = Not applicable or not required
5/31/96

TABLE 4
FACILITY CONFIGURATION

System	System/Equipment Identifier	Is equipment existing? yes/no. Provide reference.	Is equipment operable? yes/no. Provide reference.	Equipment condition	Notes, descriptive information, etc.
		Existing/Present	Operable	Equipment Condition	Comments
Legend	Supply any associated ID numbers	Is equipment existing? yes/no. Provide reference.	Is equipment operable? yes/no. Provide reference.	Equipment condition	Notes, descriptive information, etc.
	Feed Pump Pk.	241-AW-02E	Yes [aw2, aw12, wd]	NA	Only on tank 102. The feed pump belongs to the 242-A-Evaporator. [wd]
	Motor	NA	Yes [aw2]	NA	NA
	Drain	NA	Yes [aw2]	NA	Discharge line with diagram operated valve and inlet. air line. Assumed operable
	Leak detection	NA	Yes [aw2, aw12]	5 [d1]	Spray line whose lbt
	Water Pump Pk.	NA	NA	NA	NA
	Service Pk.	241-AW-501	Yes [wd]	NA	NA
	Flow monitoring	NA	Yes [aw25, wd]	5 [d1]	Assumed operable
	Feed monitor	NA	Yes [aw25, wd]	5 [d1]	Assumed operable
	Backflow preventer	NA	Yes [aw25, wd]	NA	Assumed operable
	Leak detection	NA	Yes [aw25, wd]	5 [d1]	Assumed operable
	Pressure Gauges	NA	Yes [aw25, wd]	5 [d1]	Assumed operable
	-Sump	NA	Yes [aw25, wd]	NA	Assumed operable
	Drain	NA	Yes [aw25, wd]	NA	Drains to 102-AW [wd] Assumed operable
	-Sump level element	None	No [wd]	NA	NA
	-Header	NA	Yes [wd]	NA	Header in the building none in pk [wd]

NA = Not applicable or not required
5/31/98

TABLE 4
FACILITY CONFIGURATION

System	System/ Equipment Identifier	Is equipment sealed? joints, provide references	Is equipment grounded, joints, provide references	Equipment condition, Provide references	Comments
Legend	Supply any associated ID numbers	Is equipment sealed? joints, Provide references	Is equipment grounded, joints, Provide references	Equipment condition, Provide references	Notes, describe information, etc.
Flash pt.	241-AW	Yes [nc]	Yes [nc]	NA	NA
Flow monitoring	NA	Yes [aw25]	Yes [nc]	5 [d1]	Monitored by a tankw. [nc]
Leak detection	NA	Yes [aw15]	Yes [nc]	5 [d1]	NA
RTV pressure switch	NA	Yes [aw25]	Yes	5 [d1]	Assumed operable
Drain	NA	Yes [aw15]	Yes	NA	Assumed operable
Sump	NA	No [nc]	NA	NA	NA
Level element	NA	No [aw25]	NA	5 [d1]	NA
Heater	NA	No [aw25]	NA	NA	NA
Radiation monitor	NA	Yes [aw25]	NA	5 [d1]	NA
Transfer Piping					
Transfer Lines	NA	NA	NA	NA	Refer to Transfer Line Table 7. Show evidence of leak detection on lots of lines entering the valve pit [nc]
Buildings					
Compressor Building	241-AW/701	Yes [nc]	Yes [nc]	7 [d1]	NA
Holding Tanks	NA	Yes [nc]	Yes [nc]	NA	2 accumulation tanks for instrument air [nc]
Flammable storage cabinet	NA	No [nc]	NA	N	NA
Instrument Building	241-AW/271	Yes [nc]	Yes [nc]	NA	NA

NA = Not applicable or not required
5/31/96

Tank Farm or Miscellaneous Facility /MW Tank Farm

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

System	System Equipment Identifier	Is equipment working? joints, P-necks, nozzles	Is equipment operable? joints, P-necks, nozzles	Equipment condition P-necks, nozzles	Notes, describe following, etc.	Comments
Monitor for tank 101-MW-in-tank camera	NA	Yes [nd]	Yes [nd]	5 [d1]	NA	
CASS connection	NA	Yes [nd]	Yes [nd]	5 [d1]	NA	
CAM	NA	Yes [nd]	Yes [nd]	5 [d1]	NA	
-Remote alarm location(s) (describe in comment section)	NA	Yes [nd]	See comment	5 [d1]	TMAC located in the 242-A Evaporator [nd]	
Miscellaneous instrumentation						
Heat trace	NA	Yes [nd]	Yes	NA	All over the tank farm. Assumed operable	
Steam						
Steam trap station	NA	Yes [aw15, aw16]	No [nd]	NA	Steam disconnected [nd]	
Miscellaneous Facilities						
Charge Trailer	NA	Yes [nd]	Yes [nd]	NA	NA	
Add sewer manhole	NA	Yes [aw17]	No	NA	The acid sewer manhole is located outside of MW Farm. It is isolated, and was used for access to the PUREX chemical sewer. [nd]	
Operators Support Facility	241-AW-272	Yes [nd]	Yes [nd]	NA	NA	
Stable Accumulation Area	NA	Yes [nd]	Yes [nd]	NA	NA	
Cathodic Protection Rectifier for AW	NA	Yes [nd]	Yes [nd]	NA	Passing bi-monthly tests [nd]	

nd = Not worked on, 3/31/86, P.N. Brodman, S. Grant, K.A. White, C. Sargent, C. Zaccaro, S. Grant, D. Mandola, G. Dunder
d1 = 241-AW Condition Assessment Survey, dated 6/20/85.
d2 = WHC-SD-WB14-ES-018, Rev. 0

NA = Not applicable or not required
5/31/86

TABLE 4
FACILITY CONFIGURATION

WHC-SD-WM-HIE-007
Rev. 0

sw0 = H-2-60514/2 Rev. 1.
sw1 = H-14-020502/1 Rev. 2.
sw2 = H-2-70348/1 Rev. 11.
sw3 = H-2-70348/1 Rev. 15.
sw4 = H-2-70350/1 Rev. 13.
sw5 = H-14-020802 sh1 Rev. 2.
sw6 = H-14-020802 sh2 Rev. 0.
sw7 = H-14-020802 sh3 Rev. 0.
sw8 = H-2-70412 Rev. 4.
sw9 = H-2-70411/1 Rev. 5.
sw10 = H-2-70413 Rev. 4.
sw11 = H-2-70414 Rev. 6.
sw12 = H-2-70415 Rev. 5.
sw13 = H-2-70416 Rev. 5.
sw14 = H-2-70401 Rev. 7.
sw15 = H-2-70329/2 Rev. 0.
sw16 = H-2-70399 Rev. 10.
sw17 = H-2-70400 Rev. 8.
sw18 = H-2-70409 Rev. 2.
sw19 = H-2-70417 Rev. 7.
sw20 = H-2-70367
sw21 = H-2-70411/2 Rev. 0.
sw22 = H-2-69428/1,2,3
sw23 = H-2-70313 Rev. 8.
sw24 = H-2-70402 Rev. 5.
sw25 = H-2-60806 Rev. 4.
sw26 = H-2-70387/1, Rev. 9.
sw27 = H-2-70339, Rev. 6.
sw28 = H-2-60805, Rev. 7.
sw29 = H-2-70315, Rev. 0.
sw30 = H-2-70311, Rev. 0.
sw31 = H-2-70418, Rev. 2.
sw32 = H-2-70314, Rev. 0.
sw33 = H-2-70313, Rev. 0.
sw34 = H-2-70312, Rev. 0.
sw35 = H-2-70310, Rev. 0.

NA = Not applicable or not required
5/31/96

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

WHC-SD-WM-HIE-007
Rev. 0

System	System ID	Radiation Source ≥100mR/hr	Protective Features	Description of Protective Features	Comments
Legend Below →	List any associated ID numbers		Source or Isotopic ≥ 100mR/hr? Yes or No	Physical features reducing contaminant field etc.)	Thickness of concrete, number of penetrations, etc. Provide references
Tanks	241-AW-101 through -105	Yes	Self-vented	≤ 7 ft above tank dome crown [d1]	NA
Aerulus Pump Pile	241-AW-01B through -05B	Yes	Cover block [awc]	1'-6" thick [awc] 1 penetration 6" in diameter [wd]	Good condition [wd]
Central Pump Pile	241-AW-01A through -05A	Yes	Cover block [awc]	1'-6" thick [awc] 3 penetrations (12", 6", and 3" dia.) on tanks 101, 103-105 [wd] 6 penetrations of 12" dia. and 1 penetration of 12" dia. on tank 102 [wd]	Good condition [wd]
Distributor Pk	NA	NA	NA	NA	NA
Salvo Pk	NA	NA	NA	NA	NA
Head Pk	NA	NA	NA	NA	NA
Leak detection pump pile	241-AW-01C through -05C	Yes	Cover block [awc]	1'-6" thick [awc] 1 penetration 6" dia. [wd]	Good condition [wd]
Condenser Pk	NA	NA	NA	NA	NA
Seduge pump pile	NA	NA	NA	NA	NA
Salt well pump pile	NA	NA	NA	NA	NA
Drain pile	241-AW-02D	Yes	Cover block [awc]	1'-6" thick [awc] One 2" penetration, one 6" penetration [wd]	Good condition [wd]
Valve pile	241-AW-0A and -B	Yes	Cover block [awc]	1'-6" thick [awc] 6- 2" penetrations [wd]	Good condition [wd]
Primary seal pot pile	241-AW-K1	Yes	Metal plate [wd]	3/8" steel plate; 2" dia penetration [wd]	Good condition [wd]
Aerulus seal pot pile	241-AW-K2	Yes	Soil [wd]	2" pipe near whodder stopper in pipe [wd]	NA

NA = Not applicable or not required
5/31/96

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTION

WHC-SD-WM-HIE-007
Rev. 0

System	System ID	Radiation Source ≥ 100mR/hr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes →	Let any unshielded ID numbers	Source or isotope ≥ 100mR/hr Yes or no	Physical feature (shielding, penetrations, duct, etc.)	Thickness of concrete, number of penetrations, etc. Provide reference	Notes
Feed pump pit	241-AV-CZE	Yes	Cover block [m6]	1'-6" thick [m6]	NA
Mixer pump pit	NA	NA	NA	NA	NA
Verification instrument pit	241-AV-MVP-1, -2 and -3	Yes	Cover block	8" thick [m6/7,35]	NA
Service pit	241-AV	No	Building verification monitor [m6]	NA	NA
Flush pit	241-AV	No	Metel lid with insulation [m6]	2.5" thick [m6/7] 3 penetrations of 12" dia., 10 penetrations of 4" dia. [m6]	Good condition [m6]
Other pit	NA	NA	NA	NA	NA
Clean Out Boxes	COB-AV-09, COB-AV-10	Yes	Metel plate [m6]	About 1.5" thick, 1 penetration [m6]	Good condition COB-AV-01 thru -12 and A-30 belong to the 242-A evaporator, not A/W Farm [m6]
Steam System					
Steam traps	NA	NA	NA	NA	NA
HVAC					
-Tank Ventilation Systems	241-AV Exhaust Station K1, K2	Yes	Concrete around de-aerators, filter [m6]	Thickness of concrete unknown	NA
-Other Ventilation Systems	NA	NA	NA	NA	NA
Transfer Lines	NA	NA	NA	NA	Refer to Transfer Line Table 7.

NA = Not applicable or not required
5/31/98

TABLE 5
RADIATION SOURCE/PHYSICAL PROTECTIONWHC-SD-WM-HIE-007
Rev. 0

System	System ID	Radiation Source ≥100mR/hr	Protective Feature	Description of Protective Feature	Comments
Legend Boxes →	List any associated ID numbers	Yes or no	Physical feature (including construction, fluid, etc.)	Thickness of construction, number of penetrations, etc. Provide reference	Notes
Dry wells	NA	NA	NA	NA	NA
Buildings					
-Compressor Building	241-AW-701	No	NA	NA	NA
-Inertment Building	241-AW-271	No	NA	NA	NA
-Change Trailer	NA	No [ncl]	NA	NA	
Other Facilities					
-Satellite accumulation area	NA	No [ncl]	See comment	NA	Inventories removed when fluid transported to 208-E 90 day storage facility.

wd = field workstation, 9/31/95, PK Brodman, S Brown, KA White, C Sagel, S Gahn, C Zaccaro, D Mendez, G Dunford
 d1 = Operating Specification Document, OSD-T-151-00007

aw1 = H-2-70310, Rev. 3
 aw2 = H-2-70311, Rev. 2
 aw3 = H-2-70312, Rev. 4
 aw4 = H-2-70313, Rev. 6
 aw5 = H-2-70314, Rev. 2
 aw6 = H-2-70315, Rev. 3
 aw7 = H-2-70416, Rev. 5

NA = Not applicable or not required
 9/31/95

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Tank primary diff. pressure monitor	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	TO-060-340	FV DR	
Tanks 241-AW-101 through -106	NA	NA	NA	NA	
Tank Waste Instrumentation	NA	NA	NA	NA	
Specific gravity instr. system	NA	NA	NA	NA	
Temperature probes (T.C Tree)	WHC-SD-WM-OSR-016 SL 2.2	NA	TF-OR-A-03 TO-001-084 TO-001-180 TO-020-595 TO-040-035 TO-040-200 TO-040-660 TO-060-230 TO-200-460 TO-200-484 TO-220-019 TO-220-027 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-014	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.2	NA	TO-270-040 TO-270-221 TO-270-235 TO-270-251 TO-270-252 TO-270-266 TO-270-824 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.2.1	NA	NA	FV	LCO - Not Implemented by ECN
	WHC-SD-WM-OSR-016 LCO 3.2.2	NA	NA	NA	ECN 619396
	WHC-SD-WM-OSR-016 SR 3.2.2.1	NA	TF-OR-A-03 TO-001-184 TO-040-660 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-270-007 TO-270-011 TO-270-012 TO-270-035 TO-270-040 TO-400-200 TO-430-480 TO-430-485 TO-440-002	FV DR	ECN 619396
	NA	OSD-T-151-00007 7.2.6.a	TO-001-182	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.6.a	TO-001-184 TO-040-760 TO-200-010 TO-220-085 TO-230-085 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-600-080	NA	
	NA	OSD-T-151-00007 7.2.6.b	TO-001-182 TO-001-184 TO-040-760 TO-200-010 TO-220-085 TO-230-085 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-600-080	NA	
	NA	OSD-T-151-00007 7.2.6.c	TO-001-182	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	NA	OSD-T-151-00007 7.2.8.c	TO-001-184 TO-040-760 TO-200-010 TO-220-095 TO-230-095 TO-230-133 TO-230-274 TO-270-040 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828 TO-400-200 TO-430-480 TO-800-080	NA	
Liquid level (Primary)	WHC-SD-WM-OSR-016 SL 2.1	NA	TF-OR-A-03 TO-020-330 TO-020-820 TO-040-200 TO-060-230 TO-060-340 TO-220-019 TO-220-065 TO-230-095 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-274 TO-440-002	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-231-00102 ARP-T-231-00103 ARP-T-231-00105 ARP-T-231-00106	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-OR-A-03 TO-001-064 TO-001-180 TO-001-184 TO-020-025 TO-020-330 TO-020-585 TO-020-820 TO-040-200 TO-060-105 TO-060-230 TO-060-340 TO-200-460 TO-220-027 TO-220-095 TO-220-096 TO-230-065 TO-230-099 TO-230-133 TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-012 TO-270-014 TO-270-235 TO-270-251 TO-270-252 TO-270-824 TO-400-200 TO-430-480	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.1.2	NA	TO-430-485 TO-440-002	NA	
	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2.a	TF-OR-A-03 TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-230-274 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
Liquid level (Backup)	WHC-SD-WM-SAR-016 11.5	OSD-T-151-00007 7.2.2.a	TF-OR-A-03 TO-001-182 TO-020-240 TO-020-420 TO-020-820 TO-040-590 TO-230-095 TO-230-274 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
High level probe	NA	NA	NA	NA	
	WHC-SD-WM-OSR-016 SR 3.1.2.1	NA	TF-OR-A-03	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SR 3.1.2.1	NA	TO-001-084 TO-001-180 TO-001-184 TO-020-025 TO-020-330 TO-020-595 TO-020-820 TO-040-200 TO-060-340 TO-200-400 TO-200-460 TO-220-095 TO-220-096 TO-230-095 TO-230-099 TO-230-133 TO-230-141 TO-230-142 TO-230-143 TO-230-144 TO-270-007 TO-270-012 TO-270-014 TO-270-235 TO-270-251 TO-270-252 TO-400-200 TO-430-480 TO-430-485 TO-440-002	NA	
Tank primary diff. pressure monitor	WHC-SD-WM-OSR-016 SL 2.3	NA	TF-FT-239-001 TF-FT-279-001 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-095 TO-230-133	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 SL 2.3	NA	TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 SL 2.4	NA	TF-FT-239-001 TF-FT-279-001 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-095 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	ARP-T-231-00102 ARP-T-231-00103 ARP-T-231-00104 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TF-FT-239-001 TF-FT-279-001 TO-001-084 TO-001-184 TO-040-035 TO-060-101 TO-060-230 TO-200-019 TO-200-464 TO-220-027 TO-220-095 TO-230-095 TO-230-099 TO-230-133 TO-230-141	FV DR	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-OSR-016 LCO 3.3.1	NA	TO-230-142 TO-230-143 TO-230-144 TO-230-274 TO-270-007 TO-270-011 TO-270-012 TO-270-235 TO-270-824 TO-400-200 TO-430-480	FV DR	
	WHC-SD-WM-OSR-016 LCO 3.3.2	NA	ARP-T-231-00101 ARP-T-231-00105 ARP-T-231-00106 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 ARP-T-801-00295 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-230 TO-060-340 TO-230-095 TO-230-133 TO-230-142	FV DR	
	WHC-SD-WM-OSR-016 SR 3.3.2.1	NA	ARP-T-231-00101 TF-OR-A-03 TO-040-035 TO-060-101 TO-060-340	FV DR	
	WHC-SD-WM-SAR-016 11.6	OSD-T-151-00007 7.2.5	TO-060-105 TO-060-341	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.6	OSD-T-151-00007 7.2.5	TO-400-245	NA	
Gas monitoring / SHMS	NA	NA	NA	NA	
Pressure	NA	NA	NA	NA	
Tank Annulus Instrumentation	NA	NA	NA	NA	
Leak detection manual tape (conductivity probe)	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104 ARP-T-271-00105 ARP-T-271-00106 ARP-T-271-00107 ARP-T-271-00108 TO-001-184 TO-020-210 TO-040-590 TO-060-165 TO-060-240 TO-060-341 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-040 TO-400-200 TO-430-480	NA	
CAM Rad Monitor	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00101 ARP-T-271-00102 ARP-T-271-00103 ARP-T-271-00104	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.4	OSD-T-151-00007 7.2.9	ARP-T-271-00105 ARP-T-271-00108 ARP-T-271-00107 ARP-T-271-00108 TO-001-184 TO-020-210 TO-040-590 TO-060-185 TO-060-240 TO-060-341 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-040 TO-400-200 TO-430-480	NA	
Pump pit leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Leak detection conductivity (manual tape)	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit		OSD Limit		Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016	11.7	OSD-T-151-00007	7.2.10	TO-450-150	NA	
Temperature	NA		NA		NA	NA	
Tank annulus diff. pressure monitor	NA		NA		NA	NA	
Tank Structure Instrumentation	NA		NA		NA	NA	
Thermocouple data acquisition	WHC-SD-WM-OSR-016	AC 5.28.1	OSD-T-151-00007	7.2.7	TF-OR-A-03 TO-270-040 TO-600-080	NA	AC- Not Implemented by ECN
Instrument Enclosures	NA		NA		NA	NA	
Air lift circulators	NA		NA		NA	NA	2 air lift circulators in AW-102
Steam coil	NA		NA		NA	NA	Does not exist in AW Farm
Caisson	NA		NA		NA	NA	Does not exist in AW Farm
-drains	NA		NA		NA	NA	
HVAC Systems	NA		NA		NA	NA	
Ventilation System(s)	NA		NA		NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
-Passive	NA	NA	NA	NA	
-Active	NA	NA	NA	NA	
	NA	OSD-T-151-00007 7.3.2	TO-001-182 TO-001-184 TO-020-155 TO-020-925 TO-060-230 TO-060-340 TO-060-403 TO-060-500 TO-060-503 TO-060-516 TO-230-065 TO-230-133 TO-230-274 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	
-Shared / common vent system? (Describe in comments section)	NA	NA	NA	NA	
-Exhaust vent/hatchway	NA	NA	NA	NA	
-Annulus air intake assemblies	NA	NA	NA	NA	
-Primary air intake assemblies	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
-Pre-filters (yes/no)	NA	NA	NA	NA	
-HEPA filters (how many filters, stages, parallel vs series etc.)	NA	NA	NA	NA	
-Fans	NA	NA	NA	NA	
-De-entrainers	NA	NA	NA	NA	
-Heaters	NA	NA	NA	NA	
HVAC Instrumentation	NA	NA	NA	NA	
	NA	OSD-T-151-00007 7.3.1.B	TO-060-105 TO-060-230 TO-060-240 TO-060-340 TO-060-341	NA	
Main stack monitor	NA	OSD-T-151-00007 7.3.1.D	TO-060-240	NA	
	NA	OSD-T-151-00031 31.2.2.2	TO-040-590	NA	
Stack monitor -for annulus system	NA	NA	NA	NA	
Primary stack pressure	NA	NA	NA	NA	
Annulus stack pressure	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

TABLE 6
OSR/OSD SAFETY CONTROLS

Tank Farm or Miscellaneous Facility

AW

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
De-entrainer sensor	NA	NA	NA	NA	
High filter DP alarm	WHC-SD-WM-OSR-016 LCO 3.4.1	OSD-T-151-00007 7.3.1.A	TO-060-101 TO-060-104 TO-060-105 TO-060-230 TO-060-240 TO-060-340 TO-060-341	NA	LCO-Not implemented by ECN
Primary Seal Pot Pit	NA	NA	NA	NA	
Primary Seal Pot Pit Contents	NA	NA	NA	NA	
Leak detection	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Heat trace	NA	NA	NA	NA	
Annulus Seal Pot Pit	NA	NA	NA	NA	
Annulus Seal Pot Pit Contents	NA	NA	NA	NA	
Level element	NA	NA	NA	NA	

05/31/96

NA = Not applicable or not required

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TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Drain	NA	NA	NA	NA	
Ventilation Instrument Pit	NA	NA	NA	NA	
Ventilation Instrument Pit Contents	NA	NA	NA	NA	
CAMs	NA	NA	NA	NA	
Annulus pressure	NA	NA	NA	NA	
Pits	NA	NA	NA	NA	
Annulus Pump Pit	NA	NA	NA	NA	
Annulus Pump Pit Contents	NA	NA	NA	NA	
Floor drain	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-450-150	NA	
Portable pit spray	NA	NA	NA	NA	
Pump motor	NA	NA	NA	NA	
Central Pump Pit	NA	NA	NA	NA	
Central Pump Pit Contents	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-095 TO-230-099 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Floor drain	NA	NA	NA	NA	
Portable pit spray	NA	NA	NA	NA	
Pump Motor	NA	NA	NA	NA	
Slurry distributor	NA	NA	NA	NA	
Distributor Pit	NA	NA	NA	NA	Does not exist in AW Farm

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Distributor Pit Contents	NA	NA	NA	NA	Does not exist in AW Farm
Sluice Pit	NA	NA	NA	NA	Does not exist in AW Farm
Sluice Pit Contents	NA	NA	NA	NA	Does not exist in AW Farm
Heel Pit	NA	NA	NA	NA	Does not exist in AW Farm
Heel Pit Contents	NA	NA	NA	NA	Does not exist in AW Farm
Leak detection pump pit	NA	NA	NA	NA	
Leak Detection Pit/Sump Instrumentation	NA	NA	NA	NA	
Level sensing system (SpG-WF sump)	NA	OSD-T-151-00007 7.2.2.b	TF-OR-A-03 TO-020-240 TO-020-420 TO-020-820 TO-040-580 TO-230-085 TO-270-204 TO-270-221 TO-270-236 TO-270-252 TO-270-266 TO-270-826 TO-270-828	NA	

05/31/96

NA = Not applicable or not required

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Gamma rad monitor (sump)	NA	NA	NA	NA	
Leak detection system (pit)	NA	NA	NA	NA	
Temperature	NA	NA	NA	NA	
Sump	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Portable pit spray	NA	NA	NA	NA	
Pump, motor	NA	NA	NA	NA	
Pump	NA	NA	NA	NA	
Dry wells	NA	NA	NA	NA	
Condenser pit	NA	NA	NA	NA	Does not exist in AW Farm
Condenser Pit Contents	NA	NA	NA	NA	Does not exist in AW Farm
Sludge pump pit	NA	NA	NA	NA	Does not exist in AW Farm
Sludge pump pit contents	NA	NA	NA	NA	Does not exist in AW Farm

05/31/96

NA = Not applicable or not required

Tank Farm or Miscellaneous Facility

AW

TABLE 6

OSR/OSD SAFETY CONTROLS

System/Structures/Components	OSR Limit	OSD Limit	Implementing Procedures	Verification	Comments
Salt well pump pit	NA	NA	NA	NA	Does not exist in AW Farm
Saltwell Pumping Instrumentation	NA	NA	NA	NA	Does not exist in AW Farm
Hydrogen monitor	NA	NA	NA	NA	AW-106 stack
Weight factor / specific gravity	NA	NA	NA	NA	AW-102
Drain pit	NA	NA	NA	NA	
Drain Pit Contents	NA	NA	NA	NA	
Drain	NA	NA	NA	NA	
Leak detection	WHC-SD-WM-SAR-016 11.7	OSD-T-151-00007 7.2.10	TO-001-184 TO-220-085 TO-230-089 TO-230-133 TO-230-274 TO-270-252 TO-400-200 TO-430-480 TO-450-150	NA	
Portable pit spray	NA	NA	NA	NA	
2 - 10" dia. lines w/ leak detection	NA	NA	NA	NA	Belong to 242-A

05/31/96

NA = Not applicable or not required