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 AUG 31 1990 (2)

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 Engineering

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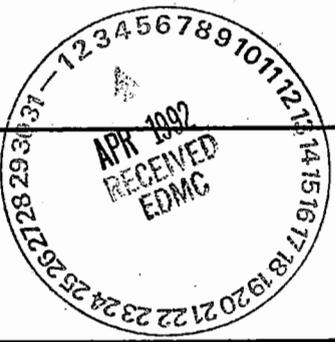
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11. Receiver Remarks:

13. Permit/Permit Application No.

14. Required Response Date:
 August 31, 1990



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KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
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 Date: Aug 31, 90

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6. Author
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Name (Type or Print)
Gary M. Crummel
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86122/
Organization/Charge Code

7. Abstract
This Double-Shell Tank Farm Inspection Plan Matrix discusses inspections conducted at the Double-Shell Tank Farms, the Double Contained Receiver Tanks, and other miscellaneous Transfer and Routing Facilities associated with the Double-Shell Tank Farms. It was developed to provide a means to show how the inspection requirements of Resource Conservation and Recovery Act (RCRA) and Washington Administrative Code are met. Any deficiencies that are noted in this document will be corrected by December, 1990.

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9. Impact Level
4

9 2 1 2 5 7 4 0 2 2 5

9 2 1 2 5 7 4 0 2 2 6

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1.0 INTRODUCTION

This "Double Shell Tank Farm Inspection Plan Matrix" is designed for the Hanford Site Double Shell Tank Farms and associated facilities first identified in the Hanford Site Dangerous Waste Part A Permit Application, Section 4.2.2.2, and subsequently identified, with modifications, in the Part B Permit Application. This modified list is presented in Section 1.5.

Completion of this document by August 31, 1990, meets a target date for Tri-Party Agreement Milestone M-23-12. The task to be met by this target date is to "CORRELATE PROCEDURES TO RCRA AND PREPARE INSPECTION PLAN MATRIX." This Matrix describes those inspections that are presently being accomplished which satisfy the Resource Conservation and Recovery Act (RCRA) and, as a result of comparison with these RCRA regulations, will provide a means of identifying any existing deficiencies relating to inspections which are required by RCRA but are not currently being done.

Milestone M-23-12 sets, on its agenda, the task to "Complete Interim Status Corrective Actions for Double Shell Tanks" by December 31, 1990. Correction of all inspection deficiencies relating to Double Shell Tank facilities on the Hanford Site, and as defined in RCRA regulations, will satisfy one portion of this Milestone.

- 9 2 1 2 5 7 4 0 2 3 2
- 1.1 FACILITY NAME: U. S. Department of Energy, Hanford Site Double Shell Tank Farms
- 1.2 FACILITY LOCATION: Benton County, Washington; Hanford; within the 200 East and West Areas and between, in the 600 Area
- 1.3 OWNER: U. S. Department of Energy
Richland Operations Federal Building
825 Jadwin Avenue
Richland, Washington 99352
- 1.4 OPERATOR: Westinghouse Hanford Company
P. O. Box 1970
Richland, Washington 99352

1.5 DESCRIPTION

The Hanford Site Double-Shell Tanks are used for the interim storage of mixed wastes from the Hanford Facilities. Several operating plants in the 200 East and 200 West areas of the Hanford Site transfer mixed wastes from the facility through buried transfer lines to the million gallon double-shell underground tanks. The liquid waste is accumulated in the million gallon double-shell tanks until it is transferred for treatment at the Grout Treatment Facility. The treated waste is then disposed of in a Near-Surface Vault. In the future, waste from the double-shell tanks will also be treated at the Hanford Waste Vittrification Plant (HWVP) and then shipped for disposal to a proposed national repository.

Other types of liquid mixed wastes are received in the double-shell tanks from rail car transfers, tank truck transfers, single-shell tanks, and smaller temporary storage tanks. The tanks are considered treatment units since chemicals can be added for corrosion control and/or water can be evaporated from the aging waste tanks (located in AY and AZ Tank Farms) by adding heat.

An in-depth discussion on Double Shell Tanks and associated facilities can be obtained in the specific facility Safety Analysis Reports (SARs):

FACILITY	SAR
Double Shell Tanks	SD-WM-SAR-016
Aging Waste	SD-WM-SAR-010
244-AR Vault	SD-WM-SAR-018
Cross Site Transfers	SD-WM-SAR-039
DCRTs and 244-CR	SD-WM-SAR-032
A-350 Catch Tank	SD-WM-SAR-033

This document presents the discussion of the inspections in three Chapters:

- o The double shell tanks are presented in Chapter 6.0.
- o Miscellaneous tanks are presented in Chapter 7.0.
- o Transfer and routing facilities are presented in Chapter 8.0.

A list of the double shell tanks, the associated miscellaneous tanks, and their transfer and routing facilities are shown below:

9 2 1 2 5 7 4 0 2 3 3

DOUBLE-SHELL TANK PART B PERMIT FACILITIES

DOUBLE SHELL TANKS

AN FARM	AP FARM	AW FARM	AY FARM	AZ FARM	SY FARM
241-AN-101	241-AP-101	241-AW-101	241-AY-101	241-AY-101	241-SY-101
241-AN-102	241-AP-102	241-AW-102	241-AY-102	241-AY-102	241-SY-102
241-AN-103	241-AP-103	241-AW-103			241-SY-103
241-AN-104	241-AP-104	241-AW-104			
241-AN-105	241-AP-105	241-AW-105			
241-AN-106	241-AP-106	241-AW-106			
241-AN-107	241-AP-107				
	241-AP-108				

MISCELLANEOUS TANKS

**DOUBLE-CONTAINED
RECEIVER TANKS (DCRTS)**

- 244-A
- 244-S
- 244-TX

TRANSFER AND ROUTING FACILITIES

DIVERSION BOXES	CATCH TANKS	VALVE PITS
241-A-151	241-A-302A	241-A-A
241-AR-151		241-A-B
241-AX-155		241-AN-A
241-AZ-152	241-AZ-151	241-AN-B
241-ER-151	241-ER-311	241-AP
241-ER-152		241-AW-A
241-ER-153		241-AW-B
241-S-151	241-S-302A	241-AX-A
241-TX-152		241-AX-B
241-TX-154	241-TX-302C	241-AX-501
241-U-151	241-U-301B	241-SY-A
241-U-152	241-U-301B	241-SY-B
241-UX-154	241-UX-302A	241-AY-501

- A-350 Drainage Lift Station or Catch Tank
- 241-A-401 Diverter Caisson
- 241-A-417 Catch Tank
- 241-AX-152 Diverter Station
- East-West Vent Station - Tank: 241-EW-151

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2.0 PURPOSE

The purpose of this document is to discuss how the inspection requirements of the Resource Conservation and Recovery Act (RCRA) and the Washington Administrative Code (WAC) are met at the Double Shell Tank Farms and associated facilities. This discussion presents the inspection methods that are currently in use to prevent equipment malfunctions, facility deteriorations, operating errors, and discharges to the environment. These methods demonstrate an inspection schedule which sufficiently identifies and corrects problems before they threaten human health and/or lead to the release of dangerous waste constituents to the environment.

For comparison with present facility inspection methods, the RCRA and WAC Inspection Requirements are outlined in Chapter 5. For ease of comparison, the facility inspections discussed in Chapter 6, 7, and 8 follow the same form as the outline presented in Chapter 5.

The Inspections described in this document are performed per established procedures. These procedures, their frequencies, the documentation used for record keeping, and the location and period of time of documentation retention are specified in this document.

3.0 SCOPE

This document applies to activities conducted at the Double Shell Tank Farms and their associated facilities. It applies to those activities which are conducted in order to assure the facilities are maintained to prevent danger of contamination to human health or the environment. This document specifies the "Inspection Requirements" and outlines how these requirements are met. This plan applies to:

- o Safety and emergency equipment; security devices; and operating and structural equipment that help prevent, detect, or are used in the response to hazards posed by dangerous wastes to employees, the public, or the environment.
- o All monitoring equipment; safety and emergency equipment; security devices; and operating and structural equipment that help prevent, detect, or are used in the response to, hazards posed by dangerous wastes to employees, the public, or the environment.
- o All Double-Shell Tanks which are used to treat or store dangerous waste.
- o Ancillary Facilities and equipment associated with the Double-Shell Tank Farms.

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4.0 RESPONSIBILITIES

The "Generator," Westinghouse/DOE, is required by RCRA to maintain this document. The Tank Farm Plant System Cognizant Engineers (COG) will be responsible for the update of this document or his/her portion when more than one COG/System exists. Periodic update will allow for review of referenced documents and the appropriate Regulations. It will also provide for a review of the retained documentation which are mandated by law.

This document will be updated when:

- o New facilities or processes are added to the RCRA permit.
- o There are changes to applicable environmental regulations.
- o Status of the RCRA permit changes (e.g. expiration/renewal).
- o This document fails to accomplish its intended purpose.
- o As directed by Management.

The regulations specified in this document were used as a guide in its development. When use of the regulations are required (e.g. for legal purposes/questions of compliance, etc) the most current regulations will be used and not what is written here.

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5.0 INSPECTIONS REQUIREMENTS

Owners or operators of facilities which treat, store, and/or dispose of dangerous wastes and/or mixed wastes (as defined in WAC 173-303) must inspect their facilities to prevent malfunctions and deteriorations, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, and/or cause a threat to human health. These inspections must be conducted often enough to identify and correct problems before they harm human health or the environment.

Regulations require that a written schedule be developed, implemented, and kept in the facility operating records. The schedule must address both **General Facility Inspection** and **Unit-Specific Inspection Requirements**. The general inspection requirements refer to inspection of the portions of the TSD (Treatment/Storage/Disposal) facility other than the actual TSD units (containers, tanks, landfills, etc.). Unit-specific inspection requirements are of the individual units themselves.

5.1 GENERAL FACILITY INSPECTION REQUIREMENTS (WAC 173-303-320 & 40 CFR 265.15) consider the following items:

1. Security equipment such as fences, signs, lights, and locks.
2. Communication equipment such as radios, intercoms, closed-circuit TV systems, and public address systems.
3. Emergency equipment such as spill-control supplies, fire extinguishers, emergency lights, generators, and fire alarms.
4. Safety equipment such as eye wash stations, protective shields, first aid equipment, and respirators.
5. Operating and structural equipment (such as dikes, sump pumps, etc) that are important in preventing, detecting, or responding to environmental or human health hazards.
6. Other general facility items such as building floors, walls, roofs, elevators, ramps, and vehicles.
7. Monitoring equipment such as thermostats, fire detection equipment, level, pressure, and flow devices.

The inspection schedule must identify the types of problems which are looked for during inspections and it must indicate the frequency of inspection for each specific item. The frequency is based on the rate of possible deterioration of the equipment or item, and the probability of an environmental or human incident. Areas subject to spills must be inspected daily (when in use). Other frequencies are as specified in the Unit-Specific Inspection requirements.

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5.1.1 DOCUMENTATION REQUIREMENTS

As part of the inspection schedule, an inspection log must be maintained. At a minimum, the log* must note the following:

1. The date of the inspection.
2. The time of the inspection.
3. The printed name of the inspector.
4. The signature of the inspector.
5. Notations of the observations made.
6. The date and nature of any repair or remedial actions taken as a result of the inspection.**

* The log must be kept at the facility for at least three years from the date of the inspection.

** Any problems revealed by the inspection must be remedied on a schedule which prevents hazards to the public health and environment. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

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5.2 UNIT-SPECIFIC INSPECTION REQUIREMENTS: Tank Systems (WAC 173-303-640(6) & 40 CFR 265.195). Owners and operators must:

1. Develop and follow a schedule for inspecting overflow controls. 40 CFR 265.195 requires this inspection once each operating day. It also broadens "overflow controls" to "overflow/spill control equipment (e.g. waste-feed cutoff systems, bypass systems, and drainage systems)."
2. Perform daily inspections on:
 - a) Above ground portions of the tanks to detect corrosion or releases of wastes.
 - b) Data gathered from monitored leak detection equipment to ensure proper operation of the equipment and the tank system.
 - c) Construction materials and the area immediately surrounding the external accessible portion of the tank system, including the secondary containment system (e.g. dikes) to detect erosion or signs of releases of dangerous waste (e.g. wet spots, dead vegetation)*.
3. Inspect Cathodic protection systems to ensure proper functioning:
 - a) Six months after initial installation and annually thereafter.
 - b) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (every other month).
4. All the above inspections must be documented in the operating record.**

* Confirmed releases may be reportable to appropriate authorities.

** Operating records are located in various facilities. In-part, the intent of this document is to establish where the required RCRA inspection records are retained.

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5.3 ANCILLARY EQUIPMENT INSPECTION REQUIREMENTS (40 CFR 265.193):

Ancillary equipment must be provided with full secondary containment (e.g. trench, jacketed, double-walled piping) that meet the requirements of paragraphs (b) and (c) of 40 CFR 265.193 except for:

1. Aboveground piping (exclusive of flanges, joints, valves, and connections) that are inspected for leaks on a daily basis.
2. Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis.
3. Seal or magnetic coupling pumps that are visually inspected on a daily basis.
4. Pressurized aboveground piping systems with automatic shut-off devices (e.g. excess flow check valves, flow metering shutdown devices, loss-of- pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

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6.0 TANK FARM INSPECTIONS

This Chapter discusses the manner in which the Double Shell Tank Farms meet the Inspection Requirements as described in Chapter 5.0. The Tank Farms covered in this Chapter are AN, AP, AW, AY, AZ, and SY.

6.1 GENERAL FACILITY INSPECTIONS: This Section provides a general discussion on the Double Shell Tank Farm items specified above in Section 5.1, GENERAL FACILITY INSPECTION REQUIREMENTS. This Section demonstrates the inspections performed which satisfy the Resource Conservation and Recovery Act general inspection requirements. Specific tasks performed are identified in the referenced procedures. Frequencies of the tasks are specified in this document.

6.1.1 SECURITY INSPECTIONS: The following describes the security measures, equipment, and warning signs used to control entry to the farms.

THE HANFORD SITE

Description:

The entire Hanford Site is a controlled access facility. The Site maintains an around-the-clock surveillance for protection of government property, classified information, and special nuclear materials. The Hanford Patrol furnishes a constant company of armed guards to provide Site security. Manned barricades are maintained at checkpoints on vehicular access roads leading to the Hanford Site. Vehicle operators wishing to enter this portion of the Hanford Site must display a DOE-issued security identification badge before being admitted. Access to the 200 East and 200 West operational areas is further restricted.

AN, AP, AW, AY, and AZ Farms are located within the 200 East Area. Access to this area is gained through one of two manned barricades. All personnel entering or leaving the 200 East Area must display a DOE-issued security identification badge indicating authorization to enter the area and must submit to a search of personal items carried into and out of the area.

SY Farm is within the West Area. Access to this area is gained through one manned barricade. As with the East Area, all personnel entering or leaving this area must display a DOE-issued security identification badge indicating authorization to enter the area and must submit to a search of personal items carried into and out of the area.

Inspection:

Fences and gates, surrounding the site (both East and West Areas), are inspected each shift via procedure WHC-CM-4-21, Section E-13 or E-16. Entries are made in the Daily Activity Log which is kept at the Central Alarm Station in building 2701AB (at PUREX). This log is kept there for one month. This log is subsequently transferred to building 2721E, room 17 and retained there for two years.

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THE TANK FARMS

Description:

Security within each of the tank farms is further enhanced by chain link fences which surround each farm. The fences are posted with various signs. Applicable postings note the following:

- o Danger, no smoking, matches, open lights
- o Caution, Radiation Area
- o * Caution, Radiation Surface Contamination
- o ** Radiation monitoring & Operator coverage required before entry. Contact: R.M. Phone # 3-2526 or Operations Phone # 3-2573
- o ** Contact Tank Farm Surveillance & Operations Management prior to entry or exit. For Authorization call: Shift Manager, Phone # 3-2820, Off-shift, Phone # 3-2689
- o Danger Hazardous Materials (Corrosive) Unauthorized personnel keep out

* Posted only where surface contamination exists.

** Posted on East Area Tank Farms only. The entrance to SY Farm is posted with a sign that says "Controlled Area, Authorized Personnel Only, Notify Board Operator" (the Board Operator is in the 242-S Evaporator building which is located next to SY Farm).

Inspection:

Requirements for Radiation Postings are specified in WHC-CM-4-10. Proper radiation posting is assured via Routines accomplished by Operational Health Physics. These routines* are:

FACILITY	Task Number	Frequency
AN Farm	EW-13	Weekly
AN Farm	EQ-37	Quarterly
AP Farm	EW-06	Weekly
AP Farm	EQ-12	Quarterly
AW Farm	EQ-13	Quarterly
AY Farm	EQ-43	Quarterly
AZ Farm	EQ-15	Quarterly
SY Farm	WFT-WD-02	Each Week Day

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For AN, AP, AW, AY, and AZ Tank Farms, these inspections are documented on a Scheduled Radiation Survey Report which are kept at Building M0386 (trailer). These reports are transferred, quarterly or when called for, to M0042, Room 110. They are reviewed and sent, after 90 days, to the Records Holding Area (RHA) Office, Building 712, for long term storage. For SY Farm, this inspection is recorded on the same form and kept at building 2723W. They are transferred, again, to M0042, room 110, where they are reviewed and sent on to RHA.

* Note: Task numbers are subject to change without notice.

Plant Operating Procedure TO-040-501 instructs (for AN, AP, AW, AY, and AZ Farms) daily checking and changes, as required, of the Radiological postings. In SY Farm, the posted signs are checked daily per Plant Operating Procedure TO-040-500. These inspections are not documented.

The gates of the farms in the West Area are checked at the end of each day to make sure they are locked. A daily tickler serves as a reminder of the task. The tickler is signed off after the check has been made (daily). It is kept in the 272WA supply room for an undetermined length of time.

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6.1.2 SAFETY COMMUNICATION EQUIPMENT INSPECTIONS

Description:

Both telephones and radios are used for communication throughout the tank farm facilities. Communication is maintained between the tank farm control rooms and master control centers located in 242-A (East area) or 242-S (West area).

If trouble occurs that's associated with a pump, leak, etc. trouble alarms are annunciated in the master control center, in the tank farm control room, and at the tank. In responding to a general alarm at the master control center, a telephone call is made to the control room serving the tank farm involved to ascertain the specific problem. Reset buttons for all alarms are located in the control rooms. Reset buttons are also located at each tank for pump alarms and leak detector alarms.

Below is a partial listing of telephone locations in the Double Shell Tank Farms:

- o Both inside and outside the AN Tank Farm Control Room/Instrument Building, 241-AN-271.
- o Inside the AP Tank Farm Control Room/Instrument Building, 241-AP-271.
- o Both inside and outside the AW Tank Farm Control Room/Instrument Building, 241-AW-271.
- o Inside the A Tank Farm Control Room Building (the control room for all of A Farm, of which AY and AZ Tank Farms are included), 241-A-271.
- o Inside the AY Tank Farm Instrument Building, 241-AY-801.
- o Inside the AZ Tank Farm Instrument building, 241-AZ-801.
- o Inside the SY Tank Farm Control Room/Instrument Building, 241-SY-271.

Radios are usually brought in by personnel, although some control rooms have permanently installed radios. Radios are used as a backup and where telephones are not available. Extra radios are available in the 272-AW and 272-WA buildings.

Inspection:

When a problem is noted with telephones, Telephone Repair is notified at 6-1611. When radios develop problems, Radio Maintenance is notified at 6-6998. Also, spare radios are always available in the shift offices of 272-AW and 272-WA. A monthly tickler is used to inventory the portable radios in the 272-AW (East Area) building. The tickler is signed off and retained in the 272AW shift office, room 3 for six months.

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6.1.3 SAFETY AND EMERGENCY EQUIPMENT INSPECTIONS

EMERGENCY ALARM SYSTEMS

Description:

The alarm systems in the tank farm facilities include fire alarms and high radiation alarms. The requirements for testing the fire alarm system is established in the Emergency Plan (WHC-CM-4-1).

Inspection:

The fire alarms are tested by the fire department (Refer to Fire Protection Systems below for discussion). The radiation alarms works off a Continuous Air Monitoring device called a CAM. Inspection/maintenance of CAMs are discussed in Section 6.1.6 below.

FIRE PROTECTION SYSTEMS

Description:

Fire protection at the farms consists of fire sensing units or manual activation units (pull boxes) connected to RFARs. These RFARs are located throughout the 200 East and West Areas. Activation of the RFARs automatically notifies the Hanford Fire Department. This system works off the main power supply or via battery. In addition, a red button on the RFAR unit can be pushed for manual notification of the fire department. For quick location during an emergency, the units are equipped with a continuously-lit red light.

Fire hydrants are installed in the vicinity of all the tank farms. Generally, the hydrants are located just outside the tank farm area. Most of the hydrants are fed from raw water.

Company Requirement:

WHC-CM-1-3, MANAGEMENT REQUIREMENTS AND PROCEDURES, MRP 5.3, "Fire Protection System Operation, Inspection, Testing, and Maintenance," provides a detailed definition of responsibilities. WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 1 - STANDARDS & VOLUME 2 - GUIDES, FS-2, "Fire Protection System Inspection, Testing, and Maintenance" contains the detailed inspection, testing, and maintenance information relative to this subject.

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Inspection:

The Fire Systems Maintenance Engineering Unit (under Operational Support Services) manages the fire protection systems (including the hydrants) using the PISCES system. Job cards are used to perform preventive maintenance. Copies are retained in the files at building 609-G, for a minimum of three years. The following items were obtained from PISCES and are part of the RFAR system:

INSTRUMENT/ LOCATION	PROCEDURE	FREQ	PISCES LOOP NO.
SMOKE RFAR 2380 241-AN 271	9-FS-12 FUNCTIONAL TEST	24M	2E021 1
60 HR BATTERY 241-AN-271	9-FS-4 FUNCTIONAL TEST	12M	2E013 2
CNTROL PANEL 241-AN-271	9-FS-10 FUNCTIONAL TEST	12M	2E013 1
SMOKE RFAR 2320 241-AP 271	9-FS-12 FUNCTIONAL TEST	24M	2E022 1
SMOKE RFAR 2320 241-AP 271	9-FS-12 FUNCTIONAL TEST	24M	2E023 1
SMOKE RFAR 2320 241-AP 701	9-FS-12 FUNCTIONAL TEST	24M	2E024 1
60 HR BATTERY 241-AP-271	9-FS-4 FUNCTIONAL TEST	12M	2E008 2
FACP 241-AP-271	9-FS-10 FUNCTIONAL TEST	12M	2E008 1
SMOKE RFAR 2390 241-AW 271	9-FS-12 FUNCTIONAL TEST	24M	2E020 1
FACP 241-AW-271	9-FS-10 FUNCTIONAL TEST	12M	2E009 1
GEL BATTERY 241-AW-271	9-FS-4 FUNCTIONAL TEST	12M	2E009 2
SMOKE DET ZONE 1 241-AY 801A ZONE 1	9-FS-17 FUNCTIONAL TEST	24M	2E031 6
SMOKE DET ZONE 4 241-AZ 801A	9-FS-17 FUNCTIONAL TEST	24M	2E031 5

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INSTRUMENT/ LOCATION	PROCEDURE	FREQ	PISCES LOOP NO.
60 HR BATTERY 242-S*	9-FS-4 FUNCTIONAL TEST	12M	2E014 2
CNTROL PANEL 242-S*	9-FS-10 FUNCTIONAL TEST	12M	2E014 1

* Note 242-S is listed here in lieu of 241-SY. SY Tank Farm is located inside S Farm complex. The S Farm complex is all monitored by the 242-S Evaporator Control Room.

Hydrants are maintained by procedures 9-FS-2, -4, and 7-GN-18 at frequencies of 12 or 18 months, depending on the type of fire hydrant. Records are maintained the same as mentioned above.

FIRE EXTINGUISHERS

Description:

Fire extinguishers are located in each tank farm control room and within the farms, usually by the exhaust stacks. For a description of these items, the capacity and type, and location at the various facility refer to the Contingency Plan (WHC-IP-0263-TF).

Company Requirement:

WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 1 - STANDARDS & VOLUME 2 - GUIDES; FP-2, "Portable Fire Extinguishers" provides the requirements and responsibilities for installation and maintenance of portable fire extinguishers.

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Inspection:

The Fire Department functionally tests the fire extinguishers annually to assure reliability. The procedure used is the Hanford Fire Department Procedure A-14. Tags on the extinguisher are initialed and a Fire Department Form BC 6200-077 is filled out. This form is kept on file for at least three years in Building 609-G.

The Shift Manager performs monthly visual inspections which verify that the equipment is in place, readily available, and appears to be in good working order. Procedures TO-040-480, TO-040-501, and TO-040-500 describe the inspection. An Inspection Report Form is completed and retained by supervision in Building 272AW (East Area), room 4 for three years.

The tags on each fire extinguisher are initialed and dated indicating that the visual check was made. Also, for the East Area there's a monthly tickler, used as a reminder, which is signed off when the task is complete. The signed off tickler is kept in the shift office, building 272AW, room 3 for six months. For the West area there is another tickler. The tickler is signed off, again, when the task is complete. The signed off tickler and the Inspection Report Form are kept in the supply room at 272-WA for an undetermined length of time.

Fire Extinguishers are serviced as required by an outside contractor. General Supplies Inventory manages the Contract. After servicing, the contractor places an inspection tag on the item.

EMERGENCY LIGHTS

Description:

There are emergency lights located throughout the Farms and in the Instrument Buildings. For a description of these items and their locations at the various facilities reference can be made to the Contingency Plan (WHC-IP-0263-TF).

Company Requirements:

WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 1 - STANDARDS, FP-12, "Building Emergency Light Testing and Maintenance" requires monthly testing for a minimum of 30 seconds.

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Inspection:

Emergency lights are checked every three months per the preventative maintenance (PM) procedure 2E22003, "EMERGENCY LANTERN INSPECTION," in the East Areas. PM 2W22013, "INSPECTION OF EMERGENCY LANTERNS AND EMERGENCY EXITS" is performed every six months in the West Area. Data sheets are completed and returned to the Maintenance Manager for evaluation and placed on file, for three years, in the Production Control Planners office at building 272AW, room 8 (for the East Area) or 272WA, room 8 (for the West Area).

Emergency lights are also checked monthly per Plant Operating Procedure TO-040-500 and TO-040-501. The data sheet illustrated in the procedures is used for documentation. These data sheets are returned to supervision. They are retained in building 272AW, room 4 (East Area) for three years.

ELECTRICAL POWER BACKUP GENERATOR**Description:**

In the event of a power failure, generators are not immediately available at AN, AP, and AW, Tank Farms. However, portable generators are available and can be connected in less than 4 hours. Fleet Management (at 6-9502) maintains a list of these available portable generators.

Backup power to AY and AZ Tank Farms is supplied with on-site generators. These generators start automatically when a power failure is sensed.

A generator is being installed in the SY Farm Complex. Procedures for maintenance are under development.

Inspection:

The generators used at AY and AZ Farms are listed in the Monitoring Equipment Appendix (see Appendix II, Table AY.9.0). They are maintained per established preventive Maintenance procedures. The procedure numbers and maintenance frequencies are available in the Table. These inspections are documented on data sheets which are maintained at building 272AW, room 8, for three years.

A description of emergency actions taken during power loss can be obtained in the Contingency Plan (WHC-IP-0263-TF).

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SAFETY SHOWERS**Description:**

There are no safety showers immediately available in the Tank Farm Areas. However, a safety shower station exists in the 401 Condenser Building which is within the Aging Waste Facility (applicable for AY and AZ Tank Farms only). There are also safety showers in the 242-A Evaporator (close to AP and AW Tank Farms). For SY Farm, there are safety showers within the close-by 242-S Evaporator facility. The 242-A Evaporator is covered under a separate RCRA Part B Permit (Refer to the 242-A Evaporator Inspection Plan Matrix for inspections applicable to its safety showers). The 242-S Evaporator is not covered under this permit.

Company Requirement:

WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 1 - STANDARDS & VOLUME 2 - GUIDES, G-6, "Safety Showers" provides the requirements and responsibilities for the use of, and the maintenance of, portable and fixed safety showers.

It is the Employees responsibility to function test the closest safety shower prior to the start of any job in which a safety shower is or may be required. Safety showers are functionally tested weekly to flush the lines and to verify proper operation. Records are maintained to verify compliance with testing procedures.

Inspection:

A weekly tickler is used as a reminder to inspect the shower in the 401 Condenser building. A tag on the unit is signed and dated noting the inspection was completed. The tickler is signed off as complete and retained in the shift office, building 272AW, room 3 (for the East Area) for six months.

EYEWASH**Description:**

There are no eyewash stations in the East Double Shell Tank Farms. However, portables are available from the 272AW store room. These are brought on site when it is known that they may be needed (e.g. when working with chemicals). In the West Area, there are eyewashes in the 242-S Evaporator (refer to the Contingency Plan (WHC-IP-0263-TF) for locations. A portable eyewash was being placed in the SY Tank Farm at the time of this document development.

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Company Requirements:

WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 1 - STANDARDS & VOLUME 2 - GUIDES, G-11, "Eyewash Apparatus" provides the requirements and responsibilities for the use and maintenance of eyewash apparatus.

It is the Employees responsibility to function test the closest eyewash apparatus prior to the start of the job. Eyewash apparatus are tested, monthly. The potable water provided for the apparatus is routinely flushed or changed according to manufacturer's specifications (most common frequencies are specified in the referenced volume 2 manual).

Inspection:

The portables are checked prior to each use. Plant Operating Procedures TO-040-500 and TO-0400-501 are also used to inspect these on a monthly basis. Tags are completed on the unit documenting the day the task was performed. The MONTHLY INSPECTION OF PORTABLE EYEWASH BOTTLES DATA SHEET is completed.

PROTECTIVE CLOTHING/RESPIRATORY PROTECTION

Description:

A variety of protective clothing and respirator equipment is available. The Contingency Plan (WHC-IP-0263-TF) may be referenced for types and locations.

Company Requirement:

WHC-CM-4-3, INDUSTRIAL SAFETY MANUAL, VOLUME 3 - PROGRAMS, Section 11, "Respiratory Protection" provides a maintenance program designed to ensure that respiratory protective equipment is kept sanitary and in good operating condition. Devices stored for emergency use are inspected monthly and/or after each use. Emergency use SCBAs are checked weekly to assure the cylinder is fully charged. SCBAs are serviced every 2 years by the fire department. All respiratory devices except SCBA and supplied-air hoods are recycled through the Respiratory Cleaning and Maintenance Facility (MO-412) promptly upon being used, or upon expiration of the enclosed 12-month "Shelf Life" card.

Inspection:

Required training in the use of all this equipment instructs thorough inspection of these items for serviceability before each use.

Plant Operating Procedures TO-040-501 (East Area) requires that all used masks and dirty laundry (protective clothing) are picked up daily. Clean laundry is also restocked. In the West Area, a daily tickler is used as a reminder to stock SWP clothing and change out laundry bags. The tickler is initialed as complete and kept in the 272WA supply room for an undetermined length of time.

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6.1.4 INSPECTIONS OF OPERATING AND STRUCTURAL EQUIPMENT

Description:

Operating and structural equipment that are important in preventing, detecting, or responding to, environmental or human health hazardous are continually monitored with the equipment described below in Section 6.1.6. However, periodically it is desirable to see the inside of the tank or annulus. Inspections of this type are special non-routine operations designed to provide a record of the interior conditions of the tank or annulus. Since it is not possible for personnel to enter the tanks or their annulus, other methods are utilized for visual inspection.

Inspection:

Plant Operating Procedure (SOP) T0-020-140 outlines the method of taking photographs inside the tank. SOP T0-020-145 describes requirements for use of an annulus visual imagery system. The equipment consists of both a television camera and a 35mm still camera, which are mounted on an articulated support device sized to permit entry into a 3-inch riser. Proofs/prints are filed by tank number. Record copies of negatives are retained by Boeing Computer Services Richland (6-7291). Files of prints and videos are maintained in building 2750E, Room C104. Retention is for as long as they are needed.

6.1.5 INSPECTIONS OF OTHER GENERAL FACILITY ITEMS

Description:

Routine Housekeeping is accomplished daily per POP T0-040-500 and T0-040-501.

Inspection:

These procedures require daily routines which are accomplished at the tank farms (both East and West). Applicable tasks are:

- o Pick up and package all miscellaneous waste per T0-100-030 and make arrangements for pickup.
- o Notify personnel of any transfers or open excavations in the area.
- o Control entry of personnel in and out of the area.
- o Sweep the floors.
- o Pick up and bag all tumbleweeds.
- o Notify supervision of any maintenance needs or unusual conditions.
- o Check for any unusual radiological conditions* and notify supervision and record it in the appropriate tank farm log book. If new conditions are found notify supervision immediately.
- o empty trash containers.

* Exposure and contamination readings are taken by Health Physics Technicians.

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6.1.6 INSPECTION OF MONITORING EQUIPMENT/INSTRUMENTATION

Description:

Visual inspections are not possible, for the most part, in the tank farms because of the high radiation present and the need to limit exposure to personnel. Monitoring instrumentation is used, wherever possible, to circumvent this hindrance. The intent of this Section is to discuss the instrumentation used to assure the system is not endangering human health or the environment and to show how this instrumentation is maintained. This instrumentation is displayed in the various appendices at the end of this document. The following is a discussion of the important monitoring systems.

STRUCTURE

The double-shell, radioactive waste storage tanks at Hanford are fabricated as three concentric tanks. The free standing primary tank contains waste material. The secondary tank, five feet larger in diameter than the primary tank, creates a surrounding space called the annulus. This completely enclosed annulus serves as a containment barrier in the event of a primary tank leak. The annulus is also used for the installation of leak detection devices and inspection equipment (e.g. periscopes, television cameras, photographic cameras, ventilation air supply and exhaust piping, and equipment for pumping liquid from the annular space). The third tank, or outer shell, is constructed of reinforced concrete and encloses both primary and secondary tanks. It is designed to sustain soil loadings, dead loads, live loads, and temperature gradients.

LIQUID LEVEL MEASUREMENTS

Each Double-Shell tank is provided with an automatic liquid level measuring device. Manual devices are used for backup. Liquid level measurements in all waste storage tanks are monitored, recorded, and input to CASS (for a discussion of CASS refer to Section 10.4). The technique for measurement utilizes manual equipment in some tanks and automatic in others, but, in each case, the principle of operation is electrical conductivity. The manual method consists of lowering a reel-mounted tape or calibrated insulated wire, to which electrodes are attached, to a point where the liquid surface is contacted. Readout is obtained through the use of a portable direct-current meter. The data is recorded to the nearest 1/4 inch increment. Each automatic gauge consists of an electrically driven plummet, a calibrated tape, a tape reel, a sight glass, control box, and flush equipment. A counter is provided for readout of liquid level to the nearest 0.1 inch (ref: WHC-SD-TI-357).

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The majority of the automatic gauges are connected to a field microprocessor system which is linked to CASS (for a discussion of CASS refer to Section 10.4) in the 2750-E building for processing and data recording. A program has been designed for obtaining a liquid level reading on an hourly basis from each tank equipped with automatic gauges. The data is compared against baseline values and out-of-limit reports for tanks whose liquid level exceeds a specified maximum are printed. In addition, a total printout of liquid levels is made at least once per shift (ref: WHC-SD-TI-357).

See Section 6.2.2.2 for a discussion on the data which is gathered.

The automatic Food Instrument Corporation (FIC) gauges in several tanks that contain solids have been modified to indicate intrusions. The FIC plummet is suspended above the solids and alarms to CASS (for a discussion of CASS refer to Section 10.4) when continuity is made, thus indicating an intrusion (ref: WHC-SD-TI-357).

Note: Primary tank liquid level monitoring is not considered a first-line stand-alone leak detection monitoring method. Routine surface-level measurement monitoring is used as a backup system, as an investigative tool, and to provide additional information regarding conditions within the primary tank. Manual liquid-level field reading frequencies (daily on all tanks) will apply when automatic FIC devices are out of service. If a reading is not obtained every 24 hours, an Event Fact Sheet/Critique is issued per OSR requirements (ref: WHC-SD-TI-357).

This instrumentation is displayed in Appendix II, Tables AN.1.0, AP.1.0, AW.1.0, AY.1.0, AZ.1.0, and SY.1.0.

HIGH LEVEL ALARMS

In addition to the level instruments discussed above, conductivity probes are fixed at specific locations within the tanks and function as high level alarms. These are installed in all the double-shell tanks except SY Farm. The liquid level is kept below the maximum to prevent overflowing of the tank and prevent over stressing of the tank due to increased hydrostatic head.

These alarms annunciate in continuously manned facilities. AN, AP, AY, and AZ Tank Farms alarm at CASS (for a discussion of CASS refer to Section 10.4). AW Tank Farm alarms in the 242-A Evaporator control room. AY and AZ also alarm in building 271-A.

This instrumentation is displayed in Appendix II, Tables AN.1.1, AP.1.1, AW.1.1, AY.1.1, and AZ.1.1.

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ANNULUS LEAK DETECTION AND CONTINUOUS AIR MONITORS

The AN, AP, AW, AY, AZ, and SY tanks have a feature unique to the double liner concept, which is used to detect leakage from the primary liner. Drain channels in the insulating concrete, under the primary tank, carry any leakage to the annulus space where it is detected by leak detection devices in the form of conductivity probes. These devices, in turn, activate the annulus alarm annunciators and an alarm is picked up by CASS (ref: WHC-SD-TI-357 - also for a discussion of CASS refer to Section 10.4).

A second independent form of primary tank leak detection is provided through the use of continuous air monitors (CAMs). Ventilation air is supplied individually to each double-shell tank annulus through inlet HEPA filters. The incoming air is ducted to the annulus space below the center of the primary tank. From this point it is released to the annulus and flows up and out through an outlet duct to the annulus exhaust fan. The outlet duct air for each tank is continuously sampled using a CAM. Any leaking liquid from the primary tank would contaminate the annulus air with radionuclides, which in turn would set off the tank CAM alarm (ref: WHC-SD-TI-357). See Section 6.2.2.2 for a discussion on the data which is gathered. This instrumentation is displayed in Appendix II. Table numbers are shown below:

o TANK ANNULUS LEAK DETECTION (Tables AN.2.0, AP.2.0, AW.2.0, AY.2.0, AZ.2.0, and SY.2.0).

o TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Tables AN.2.1, AP.2.1, AW.2.1, AY.2.1, AZ.2.1, and SY.2.1). Radiation alarms and associated instruments are listed in these Appendices. An important part of this system are CAMs. These are not listed here because they are moved from place to place through the maintenance process. CAMs are tested, tracked, and maintained via PISCES (refer to Section 10.3 for a discussion on PISCES). CAMs are used throughout all the facilities and interchanged when maintenance is required. The location of a particular CAM unit can be obtained by looking in the appropriate log book, which are kept in either building 272AW, or building 272WA Instrument Shops, (these log books are kept for at least three years at these locations). The procedures used to maintain these CAMs are PSCP-3-002, PSCP-3-003, and 7-GN-38. The frequencies for execution of these procedures are 1 month, 6 months, and 12 months. The procedure and frequency is dependant upon the particular type of CAM unit. Refer to the PISCES data base for the exact procedure and corresponding frequency.

o TANK ANNULUS SYSTEM EXHAUST FANS (Tables AN.2.2, AP.2.2, AW.2.2, AY.2.2, AZ.2.2, and SY.2.2). The exhaust fans are important to provide the air flow to the continuous air monitoring devices in the Annulus. Without air flow this leak detection system would be inoperable.

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Company Requirement:

Operational Safety Requirements (OSRs) for the Annulus leak detection systems specify the minimum requirements for testing and the minimum frequencies of calibration of instruments and equipment necessary for verification of operation within the boundaries of the safety limits, limiting control settings, and limiting conditions for operations. OSRs also identify the physical records (e.g. log sheets) used to demonstrate compliance with OSRs. In addition, the responsible organization that maintains the record is specified.

Annulus CAMs and leak detector alarms are tested monthly, leak detector relays are tested quarterly, and CAM radiation switches are tested annually per Instrument Calibration Documents. Records for both Radiation Monitor Functional Tests and Leak Detector Functional Tests are maintained by Tank Farm Maintenance.

LEAK DETECTION PITS

The AN, AP, AW, AY, AZ, and SY tanks have special facilities in the form of leak detection pits that are designed to detect and recover solution leakage through the tank's steel secondary liner. Such leakage is collected in slots in the concrete foundation. These slots drain to the center which is plumbed to a 60 foot deep leak detection well located adjacent to the tank. The well consists of a vertical section of 24 inch diameter pipe surmounting a base section 3 feet high by 4 feet in diameter. The 24 inch section is a pumpout riser that extends to a pump pit in which a 10 gallon per minute deep well pump can be installed and the solution routed to a designated receiver tank (ref: WHC-SD-TI-357).

In AN, AW, AY, AZ, and SY Tank Farms there is one leak detection well for each tank. In AP Tank Farm, there are two leak detection wells, each servicing four tanks. AY and AZ Tank Farm each have an additional leak detection well for the transfer lines. Encasements for the side-fill waste lines in the AY and AZ Tank Farms drain to these pits.

There are three basic instrument systems installed on each leak detection pit. One is a radiation detection well installed adjacent to and extending to the base of the 4 foot diameter section. The second consists of instrument dip tubes for measuring weight factor and specific gravity. Readout is provided at the panel-boards in the associated instrument buildings. The third is a thermocouple installed in a well that extends to within 3 inches of the bottom of the pit. This equipment is connected to the Computer Automated Surveillance System (for a discussion of CASS refer to Section 10.4).

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For the purposes of this document in meeting the RCRA and WAC inspection requirements for monitoring equipment, only the radiation instrumentation is listed in the appendix. A raise in liquid level in these pits alone will not indicate a leak. However, if radiation levels were to rise, there may be a problem worth investigating. However, specific gravity, weight factor, and radiation level data is taken and analyzed. See Section 6.2.2.2 for a discussion on the data which is gathered.

Note: The annulus conductivity probes and radiation detectors are the primary means of leak detection for all double-shell tanks (AN, AP, AW, AY, AZ, and SY Farm tanks). Leak detection pit (LDP) instrumentation (weight factor, specific gravity, and radiation detectors) normally provide process control data only. The pits are not leak detection devices for the primary tank, but provide leak detection data for the annular (secondary) tank. If the annulus should become filled with waste from a leaking primary tank, the LDP would then become the primary leak detection device for the annular tank (ref: WHC-SD-TI-357).

The instrumentation for the tank leak detection pits are displayed in Appendix II, Tables AN.3.0, AP.3.0, AW.3.0, AY.3.0, AZ.3.0, and SY.3.0.

The instrumentation for the Encasement Line Leak Detection Pits are displayed in Appendix II, Tables AY.6.9 and AZ.6.9.

PITS

The typical tank has two types of pits, process and non-process pits. Process pits are discussed here. The process pits discussed include valve pits, central pump pits, and special purpose pits. Process pits are constructed of reinforced concrete and have concrete cover blocks for shielding. The floors of the process pits drain to the tanks.

THE CENTRAL PUMP PIT:

A central pump pit is located on top of three risers in the center of each tank. Central pump pits have two purposes: supernatant filling and removal, and slurry distribution. For supernatant removal, central pump pits are designed to house a deep-well turbine pump. These pits also have a slurry distributor which is used to direct slurry evenly in the tank.

Leak detectors and alarms are installed in the pump pits. This instrumentation is displayed in Appendix II, Tables AN.4.0, AP.4.0, AW.4.0, AY.4.0, AZ.4.0, and SY.4.0.

VALVE PITS:

For purposes of this document, valve pits are considered transfer and routing facilities. As such they are discussed in Chapter 8.0.

SPECIAL PURPOSE PITS:

CONDENSATE & SUPERNATE/SALTWELL RECEIVER PITS LEAK DETECTION (Appendix II, Tables AN.6.6, and AN.6.7): Both these pits process waste in AN Farm. A leak detection device is provided to activate if waste accumulates on the floors.

GROUT PUMP PIT LEAK DETECTION (Appendix II, Tables AP.8.0) and GROUT FEED LINE LEAK DETECTION (Appendix II, Table AP.8.1): Leak detection is provided in the transfer system that moves the waste to Grout processing.

DRAIN PIT LEAK DETECTION (Appendix II, Tables AP.6.8, AW.6.8 and SY.6.8): Transfer lines drain into these pits.

FEED PUMP PIT LEAK DETECTION (Appendix II, Tables AW.6.3 and SY.6.3): Waste is transferred out of the farms from these pits.

SLUICE PIT LEAK DETECTION (Appendix II, Tables AY.6.4 and AZ.6.4): Sluice pits are used in AY and AZ Tank Farm. They provide the capability of high pressure sluicing techniques for the removal of sludge waste from the storage tanks. Leak detection is provided in these pits to assure equipment leakage is not occurring while operating.

CONDENSATE DIVERSION (Appendix II, Table AZ.6.2): Steam condensate from AY and AZ is diverted to tank 417 if high radiation levels are detected.

STEAM CONDENSATE PUMP PIT LEAK DETECTION (Appendix II, Table AZ.6.5): Steam Condensate from AY and AZ Tank Farm is routed through this pump pit (AZ-154).

PROCESS PIPING

Process piping is used for two purposes; to transport product from the 242-A Evaporator, or other processing facilities, to tanks (these are called slurry lines), and to transfer materials between tanks (these are called supernatant lines). Slurry lines are smaller in diameter than supernatant lines in order to increase fluid velocity and minimize settling of solids in the line.

Typically, one slurry line and one supernatant line are connected to each tank. These lines connect the central pump pits on each tank to the farm's valve pits which contain valved jumpers used to make transfers to and from the desired tanks. Process waste lines are also provided to connect the central pump pits with the leak detection pit and the annulus pump pit.

The primary lines are encased with a secondary pipe to collect leakage in the event of a primary line failure. These pipes are buried at a minimum 2 1/2 feet underground to provide radiation shielding.

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Process lines are designed with a minimum slope to assure proper drainage. Safety features associated with the encased lines include either a series of swab risers (refer to Section 6.3 for a related discussion) or leak detectors.

The following Tables in Appendix II display the instrumentation used to monitor the lines for leaks:

- o CLEANOUT BOX LEAK DETECTION (Tables AN.7.0, AW.7.0, AY.7.0, and AZ.7.0)
- o DRAIN LINE LEAK DETECTION (Tables AN.7.1, AW.7.1, AY.7.1 and AZ.7.1)
- o ENCASMENT LINE LEAK DETECTION (Table AZ.7.2)
- o PROCESS LINE LEAK DETECTION (Tables AP.7.3 and AW.7.3)
- o SLURRY LINE LEAK DETECTION (Tables AN.7.4, AW.7.4, and AY.7.4)
- o SUPERNATE LINE LEAK DETECTION (Tables AN.7.5 and AW.7.5)
- o 242-A LINE LEAK DETECTION (Table AW.7.6)

ABOVE GROUND CONTAMINATION RADIATION MONITORING

Overall surveillance of radiation levels in the tank farm is provided by pole mounted area radiation monitors (ARMS). Due to the radioactive nature of the waste, catastrophic waste releases from the tanks could be detected by these area radiation monitoring systems. The area monitors are sensitive to gamma radiation in the range of 0.1 to 10.0 mR/h. There are visible and audible alarms associated with the area radiation monitoring system that are set to annunciate at 5 mR/h above background. Instrumentation for this system is displayed in Appendix II, Tables AN.5.0, AP.5.0, AW.5.0, AY.5.0, AZ.5.0, and SY.5.0.

Inspection:

Appendices II, III, and IV were generated from the PISCES data base and from the Preventive Maintenance Procedures. These appendices list the individual instruments; the calibration and/or maintenance procedures; the frequency at which the procedures are accomplished; and, if applicable, the item's individual tracking number used in the PISCES data base (at the time of this document development, preventive maintenance items were not on a data base). Sections 10.1, 10.2, and 10.3 discuss the PISCES and Preventive Maintenance systems which are used to control and track instrumentation maintenance. Sections 10.1, 10.2, and 10.3 also discuss official records. Appendix V describes the instrument acronyms used in Appendices II thru IV.

6.1.7 DAILY INSPECTION OF AREAS SUBJECT TO SPILLS

Because the double shell tanks and associated systems are below ground and leakage is trapped in pits and designed to drain to collection tanks, there are no areas subject to spills. The possibility may exist for spills during maintenance/equipment removal or jumper positioning. In this case, the spill is immediately reported. Actions taken are described in the Contingency Plan (WHC-IP-0263-TF).

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6.2 UNIT-SPECIFIC INSPECTIONS

This Section discusses the procedures and routines which, when carried out in the double-shell tank farms, provide the basis for meeting the Unit Specific (Tank) Requirements of RCRA.

6.2.1 INSPECTION OF OVERFILL CONTROLS

Overfill controls must be inspected every day. This Section discusses how this requirement is met.

Description:

There are three ways liquid can get into the tanks:

- o Drainage of rain water into the tanks via the pits. In this case leak detector alarms in the pits would go off and alert appropriate authorities. In addition liquid levels in the tanks are monitored and evaluated as discussed in Section 6.2.2.2.
- o Via operation of the deluge in the 242-A Evaporator. In this case Plant Operating Procedure TO-610-100 instructs the following:
 - In case of fire and the deluge system is automatically activated, raw water will flood the exterior surface of the tank at a rate of 590 gallons per minute. When this occurs, an alarm will sound in the 242-A control room and also at the 200 Area Fire Station.
 - Water flowing to the condenser room floor will go directly to the 241-AW-102 storage tank. The operating limits of 241-AW-102 are maintained and room allowed to dump the evaporator TWICE. The maximum liquid level limit of 241-AW-102 is 380 inches when the evaporator is operating. The OSD maximum limit for 241-AW-102 is 422 inches (alarm annunciates at 419 inches). It is important, therefore, to close the deluge valve or stop the flow of water before the liquid level reaches 380 inches to prevent overflowing 241-AW-102 tank. In this case, the deluge valve is closed manually.
 - The Deluge System is monitored upon activation. The liquid level in 241-AW-102 is checked immediately and, if the liquid level is greater than 380 inches, the deluge valve is manually closed.
 - The 241-AW-102 tank can only be pumped to the evaporator vessel. If the weight factor of 241-AW-102 becomes critical, the deluge valve is closed.
 - The 241-AW-102 tank liquid level can increase at a rate of 13 inches per hour. Tank 241-AW-102 liquid level is under continuous surveillance.

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- o Through transfer operations. A detailed discussion is presented below:

A rigid system of controls and procedures for protecting against overflowing the tanks is used during transfer processes.

A short specific procedure, work plan, and/or work procedure is written for any transfer made using Plant Operating Procedure (POP) TO-025-001. The minimum requirements is identified and includes (these are not inclusive - reference procedure):

- o The route and tanks involved.
- o The transfer material balance discrepancy allowed.
- o Estimated time of arrival of the waste at the receiver tank.
- o If flushing of the lines is required or not.
- o A schematic or tabulated description of the waste transfer route.
- o Identification of at least two non-leaking block valves downstream of the liquid flow path.
- o A list of all interconnected tanks.
- o The catch tanks for all diversion boxes, diverter stations, and valve pits that the primary transfer route goes through.
- o A list, table or data sheet for required data which are taken prior to, during, and after the transfer including the frequency at which the data are taken.

Company Requirement:

Operational Safety Requirements (OSRs) specify the minimum requirements for testing and the minimum frequencies of calibration of instruments and equipment necessary for verification of operation within the boundaries of the safety limits, limiting control settings, and limiting conditions for operations. OSRs also identify the physical records (e.g. log sheets) used to demonstrate compliance with OSRs. In addition, the responsible organization that maintains the record is specified.

Leak detector probes are tested in raw water, per operability test Procedure before startup. Alarms and annunciators are tested monthly, relays are tested quarterly, and leak detection pit high weight factor alarms are tested semiannually per Instrument Calibration documents. Standard Operating Procedures (SOPs) require verification of conductivity probe leak detector circuit operability prior to transfers (this is considered part of the transfer route verification). Constant surveillance using SOPs is provided if leak detectors are inoperable. Records of conductivity probe leak detector circuit checks are recorded on Data Sheets in accordance with operating procedures and maintained by the shift manager of Tank Farm Surveillance and Operations.

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Inspection:**PRE-TRANSFER INSPECTIONS**

Before transfer begins the following is accomplished (not inclusive - reference POP TO-025-001):

o Transfer system leak detectors are verified as operable (not failed) and current calibration/functional test documentation is in place. If not, all applicable diversion boxes/catch tanks, process and pump pits are constantly surveyed with portable conductivity probes during the transfer (also see Section 6.3, ANCILLARY EQUIPMENT INSPECTIONS).

- Verification includes a visual check for failure lights or alarms, and the presence of maintenance tags.

- Transfers are terminated if leak detection capability cannot be provided or is lost.

- Constant surveillance is required for transfers through boxes or pits not having a leak detection device or not having a leak detection device verified as operable.

o All area radiation monitors (for direct buried lines only), applicable pit leak detectors, and interconnecting and catch tank liquid measuring devices are ensured to be functioning.

o The material is sampled and ensured to conform to requirements for feed.

o Current status of both shipping and receiving tanks are reviewed. This includes a check for a steady liquid level for the past 24 hours (to ensure the receiving tank is not leaking).

o The volume of solution being transferred is confirmed so the sending/receiving tank levels will not exceed their current tank maximum/minimum operating limits.

o Liquid levels in all catch tanks associated with the transfer route are verified to be within permissible limits.

- Both automatic and manual readings are taken when available.

o Valve positions are physically verified and secured.

o All Transfer Data Sheets are filled out. Supervision then signs and dates them, thus authorizing the transfer (refer to POST-TRANSFER INSPECTIONS below for files and retention).

o If an oil-lubed pump is being used, the pump's reservoir sight glass is checked to see if it is full and the oil supply drum is checked for sufficient quantity.

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TRANSFER INSPECTIONS

During the transfer, the following is accomplished (not inclusive - reference POP TO-025-001):

- o The pump is checked after a minimum of 4 hours (oil lubricated pumps only) for proper lubrication and oil levels. This is rechecked every 3 to 4 hours while running.
- o The estimated solution arrival time at the receiving tank as indicated by the Specific Transfer Procedure is checked. Determination is made that it arrives within + 10 percent of the estimated time by one of the following methods (supervision is contacted if it doesn't):
 - Listening at the receiving tank.
 - Noting change of radiation levels in the vicinity of the transfer box or pump pit.
 - Noting a change of the tank's liquid level.
- o The CASS (for a discussion of CASS refer to Section 10.4) operator begins monitoring liquid levels on the receiving tank every 5 minutes starting when the sending tank has decreased by an amount equivalent to line holdup. They also contact supervision if receipt of waste has not been noted within the allowed time.
- o The following are recorded prior to starting the transfer, one-half hour and one hour after starting the pump, and each two hours thereafter or more frequently if directed by supervision:
 - Shipping and receiving tank levels (taken as close together as possible for mass balance calculations - no more than 10 minutes apart).
 - Applicable catch tank and interconnecting tank liquid levels.
 - Diversion box and diverter station catch tank liquid levels.
 - Pump amperage, if applicable.
 - Additional readings as requested by supervision.
- o The following are recorded 1 hour after shutting off the pump:
 - Shipping and receiving tank liquid levels.
 - Applicable catch tank and interconnecting tank liquid levels.
- o Mass balance calculations are accomplished and compared to the discrepancies allowed in the Specific Transfer Procedure. If limits are exceeded, supervision is contacted immediately.
- o Supervision reviews all Transfer Data for completeness and accuracy of calculations and initials for approval, twice per shift (refer to POST-TRANSFER INSPECTIONS below for files and retention).

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o The transfer is stopped if (not inclusive - reference POP TO-025-001):

- Evidence of a leak is noted in the pump pits.
- Upon activation of a leak detector or area radiation monitor alarm associated with the transfer.
- A liquid level increase from an unknown source greater than specified limits in a diversion box catch tank or any interconnected tank associated with the transfer route.
- The specified liquid level is reached in the receiver tank.
- Maximum liquid level is reached in the receiver tank.

o Supervision is notified immediately if:

- There is an no indication that the solution has arrived at the receiver tank within + 10 percent of the projected time.
- Specified liquid level is reached in the receiver tank.
- Maximum liquid level is reached in the receiver tank.
- The liquid level material balance between the shipping and receiving tanks, is greater than the stated material balance discrepancy, as calculated.
- Indication of erratic malfunctioning instruments.
- Pump oil reservoir level alarm is activated.

POST-TRANSFER INSPECTIONS

After the transfer, the following is accomplished (not inclusive - reference POP TO-025-001):

o The pump is Tocked out per WHC-CM-5-7, EQUIPMENT LOCK AND TAG. Supervision is notified if oil is dripping from the pump sight glass.

o The lines are flushed, if required or specified by Tank Farm Process Engineering.

o Final liquid levels are recorded one hour after pump shutdown or when receiving tank levels have stabilized on Waste Tank or Specific Transfer Data Sheet.

o All valves are returned to position specified in the Specific Transfer Procedure.

o Supervision reviews all material balance data and initials, to certify that the data are consistent and contain no entry or calculation errors.

o The Transfer Data Sheets are forwarded to Tank Farm Plant Engineering where they are retained in an auditable file. The files are maintained in building 2750E, room A103. They are filed here for at least one year or until sufficient files are collected and then they are sent to the Retention Holding Area Office for long term storage.

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6.2.2 DAILY INSPECTIONS

6.2.2.1 INSPECTIONS OF ABOVE GROUND PORTIONS OF THE TANKS

Description:

Tank risers, riser cover blocks, pump pit cover blocks, and tank exhaust system structures are the only portions of the tank farm tank systems which are above ground. Due to the radioactive nature of the waste, radiation surveys are the most effective method to inspect above ground portions of the tank system for waste releases. Health Physics personnel conduct various scheduled radiation surveys in each of double shell tank farms.

Inspections:

The Scheduled Radiation Survey Task description, number, and frequency for each of the radiological surveys conducted in the tank farms is as follows:

TASK DESCRIPTION	FREQUENCY	FARM	TASK #
Perform contamination smear surveys of all step-off pads.	Daily	AP	ED-14
		AP	ED-15
		AW	ED-04
		AY	ED-02
		AZ	ED-02
Perform contamination surveys in control room, on exhaustor pads and at tank farm entrances/gates.	Weekly	AN	EW-49
		AP	EW-50
		AW	EW-45
Perform direct survey over ground area, focusing around pits and risers. Perform smear survey of all pits, risers and other equipment. Obtain CP readings from pit covers, risers, and other areas with potential for dose readings.	Quarterly	AN	EQ-37
		AP	EQ-12
		AW	EQ-13
		AY	EQ-43
		AZ	EQ-15
Perform a smear and direct survey of the change rooms, control rooms, store rooms, and step off pads. Perform random direct smears of SWP clothing.	Each week day	SY	WTF-D-01
Perform dose rate and smear survey of all active and isolated pits, observation ports, FICs, exhausters, and other miscellaneous equipment.	Weekly	SY	WTF-W-01

Note: Task numbers are subject to change without notice.

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The common traffic areas (i.e., step-off pads, tank farm control rooms, exhauster pads, and tank farm entrances/walk-thru shacks) are surveyed more frequently (daily or weekly) than other portions of the tank farm. Radiological contamination from a waste release, if one were to occur, would accumulate in these common areas, due to foot traffic, and would most likely be detected by the surveys conducted in these areas.

For AN, AP, AW, AY, AZ, and SY Tank Farms the Scheduled Radiation Surveys are documented on Scheduled Radiation Survey Reports (refer to Section 6.1.1).

6.2.2.2 DATA GATHERED FROM MONITORING EQUIPMENT

Data gathered from monitoring equipment must be reviewed and analyzed daily. This Section discusses level and leak detection data gathered for evaluation of the tanks in the double-shell tank farms.

LIQUID LEVEL DATA REVIEW

Description:

Surface Levels measurements are monitored in the double shell tanks to calculate waste volumes and to identify intrusions and leakage. The liquid is kept below the maximum to prevent overflowing of the tank and prevent over stressing the tank due to increased hydrostatic head. A minimum liquid level is set to provide extra protection against any uplifting of the tank's steel liner.

Tanks that contain Food Instrument Corporation (FIC) surface level measurement devices are taken on a scheduled basis (identified below). SD-WM-TI-357, "Waste Storage Tank Status and Leak Detection Criteria" sets the liquid level criteria and reading frequency. Tank Farm Surveillance Analysis & Support (TFSA&S) plots and tabulates the data. TFSA&S reports tanks that exceed the criteria in SD-WM-TI-357 with either a discrepancy report, or an event fact sheet which is followed up by an unusual occurrence report (reference Chapter 10.0).

A liquid level baseline is a reference point established in static tanks (no waste in or out) to apply liquid level increase decrease criteria. Baselines are activated or deactivated (inoperative) by using a baseline change authorization form. After pumping activities are complete, inoperative baselines are reestablished within 72 hours.

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Inspection:

WHC-CM-5-7, Tank Farm Surveillance & Operations Administration, Section 4.1 provides the instructions that Tank Farm Surveillance Analysis and Support (TFSA&S) personnel follow in reviewing, logging, analyzing, and reporting of the Tank Farm liquid level surveillance data.

Tank liquid level data is derived from two sources:

o One is generated by the field operator taking manual tape liquid level readings in the field. These readings are recorded on a liquid level data sheet, signed off by the Tank Farms Surveillance Operations shift manager, and delivered to the CASS office (for a discussion of CASS refer to Section 10.4) for pickup for TFSA&S. If automatic FICs are out-of-order in DSTs; manual readings are required every 24 hours (ref: WHC-SD-TI-357).

o The second source is from CASS. These are generated from automatic "Food Instrument Corporation" (FIC) liquid level measurement devices that are connected to the CASS (for a discussion of CASS refer to Section 10.4). Liquid levels are scanned hourly by CASS. Alarm messages occur if an input limit is exceeded. All anomalies are field checked (ref: WHC-SD-TI-357).

WHC-SD-WM-TI-357 gives instructions on issuing Critiques/Event Fact Sheets if liquid level readings cannot be obtained every 24 hours (refer to Section 10.5).

TFSA&S is responsible for:

- o Processing the data.
- o Analyzing the compiled information and plotting for trend evaluation within one working day.
- o Correct response to out-of criteria data.
- o Scheduling rechecks within 24 hours.
- o Rescheduling missed tank liquid level notifications within 24 hours.
- o Maintaining auditable records.

Logbooks are compiled from liquid level data sheets. TFSA&S retain the logbooks and Baseline Change Authorizations indefinitely in building 2750E, room C103. The original data sheets and CASS daily reports are retained in the office for two years, then they are sent to the Records Holding Area (RHA) office in building 712 for long term storage.

Appropriate shift data is recorded in SD-WM-TI-356 AND SD-WM-TI-357 working paper books. These books are maintained as a continuous record of readings. Remarks that explain changes in liquid level readings (transfers, instrument status, etc.) are also recorded, whenever known.

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ANNULUS LEAK DETECTION DATA REVIEW**Description:**

The annulus is the primary means of leak detection for double-shell tanks. Each annulus contains a flake-type conductivity probe to signal liquid leakage and a continuous air monitored (CAM) system to detect any radiation level increases in the annulus ventilation system. All the double shell tank farms have alarms for annular liquid leaks and annular high radiation levels which are connected to CASS (see Alarms below).

Radiation level readings are taken from the CAM system and the conductivity probes per standard operating procedures. Data from the CAM readings are plotted by Tank Farm Surveillance Analysis and Support (TFSA&S). Data exceeding the criteria limits for radiation outlined in SD-WM-TI-357 are reported with either a discrepancy report, or an event fact sheet which may be followed up by an unusual occurrence report.

Radiation level baseline values are reference points established to apply radiation increase limits.

Inspections:

WHC-CM-5-7, Tank Farm Surveillance & Operations Administration, Section 4.10 provides the instructions that Tank Farm Surveillance Analysis and Support (TFSA&S) personnel follow in reviewing, logging, analyzing, and reporting annulus leak detection surveillance data.

Surveillance records created by Tank Farm Surveillance and Operations (TFS&O) are in the form of individual tank farm status report forms. Readings are recorded on a data sheet, signed off by the TFS&O shift manager, and delivered to the CASS office for pick up by TFSA&A.

TFSA&S is responsible for:

- o Processing the data.
- o Analyzing and plotting the compiled information for trend analysis within one working day.
- o Correct response to out-of criteria data.
- o Scheduling rechecks within 24 hours.
- o Rescheduling missed annulus liquid level and radiation level notifications within 24 hours.
- o Maintaining auditable records.

Logbooks are compiled from field data sheets. TFSA&S retain the logbooks and Baseline Change Authorizations indefinitely in building 2750E, room C103. The original data sheets are retained in the office for two years, then they are sent to the Records Holding Area (RHA) office in building 712 for long term storage.

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Alarms:

In addition to the data which is taken and analyzed daily, all the double shell tank farms have alarms for annular leaks (liquid intrusion) and annular high radiation levels which are monitored by CASS. Refer to Section 10.4 for a discussion of CASS and Appendix I for a listing of the alarms.

LEAK DETECTION PIT DATA REVIEW**Description:**

The functions of the leak detection pits are leak detection and liquid collection. In the double-shell tanks, a leak from the secondary tank would drain to the leak detection pit. Leak detection pits are located in all double-shell tank farms. Data for leak detection pits is tabulated and plotted by TFSA&S. Criteria for minimum and maximum liquid levels, as well as for maximum radiation levels, are defined in SD-WM-TI-357. Criteria violations are reported in either a discrepancy report or an event fact sheet, which may be followed by an unusual occurrence report.

Inspections:

WHC-CM-5-7, Tank Farm Surveillance & Operations Administration, Section 4.9 provides the instructions that Tank Farm Surveillance Analysis and Support (TFSA&S) personnel follow in reviewing, logging, analyzing, and reporting leak-detection pit surveillance data.

Leak-detection pit data are generated by the field operator, Tank Farm Surveillance and Operations (TFS&O), who obtain the readings in the field. The data consists of weight factor, specific gravity, and radiation readings. These readings are recorded on a leak-detection pit data sheet, signed off by the TFS&O shift manager, and delivered to the CASS office for pick up by TFSA&A.

TFSA&S is responsible for:

- o Processing the data.
- o Analyzing the compiled information within one working day.
- o Correct response to out-of criteria data.
- o Scheduling rechecks within 24 hours.
- o Rescheduling missed leak-detection pit data notifications within 24 hours.
- o Maintaining auditable records.

Logbooks are compiled from field data sheets. TFSA&S retain the logbooks and Baseline Change Authorizations indefinitely in building 2750E, room C103. The original data sheets are retained in the office for two years, then they are sent to the Records Holding Area (RHA) office in building 712 for long term storage.

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Alarms:

In addition to the data discussed above, alarms for all the double-shell farms leak detection pits are monitored by CASS. Refer to Section 10.4 for a discussion of CASS and Appendix I for a listing of the alarms.

6.2.2.3 INSPECTION OF CONSTRUCTION MATERIALS AND THE AREA IMMEDIATELY SURROUNDING THE EXTERNAL ACCESSIBLE PORTION OF THE TANK SYSTEM

Requirements are met by those discussed in Sections 6.1.1, 6.1.5 and 6.2.2.1.

6.2.3 CATHODIC PROTECTION INSPECTIONS

Cathodic protection is discussed in Chapter 9.0.

6.3 ANCILLARY EQUIPMENT INSPECTIONS

Ancillary equipment is inspected as part of the tank system. Refer to Sections 6.1.6 and 6.2.1. Also see the discussion below.

WASTE TRANSFER LINES LEAK CHECKS**Description:**

The integrity of process jumpers, rigid and flexible jumpers, and associated valves and fittings is indicated by leak checking prior to the transfer through a given waste transfer route (refer to Section 6.2.1 for a discussion of transfers). Standard Operating Procedure (SOP) TO-140-010 covers the general requirements for leak checking underground process routing connections.

It is preferable to accomplish the leak check using raw water, rather than process waste solution. However, process solution may be used for the leak check if it is impossible to temporarily install a flush head in the system so that raw water can be added to the whole route from the pump discharge to the tank inlet.

Inspection:

The beginning liquid levels of the shipping tank, the receiving tank, and any intermediate catch tank are recorded along with the beginning raw water meter reading (if water is used) on data sheets provided for the transfer operation. If raw water is used, the pump is locked out, all pits are covered, and water is slowly added to the system. When the water has been received at the far end of the route, as indicated by hearing water entering the tank and/or sufficient water has been metered into the line to exceed the estimated line holdup, the water is turned off. The liquid level of the receiver tank is recorded along with the raw water meter readings, if available, on the data sheets.

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Sufficient cover blocks for each new connection in the route are removed and these connections are visually inspected for leakage. Repairs are performed as required and the procedure is repeated until no leaks are detected.

A final material balance for leak check is calculated and recorded on the provided data sheet. If the transfer follows the check within 24 hours, and the material balance is within the set criteria, this data sheet is continued for the transfer procedure. If not, it is completed with a notation "Leak Check Only" put on it and forwarded by the end of the shift to 242-S for West area and 272-AW for East area.

This is the same data sheet discussed in Section 6.2.1 and is retained at Tank Farm Process Engineering in building 2750E, room A103.

SWAB RADIATION READINGS IN PIPELINE ENCASEMENTS RISERS

Description:

Encasements throughout the tank farms are equipped with 2-inch swab test risers at various locations along the line. Swab riser monitoring is performed every 3 months unless otherwise specified by Tank Farm Plant Engineering (TFPE). Additionally, any lines which are inspected because of an excessive material balance discrepancy during a transfer or an encasement catch tank rise will have swab riser tests on them as requested from TFPE.

Inspection:

Standard Operating Procedure T0-020-070 outlines the steps followed in performing the test. Readings are used in the qualitative analyses to determine line integrity. They are not used as a quantitative tool.

Previous readings for the particular swab riser are obtained before the task is initiated. Readings are then taken according to the procedure. Data entered onto the data sheet, in addition to the radiation reading, consist of whether the swab is moist, wet, or dry.

The data is compared with previous readings. Repeat sampling on the spot is accomplished and supervision is notified if any of the following occur in the swab riser:

- o The new reading is greater than twice the previous.
- o The new reading is high enough to change instruments.
- o The swab comes up wet, and the previous reading was dry.
- o Any swab reading greater than that specified.

Supervision reviews, signs and dates the data sheets before the end of the next regular working day following receipt of the data sheet. They also ensure that the appropriate copy is forwarded and received by Tank Farm Plant Engineering within 3 working days after the swab readings were taken.

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Logbooks are compiled from the Swab Test Riser field data sheets by Tank Farm Surveillance Analysis and Support. The logbooks are retained in building 2750E, room C102 for 10 years. The original data sheets are retained in the same office for 2 years, then they are sent to the Records Holding Area office in building 712 for long term storage.

7.0 MISCELLANEOUS TANK INSPECTIONS

This Chapter discusses the manner in-which the miscellaneous tank systems meet the Inspection Requirements as described in Chapter 5.0. The miscellaneous tanks covered in this Section are Double Contained Receiver Tanks (DCRTs).

DCRTs are short-term storage facilities that consist of a Double-Contained Receiver Tank and related equipment. They're used for interim storage of liquid wastes, as pits for waste transfer operations, and as drains for transfer lines. The tanks include the 244-A, 244-S, and 244-TX DCRTs.

The 244-U DCRT is currently inactive. This facility has not been used (no waste has ever been put into it). It is therefore exempt from the inspection requirements. Before activation of this particular facility, this document will be updated.

7.1 GENERAL INSPECTIONS

This Section provides a general discussion on the items specified above in Section 5.1, GENERAL FACILITY INSPECTION REQUIREMENTS for the DCRTs. This Section demonstrates the inspections performed which satisfy the Resource Conservation and Recovery Act general inspection requirements. This Section is similar to Section 6.1.

7.1.1 SECURITY: The following describes the security measures, equipment, and warning signs used to control entry to the Site.

Description:

Security on the Hanford site remains the same as discussed in Section 6.1.1. The 244-A DCRT is within the 200 East Area. The 244-S, and 244-TX DCRTs are located within the 200 West Area.

Security for the individual facilities is as follows:

- o 244-A DCRT is located west of AY and AZ farm. For security and safety this DCRT is surrounded by a metal chain. The chain is posted with radiation signs.

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o 244-TX DCRT is located within TY Tank Farm and security is enhanced by a chain link fence which surrounds this farm. The fence is posted with Radiation and Hazardous Material Signs.

o 244-S DCRT is located just east of the 241-S Tank Farm. There is no barrier around this DCRT. However, chains and fences surround this facility and approaches from any direction are marked with either Radiation or Hazardous Material signs.

Inspection:

Requirements for Radiation Postings are specified in WHC-CM-4-10. Proper radiation posting is assured via Routines accomplished by Operational Health Physics. These routines* are:

FACILITY	Task Number	Frequency
244-A	EW-14	Weekly
244-A	EQ-07	Quarterly
244-S	WFT-WD-02	Week Day
244-TX	WTF-WD-05	Week Day

* Note: Task numbers are subject to change without notice.

Inspections are documented on Scheduled Radiation Survey Reports (refer to Section 6.1.1).

In addition, housekeeping procedures are used to check the locks and in the west area (refer to Section 6.1.1).

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7.1.2 SAFETY COMMUNICATION EQUIPMENT

Description:

Radios are brought in for communication at the DCRTs. The 244 DCRT has a telephone in the instrument building. Spare radios are available in the 272AW and 272WA buildings.

Inspection:

Radios and telephones are maintained as discussed in Section 6.1.2.

7.1.3 SAFETY AND EMERGENCY EQUIPMENT

Description:

Fire detectors, which alarm at 242-S (West Area) or 242-A (East Area) and at the fire station (building 601-A) are provided in the instrument buildings. Fire extinguishers and manually operated fire alarms are located near each facility.

Inspections:

Inspections are the same as discussed in Section 6.1.3.

7.1.4 OPERATING AND STRUCTURAL EQUIPMENT

Inspections are the same as discussed in Section 6.1.4.

7.1.5 OTHER GENERAL FACILITY ITEMS

Inspections are the same as discussed in Section 6.1.5.

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7.1.6 MONITORING EQUIPMENT/INSTRUMENTATION

Description:

This Section discusses the monitoring systems that are used at the DCRTs and the Vaults. The following is a discussion concerning these important monitoring systems.

Structurally, DCRTs are comprised of a primary tank surrounded by a secondary containment vessel (called tank vault) with access ports, on top, for pumps; instrumentation; ventilation; and piping. The primary tank is located within the tank vault, separated by an annular space. The primary tank contains aqueous radioactive wastes. The bottom of the tank vault is sloped to a sump for leak collection and detection. The tank vault is designed to contain leakage from a failure of the primary tank.

The receiver tank is equipped with instrumentation that measures specific gravity and weight factors. This instrumentation monitors for high (overflow conditions) and low liquid levels. Instrumentation for measuring the tank liquid levels are displayed in Appendix III, Tables DCRT.A.1, DCRT.S.1, and DCRT.TX.1.

Level detecting instrumentation is installed in the annular sumps. A rise in the level might indicate a leak. This instrumentation is displayed in Appendix III, Tables DCRT.A.2, DCRT.S.2, and DCRT.TX.2.

Leak detectors are installed in the annular sump of 244-TX. This instrumentation is displayed in Appendix III, Table DCRT.TX.3.

The annular space is monitored for radiation levels much like the annular space of the double shell tanks is monitored. High radiation indicates the presence of mixed fission products which could mean the accumulation of liquid in the sump from a leak in the system. High radiation or monitor failure shuts down the pumps in the corresponding systems. This instrumentation is displayed in Appendix III, Tables DCRT.A.4, DCRT.S.4, and DCRT.TX.4.

Each DCRT contains a pump pit, like the double shell tanks, through which waste is transferred into and out of the tanks. These pits contain leak detection instrumentation. The pits are plumbed to drain into the tank. Activation of this leak detector might indicate the pump is leaking during a transfer operation. This instrumentation is displayed in Appendix III, Tables DCRT.A.5, DCRT.S.5, and DCRT.TX.5.

The transfer lines for these facilities are provided with leak detection instrumentation. This instrumentation is displayed in Appendix III, Tables DCRT.S.6, and DCRT.TX.6.

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Alarms for high liquid level, leak detection, and high radiation levels annunciate locally and at general annunciator panel boards at continuously manned facilities. An alarm indicates trouble. To find the trouble, an operator goes to the alarm panel which pinpoints the problem.

Inspection:

Inspections are the same as discussed in Section 6.1.6.

7.1.7 DAILY INSPECTION OF AREAS SUBJECT TO SPILLS (When In Use)

There are no areas subject to spills in the tank farms. Refer to Section 6.1.7.

7.2 UNIT SPECIFIC INSPECTIONS

This Section discusses the procedures and routines which when carried out at the miscellaneous tanks, discussed in this Chapter, provide the basis for meeting the Unit Specific (Tank) Requirements of RCRA.

7.2.1 OVERFILL CONTROL INSPECTIONS

Overfilling the DCRTs is possible during transfers. The methods employed to assure this doesn't happen are discussed in Section 6.2.1.

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7.2.2 DAILY INSPECTIONS**7.2.2.1 INSPECTIONS OF ABOVE GROUND PORTIONS OF THE TANKS****Description:**

Inspections are the same as discussed in Section 6.2.2.1.

Inspections:

The Scheduled Radiation Survey Task description, number, and frequency for each of the radiologically surveys conducted in the tank farms is as follows:

TASK #	FREQUENCY	DCRT	DESCRIPTION
ED-09	Daily	244-A:	Performs contamination smear surveys on the cover blocks and general lift station area.
WFT-WD-02 WFT-WD-05	Week Day Week Day	244-S, 244-TX:	Performs a dose rate survey on all exhauster ducts, breather air filters, general area and verifies all radiological boundaries. Walks thru to detect any off-standard conditions such as equipment failures, alarms, boundary rope down. Updates radiological survey maps.
EW-14	Weekly	244-A:	Smears cover blocks and risers. Smears all excessible surface areas in the instrument shed. Takes radiation reading around pump pit.

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TASK #	FREQUENCY	DCRT	DESCRIPTION
WFT-W-01 WFT-W-03	Weekly Weekly	244-S, 244-TX:	Performs dose rate of all active and isolated valve pits, observation ports, F.I.C., exhausters and other. Performs a random direct and smear survey of floors and miscellaneous equipment in the 244-TX instrument building. Performs a direct survey with a GM/P-11 instrument to approximately 15 feet outside the drive-thru gates. All readings are recorded and the facility status map is updated.
EQ-07	Quarterly	244-A:	Performs direct survey on ground area, focusing around pits and risers. Performs smear survey of all pits, risers, and other equipment. Performs survey of floors of all enclosure areas and buildings. Reports any off-standard condition to unit manager.

Note: Task Numbers are subject to change without notice.

The Scheduled Radiation Surveys are documented on Scheduled Radiation Survey Reports (refer to Section 6.1.1).

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7.2.2.2 DATA GATHERED FROM MONITORING EQUIPMENT**Description:**

Data are obtained daily for the following systems:

<u>SYSTEM</u>	<u>DATA</u>
244-A Tank	Weight Factor/Specific Gravity
244-A Annular Sump	Weight Factor/Specific Gravity
244-S Tank*	Weight Factor/Specific Gravity
244-S Annular Sump*	Weight Factor/Specific Gravity
244-TX Tank*	Liquid Level/Weight Factor/Specific Gravity
244-TX Annular Sump*	Liquid Level

* Denotes a 45 percent liquid level limit. Preparation for transfer of the contents must commence. If the 50 percent limit is reached, no cross-site transfers in the tank farms, through the connected diversion boxes, are permitted. The 50 percent limit is designed to provide catch tank freeboard in the event of a transfer line leak.

Inspection:

The inspections of these data are the same as discussed in Section 6.2.2.2.

Alarms:

In addition to the data discussed above, abnormal conditions such as leaks, high radiation levels, and high liquid levels will activate alarms. These alarms are monitored by CASS. Refer to Section 10.4 for a discussion of CASS and Appendix I for a listing of the alarms.

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7.2.2.3 INSPECTION OF CONSTRUCTION MATERIALS AND THE AREA IMMEDIATELY SURROUNDING THE EXTERNAL ACCESSIBLE PORTION OF THE TANK SYSTEM

Requirements are met by those discussed in Sections 7.1.1, 7.1.5 and 7.2.2.1.

7.2.3 CATHODIC PROTECTION INSPECTIONS

Cathodic protection is discussed in Chapter 9.0.

7.3 ANCILLARY EQUIPMENT INSPECTIONS

Inspections are the same as discussed in Section 6.3.

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8.0 TRANSFER AND ROUTING FACILITY INSPECTIONS

This Chapter discusses the manner in which the Transfer and Routing Facilities used in transfers of waste to and from the double shell tanks meet the Inspection Requirements as described in Chapter 5.0. The facilities covered in this Chapter are Diversion Boxes, Catch Tanks, Valve Pits, and miscellaneous facilities. The list below displays the facilities discussed in this Chapter and includes where the particular facility drains to, where it is located (200 East, West Area, or inbetween), and the security surrounding the specific facility (further discussion on security is presented in Section 8.1.1 below):

DIVERSION BOXES	DRAINS TO	LOCATION	SECURITY
241-A-151	241-A-302A	East	Within Purex Fence (1)
241-AR-151	244-AR	East	Next to 244-AR Vault (2)
241-AX-155	241-AX-152	East	Within AX Farm (3)
241-AZ-152	241-AZ-151	East	Within AZ Farm (3)
241-ER-151	241-ER-311	East	Chain link Fence (4)
241-ER-152	241-ER-311	East	Chain (5)
241-ER-153	244-A	East	Chain next to 244-A (5)
241-S-151	241-S-302A	West	Chain (5)
241-TX-152	244-TX	West	Chain (5)
241-TX-154	241-TX-302C	West	Chain (5)
241-U-151	241-U-301B	West	Chain (5)
241-U-152	241-U-301B	West	Chain (5)
241-UX-154	241-UX-302A	West	Chain (5)

VALVE PITS	DRAINS TO	LOCATION	SECURITY
241-A-A	241-A-350	200 East	Within A Farm (3)
241-A-B	241-A-350	200 East	Within A Farm (3)
241-AN-A	241-AN-102	200 East	Within AN Farm (3)
241-AN-B	241-AN-102	200 East	Within AN Farm (3)
241-AP	241-AP-103	200 East	Within AP Farm (3)
241-AW-A	241-AW-102	200 East	Within AW Farm (3)
241-AW-B	241-AW-102	200 East	Within AW Farm (3)
241-AX-A	241-AY-102	200 East	Within AX Farm (3)
241-AX-B	241-AY-102	200 East	Within AX Farm (3)
241-AX-501	241-A-417	200 East	Within AX Farm (3)
241-AY-501	241-AX-152	200 East	Within AX Farm (3)
241-SY-A	241-SY-102	200 West	Within SY Farm (3)
241-SY-B	241-SY-102	200 West	Within SY Farm (3)

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CATCH TANKS	LOCATION	SECURITY
241-A-302A	200 East	Within Purex Fence (1)
241-AZ-151	200 East	Within A Farm (3)
241-ER-311	200 East	Next to 241-ER-151 (4)
241-S-302A	200 West	Chain (5)
241-TX-302C	200 West	Chain (5)
241-U-301B	200 West	Chain (5)
241-UX-302A	200 West	Chain (5)

MISCELLANEOUS FACILITIES	LOCATION	SECURITY
241-A-350 Drainage Lift Station	200 East	Within AX Farm (3)
241-A-401 Diverter Caisson	200 East	Within AX Farm (3)
241-A-417 Catch Tank	200 East	Within A Farm (3)
241-AX-152 Diverter Station	200 East	Within AX Farm (3)
241-EW-151 Vent Station	600 Area *	Chain link Fence (4)

* Located between the East and West Area behind the Fire Station.

8.1 GENERAL INSPECTIONS

This Section provides a general discussion on the items specified above in Section 5.1, GENERAL FACILITY INSPECTION REQUIREMENTS for the facilities displayed above in Section 8.0. This Section demonstrates the inspections performed which satisfy the Resource Conservation and Recovery Act general inspection requirements. This Section is similar to Section 6.1.

8.1.1 SECURITY: The following describes the security measures, equipment, and warning signs used to control entry to the Site.

Description:

Security to and within the Hanford site remains the same as discussed in Section 6.1.1 (the Hanford site).

The "Security" column displayed in the list presented in Section 8.0 above describes the security around each facility. The coded numbers which appear next to the verbiage in that column are discussed here:

1 - Means that these facilities are within the Purex Anti-Personnel Perimeter Fence. Refer to the Purex RCRA permit for a discussion of this fence and its inspections.

2 - Means that this facility has a pipe railing around it. Posted to this railing are radiation signs.

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3 - Means that these facilities are within the perimeter fence of the Tank Farms. Postings on the farms are discussed in Section 6.1.1. A and AX Farms were not discussed previously, however, the posting remain the same as discussed for the Farms in Section 6.1.1.

4 - Means these facilities are within their own chain link fence. The fences are posted as the Tank Farm fences are posted.

5 - Means these facilities are surrounded by a chain. The chain is posted with radiation signs.

241-EW-151 East/West Vent Station is located between the 200 East and West Area. Access to this area is through the manned barricades which are maintained at checkpoints on vehicular access roads leading to the Hanford Site. Vehicle operators wishing to enter this area must display their identification badge before being admitted. The Vent Station is located about 1500 feet south of the 200 East and West fire station (bldg 609A). Security at the vent station is provided by an encompassing chain link fence. The fence is posted with radiation signs and a Hazardous Material is posted on the gate.

Inspection:

The facilities within the farms are inspected per Section 6.1.1. All the valve pits are within farms and are therefore covered. All the miscellaneous facilities are likewise within farms, except for the East West Vent Station.

The postings on the East/West Vent Station are checked quarterly via the Health Physic Task number EQ-08. The documentation is the same as that for the East Tank Farms, discussed in Section 6.1.1.

The 241-ER-153 Diversion Box is within the chained area of the 244-A DCRT. Security inspections are therefore covered by those done for the DCRT (refer to Section 7.1.1).

Security inspections of the following diversion boxes and catch tanks are not accomplished on a regular basis:

DIVERSION BOXES

CATCH TANKS

- 241-AR-151
- 241-ER-151
- 241-ER-152
- 241-S-151
- 241-TX-152
- 241-TX-154
- 241-U-151
- 241-U-152
- 241-UX-154

- 241-ER-311
- 241-S-302A
- 241-TX-302C
- 241-U-301B
- 241-UX-302A

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8.1.2 SAFETY COMMUNICATION EQUIPMENT

Description:

Radios are brought in for communication at these facilities. Spare radios are available in the 272AW and 272WA buildings.

Inspection:

Radios are maintained as discussed in Section 6.1.2.

8.1.3 SAFETY AND EMERGENCY EQUIPMENT

Description:

Safety and emergency equipment at the facilities within the Tank Farms is the same as those items in the farms (refer to Sections 6.1.3 and 7.1.3). There is no safety and emergency equipment at the following facilities:

DIVERSION BOXES

CATCH TANKS

- 241-AR-151
- 241-ER-151
- 241-ER-152
- 241-S-151
- 241-TX-152
- 241-TX-154
- 241-U-151
- 241-U-152
- 241-UX-154

- 241-ER-311
- 241-S-302A
- 241-TX-302C
- 241-U-301B
- 241-UX-302A

These facilities are underground. Safety and emergency equipment is available at nearby facilities or brought in when required.

Inspection:

Safety and emergency equipment inspections are the same as discussed in Sections 6.1.3.

8.1.4 OPERATING AND STRUCTURAL EQUIPMENT

Inspections are the same as discussed in Section 6.1.4.

8.1.5 OTHER GENERAL FACILITY ITEMS

Inspections are the same as discussed in Section 6.1.5.

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8.1.6 MONITORING EQUIPMENT/INSTRUMENTATION

Description:

This Section discusses the monitoring systems that are used at the Transfer and Routing Facilities. The following is a discussion of these important monitoring systems.

A-350 DRAINAGE LIFT STATION

This facility is a catch tank located near Tank 241-A-106 (a single shell tank). A-350 collects waste liquid from a variety of sources, such as clean out box drains in the A Farm area, the 241-A-A and A-B valve pits, and from the 207-A Retention Basins (designed to do so if the 242-A Evaporator steam condensate were to become contaminated). Waste liquids draining to the tank are removed either automatically or manually and routed to 241-AW-102. In the event of a leak or overflow of the tank, waste liquids will empty into a sump which encloses the tank. Instrumentation is displayed in Appendix IV, Tables:

- CT.A350.1: 350 DRAINAGE LIFT STATION TANK LEVEL
- CT.A350.2: 350 DRAINAGE LIFT STATION SUMP LEAK DETECTION
- CT.A350.5: 350 DRAINAGE LIFT STATION PUMP PIT LEAK DETECTION

EAST WEST VENT STATION

The 241-EW-151 Vent Station jumper pit and catch tank are equipped with leak detectors. The catch tank has an adjustable high level alarm. The area surrounding the vent station is monitored for abnormally high radiation levels which might be expected should a significant leak occur in that area. The signals from these monitoring devices are transmitted to CASS. The instrumentation is displayed in Appendix IV, Tables:

- CT.EW.1: TANK LEVEL DETECTION.
- CT.EW.2: SECONDARY CONTAINMENT LEAK DETECTION.
- CT.EW.5: JUMPER PIT LEAK DETECTION.
- CT.EW.6: AREA RADIATION MONITORING.

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VALVE PITS

Valve pits contain the valved jumpers that connect the process pipelines from the central pump pits in the farm to each other and to other facilities. The routing of waste between tanks and/or other facilities is determined by the positioning of these valves. AN, AW, and SY Tank Farms, each contain two valve pits. There is one valve pit in AP Tank Farm. A list of all the valve pits used for waste transfers and routing is presented in Section 8.0. Instrumentation is displayed in Appendix IV, Tables:

VP.A-A.0: 241-A-A VALVE PIT LINE LEAK DETECTION
VP.A-A.1: 241-A-A VALVE PIT LINE LEAK DETECTION
VP.A-B: 241-A-B VALVE PIT LEAK DETECTION
VP.AN-A: AN-A VALVE PIT LEAK DETECTION
VP.AN-B: AN-B VALVE PIT LEAK DETECTION
VP.AP: AP VALVE PIT LEAK DETECTION
VP.AW-A: AW-A VALVE PIT LEAK DETECTION
VP.AW-B: AW-B VALVE PIT LEAK DETECTION
VP.AX-A: 241-AX-A VALVE PIT LEAK DETECTION
VP.AX-B: 241-AX-B VALVE PIT LEAK DETECTION
VP.SY-A: SY-A VALVE PIT LEAK DETECTION
VP.SY-B: SY-B VALVE PIT LEAK DETECTION
VP.AY-501: AY-501 CONDENSATE VALVE PIT LEAK DETECTION

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DIVERSION BOXES

Diversion boxes are used to establish or change waste transfer routes. They are reinforced concrete structures which are normally constructed below grade. The top of the box is a concrete cover block which usually extends a few inches above grade. Transfer lines are connected in the diversion box by installing a jumper between the connection nozzles. Jumpers may be either rigid or flexible. Jumper installation or removal is a complex operation requiring the use of a mobile crane to remove and replace the cover block and to raise and lower the jumper from and into the diversion box. All diversion boxes drain to either a catch tank or to a nearby underground storage tank. The floor of all the diversion boxes contain leak detector probes which alarm if a leak occurs. A list of all the Diversion Boxes used for waste transfers and routing are is presented in Section 8.0. Instrumentation is displayed in Appendix IV, Tables:

DB.A151: 241-A-151 DIVERSION BOX LEAK DETECTION
DB.AR151: 241-AR-151 DIVERSION BOX LEAK DETECTION
DB.AX155: 241-AX-155 DIVERSION BOX LEAK DETECTION
DB.ER151: 241-ER-151 DIVERSION BOX LEAK DETECTION
DB.ER152: 241-ER-152 DIVERSION BOX LEAK DETECTION
DB.ER153: 241-ER-153 DIVERSION BOX LEAK DETECTION
DB.S151: 241-S-151 DIVERSION BOX LEAK DETECTION
DB.TX152: 241-TX-152 DIVERSION BOX LEAK DETECTION
DB.TX154: 241-TX-154 DIVERSION BOX LEAK DETECTION
DB.U151: 241-U-151 DIVERSION BOX LEAK DETECTION
DB.U152: 241-U-152 DIVERSION BOX LEAK DETECTION
DB.UX154: 241-UX-154 DIVERSION BOX LEAK DETECTION

DIVERTER STATIONS

The purpose of a diverter station is to allow the transfer of one of several incoming streams to different outlets without having to change jumpers. Diverter stations operate by routing several incoming waste transfer lines into a small, 50-gallon receiver tank. A moveable spout is located on the bottom of the tank and directs the flow of waste from the tank. The moveable spout can be rotated and connected to any one of several exit pipe nozzles located within the station. A diverter station provides only gravity flow from the receiver tank forward. Thus, waste flow is in one direction and must be limited to a maximum flow rate (normally, 75 gpm). A catch tank is located below the diverter cell to collect any spillage. Weight factor and thermocouple instrumentation is installed in the catch tank to detect leaks and intrusions. The catch tank is equipped with a water jet so that accumulated waste solutions can be pumped to a waste storage tank. Currently the 241-AX-152 diverter station is the only active diverter station in the 200 areas. Instrumentation is displayed in Appendix IV, Tables:

DS.AX152.0: 241-AX-152 DIVERTER STATION PUMP PIT LEAK DETECTION
DS.AX152.1: 241-AX-152 DIVERTER STATION LEAK DETECTION

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CATCH TANKS

A catch tank is an underground storage tank used to collect small amounts of waste drained from diversion boxes, catch stations, valve pits, transfer lines and other facilities. Unplanned rises in the level of liquid contained in catch tanks generally are caused by rain but may indicate a leak in the associated transfer facilities. All catch tanks are equipped with liquid level instruments and their respective pump pits are equipped with leak detectors. A rise in the liquid levels detected by the instrumentation during transfers will initiate a shutdown of transfer operations. A list of all the catch tanks used for waste transfers and routing are is presented in Section 8.0. Instrumentation is displayed in Appendix IV, Tables:

CT.A417.0: 241-A-417 CONDENSATE LIQUID LEVEL DETECTION
CT.A417.1: 241-A-417 CONDENSATE HOLD UP TANK LEAK DETECTION
CT.AZ151.1: 241-AZ-151 CATCH TANK LEAK DETECTION
CT.ER311.0: 241-ER-311 CATCH TANK LIQUID LEVEL DETECTION
CT.ER311.1: 241-ER-311 CATCH TANK LEAK DETECTION
CT.S302A.0: 241-S-302A CATCH TANK LIQUID LEVEL DETECTION
CT.S302A.2: 241-S-302A CATCH TANK PUMP PIT LEAK DETECTION
CT.TX302C.0: 241-TX-302C CATCH TANK LIQUID LEVEL DETECTION
CT.TX302C.1: 241-TX-302C CATCH TANK LEAK DETECTION
CT.UX302A.0: 241-UX-302A CATCH TANK LIQUID LEVEL DETECTION
CT.UX302A.1: 241-UX-302A CATCH TANK LEAK DETECTION

DIVERTER CAISSON

This caisson is used to divert the steam condensate from the aging waste tanks (AY and AZ tanks) back to the tanks if it were to become contaminated. The caisson is a pit which contains the diverter valves. Instrumentation is displayed in Appendix IV, Tables:

DC.A401.0: 241-A-401 SAMPLER LEAK DETECTION
DC.A401.1: 241-A-401 DIVERTER CAISSON LEAK DETECTION

Inspection:

Inspections are the same as discussed in Section 6.1.6.

8.1.7 DAILY INSPECTION OF AREAS SUBJECT TO SPILLS (When In Use)

There are no areas subject to spills in the tank farms. Refer to Section 6.1.7.

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8.2 UNIT SPECIFIC INSPECTIONS

This Section discusses the procedures and routines which when carried out at the transfer and routing facilities provide the basis for meeting the Unit Specific (Tank) Requirements of RCRA.

8.2.1 OVERFILL CONTROL INSPECTIONS

Overfill controls must be inspected daily. As discussed in Section 6.2.1, procedures are prepared for all process operations associated with cross-site waste transfer. These procedures provide written, stepwise instructions for the safe, efficient operation of equipment and facilities. For a discussion of these procedures refer to Section 6.2.1. What follows is a discussion of the transfer system and its controls.

Description:

The cross-country waste transfer system consists of:

- o The 241-ER-151 Diversion Box (drains to catch tank 241-ER-311).
- o The 241-UX-154 Diversion Box (drains to catch tank 241-UX-302A).
- o The 241-EW-151 Vent Station is located at the high point of the cross-country pipeline between the 200 East and West Areas. Each of the pipelines has a vent line connecting it to the 800 gallon vent station catch tank. A manually-operated valve in each vent line allows for air bleeding, preliminary to pressure checking, and to break the syphon enabling the line to drain. The area surrounding the vent station is monitored for above normal radiation levels which might be expected should a significant leak occur in that area.
- o The 241-EW-151 Vent Station overflows to the cross-country encasement. The encasement is a heavily steel reinforced concrete box with a void space in which six pipelines rest. The encasement slopes in both direction from the vent station and drains to the pipe chase of each diversion box. The pipe chase drains to the individual diversion box catch tank. The contents of the catch tanks are transferred to the tank farms for storage.
- o Concrete encased stainless steel pipelines buried at depths of 5 to 15 feet from the 241-ER-151 Diversion Box to the Vent Station and on to the 241-UX-154 Diversion Box.
- o Fifty-eight encasement test risers, regularly spaced along the encasement, which provide access to the encasement void spaces.
- o Monitoring instrumentation and controls discussed in Section 8.1.6.

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Inspection/Controls:

Situations which might releases waste to the environment during transfer operations are prevented by the following means:

Faulty jumper installation at either diversion box 241-ER-151 or 241-UX-154 results in process solution draining to either catch tank, 241-ER-311 or 241-UX-302A, respectively. Pluggage of either of these drain lines results in backing up of solution into the diversion box and activation of the conductivity probe leak detection alarm. Transfer is then immediately terminated.

Transfer line leakage to the encasement is detected by a liquid level rise in the catch tank. A leaky jumper activates the conductivity probe leak detection alarm. Should these systems fail, the leak would be detected by transfer material balance discrepancies which includes liquid level surveillance of all associated catch tanks.

A leak detected by a conductivity probe in a diversion box results in an alarm showing up at the 242-A or -S Evaporators. The operator on duty then takes immediate steps to stop the transfer. The source of the leak is then investigated and appropriate corrective actions are taken.

An open vent valve on the cross-country pipeline could cause the 241-EW-151 Vent Station catch tank to overflow into the cross-country pipeline encasement. In order to pump liquid into the Vent Station catch tank, it is necessary to have a plug in the pipeline somewhere past the vent station and have the vent station valve left open. Liquid entering the Vent Station catch tank is detected as an increase in the liquid level in the vent station catch tank. If the level continues to rise, the high level alarm which is monitored by CASS is activated. The CASS operator then alerts operations and corrective actions are taken. Failure to detect this liquid level rise would result in an overflow to the cross-country encasement with subsequent drainage to catch tanks 241-ER-311 and/or 241-UX-302A. This is noted by a liquid level increase in the catch tanks. Should the liquid level increases in the catch tanks go unnoticed, the leak is then detected by material balance discrepancies.

Detection of a leaking vent station vent valve causes immediate steps to be taken by the operator to close the valve. If the valve cannot be closed the transfer is terminated immediately and appropriate corrective actions are taken.

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8.2.2 DAILY INSPECTIONS

8.2.2.1 INSPECTIONS OF ABOVE GROUND PORTIONS OF THE TANKS

Description:

Inspections are the same as discussed in Section 6.2.2.1.

Inspection:

Inspections of those facilities within the Tank Farms or DCRTs are the same as discussed in Sections 6.2.2.1 and 7.2.2.1.

Task number EQ-08 is used to inspect the East West Vent Station on a quarterly basis. The following is accomplished:

- o Direct surveys of ground area, focusing around the pits and risers.
- o Smear survey of all pits, risers and other equipment.
- o Smear surveys of floors of all enclosure areas, and buildings.
- o Recording of results on appropriate radiological map.

Documentation remains the same as discussed in Section 6.2.2.1 for the East area.

There are no inspections of the following facilities, except immediately before, during, and after transfers:

DIVERSION BOXES

CATCH TANKS

241-AR-151
241-ER-151
241-ER-152
241-S-151
241-TX-152
241-TX-154
241-U-151
241-U-152
241-UX-154

241-ER-311
241-S-302A
241-TX-302C
241-U-301B
241-UX-302A

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8.2.2.2 DATA GATHERED FROM MONITORING EQUIPMENT

Data gathered from monitoring devices must be evaluated daily.

Description:

Data is obtained daily for the following systems:

<u>System</u>	<u>Data</u>
241-A-302A Catch Tank*	Liquid Level
241-A-350 Drainage Lift Station	Weight Factor/Specific Gravity
241-AX-152 Diverter Station	Liquid Level
231-AZ-151 Catch Tank*	Liquid Level
241-ER-311 Catch Tank*	Liquid Level
241-EW-151 Vent Station*	Liquid Level
241-S-302A Catch Tank*	Liquid Level
241-TX-302C Catch Tank*	Liquid Level
241-U-301B Catch Tank*	Liquid Level
241-UX-302A Catch Tank*	Liquid Level

* Denotes a 45 percent liquid level limit. Preparation for transfer of the contents must commence. If the 50 percent limit is reached, no cross-site transfers in the tank farms, through the connected diversion boxes, are permitted. The 50 percent limit is designed to provide catch tank freeboard in the event of a transfer line leak.

Inspection:

The inspections of this data remain the same as discussed in Section 6.2.2.2.

Alarms:

In addition to the data discussed above, abnormal conditions such as leaks, high radiation levels, and high liquid levels will activate alarms. These alarms are monitored by CASS. Refer to Section 10.4 for a discussion of CASS and Appendix I for a listing of the alarms.

8.2.2.3 INSPECTION OF CONSTRUCTION MATERIALS AND THE AREA IMMEDIATELY SURROUNDING THE EXTERNAL ACCESSIBLE PORTION OF THE TANK SYSTEM

Requirements are met by those discussed in Sections 8.1.1, 8.1.5 and 8.2.2.1.

8.2.3 CATHODIC PROTECTION INSPECTIONS

Cathodic protection is discussed in Chapter 9.0.

8.3 ANCILLARY EQUIPMENT INSPECTIONS

Inspections are the same as discussed in Section 6.3.

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9.0 CATHODIC PROTECTION

This Chapter discusses cathodic protection that is, at the time of this document development, functioning in the 200 Areas.

Inspection of Tank Farm cathodic protection systems are accomplished per the following procedures:

PROCEDURE	FREQUENCY (DAYS)	TITLE
2E22029	60	Preventive Maintenance/Inspection of Cathodic Protection Rectifiers in East area.
2E22030	90	Preventive Maintenance/Testing of Key Stations of Cathodic Protection System.
2E22031	360	Inspection of Cathodic Protection System.
2E22058	360	Functional Test of Reference Electrodes - Cathodic Protection.

Completed data sheets are the official record of performance. These forms are kept in the Production Control Planners files for a period of three years following the close of the fiscal year in which the work was done. In East Tank Farms these files are located in building 272AW, room 8. In West Tank Farms these files are located in building 272WA, room 8.

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Inspection documents are prepared from the data received as a result of performance of the above procedures. These reports evaluate the cathodic protection data to determine if the system is performing in compliance with EPA/WAC performance requirements. If the cathodic protection systems are not in conformance, recommendations are made on how to bring them into compliance. These reports are retrievable from Document Control. The following is a complete list of the reports which existed at the time of this document development:

SD-WM-TI-276, October 1986, Final Energization Report, Upgrade of Hanford 200 Area Cathodic Protection System (B234-1a, 2a, 2b & 2c).

SD-WM-TI-330, March 1988, Final Energization Report, B234-2d Cathodic Protection System.

SD-WM-EV-013, November 1988, Annual Cathodic Protection Survey Inspection Report for 200 East Area Tank Farms.

WHC-SD-WM-EV-039, November 1989, Annual Cathodic Protection Survey Inspection Report for the 200 East Area Tank Farms - Draft. This document is not final. It is not available through Document Control. No funds are available to resolve comments.

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Below is a list of the rectifiers, location of rectifiers, and the pipes that are protected:

RECTIFIER NUMBER	LOCATION	PROTECTED PIPES
R1 & R2	R1 is between 4th Street and the fence of AP Tank Farm, next to the 241-AP-271 building. R2 is next to R1.	All AP Tank Farm Pipes are protected by these two rectifiers.
R7	Between Buffalo Ave and the fence of AY Tank Farm.	PSW-4607 PSW-D603 PSW-S608 PSW-S609 PW-4507 PW-4508 SL-500 SN-600 V713 V714
R8	Next to rectifier R7.	101 AY Vent Line 102 AY Vent Line 702 AZ Vent Line 702 AY Vent Line
R11	Between the parking area and the fence of AN Tank Farm.	PSW-4607 PSW-D603 PSW-S608 PSW-S609 PW-4507 PW-4508 SL-500 SW-4621 SN-600
R14	Between Buffalo Ave and the fence of A Tank Farm, east of Diversion Box 241-AR-151.	V714

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DOUBLE SHELL TANK FARM INSPECTION PLAN MATRIX

RECTIFIER NUMBER	LOCATION	PROTECTED PIPES
R16	Between Buffalo Ave and the fence of A Tank Farm.	4001 4004 LIQW-702 NHW-4003/4017 NHW-4006/4018 PAW/NHW-4002/814/40 SN-215 SN-216 V714
R17	Off of Buffalo Ave, behind the 244-AR Vault building, next to the west wall of Emergency Generator Building 701-AR.	3"DR-M19 SN-215 SN-216 SN-232 SN-233
R18	Off 4th Street, next to the west wall of the 242-A building.	4001 4004 DR-334 DR-335 DR-338 DR-339 DR-343 LIOW-702 SL-100 SL-101 SL-113 SL-114 SL-167 SL-168 SN-215 SN-216 SN-219 SN-220 SN-269 SN-270

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RECTIFIER NUMBER	LOCATION	PROTECTED PIPES
R19	Across the street and the fence of AP Tank Farm, next to the 241-AP-271 building.	DR-334 DR-335 DR-343 SL-161 SL-162 SL-163 SL-164 SL-165 SL-166 SL-167 SL-168 SL-169 SL-271 SL-509 SN-219 SN-220 SN-261 SN-262 SN-263 SN-264 SN-265 SN-266 SN-267 SN-268 SN-269 SN-270 SN-272 SN-610

There are no cathodic protection systems currently functioning in the West Area Tank Farms.

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10.0 FACILITY INTEGRITY MANAGEMENT STRATEGY

This Chapter describes the activities performed in maintaining normal, problem-free operations. In addition, it specifies the system used for corrective action, tracking and resolution of problematic issues.

10.1 MAINTENANCE

10.1.1 DESCRIPTION

The strategy used in maintenance and repair is a combination of preventive maintenance, predictive maintenance, and run-to-failure philosophy based on cost effectiveness and feasibility of application pertaining to each group of plant equipment, as determined by facility technical support organizations and plant management.

Preventive Maintenance is selected where the economic impact to schedule and/or the cost for repair or replacement of equipment exceeds the cost of preventive maintenance, and where the useful life and reliability of the equipment can be extended through its application. Preventive maintenance is also selected when high reliability is required to meet health, safety, or environmental regulations. Preventive maintenance is performed in accordance with standard written instruction and is scheduled into the normal operation plan.

Predictive maintenance is selected for specific pieces of equipment where objective data has been established to accurately predict failure and where the consequence of unplanned failure exceeds the benefit of maximum economic life through run-to-failure. Anticipated major repairs are performed in accordance with written instructions prepared in advance of the actual repair and scheduled to meet operating requirements.

Run-to-failure (or corrective maintenance) in many cases is the only reasonable option available. This is deemed acceptable where the consequence of unplanned failure does not risk health, safety, environmental regulations, or plant production capability. Unanticipated repairs are performed in accordance with written instructions, which are prepared after the failure and scheduled on a priority basis consistent with operating requirements. Spare equipment and general replacement plans are used to minimize disruption of planned work and delay in operating schedules caused by unanticipated repairs.

10.1.2 RESPONSIBILITIES

The appropriate Division Manager has overall responsibility for identifying maintenance and repair actions. This responsibility is subsequently delegated to the plant managers and Production Control Management by nature of their positions. The physical work is performed by the appropriate maintenance and/or service organizations.

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Production Control Managers are responsible the for planning and scheduling of maintenance and repair, and for coordinating the necessary outside craft resources (i.e. fabrication services, riggers, painters, carpenters).

Users of equipment, systems, and facilities are responsible to report operational failures, deficiencies, and safety concerns. Production or work control groups plan and schedule corrective actions in accordance with approved job control procedures.

10.1.3 DOCUMENTATION

Maintenance work is performed and documented following the Job Control System which is described in WHC-CM-8-8, "Job Control System Control System."

10.1.4 PROCEDURES

WHC-CM-8-2, 200 Area Support Services, Section 301.0, "Index of Maintenance Procedures" provides an index of maintenance procedures. The index is a list of all maintenance procedures used in the 200 Area operating facilities. It is updated quarterly and is available by contacting the Procedure Coordinator, Maintenance Engineering Administration and Analysis. It is maintained and controlled per WHC-CM-8-2, 102.1, "Document Control."

10.1.5 REFERENCES

WHC-CM-5-5, Operations - General Administration, Volume 1, Procedure No: GA-2.6, "Operations Maintenance Requirements."

WHC-CM-8-2, 200 Area Support Services, Section 301.0, "Index of Maintenance Procedures."

WHC-8-8, "Job Control System."

10.2 PREVENTIVE MAINTENANCE

10.2.1 DESCRIPTION

The Standard Preventive Maintenance Program, which establishes procedures for performing repetitive checks/tests of equipment and/or systems, including minor repairs or adjustments, is detailed in WHC-CM-8-2, Section 502.0, "Preventive Maintenance."

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Preventive Maintenance Procedures are those working level procedures that describe the performance of preventive maintenance. Preventive maintenance (PM) is predictive, periodic, or planned maintenance. These are defined as (according to WHC-CM-8-2, 103.0, Work Control System):

Predictive - continuous or periodic monitoring and diagnosing of equipment to forecast failure.

Periodic - routinely scheduled maintenance on equipment to prevent breakdown, including instrument calibration and lubrication.

Planned - maintenance performed prior to equipment failure. Planned maintenance can be initiated by predictive or periodic maintenance.

All PM of O/S/R (Operations/Safety/Regulatory Compliance requirements) related equipment that affects safety and regulatory compliance is performed during the periods in which they are scheduled.

If OSR-related* equipment does not receive applicable preventive maintenance when due, or if discrepancies which affect the operability of the equipment are identified but not corrected, the Plant Maintenance Manager ensures that a Notice of Discrepancy (NOD) is initiated.

* OSRs (Operational Safety Requirements) are specified for each facility and are described in Chapter 11 of each Facility Safety Analysis Report.

10.2.2 FREQUENCIES

Process Engineering at each individual facility is responsible for providing a list of O/S/R and OSR PM requirements to Maintenance Engineering. In facilities without a supporting Process Engineering group, this information is compiled by Maintenance Engineering and reviewed and approved by the organization operating the facility.

10.2.3 RESPONSIBILITIES

Responsibilities are described in WHC-CM-8-2, 200 Area Support Services, Section 502.0, "Preventive Maintenance" and Section 103.0, "Work Control System."

10.2.4 DOCUMENTATION

The Production Control planner or designated clerk at each facility maintains a Preventive Maintenance (PM) file for that facility which contains the following:

The computer-generated PM index and schedule for each month.

The completed PM Data Sheets.

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The completed PM Data Sheets are the official record of performance of preventive maintenance work. This form is retained in the production Control Planner files for a period of three years following the close of the fiscal year in which the work was done. For the West Area, this office is located in building 272WA, room 8. For the EAST Area, this office is located in building 272AW, room 8.

The Maintenance Engineering Administration and Analysis (MEA&A) clerk issues the following monthly reports to assist management in administering and monitoring the PM program:

Building Summary Report (lists number of PM procedures completed, number overdue, and hours by craft).

Functional Summary Report (lists number of PM completed, number overdue, and hours by building).

Overdue Report (lists each PM, by building, that is overdue and the reason).

Completion Report (list of each PM completed, by craft).

10.2.5 PROCEDURES

WHC-CM-8-2, 200 Area Support Services, Section 501.0, "Index of Preventive Maintenance Procedures," provides an index of preventive maintenance procedures. The index is a list of all preventive maintenance procedures used in the 200 Area operating facilities. It is updated quarterly and is available by contacting the Procedure Coordinator, Maintenance Engineering Administration and Analysis. It is maintained and controlled in accordance with WHC-CM-8-2, 102.1, "Document Control."

10.2.6 REFERENCES

WHC-CM-8-2, 200 Area Support Services, Section 501.0, "Index of Preventive Maintenance Procedures"

10.3 CALIBRATION

10.3.1 PICCS

The Plant Instrumentation Calibration and Control System (PICCS) applies to tools, gauges, instruments, and other measuring and test equipment (M&TE) used in facilities operated by Defense Waste Management. The PICCS also applies to the M&TE designated as Group 1 by Calibration Control Authorities in other facilities in the 200 East and West Areas. The PICCS does not apply to chemical standards, radiological sources, and hand-held radiation survey instruments.

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PICCS consists of five subsections:

1. Labeling Requirement, as prescribed in Section 203.0 of WHC-CM-8-2.
2. The Plant Instrumentation Surveillance, Calibration and Evaluation System (PISCES), as prescribed in Section 204.0 of WHC-CM-8-2.
3. The Maintenance Instrumentation Calibration System (MICS), as prescribed in Section 205.0 of WHC-CM-8-2. This Section does not apply to M&TE which are permanently installed plant instrumentation.
4. Monthly recall of M&TE requiring periodic calibration/verification, as prescribed in Section 206.0 of WHC-CM-8-2.
5. Standardization of data elements pertaining to M&TE, as prescribed in Section 207.0 of WHC-CM-8-2.

Calibration Control Authorities (CCAs) identify, to Maintenance Engineering Administration and Analysis (MEA&A) the M&TE which fall within the scope of PICCS. CCAs determine the assignment of M&TE to groups, applications, and calibration types; specify calibration intervals and other calibration and verification requirements; and approve initial input and changes to calibration requirements in the PISCES and MICS databases.

The basis for determining who may be designated as a CCA is described in WHC-CM-8-2, 200 Area Support Services, Section 202.0, "Plant Instrumentation Calibration and Control System." This reference also specifies the instrument categories and groups which require calibration.

Calibration requirements, including range, accuracy, type of calibration and frequency of calibration, are included in the specification for procurement of new M&TE. All newly acquired items of M&TE are calibrated prior to initial use or installation.

M&TE are maintained at established intervals. This PM is scheduled for performance incidental to calibration.

The calibration status of each item of M&TE is provided by use of either a computer database file and/or with labels.

Where calibration status labels are used, labeling is as specified in Section 204.0 of WHC-CM-8-2.

Where computerized calibration status files are used, the database files is maintained in accordance with applicable computer configuration control requirements. Read-only computer database files for calibration status and hard-copies of the reports for the calibration status files are maintained and issued by MEA&A. Calibration status database files are maintained via either the Hanford Local Area Network or with local file servers according to equipment availability.

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10.3.2 PISCES

The procedure laid out in WHC-CM-8-2, 200 Area Support Services, Section 204.0, "Plant Instrumentation Surveillance, Calibration and Evaluation System" (PISCES) establishes a system to support the calibration and control of measuring and test equipment (M&TE). The program utilizes a computerized data base to document and forecast plant installed instrument and equipment calibrations and verifications. The data base contains codes which describe the type of calibration which is accomplished. These types are:

- o Overall Calibration
- o Limited Calibration
- o Functional Test
- o Precalibrated/Certified
- o Operability Check
- o Special Check

Note: For a detailed discussion of these calibration types refer to WHC-CM-8-2, Section 207.0. For the purposes of this document, it is important to point out that calibration procedures are not always required. Job cards issued for the performance of a job may be in themselves procedures. Depending on the calibration type, job cards can give all the necessary instructions for the performance of the job. The procedure listed on the job card or in the data base, in this case, may be simply informational.

10.3.2.1 RESPONSIBILITIES

Maintenance Engineering Administration and Analysis (MEA&A) provides overall management and administration of PISCES and is responsible for producing and distributing PISCES reports as required.

Plant Production Control Managers & Maintenance Managers ensure that job cards and reports are completed and submitted in a timely manner.

A computerized database is maintained with records applicable to the calibration and control of M&TE calibrated by plant personnel.

The database is updated at least monthly.

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10.3.2.2 REPORTS

PISCES generates the following types of reports:

Calibrated Scheduling Report #6 - Produced monthly; lists calibrations to be performed during the upcoming month.

Calibration Forecast Report #16 - Produced monthly; forecasts necessary man-hours.

Calibration Overdue Report #7 - Produced monthly; lists those items which were scheduled but for which MEA&A did not receive a completed PISCES Calibration Job Card. Items on this list for more than 3 months are included on a special report sent to level 3 and 4 managers.

Calibration Completion Report #8 - Produced monthly; lists calibrations completed during the previous month.

Calibration Completion Report for High Accuracy Instruments #8B - Produced monthly; lists High Accuracy Instruments that were calibrated the previous month.

Instrument Out of Tolerance Report #11.

Loop Number/Instrument Number Cross Reference Report #13 - Provides Instrument Number when Loop Number is known.

Instrument Number/Loop Number Cross Reference Report #15 - Provides Loop Number when Instrument Number is known.

Loop Number/Instrument Number Cross Reference Report, Application Code "A" - Provides Instrument Number of instruments having Safety or backup Safety Application when Loop Number is known.

Total Instrument Mini Inventory #20 - Lists data elements in the records of each item of M&TE coded for a specific facility. The purpose is to provide a means of determining the current information available in the PISCES database concerning items of M&TE.

Instrument Inventory by Calibration Type #10.

Instrument Inventory by Manufacturer for Active/Inactive Instruments #12.

Instrument Inventory by Calibration Status for Active/Inactive Instruments #14.

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10.3.2.3 DOCUMENTATION

The calibration job cards prescribed in Section 204.0 is the official record of the completion of calibration performed by Westinghouse personnel. Files are located at building 222B, room 13. Retention is for two years, (current year, plus preceding year) after-which the jobcards are transferred to long term storage. The long term storage location had not been determined at the time of document development.

10.3.2.4 PROCEDURES

The Manager, of Maintenance Engineering Administration & Analysis maintains a computerized, up-to-date index of calibration procedures. The index is updated quarterly and available by contacting the Procedure Coordinator, Maintenance Engineering Administration and Analysis.

10.3.2.5 REFERENCES

WHC-CM-8-2, 201.0, "Index of Calibration Procedures"

WHC-CM-8-2, 202.0, "Plant Instrumentation Calibration and Control"

WHC-CM-8-2, 200 Area Support Services, Section 204.0, "Plant Instrumentation Surveillance, Calibration and Evaluation System"

10.4 CASS

10.4.1 DESCRIPTION

The Computer Automated Surveillance System is established and maintained to provide continuous centralized surveillance of the Hanford underground waste storage tanks and their associated structures). This system includes several microprocessors located at various tank farm substations, a central microprocessor and minicomputer installed in Room B-107 of Building 2750-East, and the CASS Operation's terminals in Room B-105 of Building 2750-East. The terminals are manned at all times.

Microprocessors collect data generated by liquid level gauges, thermocouples, and a wide range of process and leak detection monitoring devices. Alarms such as high radiation, tank and exhauster pressures, high liquid level and weight factor, and those which report the failure of critical equipment items are monitored. Liquid levels are automatically monitored every hour. These are compared to baseline values and any out-of-limit conditions are immediately reported to operations personnel. Additional liquid levels are taken manually and entered into CASS from remote terminals. Thermocouples are monitored daily by the system to ensure that heat producing wastes do not reach a temperature that could jeopardize the integrity of the containment vessels.

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The central unit handles communications to and from the microprocessors; collects and compares data; and issues a variety of routine, out-of-limits, and alarm reports to the central and remote terminals.

Each field microprocessor continuously monitors its alarm sensors and a change in state of the alarm is reported immediately to the central operations microprocessor. The central microprocessor is responsible for handling all communications between stations. It also monitors for failures in the system. All alarm changes received by the central unit are transmitted immediately to the user terminals.

Routine reports with frequencies from hourly to weekly are generated on a scheduled basis and printed out of the remote terminals (for a complete list of these reports along with their associated frequencies refer to Appendix E of SD-WM-ADP-013, "CASS Users Manual"). In addition to the scheduled reports, operations personnel can request other, non-scheduled reports which describe the status of specific concern areas. Current temperatures, liquid levels and alarm status can be obtained at any time on a demand basis.

Generally, alarms are provided as an operation/process aide. They inform control people that an operational or surveillance limit has been exceeded or is about to be exceeded if no corrective action is taken. Corrective actions are identified in Standard/Plant Operating Procedures. Additionally, operators are trained on the operation and responses of the various facilities they operate.

If an alarm sounds, operators must take some action, whether corrective or operational. When limits are exceeded on purpose (e.g. start-up, shutdown, special operational mode, etc) and the alarm goes off, the operators must still respond.

In unmanned facilities; in standby, shutdown, or otherwise unmanned; alarms are still responded to when observed. Important alarms are transmitted to a manned facility. When they are received, an operator is immediately dispatched to investigate. When a facility is placed in standby or shutdown modes, unimportant or meaningless alarms are deactivated. Only the alarms that require a response remain active.

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10.4.2 REPORTS/ALARMS AND THE RESPONSE

Plant Operating Procedure TO-040-020 (Operating CASS Terminals) provides instructions for:

- o Inputting manual entries to the CASS System.
- o Checking the liquid level, alarm and out-of-limits reports.
- o Checking operational alarms and reporting out-of-limit conditions to supervision.

Standard Operating Procedure TO-040-025 (CASS Central Terminal) provides instructions for operating CASS, CASS emergency responses, and CASS routine duties.

Below is a partial listing of the reports/alarms generated by CASS and the response that is taken.

ALARM STATUS CHANGE

This is a real time alarm. It is a completely automatic report and there is no comparable user requested reports. The substation microcomputers continuously monitor the status of the alarms. It monitors both contact changes from open to closed and from closed to open. When the substation detects a change in the contact status, it reports the change to the host computer. The host computer checks to see if the alarm is operational, i.e. not in the defective list (see below). The host computer then outputs an alarm report.

The CASS operator notifies supervision of an alarm generated from the facility and initials the CASS terminal printout. The alarms are checked immediately at the point of annunciation. Response is as directed by supervision.

For a listing of the CASS alarms see Appendices I.

DAILY ALARM SUMMARY REPORT

This report is automatically generated daily or at users request. This report lists alarms whose status has changed during the previous 24 hours and alarms which are currently active.

The CASS operator reports to supervision that portion of the report which lists the alarms still active.

DEFECTIVE ALARM SUMMARY REPORT

This report is automatically generated daily or at users request. It lists all alarm that have been declared defective (Cass ignores alarms classified as defective). The date and time the alarm was declared defective is reported.

No response is required on this report.

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ROUTINE LIQUID LEVEL REPORTS

The CASS Computer is programmed to provide four routine printouts. Printouts are at frequencies specified in SD-WM-ADP-013, APPENDIX E. These reports list current liquid level measurements. CASS operator reviews the report within four hours of printout, comparing current values to established baseline (refer to SD-WM-TI-357). Discrepancies are reported to supervision. Explanations for discrepancies are recorded on the printout. Readings exceeding liquid level criteria are checked by an operator in the field.

Only the central operator receives the total report. Remote terminals at 242-A, 272-AW, 242-S and TGE receive data only for their respective areas.

Instrument failures occasionally occur. In such cases supervision ensures that the manual readings are obtained in the field at least once per shift.

LIQUID LEVEL ALARM REPORT

This report is generated every hour and contains the following messages:

- o Equipment failures.
- o Tanks whose liquid levels have increased or decreased more than their allowable limits.
- o Tanks whose liquid levels are above maximum or below minimum allowable levels.
- o All tanks that have an inoperative baseline.
- o Tanks whose liquid levels have increased enough to make contact with the suspended plummet in intrusion mode.
- o Tanks with intrusion mode plummet equipment failures.

The CASS operator reviews and initials this report. The operator reports any condition (listed on the report) which has not previously been reported to supervision.

200-EAST/200W TANK LIQUID LEVEL REPORT

These reports are printed out hourly (except at 0300, 0700, 1100, 1500, 2100 and 2300 hours) at the 242-A and 242-S terminals, respectively. The purpose of this report is to permit hourly surveillance of any set of selected tanks. The operator reviews and initials the data at the remote terminal.

TFO LIQUID LEVEL EXCEPTION REPORT

This report is generated on the hour at 242-S, 242-A, and at the CASS Central Facility. It reports any liquid levels that have exceeded the pre-established baseline. Supervision is notified of any discrepancies that have not been previously reported during the current shift.

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200-EAST/200-WEST TANK LIQUID LEVEL HISTORY REPORT

This report is made at 0300, 1100, and 2100 hours and provides a short historical summary of liquid levels of selected tanks. The 200-East and 200-West reports are printed at the 242-A and 242-S remote printers, respectively, and both are received at the CASS Central Facility.

These reports are reviewed and initialed when printed. Supervision is notified of any discrepancies that have not been previously reported during the current shift.

10.4.3 RECORDS

Reports generated at the Central Operations CASS Terminal are placed in boxes addressed for pickup at the beginning of the 8-4 shift by Tank Farm Surveillance Analysis & Support (TFSA&S) representatives. Data is recorded on data sheets (refer to Section 6.2.2.2).

10.4.4 REFERENCES

- CASS Users Manual (SD-WM-ADP-013)
- CASS Terminals Operating Procedures (TO-040-020)
- CASS Central Facility Operating Procedure (TO-040-025)

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10.5 CORRECTIVE ACTIONS

10.5.1 REQUIREMENTS

The requirements and responsibilities for the management of corrective actions to assure timely and effective resolution of adverse conditions are established in WHC-CM-1-3, Management Requirements and Procedures, MRP5.1 "Corrective Action Management System." Elements described within this procedure ensure management attention to open items and provide steps for preventing recurrence of the adverse condition.

WHC-CM-1-3, MRP5.14 is used to ensure that all events are reported and reviewed and actions are taken, as appropriate, to prevent recurrence, when these events adversely affect or potentially affect the health and safety of Westinghouse Hanford Company (WHC) employees, visitors, or the public; the environment; equipment or facilities; or programs.

10.5.2 DOCUMENTATION

The Quality Safety Trending System (QST) system is used as the central database to monitor and track the status of corrective actions. The system is administered by Quality Safety Data Management (QSDM). Each department/division representative shall enter data directly to the QST system per desk instructions provided in the QST User's Manual.

Line organizations are responsible for identification and completion of corrective actions as described in policy WHC-CM-1-3, MRP 5.14, "Event, Critique, and Unusual Occurrence Reporting." QSDM provides data input, line organizations provide update information, and oversight organizations provide verifications of corrective action, per requirements of the MRP.

10.5.3 REFERENCE

WHC-CM-1-3, Management Requirements and Procedures, MRP 5.1 "Corrective Action Management System."

WHC-CM-1-3, MRP 5.14, "Event, Critique, and Unusual Occurrence Reporting."

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APPENDIX I: CASS ALARM MATRIX

TABLE 1: AN FARM CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-AN-101 through 241-AN-107 Double Shell Tanks	1) Tank Liquid Level-HIGH 2) Annulus -LEAK 3) Annulus Exhaust -RADIATION HIGH or DETECTOR FAILURE 4) Leak Detection Pit -RADIATION HIGH or DETECTOR FAILURE -WT. FACTOR HIGH 5) Tank Pressure -LOW -HIGH	Yes	Twice per Shift
241-AN-A 241-AN-B	1) Valve Pits -LEAK	No	N/A
241-AN-01D	1) Condensate Reciever Pit -LEAK	No	N/A
241-AN-01E	1) Saltwell Reciever Pit -LEAK	No	N/A
Misc. AN Tank Farm	1) Vessel Exhaust Fan -RADIATION HIGH or DETECTOR FAILURE 2) Exhaust Fan K1-5-1 -FAILURE 3) Exhaust Fan K2-5-1 -FAILURE 4) Annulus Exhaust Fan-RADIATION HIGH or DETECTOR FAILURE 5) Annulus Pump Pits -LEAK 6) Leak Detection Pits -LEAK 7) Process Pits Common Alarm -LEAK 8) Process Pits -LEAK 9) Flush Pits -LEAK 10) Service Pit -RADIATION HIGH or DETECTOR FAILURE -LEAK 11) Clean Out Boxes -LEAK 12) COB Common Alarm -LEAK 13) Drain Encasement Line 368 -LEAK 14) SN Encasement Lines -LEAK	N/A N/A N/A N/A No No No No No No No No N/A N/A N/A N/A	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

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TABLE 2: AP FARM CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-AP-101 through 241-AP-108 Double Shell Tanks	1) Liquid Level -HIGH 2) Annulus Leak Detector -LEAK 3) Annulus Exhaust -HIGH RADIATION DETECTED -RADIATION MONITOR SYSTEM FAILURE 4) Annulus Vent Duct -RADIATION MONITOR FLOW LOW 5) Tank Pressure -HIGH -LOW	Yes	Twice Per Shift
241-AP-103 DST	1) Leak Detection Pit -HIGH RADIATION DETECTED -RADIATION MONITOR FAILURE -HIGH WEIGHT FACTOR 2) Drain Pit -LEAK DETECTED -LEAK DETECTOR FAILURE	Yes	Twice Per Shift
241-AP-105 DST	1) Leak Detection Pit -HIGH RADIATION DETECTED -RADIATION MONITOR FAILURE -HIGH WEIGHT FACTOR	Yes	Twice Per Shift
241-AP-271 Building	1) Building Radiation Monitor System -FLOW LOW -FAILURE -HIGH RADIATION DETECTED	N/A	N/A
Misc. AP Farm	1) HVAC Alarm Panel -POWER OFF 2) Alarm Panels 101 through 108-PWR OFF 3) Annulus Exhaust Fans -NOT OPERATING 4) K-2 Annulus Exhaust Stack -FLOW LOW -RADIATION MONITOR FLOW LOW -HIGH RADIATION DETECTED -RADIATION MONITOR SYSTEM FAILURE -RECORD MONITOR FLOW LOW 5) K-2 Annulus Exhaust System -HEATER FAILURE 6) Leak Detection Pump Pits -LEAK DETECTED -LEAK DETECTORS FAILURE -SUMP LEVEL HIGH 7) Annulus Pump Pits -LEAK DETECTED -LEAK DETECTORS FAILURE	N/A N/A N/A N/A N/A No No	N/A N/A N/A N/A N/A N/A N/A

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TABLE 2: AP FARM CASS ALARMS (Cont)

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
Misc. AP Tank Farm (cont)	8) Annulus Pump Pit Sumps -HIGH LEVEL	No	N/A
	9) Area Radiation Monitors -HIGH RADIATION DETECTED -SYSTEM FAILURE	N/A	N/A
	10) Central Pump Pits -LEAK DETECTED -LEAK DETECTORS FAILURE	No	N/A
	11) Valve Pit -LEAK DETECTED	No	N/A
	12) Flush Pit Sump -LEVEL LOW	No	N/A
	13) Flush Pit -LEAK DETECTED	No	N/A
	14) Service Pit Sump -LEVEL LOW	No	N/A
	15) Service Pit -RADIATION HIGH -RADIATION MONITOR SYSTEM FAILURE -LEAK DETECTED	No	N/A
	16) Grout Pump Pit 02D -LEAK DETECTED -LEAK DETECTOR FAILURE	No	N/A
	17) SL509/SL510 Encasement Line -LEAK DETECTED -LEAK DETECTOR FAILURE	N/A	N/A
	18) SN609/SN610 Encasement Line -LEAK DETECTED -LEAK DETECTOR FAILURE	N/A	N/A
	19) Auxillary Alarm Panel -POWER OFF	N/A	N/A
	20) Primary Exhaust Fans -NOT OPERATING	N/A	N/A
	21) K-1 Primary Exhaust Stack -FLOW LOW -HIGH RADIATION DETECTED -RADIATION MONITOR SYSTEM FAILURE -RADIATION MONITOR FLOW LOW -RECORD MONITOR FLOW LOW	N/A	N/A
	22) K-1 Primary Exhaust System -HEATER FAILURE	N/A	N/A

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TABLE 4: AY FARM CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-AY-101 & 241-AY-102 Double Shell Tanks	1) -LEVEL HIGH 2) -FIC IN MANUAL RISE MODE 3) Annulus Leak Detector -LEAK 4) Annulus Vent -RADIATION HIGH 5) Annulus Vent System -FAILURE 6) Leak Detection Pit -LEAK -RADIATION HIGH -LEVEL HIGH 7) Air Circulators -LOW FLOW 8) Pressure -HIGH -LOW	Yes	Twice Per Shift
241-AY-101 DST only	1) Encasement Leak Detection Pit -LEAK	Yes	Twice Per Shift
241-AY-102 DST only	1) Sluicing Transfer Boxes -LEAK	Yes	Twice Per Shift
241-AY-501	1) Valve Pit -LEAK 2) Condensate Valve Pits -LEAK	No No	N/A N/A
241-AY-151	1) Diverter Station -LEAK 2) Pump Out Pits -LEAK	No No	N/A N/A
Misc. AY Tank Farm	1) -AREA RADIATION HIGH 2) Leak Detection Pits -LEAK 3) Annulus Pump Pits -LEAK 4) Pump Pits -LEAK 5) Sluice Pits -LEAK	N/A No No No No	N/A N/A N/A N/A N/A

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TABLE 5: AZ FARM CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-AZ-101 & 241-AZ-102 Double Shell Tanks	1) Liquid Level -HIGH 2) -FIC IN MANUAL MODE 3) Annulus Leak Detector -LEAK 4) Annulus Vent -RADIATION HIGH 5) Leak Detection Pit -LEAK -WT. FACTOR HIGH 6) Encasement Leak Detector -LEAK 7) Encasement Leak Detector Pit -RADIATION HIGH -WT. FACTOR HIGH 8) Air Circulator -LOW FLOW 9) Pressure -HIGH	Yes	Twice Per Shift
241-AZ-101 DST only	1) Annulus Exhaust -FAILURE	Yes	Twice Per Shift
241-AZ-102 DST only	1) Leak Detection Pit -RADIATION HIGH 2) Pump Pit 02A Leak Detector -LEAK	Yes	Twice Per Shift
241-AZ-151 Catch Tank	1) Condensate Reciever -LEAK 2) Diverter Catch Station -LEAK 3) Tank Leak Detector -LEAK -WT. FACTOR HIGH	Yes	Twice Per Shift
241-AZ-152 Diverter Box	1) Sluicing Transfer Boxes -LEAK	No	N/A
241-AZ-153	1) Condensate Valve Pits -LEAK	No	N/A
241-AZ-154	1) Condensate Reciever -LEVEL HIGH	Yes	Daily
241-AZ-161	1) Check Valve Caisson -RADIATION HIGH	No	N/A
241-AZ-162	1) Check Valve Caisson -RADIATION HIGH	No	N/A
Misc. AZ Tank Farm	1) Annulus Pump Pits -LEAK 2) Annulus Pump Pit Leak Detector -LEAK 3) Leak Detection Pits -LEAK 4) Pump Pits -LEAK 5) Sluice Pits -LEAK 6) -FILL PW LINES 4507	No No No No No N/A	N/A N/A N/A N/A N/A N/A

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TABLE 6: SY FARM CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-SY-101 241-SY-102 241-SY-103 Double Shell Tanks	1) Annulus -LEAK -LEAK LEVEL 2) Annulus Exhaust -RADIATION HIGH 3) Annulus Sample Pump -FAILURE 4) Leak Detection Pit -RADIATION HIGH -WT. FACTOR HIGH 5) Tank Pressure -HIGH -LOW	Yes	Twice Per Shift
Misc. SY Tank Farm	1) Alarm Panel Power -OFF 2) Instrument Building -RADIATION HIGH 3) Annulus Exhaust -RADIATION HIGH (Fans Shutdown) 4) Annulus Exhauster -FLOW LOW -TROUBLE 5) Area Radiation Monitor -RADIATION HIGH or DETECTOR FAILURE 6) Pump Pits -LEAK 7) Service Pit -RADIATION HIGH -MONITOR FAILURE 8) Vessel Exhaust -RADIATION HIGH (Fans Shutdown) 9) Tanks Pressure -LOW 10) Valve Pits -LEAK 11) Clean Out Boxes -LEAK	N/A N/A N/A N/A N/A No No N/A N/A No No	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
241-SY-B Valve Pit	1) Valve Pit Limit Switch OR Flush Pit Pressure Switch -ACTIVATED	N/A N/A	N/A N/A

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TABLE 7: DOUBLE CONTAINED RECEIVER TANK CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
A-244 DCRT	1) Tank -WT. FACTOR HIGH 2) Annulus -RADIATION HIGH -WT. FACTOR HIGH 3) Exhaust Stack -RADIATION HIGH 4) Exhaust Fan or Sample Pump -FAILURE 5) Pit -LEAK 6) Service Pit -RADIATION HIGH 7) Filter Differential Pressure -HIGH -LOW 8) Flush Pit -HIGH PRESSURE 9) Encasement Line V-229 -LEAK 10) Encasement Line V-232 -LEAK 11) Encasement Line V-233 -LEAK	No	N/A
S-244 DCRT	1) Catch Tank Wt. Factor -LOW -HIGH 2) Sump Wt. Factor -HIGH 3) Annulus -RADIATION HIGH -RADIATION MONITOR FAILURE 4) Exhaust Stack -ALPHA RADIATION HIGH -ALPHA MONITOR FAILURE -BETA/GAMMA RADIATION HIGH -BETA/GAMMA MONITOR FAILURE 5) Pump Pit Drain Trap -HIGH LEVEL -LEVEL LOW 6) Flush Pit -PRESSURE HIGH 7) Heater K1-4-2 -OVER TEMPERATURE 8) HEPA Filters Pressure Drop -HIGH -LOW 9) Encasement Line V-456 -LEAK 10) Encasement Line V-522 -LEAK 11) Encasement Line V-560 -LEAK 12) Encasement Line V-561 -LEAK 13) Encasement Line V-562 -LEAK	No	N/A

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TABLE 7: DOUBLE CONTAINED RECEIVER TANK CASS ALARMS (Cont)

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
TX-244 DCRT	1) Reciever Tank -LEVEL HIGH 2) Sump Pit -LEAK 3) Annulus -RADIATION HIGH -MONITOR FAILURE 4) Alpha Stack Monitor -RADIATION HIGH -MONITOR FAILURE 5) Reciever Tank Neutron Monitor -RADIATION HIGH -MONITOR FAILURE 6) Exhaust Stack -RADIATION HIGH -MONITOR FAILURE 7) Exhaust Fan -SHUTDOWN 8) Leak Detection, XFER Line, Pump, Flush, Instrument, & Filter Pits -LEAK	No	N/A

9 2 1 2 5 7 4 0 3 1 9

TABLE 8: MISCELLANEOUS CASS ALARMS

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-A-401 Diverter Caisson	1) Condenser Cooling Water -RADIATION MONITOR SYSTEM FAILURE -HIGH RADIATION -LOW SAMPLE FLOW	No	N/A
241-A-417 Condensate Catch Tank	1) -WT. FACTOR HIGH	No	N/A
241-A-302A Catch Tank	1) Alarm Panel Power -OFF 2) Leak Detection -PUMP PIT LEAK	Yes	Twice Per Shift
241-A-350 Drainage Lift Station	1) Lift Station -HIGH LEVEL (LA-350-2) 2) PW 481 Process Waste Line -LEAK 3) Leak Detector -LEAK (A-350-2)	No N/A No	N/A N/A N/A
A08	1) Steam Condensate Monitor -FAILURE -LOW SAMPLE FLOW 2) Steam Condensate -HIGH RADIATION	N/A	N/A
241-AX-152 Diverter Station	1) Diverter Level -HIGH 2) Diverter Station -LEAK 3) Transfer Box -LEAK	No	N/A
F-505 Diverter Caisson	1) Steam Condensate -HIGH RADIATION	No	N/A
241-702-A	1) Fan Inlet -VACUUM LOW 2) -LOSS OF SEAL 3) Instrument Air -PRESSURE LOW 4) Stack -RADIATION HIGH 5) Stack Monitor -FAILURE 6) Isolation Valve Pit -LEAK DETECTED	No	N/A
AX Valve Pit Seal Pot	1) Seal Pot Level -HIGH -LOW 2) Seal System -FAILURE	No	N/A

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TABLE 8: MISCELLANEOUS CASS ALARMS (Cont)

FACILITY	CASS ALARM TYPE	LIQUID LEVEL MONITORED (Y/N)	FREQ
241-ER-311	1) Alarm Panel Power -OFF 2) Compressor Air Pressure -LOW 3) Leak Detection -PUMP PIT LEAK	Yes	Twice Per Shift
241-S-151	1) Leak Detection -PUMP PIT or DIVERSION BOX -LEAK	No	N/A
241-S-302	1) Alarm Panel Power -OFF 2) Compressed Air Pressure -LOW 3) Leak Detection -PUMP PIT or DIVERSION BOX	No	N/A
241-S-302A	1) Alarm Panel Power -OFF 2) Leak Detection -PUMP PIT or	Yes	Twice Per Shift
241-TX-154	1) Leak Detection -PUMP PIT or DIVERSION BOX	No	N/A
241-TX-302C	1) Alarm Panel Power -OFF 2) Compressor Air Pressure -LOW 3) Leak Detection -PUMP PIT or DIVERSION BOX	Yes	Twice Per Shift
241-U-151	1) Diversion Box -LEAK	No	N/A
241-U-152	1) Diversion Box -LEAK	No	N/A
241-U-301B	1) Alarm Panel Power -OFF 2) Leak Detection -PUMP PIT LEAK	Yes	Twice Per
241-UX-154	1) Diversion Box -LEAK	No	Shift N/A
241-EW-151 Vent Station	1) Area Radiation Monitor -RADIATION HIGH 2) Catch Tank -HIGH LIQUID LEVEL or INSTRUMENT FAILURE 3) Catch Tank Floor -LEAK DETECTOR or INSTRUMENT FAILURE 4) -INSTRUMENT FAILURE 5) Jumper Pit -LEAK DETECTION or INSTRUMENT FAILURE	Yes	Daily

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APPENDIX II: DOUBLE SHELL TANK INSTRUMENTS

TABLE AN.1.0: TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE 1011 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN011 1
LIT 101AN	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN011 2
LE 1021 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN143 1
LIT 102AN	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN143 2
LE 1031 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN165 1
LIT 103AN	PSCP-7-023 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN165 2
LE 1041 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN065 1
LIT 104AN	PSCP-7-023 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN065 2
LE 1051 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN179 1
LIT 105AN	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN179 2

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TABLE AN.1.0: TANK LIQUID LEVEL DETECTION (Continued)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE 1061 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN200 1
LIT 106AN	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN200 2
LE 1071 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AN219 1
LIT 107AN	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AN219 2

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TABLE AN.1.1: TANK HIGH LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	101	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN013 3
LAK	101	1	N/A FUNCTIONAL TEST 7-GN-42	06M	SAFETY	AN013 2
LE	1012	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN013 1
LA	102	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN145 3
LAK	102	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN145 2
LE	1022	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN145 1
LA	103	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN167 3
LAK	103	1	N/A FUNCTIONAL TEST 7-GN-42	06M	SAFETY	AN167 2
LE	1032	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN167 1
LA	104	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN067 3

9 2 1 2 5 7 4 0 3 2 4

TABLE AN.1.1: TANK HIGH LIQUID LEVEL DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LAK	104	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN067 2
LE	1042	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN067 1
LA	105	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN183 3
LAK	105	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN183 2
LE	1052	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN183 1
LA	106	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN205 3
LAK	106	1	N/A FUNCTIONAL TEST 7-GN-42	06M	SAFETY	AN205 2
LE	1062	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN205 1
LA	107	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN221 3
LAK	107	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AN221 2
LE	1072	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AN221 1

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1012	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN016 1
LDI	101	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN016 2
LDK	101	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN016 4
LDE	1013	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN017 1
LDI	101	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN017 2
LDK	101	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN017 4
LDE	1014	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN018 1
LDI	101	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN018 2
LDK	101	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN018 4
LDA	101	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN019 1

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1022	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN152 1
LDI	102	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN152 2
LDK	102	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN152 4
LDE	1023	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN153 1
LDI	102	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN153 2
LDK	102	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN153 4
LDA	102	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN154 A
LDE	1024	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN154 1
LDI	102	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN154 2
LDK	102	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN154 4

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1032	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN170 1
LDI	103	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN170 2
LDK	103	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN170 4
LDE	1033	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN171 1
LDI	103	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN171 2
LDK	103	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN171 4
LDE	1034	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN172 1
LDI	103	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN172 2
LDK	103	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN172 4
LDA	103	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN173 1

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1042	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN073 1
LDI	104	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN073 2
LDK	104	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN073 4
LDE	1043	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN074 1
LDI	104	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN074 2
LDK	104	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN074 4
LDE	1044	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN075 1
LDI	104	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN075 2
LDK	104	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN075 4
LDA	104	1	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AN076 1

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1052	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN189 1
LDI	105	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN189 2
LDK	105	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN189 4
LDE	1053	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN190 1
LDI	105	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN190 2
LDK	105	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN190 4
LDE	1054	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN191 1
LDI	105	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN191 2
LDK	105	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN191 4
LDA	105	1	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AN192 1

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TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1062	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN208 1
LDI	106	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN208 2
LDK	106	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN208 4
LDE	1063	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN209 1
LDI	106	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN209 2
LDK	106	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN209 4
LDE	1064	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN210 1
LDI	106	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN210 2
LDK	106	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN210 4
LDA	106	1	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AN211 1

9 2 1 2 5 7 4 0 3 3 1

TABLE AN.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1072	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN227 1
LDI	107	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN227 2
LDK	107	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN227 4
LDE	1073	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN228 1
LDI	107	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN228 2
LDK	107	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN228 4
LDE	1074	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AN229 1
LDI	107	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN229 2
LDK	107	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN229 4
LDA	107	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AN230 1

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TABLE AN.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	EXH	101 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN040 2
RA	EXH	101 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN040 3
RR		101	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN040 4
RA	EXH	102 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN042 3
RA	EXH	102 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN042 4
RR		102	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN042 2
RA	EXH	103 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN041 3
RA	EXH	103 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN041 4
RR		103	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN041 2

9 2 1 2 5 7 4 0 3 3 3

TABLE AN.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	EXH	10401	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN285 2
RA	EXH	10402	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN285 3
RR		104	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN285 1
RA	EXH	10501	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN286 2
RA	EXH	10502	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN286 3
RR		105	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN286 1
RA	EXH	10601	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN045 3
RA	EXH	10602	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN045 4
RR		106	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN045 2
RA	EXH	10701	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN367 2
RA	EXH	10702	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AN367 3
RR		107	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	12M	OSR	AN367 1

9 2 1 2 5 7 4 0 3 3 4

TABLE AN.2.2: TANK ANNULUS SYSTEM EXHAUST FANS

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
K2	5	1	NONE 2E23001 2E23002	1M 12M	OSR	NONE
K2	5	2	NONE 2E23001 2E23002	1M 12M	OSR	NONE

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TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	01C	1	PSCP-3-071 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 5
LCA	01C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 4
PAD	01C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 3
PWR	01C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 2
RA	01C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 7
RA	01C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN051 8
RE	01C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN051 1
RIAS	01C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN051 6

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TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	02C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 5
LCA	02C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 4
PAD	02C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 3
PWR	02C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 2
RA	02C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 7
RA	02C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN052 8
RE	02C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN052 1
RIAS	02C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN052 6

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TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	03C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN053 5
LCA	03C	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AN053 4
PAD	03C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN053 3
PWR	03C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN053 2
RA	03C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN053 7
RA	03C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN053 8
RE	03C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN053 1
RIAS	03C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN053 6

9 2 1 2 15 7 4 0 3 3 8

TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	04C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN054 5
LCA	04C	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AN054 4
PAD	04C	1	PSCP-3-051 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN054 3
PWR	04C		N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN054 2
RA	04C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN054 7
RA	04C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN054 8
RE	04C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN054 1
RIAS	04C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN054 6

9 2 1 2 5 7 4 0 3 3 9

TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	05C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN055 5
LCA	05C	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AN055 4
PAD	05C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN055 3
PWR	05C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN055 2
RA	05C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN055 7
RA	05C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN055 8
RE	05C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN055 1
RIAS	05C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN055 6

9 2 1 2 5 7 4 0 3 4 0

TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	06C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN056 5
LCA	06C	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AN056 4
PAD	06C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN056 3
PWR	06C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN056 2
RA	06C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN056 7
RA	06C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN056 8
RE	06C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN056 1
RIAS	06C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN056 6

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TABLE AN.3.0: LEAK DETECTION PIT RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	07C	1	PSCP-3-015 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN057 5
LCA	07C	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AN057 4
PAD	07C	1	PSCP-3-051 SPECIAL CHECK 7-GN-38	01M	SAFETY	AN057 3
PWR	07C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN057 2
RA	07C	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN057 7
RA	07C	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN057 8
RE	07C	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN057 1
RIAS	07C	1	PSCP-4-012 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN057 6

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TABLE AN.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	01A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN012 3
LDE	01A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN012 1
LDK	01A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN012 2
LDA	02A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN144 3
LDE	02A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN144 1
LDK	02A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN144 2
LDA	03A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN166 3
LDE	03A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN166 1
LDK	03A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN166 2
LDA	04A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN066 3
LDE	04A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN066 1
LDK	04A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN066 2

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TABLE AN.4.0: CENTRAL PUMP PIT LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	05A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN182 3
LDE	05A	1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN182 1
LDK	05A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN182 2
LDA	06A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN204 4
LDE	06A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN204 1
LDK	06A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN204 2
LDA	07A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN220 3
LDE	07A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN220 1
LDK	07A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN220 2

9 2 1 2 5 7 4 0 3 4 4

TABLE AN.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	L 241AN	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN046 2
RE	241AN	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN046 1
RIAS	241AN	1	PSCP-6-011 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN046 3
RR	241AN	1	PSCP-4-013 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AN046 4
RA	241AN	1 1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN047 1
RA	241AN	1 2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN047 2
RA	L 241AN	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN048 2
RE	241AN	2	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN048 1
RIAS	241AN	2	PSCP-6-011 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN048 3

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TABLE AN.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	L 241AN	3	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN049 2
RE	241AN	3	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN049 1
RIAS	241AN	3	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN049 3
RA	L 241AN	4	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AN050 2
RE	241AN	4	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AN050 1
RIAS	241AN	4	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AN050 3
RR	241AN	4	PSCP-4-013 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AN050 4

9 2 1 2 5 7 4 0 3 4 6

TABLE AN.6.6: CONDENSATE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 01D	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN037 5
LDE 01DSYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN037 1
LDK 01D 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN037 4
LDK 01D 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN037 3

TABLE AN.6.7: SUPERNATE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 01E	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN034 5
LDA 01E/0 1D	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN034 6
LDE 01ESYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN034 1
LDK 01E 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN034 4
LDK 01E 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN034 3

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TABLE AN.7.0: CLEANOUT BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA COB AN 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN079 3
LDE COB AN 1 SYS	N/A PRECALIBRATED 7-GN-42	02M	OSR	AN079 1
LDK COB AN 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN079 2
LDA COB AN 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN080 3
LDE COB AN 2 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN080 1
LDK COB AN 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN080 2
LDA COB AN 3	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN081 3
LDE COB AN 3 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN081 1
LDK COB AN 3	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN081 2
LDA COB AN 4	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN082 3
LDE COB AN 4 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN082 1
LDK COB AN 4	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN082 2

9 2 1 2 5 7 4 0 3 4 0

TABLE AN.7.0: CLEANOUT BOX LEAK DETECTION (Continued)

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	COB	AN	5	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN083 3
LDE	COB	AN	5 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN083 1
LDK	COB	AN	5	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN083 2
LDA	COB	AN	6	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN084 3
LDE	COB	AN	6 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN084 1
LDK	COB	AN	6	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN084 2
LDA	COB	AN	7	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN085 3
LDE	COB	AN	7 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN085 1
LDK	COB	AN	7	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN085 2
LDA	COB	AN	8	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	AN044 3
LDA	COB	AN	9	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	AN043 3

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TABLE AN.7.1: DRAIN LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 241ANDR 36 8	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN024 3
LDE 241ANDR368SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN024 1
LDK 241ANDR 36 8	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN024 2

TABLE AN.7.4: SLURRY LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 241ANSL 16 0	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN025 3
LDE 241ANSL160SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN025 1
LDK 241ANSL 16 0	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN025 2
LDA 241ANSL 168	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN026 3
LDE 241ANSL168SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN026 1
LDK 241ANSL 16 8	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN026 2

9 2 1 2 5 7 4 0 3 5 0

TABLE AN.7.5: SUPERNATE LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 241ANSN 260	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN027 3
LDE 241ANSN260SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN027 1
LDK 241ANSN 260	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN027 2
LDA 241ANSN 268	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN028 3
LDE 241ANSN268SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN028 1
LDK 241ANSN 268	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN028 2

9 2 1 2 5 7 4 0 3 5

TABLE AP.1.0: TANK LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE	101	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP102 1
LIT	101	1	N/A FUNCTIONAL TEST 6-TF-27	3M	OSR	AP102 2
LE	102	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP103 1
LIT	102	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP103 2
LE	103	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP104 1
LIT	103	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP104 2
LE	104	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP105 1
LIT	104	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP105 2
LE	105	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP106 1
LIT	105	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP106 2
LE	106	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP107 1
LIT	106	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP107 2

9 2 11 2 6 7 4 0 3 1 5 2

TABLE AP.1.0: TANK LIQUID LEVEL DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE	107	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP108 1
LIT	107	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP108 2
LE	108	1	N/A PRECALIBRATED 7-GN-42	03M	OSR	AP109 1
LIT	108	1	N/A FUNCTIONAL TEST 6-TF-27	03M	OSR	AP109 2

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TABLE AP.1.1: TANK HIGH LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	101	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP110 2
LE	101	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP110 1
LXA	101	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP110 3
LA	102	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP111 2
LE	102	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP111 1
LXA	102	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP111 3
LA	103	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP112 2
LE	103	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP112 1
LXA	103	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP112 3

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TABLE AP.1.1: TANK HIGH LIQUID LEVEL DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	104	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP113 2
LE	104	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP113 1
LXA	104	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP113 3
LA	105	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP114 2
LE	105	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP114 1
LXA	105	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AP114 3
LA	106	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP115 2
LE	106	2	7-GN-42 OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP115 1
LXA	106	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP115 3

9 2 1 1 2 5 7 4 0 3 5 5

TABLE AP.1.1: TANK HIGH LIQUID LEVEL DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	107	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP116 2
LE	107	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP116 1
LXA	107	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AP116 3
LA	108	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP117 2
LE	108	2	N/A OPERABILITY CHECK 7-GN-42	06M	SAFETY	AP117 1
LXA	108	1	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	AP117 3

9 2 1 2 5 7 4 0 3 5 6

TABLE AP.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	-1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP125 4
LDE	101	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP125 1
LDE	101	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP126 1
LDE	101	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP127 1
LDI	101	2	N/A 4 7-GN-42	01M	OSR	AP125 2
LDI	101	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP126 2
LDI	101	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP127 2
LDA	102	-1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP128 4
LDE	102	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP128 1
LDE	102	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP129 1
LDE	102	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP130 1

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TABLE AP.2.0: TANK ANNULUS LEAK DETECTION (Continued)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDI	102	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP128 2
LDI	102	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP129 2
LDI	102	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP130 2
LDA	103	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP131 4
LDE	103	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP131 1
LDE	103	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP132 1
LDE	103	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP133 1
LDI	103	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP131 2
LDI	103	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP132 2
LDI	103	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP133 2

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TABLE AP.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	104	-1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP134 4
LDE	104	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP134 1
LDE	104	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP135 1
LDE	104	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP136 1
LDI	104	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP134 2
LDI	104	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP135 2
LDI	104	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP136 2
LDA	105	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP138 4
LDE	105	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP137 1
LDE	105	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP138 1
LDE	105	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP139 1

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TABLE AP.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDI	105	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP137 2
LDI	105	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP138 2
LDI	105	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP139 2
LDA	106	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP140 4
LDE	106	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP140 1
LDE	106	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP141 1
LDE	106	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP142 1
LDI	106	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP140 2
LDI	106	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP141 2
LDI	106	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP142 2

9 2 1 2 5 7 4 0 3 6 0

TABLE AP.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	107	-1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP143 4
LDE	107	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP143 1
LDE	107	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP144 1
LDE	107	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP145 1
LDI	107	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP143 2
LDI	107	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP144 2
LDI	107	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP145 2
LDA	108	-1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP146 4
LDE	108	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP146 1
LDE	108	3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP147 1
LDE	108	4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP148 1

9 2 1 2 5 7 4 0 3 6 1

TABLE AP.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDI	108	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP146 2
LDI	108	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP147 2
LDI	108	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP148 2

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TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT	101AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP015 2
RA	101AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP015 7
RA	101AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP015 6
RA	101AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP015 4
RA	101AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP015 5
RR	101AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP015 3
RXA	101AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP015 8
RXA	101AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP015 9
CVT	102AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP016 2
RA	102AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP016 7
RA	102AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP016 6

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TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	102AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP016 4
RA	102AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP016 5
RR	102AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP016 3
RXA	102AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP016 8
RXA	102AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP016 9
CVT	103AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP017 2
RA	103AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP017 7
RA	103AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP017 6
RA	103AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP017 4
RA	103AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP017 5

9 2 1 2 5 7 4 0 3 6 4

TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	103AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP017 3
RXA	103AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP017 8
RXA	103AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP017 9
CVT	104AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP018 2
RA	104AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP018 7
RA	104AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP018 6
RA	104AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP018 4
RA	104AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP018 5
RR	104AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP018 3
RXA	104AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP018 8
RXA	104AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP018 9

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TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT	105AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP019 2
RA	105AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP019 7
RA	105AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP019 6
RA	105AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP019 4
RA	105AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP019 5
RR	105AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP019 3
RXA	105AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP019 8
RXA	105AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP019 9
CVT	106AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP020 2
RA	106AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP020 7
RA	106AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP020 6

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TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	106AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP020 4
RA	106AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP020 5
RR	106AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP020 3
RXA	106AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP020 8
RXA	106AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP020 9
CVT	107AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP021 2
RA	107AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP021 7
RA	107AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP021 6
RA	107AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP021 4
RA	107AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP021 5

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TABLE AP.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	107AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP021 3
RXA	107AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP021 8
RXA	107AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP021 9
CVT	108AP	1	PSCP-1-032 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP022 2
RA	108AP	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP022 7
RA	108AP	2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP022 6
RA	108AP	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP022 4
RA	108AP	4	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP022 5
RR	108AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	OSR	AP022 3
RXA	108AP	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP022 8
RXA	108AP	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP022 9

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TABLE AP.2.2: TANK ANNULUS SYSTEM EXHAUST FANS

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
K2	5	1	2E23001 2E23002	1M 12M	OSR	NONE
K2	5	2	2E23001 2E23002	1M 12M	OSR	NONE
SDA	K2	5 1 2	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	AP067 6
SDA	K2	5 1 1	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	AP067 4

TABLE AP.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	3C	1	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP033 9
PAD	03C	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP033 3
RA	3C	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP033 6
RA	3C	2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP033 5
RE	3C	1	N/A 14641 PRECALIBRATED 7-GN-38	06M	SAFETY	AP033 1

9 2 1 2 5 7 4 0 3 6 9

TABLE AP.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RIAS 3C 1	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	OSR	AP033 4
RXA 3C 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP033 7
RXA 3C 2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP033 8
CRM 5C 1	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP041 9
PAD 05C 1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP041 3
RA 5C 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP041 6
RA 5C 2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP041 5
RE 5C 1	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	AP041 1
RIAS 5C 1	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	OSR	AP041 4
RXA 5C 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP041 7
RXA 5C 2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP041 8

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TABLE AP.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA A 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP250 1
LDA A 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AP250 2
LDXA A 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AP251 1
LDE 01A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP153 1
LDE 02A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP156 1
LDE 03A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP159 1
LDE 04A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP165 1
LDE 05A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP168 1
LDE 06A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP173 1
LDE 07A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP176 1
LDE 08A 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP179 1

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TABLE AP.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	AP	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP406 1
RA	AP	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP406 2
RA	L	AP 1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP400 3
RA	L	AP 2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP401 3
RA	L	AP 3	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP402 3
RA	L	AP 4	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP403 3
RA	L	AP 5	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP404 3
RA	L	AP 6	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP405 3
RAT	47		N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AP407 3
RE	AP	1	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP400 1
RE	AP	2	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP401 1

9 2 1 2 5 7 4 0 3 7 2

TABLE AP.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RE	AP	3	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP402 1
RE	AP	4	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP403 1
RE	AP	5	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP404 1
RE	AP	6	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	AP405 1
RIAS	AP	1	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP400 2
RIAS	AP	2	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP401 2
RIAS	AP	3	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP402 2
RIAS	AP	4	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP403 2
RIAS	AP	5	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP404 2
RIAS	AP	6	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AP405 2
RR	AP	1	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP400 4

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TABLE AP.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	AP	2	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP401 4
RR	AP	3	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP402 4
RR	AP	4	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP403 4
RR	AP	5	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP404 4
RR	AP	6	PSCP-4-116 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AP405 4
RXA	AP	1	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP406 3
RXA	AP	2	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	AP406 4

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TABLE AP.6.8: DRAIN PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	03D	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP162 2
LDA	03D	2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP162 3
LDE	03D	1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP162 1
LDXA	03D	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP162 4

9 2 1 2 5 7 4 0 3 7 5

TABLE AP.7.3: PROCESS LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 509	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP149 1
LDA 509/ 510 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP149 2
LDA 509/ 510 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP149 3
LDXA 509/ 510 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP149 4
LDE 510	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP150 1
LDE 609	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP151 1
LDA 609/ 610 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP151 2
LDA 609/ 610 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP151 3
LDXA 609/ 610 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP151 4
LDE 610	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP152 1

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TABLE AP.7.3: PROCESS LINE LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	650	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AP650 2
LDA	650	2	N/A SPECIAL CHECK 7-GN-42	0.1	OSR	AP650 3
LDE	650		N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AP650 1
LDXA	650		N/A SPECIAL CHECK 7-GN-42	0.1	OSR	AP650 4

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TABLE AP.8.0: GROUT PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	02DB	1	N/A SPECIAL CHECK N/A	01M	OSR	G1017 3
LDA	02DC	1	N/A SPECIAL CHECK N/A	01M	OSR	G1017 4
LDE	02D	1 1	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	G1017 1
LDXA	02DA		N/A SPECIAL CHECK N/A	01M	SAFETY	G1017 2
LDXA	02DA		N/A SPECIAL CHECK N/A	01M	SAFETY	G1017 2

9 2 1 2 5 7 4 0 3 7 8

TABLE AP.8.1: GROUT FEED LINE LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	621B		N/A SPECIAL CHECK N/A	01M	SAFETY	G1018 3
LDA	621B		N/A SPECIAL CHECK N/A	01M	SAFETY	G1018 3
LDE	621	1	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	G1018 1
LDE	621	1	2E07047 FUNCTIONAL TEST 7-GN-42	02M	SAFETY	G1018 1
LDXA	621	1	N/A SPECIAL CHECK N/A	01M	SAFETY	G1018 2
LDXA	621	1	N/A SPECIAL CHECK N/A	01M	SAFETY	G1018 2

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TABLE AW.1.0: TANK LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE	101	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW062 1
LIT	101	1	PSCP-7-023 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW062 2
LE	102	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW088 1
LIT	102	1	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW088 2
LE	103	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW094 1
LIT	103	1	PSCP-7-023 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW094 2
LE	104	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW095 1
LIT	104	1	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW095 2

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TABLE AW.1.0: TANK LIQUID LEVEL DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE	105	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW117 1
LIT	105	1	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW117 2
LE	106	1	PSCP-7-023 PRECALIBRATED 7-GN-42	06M	OSR	AW118 1
LIT	106	1	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AW118 2

9 2 1 2 5 7 4 0 3 8 1

TABLE AW.1.1: TANK HIGH LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	101	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AW064 3
LAK	101	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AW064 2
LE	101	2	7-GN-42 OPERABILITY CHECK 7-GN-42	01M	SAFETY	AW064 1
LA	102	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW087 3
LAK	102	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW087 2
LE	102	2	7-GN-42 OPERABILITY CHECK 7-GN-42	06M	SAFETY	AW087 1

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TABLE AW.1.1: TANK HIGH LIQUID LEVEL DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA	103	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW098 3
LAK	103	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW098 2
LE	103	2	7-GN-42 OPERABILITY CHECK 7-GN-42	06M	SAFETY	AW098 1
LA	104	1	PM 2E10004 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW099 3
LAK	104	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW099 2
LE	104	2	7-GN-42 PRECALIBRATED 7-GN-42	06M	SAFETY	AW099 1
LA	105	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW121 3
LAK	105	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW121 2
LE	105	2	7-GN-42 OPERABILITY CHECK 7-GN-42	06M	SAFETY	AW121 1
LA	106	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW122 3
LAK	106	1	7-GN-42 SPECIAL CHECK 7-GN-42	06M	SAFETY	AW122 2
LE	106	2	7-GN-42 OPERABILITY CHECK 7-GN-42	06M	SAFETY	AW122 1

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TABLE AW.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	1 1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW006 5
LDE	101	2	PM-14423 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW006 1
LDE	101	3	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW007 1
LDE	101	4	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW008 1
LDI	101	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW006 2
LDI	101	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW007 2
LDI	101	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW008 2
LDK	101	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW006 4
LDK	101	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW007 4
LDK	101	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW008 4

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TABLE AW.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	102	1	1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW028 5
LDE	102	2		7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW028 1
LDE	102	3		N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AW029 1
LDE	102	4		N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AW030 1
LDI	102	2		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW028 2
LDI	102	3		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW029 2
LDI	102	4		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW030 2
LDK	102	2		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW028 4
LDK	102	3		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW029 4
LDK	102	4		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW030 4

9 2 1 2 5 7 4 0 3 8 5

TABLE AW.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	103	1 1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW009 5
LDE	103	2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AW009 1
LDE	103	3	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW010 1
LDE	103	4	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW011 1
LDI	103	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW009 2
LDI	103	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW010 2
LDI	103	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW011 2
LDK	103	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW009 4
LDK	103	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW010 4
LDK	103	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW011 4

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TABLE AW.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	104	1 1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW012 5
LDE	104	2	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW012 1
LDE	104	3	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW013 1
LDE	104	4	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW014 1
LDI	104	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW012 2
LDI	104	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW013 2
LDI	104	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW014 2
LDK	104	2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW012 4
LDK	104	3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW013 4
LDK	104	4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW014 4

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TABLE AW.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 105 1 1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW031 5
LDE 105 2	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW031 1
LDE 105 3	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW032 1
LDE 105 4	7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW033 1
LDI 105 2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW031 2
LDI 105 3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW032 2
LDI 105 4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW033 2
LDK 105 2	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW031 4
LDK 105 3	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW032 4
LDK 105 4	7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW033 4

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TABLE AW.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	106	1	1	7-GN-42 SPECIAL CHECK 7-GN-38	06M	OSR	AW034 5
LDE	106	2		7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW034 1
LDE	106	3		7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW035 1
LDE	106	4		7-GN-42 FUNCTIONAL TEST 7-GN-42	01M	OSR	AW036 1
LDI	106	2		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW034 2
LDI	106	3		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW035 2
LDI	106	4		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW036 2
LDK	106	2		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW034 4
LDK	106	3		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW035 4
LDK	106	4		7-GN-42 SPECIAL CHECK 7-GN-42	01M	OSR	AW036 4

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TABLE AW.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT	EXH	101 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW015 2
CVT	EXH	102 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW016 2
CVT	EXH	103 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW017 2
CVT	EXH	104 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW018 2
CVT	EXH	105 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW019 2
CVT	EXH	106 1	PSCP-1-028 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW020 2
RA	EXH	10 2	PSCP-3-002 SPECIAL CHECK 7-GN-38	06M	OSR	AW259 2
RA	EXH	101 1	PSCP-3-002 FUNCTIONAL TEST 7-GN-38	06M	OSR	AW259 4
RA	EXH	102 1	PSCP-3-002 SPECIAL CHECK 7-GN-38	06M	OSR	AW260 3
RA	EXH	102 2	PSCP-3-002 SPECIAL CHECK 7-GN-38	06M	OSR	AW260 2

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TABLE AW.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	EXH	103 1	PSCP-3-002 SPECIAL CHECK 7-GN-38	06M	OSR	AW261 3
RA	EXH	103 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW261 2
RA	EXH	104 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW262 3
RA	EXH	104 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW262 2
RA	EXH	105 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW263 3
RA	EXH	105 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW263 2
RA	EXH	106 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW264 3
RA	EXH	106 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AW264 2
RR	EXH	101	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW015 3
RR	EXH	102	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW016 3

9 2 1 2 5 7 4 0 3 9 1

TABLE AW.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	EXH	103	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW017 3
RR	EXH	104	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW018 3
RR	EXH	105	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW019 3
RR	EXH	106	PSCP-4-016 OVERALL CALIBRATION 7-GN-38	06M	OSR	AW020 3

TABLE AW.2.2: TANK ANNULUS SYSTEM EXHAUST FANS

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
ANN	G2	50	1	N/A OPERABILITY CHECK 7-GN-38	12M	PRIMARY	AW137 3
DPA		3	1	N/A FUNCTIONAL TEST 7-GN-38	12M	PRIMARY	AW137 2
K2	5		1	NONE 2E23001 2E23002	1M	OSR	NONE
K2	5		2	NONE 2E23002	2M	OSR	NONE

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TABLE AW.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	01C	1 1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	6M	SAFETY	AW057 5
LCA	01C	1	PSCP-3-019 SPECIAL CHECK 7-GN-38	6M	SAFETY	AW057 A
PWR	01C	1	PSCP-3-052 FUNCTIONAL TEST 7-GN-38	6M	SAFETY	AW057 2
RA	01C	1	N/A SPECIAL CHECK	6M	SAFETY	AW057 B
RA	01C	2	N/A SPECIAL CHECK	6M	SAFETY	AW057 C
RE	LD	1C	PSCP-3-019 PRECALIBRATED	6M	SAFETY	AW057 1
RIAS/LCA		01C 11	N/A FUNCTIONAL TEST 7-GN-38	1M	SAFETY	AW057 6
CRM	02C	1A 1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	6M	SAFETY	AW061 5
LCA	02C	1	PSCP-3-019 SPECIAL CHECK N/A	1M	SAFETY	AW061 A
PAD	02C	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	6M	SAFETY	AW061 3
PWR	02C	1	PSCP-3-052 FUNCTIONAL TEST 7-GN-38	6M	SAFETY	AW061 2

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TABLE AW.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	02C	1	N/A SPECIAL CHECK N/A	6M	SAFETY	AW061 B
RA	02C	2	N/A SPECIAL CHECK N/A	6M	SAFETY	AW061 C
RE	02C	1	PSCP-3-019 PRECALIBRATED N/A	6M	SAFETY	AW061 1
RIAS/LCA	02C	1 1	N/A FUNCTIONAL TEST 7-GN-38	1M	SAFETY	AW061 6
CRM	03C	1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	6M	SAFETY	AW092 7
LCA	3C	1	PSCP-3-019 SPECIAL CHECK N/A	1M	SAFETY	AW092 5
PAD	03C	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	6M	SAFETY	AW092 3
PWR	3C	1	PSCP-3-052 FUNCTIONAL TEST 7-GN-38	6M	SAFETY	AW092 2
RA	03C	1 0	N/A SPECIAL CHECK N/A	6M	SAFETY	AW092 B
RA	03C	2	N/A SPECIAL CHECK N/A	6M	SAFETY	AW092 C

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TABLE AW.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RE	3C	1	PSCP-3-019 PRECALIBRATED N/A	06M	SAFETY	AW092 1
RIAS/LCA		03C 1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW092 6
CRM	04C	1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW093 5
LCA	04C	1	PSCP-3-019 SPECIAL CHECK N/A	01M	SAFETY	AW093 A
PAD	04C	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW093 3
PWR	4C	1	PSCP-3-052 FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AW093 2
RA	04C	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AW093 B
RA	04C	2	N/A SPECIAL CHECK N/A	06M	SAFETY	AW093 C
RE	4C	1	PSCP-3-019 PRECALIBRATED N/A	06M	SAFETY	AW093 1
RIAS/LCA		04C 1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW093 6

9 2 1 2 5 7 4 0 3 9 5

TABLE AW.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	05C	1	1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW115 5
LCA	05C	1		PSCP-3-019 SPECIAL CHECK 7-GN-38	06M	SAFETY	AW115 A
PAD	05C	1		PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW115 3
PWR	05C	1		PCSP-3-052 FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AW115 2
RA	05C	1		N/A SPECIAL CHECK N/A	06M	SAFETY	AW115 B
RA	05C	2		N/A SPECIAL CHECK N/A	06M	SAFETY	AW115 C
RE	5C	1A		PSCP-3-019 PRECALIBRATED N/A	06M	SAFETY	AW115 1
RIAS/LCA	05C	1	1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW115 6
CRM	06C	1A	1	PSCP-3-071 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW116 5
LCA	06C	1		PSCP-3-019 SPECIAL CHECK 7-GN-38	06M	SAFETY	AW116 A
PAD	06C	1		PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW116 3

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TABLE AW.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
PWR	06C	1	PSCP-3-052 FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AW116 2
RA	06C	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AW116 B
RA	06C	2	N/A SPECIAL CHECK N/A	06M	SAFETY	AW116 C
RE	6C	1	PSCP-3-019 PRECALIBRATED N/A	06M	SAFETY	AW116 1
RIAS/LCA	06C	1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW116 6

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TABLE AW.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA PROCESS PITS 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW084 3
LDE 1A 1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW063 1
LDK 1A 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW063 2
LDE 2A 1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW086 1
LDK 2A 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW086 2
LDE 03A 1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW096 1
LDK 3A 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW096 2
LDE 4A 1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW097 1
LDK 4A1 SYS 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW097 2

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TABLE AW.4.0: CENTRAL PUMP PIT LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	5A	1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW119 1
LDK	05A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW119 2
LDE	6A	1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW120 1
LDK	6A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW120 2

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TABLE AW.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	L-241AW	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AW023 3
RA	L-241AW	2	N/A SPECIAL CHECK N/A	06M	SAFETY	AW024 3
RA	L-241AW	3	N/A SPECIAL CHECK N/A	06M	SAFETY	AW025 3
RE	241AW	1	PSCP-3-025 PRECALIBRATED 7-GN-42	06M	SAFETY	AW023 1
RE	241AW	3	PSCP-3-025 PRECALIBRATED N/A	06M	SAFETY	AW025 1
RIAS	241AW	1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW023 2
RIAS	241AW	2	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW024 2
RIAS	241AW	3	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AW025 2
RR	241AW	1	PSCP-4-123 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AW023 4

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TABLE AW.6.3: FEED PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	2E	1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW084 1
LDK	2E	1 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW084 2

TABLE AW.6.8: DRAIN PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	2D	1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW083 1
LDE	02D	2	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW082 1
LDE	02D-3		7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW081 1
LDK	2D	1 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW083 2

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TABLE AW.7.0: CLEANOUT BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA COB AW 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW175 3
LDE COB AW 1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW164 1
LDE COB AW 2	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW165 1
LDE COB AW3	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AW166 1
LDE COB AW4	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW167 1
LDE COB AW5	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW168 1
LDE COB AW6	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW169 1
LDE COB AW 7 SYS	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW170 1
LDE COB AW8	7-GN-42 FUNCTIONAL TEST	02M	OSR	AW171 1
LDE COB AW 9	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW172 1

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TABLE AW.7.0: CLEANOUT BOX LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE COB AW 10	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW173 1
LDE COB AW 11	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW174 1
LDK COB AW 11	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW164 2
LDK COB AW 11	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW165 2
LDE COB AW12	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW175 1

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TABLE AW.7.0: CLEANOUT BOX LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDK COB AW 31	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW166 2
LDK COB AW 41	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW167 2
LDK COB AW 51	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW168 2
LDK COB AW 61	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW169 2
LDK COB AW 71	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW170 2
LDK COB AW 81	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW171 2
LDK COB AW 91	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW172 2
LDK COB AW 101	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW173 2
LDK COB AW 111	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW174 2
LDK COB AW 121	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW175 2

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TABLE AW.7.1: DRAIN LINE LEAK DETECTION

INSTRUMENT		PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDK	2D2(DR334)1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW082 2
LDK	2DC(DR335)1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW081 2
LDA	DR 361 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW076 3
LDE	241AWDR361	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW076 1
LDK	DR 361 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW076 2

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TABLE AW.7.3: PROCESS LINE LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	21	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW077 3
LDK	21	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW077 2
LDK	22	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW078 2
LDA	22/0	23 1	N/A SPECIAL CHECK 7-GN	02M	OSR	AW079 R
LDK	23	1	N/A SPECIAL CHECK 7-GN-38	02M	OSR	AW079 2
LDE	TL	21	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW077 1
LDE	TL	22	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW078 1
LDE	TL	23	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW079 1

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TABLE AW.7.4: SLURRY LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA SL 167 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AW072 3
LDE 241AW SL167	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW072 1
LDK SL 167 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW072 2
LDA SL 168 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW073 3
LDE 241AWSL168	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW073 1
LDK SL 168 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW073 2

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TABLE AW.7.5: SUPERNATE LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA SN 219 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW067 3
LDE 241AWSN219	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW067 1
LDK SN 219 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW067 2
LDA SN 220 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW068 3
LDE 241AWSN220	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW068 1
LDK SN 220 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW068 2
LDA SN 267 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW069 3
LDE 241AWSN267	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW069 1
LDK SN 267 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW069 2
LDA SN 268 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW070 3
LDE 241AWSN268	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW070 1
LDK SN268 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW070 2

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TABLE AW.7.5: SUPERNATE LINE LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA SN 269 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW186 3
LDE 241AWSN269 SY	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW186 1
LDK SN 269 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW186 2
LDA SN 270 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW071 3
LDE 241AW SN270	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW071 1
LDK SN 270 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW071 2
LDA SN 274	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AW265 3
LDE SN 274	N/A FUNCTIONAL TEST 7-GN-38	01M	OSR	AW265 1
LDK SN 274	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AW265 2

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TABLE AW.7.6: 242-A LINE LEAK DETECTION

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	PW	481	1	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW255 1
LDK	PW	481	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW255 2

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TABLE AY.1.0: TANK LIQUID LEVEL DETECTION

INSTRUMENT		PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT	101AY	PSCP-7-023 FUNCTIONAL TEST 6-TF-27	06M	OSR	AY085 1
LLE	101 2	N/A OPERABILITY CHECK 7-GN-42	06M	OSR	AY071 1
LLI	101 2	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY071 2
LIT	102AY	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AY040 1
LLE	1022 SYS	N/A PRECALIBRATED 7-GN-42	06M	OSR	AY021 1
LLI	102 2	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY021 2

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TABLE AY.1.1: TANK HIGH LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LLA	101	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY068 4
LLAS	101	1	N/A SPECIAL CHECK	06M	OSR	AY068 3
LLE	1011	SYS	N/A OPERABILITY CHECK 7-GN-42	01M	SAFETY	AY068 1
LLA	102	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY019 4
LLE	1021	SYS	N/A OPERABILITY CHECK 7-GN-42	01M	OSR	AY019 1
LLK	102	1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	AY019 3

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY090 6
LDE	101	17A	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 I
LDE	101	17B	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 I
LDE	101	17C	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 I
LDE	10110A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 B
LDE	10110B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 B
LDE	10110C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 B
LDE	10111A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 C
LDE	10111B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 C
LDE	10111C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 C
LDE	10112A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 D
LDE	10112B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 D

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 10112C SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 D
LDE 10113A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 E
LDE 10113B SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 E
LDE 10113C SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 E
LDE 10114A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 F
LDE 10114B SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 F
LDE 10114C SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 F
LDE 10115A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 G
LDE 10115B SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 G
LDE 10115C SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 G
LDE 10116A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 H
LDE 10116B SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 H

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10116C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 H
LDE	1011A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 2
LDE	1011B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY087 2
LDE	1011C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 2
LDE	1012A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 3
LDE	1012B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 3
LDE	1012C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 3
LDE	1013A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 4
LDE	1013B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 4
LDE	1013C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 4
LDE	1014A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 5
LDE	1014B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 5

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1014C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 5
LDE	1015A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 6
LDE	1015B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 6
LDE	1015C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 6
LDE	1016A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 7
LDE	1016B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 7
LDE	1016C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 7
LDE	1017A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 8
LDE	1017B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 8
LDE	1017C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 8
LDE	1018A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 9
LDE	1018B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 9

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1018C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 9
LDE	1019A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY086 A
LDE	1019B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY087 A
LDE	1019C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY089 A
LDI	101	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY090 5
LDK	101	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY090 4
LDK	101	17	N/A SPECIAL CHECK 7-GN-42	03M	OSR	AY090 3
LI	101	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY090 2
LDA	102	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY044 6
LDE	102	17A	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 I
LDE	102	17B	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 I
LDE	102	17C	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 I

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10210A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 B
LDE	10210B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 B
LDE	10210C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 B
LDE	10211A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 C
LDE	10211B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 C
LDE	10211C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 C
LDE	10212A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 D
LDE	10212B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 D
LDE	10212C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 D
LDE	10213A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 E
LDE	10213B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 E
LDE	10213C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 E

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10214A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 F
LDE	10214B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 F
LDE	10214C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 F
LDE	10215A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 G
LDE	10215B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 G
LDE	10215C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 G
LDE	10216A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 H
LDE	10216B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 H
LDE	10216C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 H
LDE	1021A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 2
LDE	1021B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 2
LDE	1021C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 2

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1022A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 3
LDE	1022B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 3
LDE	1022C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 3
LDE	1023A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 4
LDE	1023B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 4
LDE	1023C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 4
LDE	1024A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 5
LDE	1024B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 5
LDE	1024C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 5
LDE	1025A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 6
LDE	1025B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 6

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1025C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 6
LDE	1026A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 7
LDE	1026B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 7
LDE	1026C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 7
LDE	1027A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 8
LDE	1027B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 8
LDE	1027C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 8
LDE	1028A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 9
LDE	1028B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 9
LDE	1028C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 9
LDE	1029A	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY042 A

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TABLE AY.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1029B	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY043 A
LDE	1029C	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY041 A
LDI	102	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY044 5
LDK	102	1	N/A SPECIAL CHECK 7-GN-42	03M	OSR	AY044 4
LDK	102	17	N/A SPECIAL CHECK 7-GN-42	03M	OSR	AY044 3
LI	102	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AY044 2

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TABLE AY.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
PS	CAM	101AY	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	OSR	AY120 2
QQ	CAM	101AY	N/A FUNCTIONAL TEST	06M	SAFETY	AY120 4
RA		101AY	N/A SPECIAL CHECK	06M	OSR	AY120 B
UXA		101AY	N/A SPECIAL CHECK	06M	OSR	AY120 3
PS	CAM	102AY	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	OSR	AY131 2
QQ	CAM	102AY	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AY131 4
RA		102AY	N/A SPECIAL CHECK	06M	OSR	AY131 B
UXA		102AY	N/A SPECIAL CHECK	06M	OSR	AY131 3

TABLE AY.2.2: TANK ANNULUS SYSTEM EXHAUST FANS

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
ANNULUS EXHAUST FAN			2E23001 2E23002	1M 12M	OSR	NONE
ANNULUS EXHAUST FAN			2E23001 2E23002	1M 12M	OSR	NONE
XA		101AY	N/A SPECIAL CHECK	06M	SAFETY	AY125 2
XA		102AY	N/A SPECIAL CHECK	06M	SAFETY	AY136 2

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TABLE AY.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT		PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	101A	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AY061 N
PAD	101A	PSCP-3-051 SPECIAL CHECK	06M	SAFETY	AY061 2
PAD	101A	PSCP-3-051 FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AY061 M
RA	101A	N/A SPECIAL CHECK	01M	SAFETY	AY061 4
RA	101A	N/A SPECIAL CHECK	06M	SAFETY	AY061 0
RE	101A	PSCP-3-019 PRECALIBRATED 7-GN-38	06M	SAFETY	AY061 1
RE	101A	PSCP-3-019 PRECALIBRATED	06M	SAFETY	AY061 L
RIAS	CRM 101A	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AY061 3

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TABLE AY.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	102AY		PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AY010 N
PAD	102		PSCP-3-051 SPECIAL CHECK	06M	SAFETY	AY010 2
PAD	102		PSCP-3-019 OVERALL CALIBRATION	06M	SAFETY	AY010 M
RA	102		N/A SPECIAL CHECK	01M	SAFETY	AY010 4
RA	102		N/A SPECIAL CHECK	06M	SAFETY	AY010 0
RE	102		PSCP-3-019 PRECALIBRATED	06M	SAFETY	AY010 1
RE	102		PSCP-3-019 PRECALIBRATED	06M	SAFETY	AY010 L
RIAS	CRM	102	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AY010 3

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TABLE AY.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	22	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY080 3
LDE	101	22	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY080 1
LDK	101	22	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY080 2
LDA	102	22	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY033 3
LDE	102	22	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY033 1
LDK	102	22	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY033 2

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TABLE AY.5.0: ABOVE GROUND RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	241AY	1	N/A SPECIAL CHECK	06M	SAFETY	AY168 4
RA	L 241AY	1	N/A SPECIAL CHECK	01M	SAFETY	AY168 3
RAMP	241AY	1	N/A FUNCTIONAL TEST	06M	SAFETY	AY168 2
RE	241AY	1	N/A PRECALIBRATED	01M	SAFETY	AY168 1

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TABLE AY.6.4: SLUICE PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY083 3
LDE	101	18	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY083 1
LDK	101	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY083 2
LDA	102	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY039 3
LDE	102	18	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY039 1
LDK	102	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY039 2
LDA	101	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY081 3
LDE	101	19	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY081 1
LDK	101	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY081 2
LDA	102	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY034 3
LDE	102	19	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY034 1
LDK	102	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY034 2

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TABLE AY.6.4: SLUICE PIT LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	20	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY075 3
LDE	101	20	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY075 1
LDK	101	20	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY075 2
LDA	102	20	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY027 3
LDE	102	20	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY027 1
LDK	102	20	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY027 2
LDA	101	21	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY072 3
LDE	101	21	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY072 1
LDK	101	21	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY072 2
LDA	102	21	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY023 3
LDE	102	21	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AY023 1
LDK	102	21	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY023 2

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TABLE AY.6.9: TRANSFER SYSTEM LEAK DETECTION PIT

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	101B		PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	OSR	AY095 N
LDA	101B	23	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY096 3
LDE	101 B	23	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY096 1
LDK	101B	23	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY096 2
PAD	101B		PSCP-3-019 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AY095 M
RA	101B		N/A SPECIAL CHECK	01M	SAFETY	AY095 4
RA	101B		N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	AY095 0
RE	101B		PSCP-3-019 PRECALIBRATED	06M	SAFETY	AY095 L
RIAS	CRM	101B	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	OSR	AY095 3
WFA	101B		N/A SPECIAL CHECK	06M	OSR	AY092 4

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TABLE AY.6.9: TRANSFER SYSTEM LEAK DETECTION PIT (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
WFAS	101B	1	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	OSR	AY092 3
WFI	101B	1	PSCP-4-091 OVERALL CALIBRATION 7-GN-38	06M	OSR	AY092 2
WFT	101B		PSCP-6-087 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AY092 1

9 2 1 2 5 7 4 0 4 3 1

TABLE AY.7.0: CLEANOUT BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA COB 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY025 3
LDE COB AY 1	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY025 1
LDK COB AY 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY025 2

TABLE AY.7.1: DRAIN LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA DR 700	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY116 3
LDE DR 700	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY116 1
LDK DR 700	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY116 2

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TABLE AY.7.4: SLURRY LINE LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	SL	502	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY088 3
LDA	SL	503	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY035 3
LDA	SL	504	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY036 3
LDA	SL	505	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY077 3
LDE	SL	502	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY088 1
LDE	SL	503	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY035 1
LDE	SL	504	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY036 1
LDE	SL	505	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY077 1
LDK	SL	502	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY088 2
LDK	SL	503	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY035 2
LDK	SL	504	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY036 2
LDK	SL	505	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY077 2

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TABLE AY.9.0: AUXILIARY POWER

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
24 VOLT GENERATOR	2E22005	1M	OSR	NONE
32 VOLT GENERATOR	2E22005	1M	OSR	NONE

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TABLE AZ.1.0: TANK LIQUID LEVEL DETECTION

INSTRUMENT		PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT	101AZ	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AZ096 2
LLE	101 2	N/A PRECALIBRATED 7-GN-42	06M	OSR	AZ124 1
LLE	101AZ	N/A PRECALIBRATED 7-GN-42	03M	OSR	AZ096 1
LLI	101 2	N/A OPERABILITY CHECK 7-GN-42	01M	OSR	AZ124 2
LIT	102AZ	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	OSR	AZ085 2
LLE	102 2	N/A PRECALIBRATED N/A	06M	OSR	AZ051 1
LLE	102AZ	N/A PRECALIBRATED 7-GN-42	03M	OSR	AZ085 1
LLI	102 2	N/A OPERABILITY CHECK N/A	06M	OSR	AZ051 2

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TABLE AZ.1.1: TANK HIGH LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LLA	101	1	N/A SPECIAL CHECK N/A	06M	OSR	AZ123 4
LLE	1011	SYS	N/A OPERABILITY CHECK 7-GN-42	03M	OSR	AZ123 1
LLK	101	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ123 3
LLA	102	1	N/A SPECIAL CHECK N/A	06M	OSR	AZ044 4
LLE	102	1	N/A PRECALIBRATED 7-GN-42	06M	OSR	AZ044 1
LLK	102	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AZ044 3

9 2 1 2 5 7 4 0 4 3 6

TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	1A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ120 5
LDI	101	1	N/A SPECIAL CHECK 7-GN-42	06M	OSR	AZ120 4
LDK	101	1	N/A SPECIAL CHECK 7-GN-42	03M	OSR	AZ120 3
LDE	1011A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 2
LDE	1011B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 2
LDE	1011C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 2
LDE	1012A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 3
LDE	1012B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 3
LDE	1012C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 3
LDE	1013A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 4
LDE	1013B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 4
LDE	1013C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 4

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1014A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 5
LDE	1014B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 5
LDE	1014C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 5
LDE	1015A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 6
LDE	1015B	SYS	ANNULUS SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 6
LDE	1015C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 6
LDE	1016A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 7
LDE	1016B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 7
LDE	1016C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 7
LDE	1017A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 8
LDE	1017B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 8
LDE	1017C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 8

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1018A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 9
LDE	1018B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 9
LDE	1018C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 9
LDE	1019A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 A
LDE	1019B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 A
LDE	1019C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 A
LDE	10110A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 B
LDE	10110B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 B
LDE	10110C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 B
LDE	10111A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 C
LDE	10111B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 C
LDE	10111C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 C

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10112A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 D
LDE	10112B	SYS	ANNULUS SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 D
LDE	10112C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 D
LDE	10113A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 E
LDE	10113B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 E
LDE	10113C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 E
LDE	10114A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 F
LDE	10114B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 F
LDE	10114C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ112 F
LDE	10115A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 G
LDE	10115B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 G
LDE	10115C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AZ112 G

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10116A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 H
LDE	10116B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 H
LDE	10116C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AZ112 H
LDE	10117A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ110 I
LDE	10117B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ111 I
LDE	10117C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	AZ112 I

9 2 1 2 5 7 4 0 4 4 1

TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	102	1A	N/A SPECIAL CHECK N/A	01M	OSR	AZ208 4
LDK	102	1	N/A SPECIAL CHECK 7-GN-42	03M	OSR	AZ208 2
LDE	1021A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 2
LDE	1021B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 2
LDE	1021C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 2
LDE	1022A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 3
LDE	1022B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 3
LDE	1022C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 3
LDE	1023A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 4
LDE	1023B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 4
LDE	1023C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 4

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1024A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 5
LDE	1024B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 5
LDE	1024C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 5
LDE	1025A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 6
LDE	1025B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 6
LDE	1025C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 6
LDE	1026A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 7
LDE	1026B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 7
LDE	1026C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 7
LDE	1027A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 8
LDE	1027B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 8
LDE	1027C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 8

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	1028A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 9
LDE	1028B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 9
LDE	1028C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 9
LDE	1029A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 A
LDE	1029B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 A
LDE	1029C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 A
LDE	10210A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 B
LDE	10210B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 B
LDE	10210C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 B
LDE	10211A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 C
LDE	10211B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 C
LDE	10211C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 C

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10212A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 D
LDE	10212B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 D
LDE	10212C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 D
LDE	10213A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 E
LDE	10213B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 E
LDE	10213C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 E
LDE	10214A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 F
LDE	10214B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 F
LDE	10214C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 F
LDE	10215A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 G
LDE	10215B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 G
LDE	10215C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 G

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TABLE AZ.2.0: TANK ANNULUS LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	10216A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 H
LDE	10216B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 H
LDE	10216C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 H
LDE	10217A	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ091 I
LDE	10217B	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ090 I
LDE	10217C	SYS	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ092 I

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TABLE AZ.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
PS	CAM	1 101AZ	PSCP-6-066 LIMITED CALIBRATION 7-GN-38	06M	OSR	AZ029 2
QQ	CAM	101AZ	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AZ029 1
RA		101AZ	N/A SPECIAL CHECK N/A	06M	OSR	AZ029 3
PS	CAM	1 102AZ	PSCP-6-066 LIMITED CALIBRATION 7-GN-38	06M	OSR	AZ015 2
QQ	CAM	102AZ	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	AZ015 1
RA		102AZ	N/A SPECIAL CHECK N/A	06M	OSR	AZ015 3

TABLE AZ.2.2: TANK ANNULUS SYSTEM EXHAUST FANS

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
FA	AZ	ANNULS	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ007 2
K1		3 2	2E23001 2E23002	1M 12M	OSR	NONE

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TABLE AZ.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	101	1	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ098 3
PAD	101	1	PSCP-3-051 SPECIAL CHECK N/A	06M	SAFETY	AZ098 M
PAD	101	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ098 2
RA	101	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ098 4
RA	101	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ098 0
RE	101	1	N/A PRECALIBRATED N/A	01M	SAFETY	AZ098 L
RE	101	1	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	AZ098 I
RIAS	CRM	101 1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AZ098 N

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TABLE AZ.3.0: LEAK DETECTION PIT RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	102	1	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ089 3
PAD	102	1	PSCP-3-051 SPECIAL CHECK N/A	01M	SAFETY	AZ089 M
PAD	102	1	PSCP-3-051 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ089 2
RA	102	2A	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ089 4
RA	102	2A	N/A SPECIAL CHECK N/A	01M	SAFETY	AZ089 0
RE	102	1	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	AZ089 1
RE	102	1	N/A PRECALIBRATED N/A	01M	SAFETY	AZ089 L
RIAS	CRM	102 1	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AZ089 N

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TABLE AZ.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	20A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ126 4
LDE	101	20	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ126 1
LDK	101	20A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ126 2
LDK	101	20B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ126 3
LDA	102	20A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ047 4
LDE	102	20	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ047 1
LDK	102	20A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ047 2
LDK	102	20B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ047 3

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TABLE AZ.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA 241AZ 1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ175 5
RA A AX AZ AY 1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ175 6
RA L 241AZ 1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ175 3
RAMP 241AZ 1	N/A FUNCTIONAL TEST 7-GN-38	01M	SAFETY	AZ175 2
RE 241AZ 1	N/A PRECALIBRATED N/A	06M	SAFETY	AZ175 1
RUR 271 1	PSCP-4-030 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ175 4

9 2 1 2 5 7 4 0 4 5 1

TABLE AZ.6.2: CONDENSATE DIVERSION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	505	1	N/A SPECIAL CHECK N/A	06M	OSR	AZ191 B
RE	F505	1	N/A PRECALIBRATED N/A	06M	OSR	AZ189 1
RIAS	F505	1	N/A FUNCTIONAL TEST 7-GN-38	01M	OSR	AZ189 2
PAMP	A08	1	PSCP-3-030 SPECIAL CHECK N/A	01M	SAFETY	AZ150 M
RA	H A08	1	N/A SPECIAL CHECK N/A	06M	OSR	AZ152 3
RAMP	A08	1	PSCP-3-030 SPECIAL CHECK N/A	06M	OSR	AZ150 2
RE	A08	1	PSCP-3-019 PRECALIBRATED N/A	01M	SAFETY	AZ150 L
RE	A08	1	6-TF-29 PRECALIBRATED 7-GN-38	06M	OSR	AZ150 1
RIAS	A08	1	PSCP-3-030 FUNCTIONAL TEST 7-GN-38	01M	OSR	AZ150 0
RIAS	CRM A08	1	PSCP-3-030 OVERALL CALIBRATION 7-GN-38	06M	OSR	AZ150 3
RR	A08	1	PSCP-4-035 SPECIAL CHECK N/A	01M	OSR	AZ150 P

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TABLE AZ.6.2: CONDENSATE DIVERSION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	A08	1	PSCP-4-045 OVERALL CALIBRATION 7-GN-38	06M	OSR	AZ150 5
XA	A08	1	N/A SPECIAL CHECK N/A	06M	SAFETY	AZ150 6
Y	A08	1	PSCP-3-029 SPECIAL CHECK 7-GN-38	06M	SAFETY	AZ160 1

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TABLE AZ.6.4: SLUICE PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	101	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ139 4
LDE	101	18	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AZ139 1
LDK	101	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ139 2
LDK	101	18B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ139 3
LDA	102	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ055 4
LDE	102	18	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AZ055 1
LDK	102	18	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ055 2
LDK	102	18B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ055 3
LDA	101	19	N/A SPECIAL CHECK 7-GN-32	01M	OSR	AZ125 4
LDE	101	19	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AZ125 1
LDK	101	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ125 2
LDK	101	19B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ125 3

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TABLE AZ.6.4: SLUICE PIT LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	102	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ053 4
LDE	102	19	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AZ053 1
LDK	102	19	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ053 2
LDK	102	19B	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ053 3

9 2 1 2 5 7 4 0 4 5 5

TABLE AZ.6.5: STEAM CONDENSATE PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	154AZ	SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	AZ186 1
LDK	154AZ		N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ186 2
LIT	151AZ		6-TF-26 FUNCTIONAL TEST 6-TF-27	06M	SAFETY	AZ187 2
LLE	151AZ	SYS	N/A PRECALIBRATED 7-GN-42	06M	SAFETY	AZ187 1

9 2 1 2 5 7 4 0 4 5 6

TABLE AZ.6.9: TRANSFER SYSTEM LEAK DETECTION PIT

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM 101/ 102 1	PSCP-3-015 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	AZ088 3
LDA 101/1 0223	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ045 3
LDE 101/1 02 23	N/A OVERALL CALIBRATION 7-GN-42	01M	SAFETY	AZ045 1
LDK 101/1 0223	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ045 2
PAD 101/1 02 1	PSCP-3-051 SPECIAL CHECK N/A	01M	SAFETY	AZ088 M
PAD 101/1 02 1	PSCP-3-051 OVERALL CALIBRATION N/A	06M	OSR	AZ088 2
RA 101/1 02	N/A SPECIAL CHECK N/A	06M	OSR	AZ088 4
RA 101/1 02	N/A SPECIAL CHECK N/A	01M	OSR	AZ088 0
RE 101/1 02 1	N/A PRECALIBRATED N/A	01M	SAFETY	AZ088 L
RE 101/1 02 1	N/A PRECALIBRATED N/A	06M	OSR	AZ088 1
RIAS CRM 101/102 1	PSCP-3-015 FUNCTIONAL TEST 7-GN-38	01M	OSR	AZ088 N

9 2 1 2 5 7 4 0 4 5 7

TABLE AZ.7.0: CLEANOUT BOX LEAK DETECTION

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	COB	AZ	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ140 3
LDA	COB	AZ	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ141 3
LDA	COB	AZ	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ142 3
LDA	COB	AZ	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ143 3
LDA	COB	AZ	5	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ144 3
LDA	COB	AZ	6	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ145 3
LDA	COB	AZ	7	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ146 3
LDA	COB	AZ	8	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ147 3
LDA	COB	AZ	9	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ148 3
LDA	COB	AZ	10	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ149 3

9 2 1 2 5 7 4 0 4 5 8

TABLE AZ.7.0: CLEANOUT BOX LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE COB AZ 1	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ140 1
LDE COB AZ 2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ141 1
LDE COB AZ 3	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ142 1
LDE COB AZ 4	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ143 1
LDE COB AZ 5	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ144 1
LDE COB AZ 6	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ145 1
LDE COB AZ 7	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ146 1
LDE COB AZ 8	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ147 1
LDE COB AZ 9	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ148 1
LDE COB AZ10	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ149 1

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TABLE AZ.7.0: CLEANOUT BOX LEAK DETECTION (Cont)

INSTRUMENT				PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDK	COB	AZ	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ140 2
LDK	COB	AZ	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ141 2
LDK	COB	AZ	3	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ142 2
LDK	COB	AZ	4	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ143 2
LDK	COB	AZ	5	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ144 2
LDK	COB	AZ	6	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ145 2
LDK	COB	AZ	7	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ146 2
LDK	COB	AZ	8	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ147 2
LDK	COB	AZ	9	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ148 2
LDK	COB	AZ	10	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ149 2

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TABLE AZ.7.1: DRAIN LINE LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	DR	713	N/A SPECIAL CHECK N/A	01M	OSR	AZ094 6
LDE	DR	713	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ094 1
LDK	713	1	N/A SPECIAL CHECK N/A	01M	OSR	AZ094 4
LDK	713	2	N/A SPECIAL CHECK N/A	01M	OSR	AZ094 3
LDK	DR	713	N/A SPECIAL CHECK N/A	01M	OSR	AZ094 5
LDK	DR	713	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ094 2
LDE	DR	717	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ184 1
LDA	TL	714 1	N/A SPECIAL CHECK N/A	01M	OSR	AZ178 4
LDA	TL	71402	N/A SPECIAL CHECK N/A	01M	OSR	AZ179 4
LDE	TL	714 1	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ178 1
LDE	TL	714 2	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ179 1

9 2 1 2 5 7 4 0 4 6 1

TABLE AZ.7.1: DRAIN LINE LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDK	714	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ178 2
LDK	714	2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ179 2
LDK	TL	714 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ178 3
LDK	TL	714 2	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ179 3
LDA	TL	716	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ180 3
LDE	TL	716	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ180 1
LDK	TL	716	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ180 2
LDA	TL	719	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ200 3
LDE	TL	719	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ200 1
LDK	TL	719	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ200 2
LDA	SL	500	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ196 3

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TABLE AZ.7.1: DRAIN LINE LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	SL	501	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ197 3
LDE	SL	500	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ196 1
LDE	SL	501	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ197 1
LDK	SL	500	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ196 2
LDK	SL	501	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ197 2
LDA	SN	600	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ198 3
LDA	SN	601	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ199 3
LDE	SN	600	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ198 1
LDE	SN	601 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ199 1
LDK	SN	600	N/A SPECIAL CHECK 7-GN-38	01M	OSR	AZ198 2
LDK	SN	601	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ199 2

9 2 1 2 5 7 4 0 4 6 3

TABLE SY.2.0: TANK ANNULUS LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 101 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY231 4
LDE 1012A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	SY231 1
LDI 101 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY231 2
LDA 102 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY251 4
LDE 1022A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	SY251 1
LDI 102 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY251 2
LDA 103 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY252 4
LDE 1032A SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	SY252 1
LDI 103 2A	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY252 2

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TABLE SY.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	EXH	101	N/A OVERALL CALIBRATION 7-GN-38	06M	OSR	SY153 2
CVT	101	1	PSCP-6-004 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY153 3
DPA	EXH	101 1	N/A FUNCTIONAL TEST 7-GN-38	06M	OSR	SY154 2
DPAS	EXH	101 1	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	OSR	SY154 1
RR	EXH	101 1	PSCP-4-017 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY153 4
CRM	EXH	102	N/A OVERALL CALIBRATION 7-GN-38	06M	OSR	SY173 2
CVT		102 1	PSCP-6-004 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY173 3
DPA	EXH	102 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	SY174 2
DPAS	EXH	102 1	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	OSR	SY174 1
RA	EXH	102 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	SY173 5
RR	EXH	102 1	PSCP-4-081 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY173 4

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TABLE SY.2.1: TANK ANNULUS LEAK DETECTION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CRM	EXH	103	N/A OVERALL CALIBRATION 7-GN-38	06M	OSR	SY178 2
CVT		103 1	PSCP-6-004 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY178 3
DPA	EXH	103 1	N/A FUNCTIONAL TEST 7-GN-38	06M	OSR	SY179 2
DPAS	EXH	103 1	PSCP-6-011 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY179 1
RA	EXH	103 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	SY178 5
RR	EXH	103 1	PSCP-4-017 OVERALL CALIBRATION 7-GN-38	06M	OSR	SY178 4

TABLE SY.2.2: TANK ANNULUS SYSTEM EXHAUST FAN

INSTRUMENT					PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
ANNULUS EXHAUST FAN					2W14007	WEEKLY	NON-OSR	NONE
XA	EXH	K2 1	1		N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY009 7
XA	EXH	K2 1	2		N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY009 2
XA	EXH	K2 1	3		N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY009 5

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TABLE SY.3.0: LEAK DETECTION PIT RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
PWRR	01C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY156 3
RA	01C	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY156 4
RE	01C	1	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	SY156 1
RPAM	01C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY156 2
PWR	02C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY176 3
RA	02C	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY176 4
RE	02C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY176 1
RPAM	02C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY176 2
PWR	03C	1	PSCP-6-011 FUNCTIONAL TEST 7-GN-38	02M	SAFETY	SY181 3
RA	03C	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY181 4
RE	03C	1	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	SY181 1
RPAM	03C	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY181 2

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TABLE SY.4.0: CENTRAL PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	PROCESS PIT		N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY011 3
LDA	01A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY046 3
LDE	01A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	SY046 1
LDK	01A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY046 2
LDA	02A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY022 3
LDE	02A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	SY022 1
LDK	02A	1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY022 2
LDA	03A	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY128 3
LDE	03A1	SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	SY128 1

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TABLE SY.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RA	241SY	1 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	SY332 C
RA	L	241 SY 11	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	SY330 3
RA	L	241 SY 21	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	SY331 3
RA	L	241 SY 31	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	SY332 3
RA	L	241 SY 41	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	SY333 3
RA	L	241 SY 51	N/A SPECIAL CHECK 7-GN-38	01M	SAFETY	SY334 3
RA L	241SY	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	SY157 2
RAMP	241SY	11	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	SY330 2
RAMP	241SY	21	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	SY331 2
RAMP	241SY	31	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	SY332 2
RAMP	241SY	41	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	SY333 2

9 2 1 2 5 7 4 0 4 6 9

TABLE SY.5.0: ABOVE GROUND CONTAMINATION RADIATION MONITORING (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RAMP	241SY	51	PSCP-3-063 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	SY334 2
RE	241SY	11	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	SY330 1
RE	241SY	21	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	SY331 1
RE	241SY	31	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	SY332 1
RE	241SY	41	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	SY333 1
RE	241SY	51	N/A PRECALIBRATED 7-GN-38	01M	SAFETY	SY334 1

TABLE SY.6.3: FEED PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	02E	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY047 3
LDK	02E	1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY047 2

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TABLE SY.6.8: DRAIN PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 02D 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	SY041 3
LDE 02D1 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	SY041 1
LDK 02D 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY041 2

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APPENDIX III: DOUBLE CONTAINED RECEIVER TANK INSTRUMENTS

TABLE DCRT.A.1: 244-A TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
SGR TK	PSCP-4-025 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A009 2
SGT TK	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A009 1
WFA H TK	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4A008 6
WFA L TK	N/A SPECIAL CHECK 7-GN-38	06M	PRIMARY	4A008 3
WFAS TK H	PSCP-6-017 LIMITED CALIBRATION 7-GN-38	06M	SAFETY	4A008 5
WFAS TK L	PSCP-6-017 LIMITED CALIBRATION 7-GN-38	06M	PRIMARY	4A008 2
WFR TK	PSCP-4-025 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4A008 4
WFT TK	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4A008 1

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TABLE DCRT.A.2: 244-A ANNULUS SUMP LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
SGI A	PSCP-4-091 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A006 2
SGT A	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A006 1
WFA H A	N/A SPECIAL CHECK 7-GN-38	06M	HI ACC	4A005 4
WFAS A	PSCP-6-017 LIMITED CALIBRATION 7-GN-38	06M	HI ACC	4A005 3
WFI A	PSCP-4-091 OVERALL CALIBRATION 7-GN-38	06M	PRIMARY	4A005 2
WFT A	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	06M	HI ACC	4A005 1

TABLE DCRT.A.4: 244-A ANNULUS RADIATION/LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT A	PSCP-6-006 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4A028 4
CVT EXH	PSCP-6-006 OVERALL CALIBRATION 7-GN-38	06M	PRIMARY	4A030 2
FA EXH 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	4A30B 9
FAS EXH 2	PSCP-6-029 LIMITED CALIBRATION 7-GN-38	06M	OSR	4A30B 3

9 2 1 2 5 7 4 0 4 7 3

TABLE DCRT.A.4: 244-A ANNULUS RADIATION/LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
FE	EXH	2	N/A PRECALIBRATED 7-GN-38	06M	SAFETY	4A030 1
FI	A		N/A FUNCTIONAL TEST 7-GN-38	06M	PRIMARY	4A028 6
FR	EXH		PSCP-4-025 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A024 3
RA	A		N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4A028 3
RA	EXH	1 1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4A30B 6
RA	EXH	1 2	N/A SPECIAL CHECK 7-GN-38	06M	OSR	4A30B 7
RE	A		N/A PRECALIBRATED 7-GN-38	06M	SAFETY	4A028 1
RIAS	A	AI	PSCP-3-013 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	4A028 2
RR	A		PSCP-4-025 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4A028 5
RR	EXH	1	PSCP-4-025 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4A30C 2
RXA	EXH	1 1	N/A SPECIAL CHECK 7-GN-38	06M	OSR	4A30B 4
RXA	EXH	1 2	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4A30B 5

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TABLE DCRT.A.5: 244-A PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA PP	N/A SPECIAL CHECK N/A	02M	SAFETY	4A017 3
LDAS PP	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4A017 2
LDE PP SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4A017 1

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TABLE DCRT.S.1: 244-S TANK LIQUID LEVEL DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
SGR	TK	1	PSCP-4-001 OVERALL CALIBRATION N/A	12M	PRIMARY	4S040 2
SGT	TK	1	PSCP-6-014 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4S040 1
WFA	TK	1A	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4S022 4
WFA	TK	1B	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4S022 5
WFAS	TK	1	PSCP-6-051 LIMITED CALIBRATION 7-GN-38	12M	PRIMARY	4S022 3
WFR	TK	1	PSCP-4-045 OVERALL CALIBRATION 7-GN-38	12M	OP AID	4S022 2
WFT	TK	1	PSCP-6-014 OVERALL CALIBRATION 7-GN-38	12M	OP AID	4S022 1

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TABLE DCRT.S.2: 244-S ANNULUS SUMP LIQUID LEVEL

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
SGI	S	1	PSCP-4-059 OVERALL CALIBRATION N/A	06M	HI ACC	4S041 2
SGT	S	1	PSCP-6-014 OVERALL CALIBRATION 7-GN-38	06M	HI ACC	4S041 1
WFA	S	1	N/A SPECIAL CHECK N/A	06M	HI ACC	4S021 4
WFAS	S		PSCP-6-011 LIMITED CALIBRATION 7-GN-38	06M	HI ACC	4S021 3
WFI	S	1	N/A FUNCTIONAL TEST N/A	06M	HI ACC	4S021 2
WFT	S	1	PSCP-6-014 OVERALL CALIBRATION 7-GN-38	06M	HI ACC	4S021 1

TABLE DCRT.S.4: 244-S ANNULUS RADIATION/LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT	AS	1	PSCP-6-004 OVERALL CALIBRATION N/A	06M	SAFETY	4S051 2
MS	AS	1	N/A FUNCTIONAL TEST 7-GN-38	12M	OP AID	4S052 1
RA	AS	1	N/A SPECIAL CHECK N/A	06M	SAFETY	4S051 5
RA	AS	2	N/A SPECIAL CHECK N/A	06M	SAFETY	4S051 6

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TABLE DCRT.S.4: 244-S ANNULUS RADIATION/LEAK DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RR	AS	1	PSCP-4-001 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4S051 3
SS	AS	1	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	4S051 4

TABLE DCRT.S.5: 244-S PUMP PIT LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	PP	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	4S008 3
LDA	PP	2	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S007 3
LDE	PP	1 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	4S008 1
LDE	PP	2 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	SAFETY	4S007 1
LDK	PP	1	N/A SPECIAL CHECK 7-GN-42	01M	SAFETY	4S008 2
LDK	PP	2AA	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S007 2

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TABLE DCRT.S.6: 244-S TRANSFER LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA V456	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4S001 3
LDA V456	N/A SPECIAL CHECK N/A	06M	SAFETY	4S001 3
LDE V456 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	4S001 1
LDK V456	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S001 2
LDA V522	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S004 3
LDE V522 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	4S004 1
LDK V522	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S004 2
LDA V560	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S006 3
LDE V560 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	4S006 1
LDK V560	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S006 2
LDA V561	N/A SPECIAL CHECK N/A	06M	SAFETY	4S003 3
LDA V561	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4S003 3

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TABLE DCRT.S.6: 244-S TRANSFER LINE LEAK DETECTION (Cont)

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE V561 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	4S003 1
LDK V561	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S003 2
LDA V562	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S005 3
LDE V562 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	4S005 1
LDK V562	N/A SPECIAL CHECK 7-GN-42	06M	SAFETY	4S005 2

TABLE DCRT.TX.1: 244-TX TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LA 244TX 1	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4T078 5
LA 244TX 2	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4T078 8
LA 244TX 1A	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4T078 4
LA 244TX 2A	N/A SPECIAL CHECK 7-GN-38	12M	PRIMARY	4T078 7
LAS 244TX 1	PSCP-6-011 LIMITED CALIBRATION 7-GN-38	12M	PRIMARY	4T078 3

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TABLE DCRT.TX.1: 244-TX TANK LIQUID LEVEL DETECTION (Cont)

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LAS	244TX	2	PSCP-5-011 LIMITED CALIBRATION 7-GN-38	12M	PRIMARY	4T078 6
LR	244TX	1	PSCP-4-001 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T078 2
LY	244TX	1	PSCP-6-009 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T078 1
SGR	244TX	1	PSCP-4-001 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T081 2
SGT	244TX	1	PSCP-6-002 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T081 1
WFR	244TX	1	PSCP-4-001 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T079 2
WFT	244TX	1	PSCP-6-002 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	4T079 1

TABLE DCRT.TX.2: 244-TX ANNULUS SUMP LIQUID LEVEL

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LLE	244TX	1	N/A PRECALIBRATED 7-GN-38	03M	SAFETY	4T029 1
LLI	244TX	1	N/A FUNCTIONAL TEST 7-GN-38	03M	SAFETY	4T029 2

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TABLE DCRT.TX.3: 244-TX ANNULUS SUMP LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 2	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T036 6
LDA 2A	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T036 5
LDE SP	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T036 1
LDA 3	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T051 2
LDA 3A	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T051 1

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TABLE DCRT.TX.4: 244-TX ANNULUS RADIATION/LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
CVT	244TX	3	PSCP-6-004 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4T083 4
RA	244TX	1	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4T083 3
RA	244TX	3	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4T083 6
RA	244TX	1A	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4T083 2
RA	244TX	3A	N/A SPECIAL CHECK 7-GN-38	06M	SAFETY	4T083 7
RR	244TX	1	PSCP-4-001 OVERALL CALIBRATION 7-GN-38	06M	SAFETY	4T083 5

TABLE DCRT.TX.5: 244-TX PUMP PIT LEAK DETECTION

INSTRUMENT		PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	PP	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T045 1
LDA	1	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T054 2
LDA	1A	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	4T054 1

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TABLE DCRT.TX.6: 244-TX TRANSFER LINE LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE	TL	1	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T035 1
LDE	TL	2	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T034 1
LDE	TL	3	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T044 1
LDE	TL	4	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T042 1
LDE	TL	5	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T041 1
LDE	TL	7	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	4T046 1

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APPENDIX IV: WASTE TRANSFER AND ROUTING FACILITY INSTRUMENTS

TABLE CT.A350.1: 350 DRAINAGE LIFT STATION TANK LEVEL

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LE 350 1	OPERABILITY CHECK 7-GN-42	02M	SAFETY	AE070 1
LK 350 1	SPECIAL CHECK 7-GN-42	02M	SAFETY	AE070 2
LA 350 1	SPECIAL CHECK 7-GN-42	02M	SAFETY	AE070 3
WFT 350 1	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	AE073 4
WFR 350 1	PSCP-4-025 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	AE073 5
SGT 350 1	PSCP-6-010 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	AE073 6
SGR 350 1	PSCP-4-025 OVERALL CALIBRATION 7-GN-38	12M	PRIMARY	AE073 7

TABLE CT.A350.2: 350 DRAINAGE LIFT STATION SUMP LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 3502 SYS	FUNCTIONAL TEST 7-GN-42	02M	SAFETY	AE076 1
LDA 350 2	SPECIAL CHECK 7-GN-42	02M	SAFETY	AE076 2

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TABLE CT.A350.5: 350 DRAINAGE LIFT STATION PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 3501 SYS	FUNCTIONAL TEST 7-GN-42	02M	SAFETY	AE074 1
LDK 350 1	SPECIAL CHECK 7-GN-42	02M	SAFETY	AE074 3
LDA 350 1	SPECIAL CHECK 7-GN-42	02M	SAFETY	AE074 4

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TABLE CT.A417.0: 241-A-417 CONDENSATE LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
HLL TK 417	PSCP-6-011 7-GN-38	06M	SAFETY	2A020 3
WFA 417 1	N/A 7-GN-38	06M	SAFETY	2A020 4
WFR 417	PSCP-4-054 7-GN-38	06M	SAFETY	2A020 2
WFT TK 417	PSCP-6-068 7-GN-38	06M	SAFETY	2A020 1

TABLE CT.A417.1: 241-A-417 CONDENSATE HOLD UP TANK LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA PP 1	N/A 7-GN-42	01M	SAFETY	2A018 3
LDE 417 2 SYS	PM 2E07036 7-GN-42	02M	SAFETY	2A018 2
LDE 4171/2 SYS	PM 2E07036 7-GN-42	02M	SAFETY	2A018 1

TABLE CT.AZ151.1: 241-AZ-151 CATCH TANK LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 151 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ170 3
LDE 1511 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ170 1
LDK 151 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ170 2

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TABLE CT.ER311.0: 241-ER-311 CATCH TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT ER 311	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M	HIGH AC	ER301 1

TABLE CT.ER311.1: 241-ER-311 CATCH TANK LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE ER 311 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	ER302 1

TABLE CT.EW.1: 241-EW-151 TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	REQ	CLASS	PISCES LOOP NO.
LE EW 151B	N/A PRECALIBRATED N/A	01M	SAFETY	EW001 1
LS EW 151B	N/A FUNCTIONAL TEST 7-GN-38	06M	SAFETY	EW001 2
UA EW 151B	N/A SPECIAL CHECK N/A	03M	SAFETY	EW001 3

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TABLE CT.EW.2: 241-EW-151 SECONDARY CONTAINMENT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE EW 151A SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	EW003 1
LDS EW 151A	N/A SPECIAL CHECK 7-GN-42	03M	SAFETY	EW003 2
UA EW 151A	N/A SPECIAL CHECK N/A	06M	SAFETY	EW003 3

TABLE CT.EW.5: 241-EW-151 JUMPER PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE EW 151 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	EW002 1
LDS EW 151	N/A SPECIAL CHECK 7-GN-42	03M	SAFETY	EW002 2

TABLE CT.EW.6: 241-EW-151 AREA RADIATION MONITORING

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
RE EW 151	N/A PRECALIBRATED N/A	06M	SAFETY	EW004 1
RIAS EW 151	PSCP-3-009 FUNCTIONAL TEST 7-GN-38	01M	SAFETY	EW004 2

TABLE CT.S302A.0: 241-S-302A CATCH TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT S 302A	N/A 7-GN-38	03M	OP. AID	S3001 1

9 2 1 2 6 7 4 0 4 9 9

TABLE CT.S302A.2: 241-S-302A CATCH TANK PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE S 302A SYS	N/A 7-GN-42	01M	SAFETY	S3002 1

TABLE CT.TX302C.0: 241-TX-302C CATCH TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT TX 302C	N/A 7-GN-38	06M	HIGH AC.	TX401 1

TABLE CT.TX302C.1: 241-TX-302C CATCH TANK LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE TX 302C SYS	N/A 7-GN-42	01M	SAFETY	TX402 1

TABLE CT.UX302A.0: 241-UX-302A CATCH TANK LIQUID LEVEL DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LIT UX 302A	6-TF-27 FUNCTIONAL TEST 6-TF-27	06M		UX301 1

TABLE CT.UX302A.1: 241-UX-302A CATCH TANK LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE UX 302A SYS	N/A FUNCTIONAL TEST 7-GN-42	02M		UX302 1

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TABLE DB.A151: 241-A-151 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE DB A151 SYS	N/A OPERABILITY CHECK 7-GN-42	02M	OSR	AW232 1
LDK DB A-151 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW232 2
LDE DB A 151 SYS	N/A 7-GN-42	02M	SAFETY	A3003 1
LDE DB A 151C SYS	N/A 7-GN-42	02M	SAFETY	A3004 1

TABLE DB.AR151: 241-AR-151 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE AR 151 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M		AR290 1

TABLE DB.AX155: 241-AX-155 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA AZ 155	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ181 3
LDE AX 155 SYS	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AZ181 1
LDK AX 155	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AZ181 2

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TABLE DB.ER151: 241-ER-151 DIVERSION BOX LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	ER	151	N/A SPECIAL CHECK 7-GN-38	02M	OSR	ER320 2
LDE	ER	151	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	ER320 1

TABLE DB.ER152: 241-ER-152 DIVERSION BOX LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	ER	152	N/A SPECIAL CHECK 7-GN-38	02M	OSR	ER330 2
LDE	ER	152	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	ER330 1

TABLE DB.ER153: 241-ER-153 DIVERSION BOX LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA	ER	153	N/A SPECIAL CHECK 7-GN-38	02M	OSR	ER340 2
LDE	ER	153	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	ER340 1

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TABLE DB.S151: 241-S-151 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA DB S151 SYS	N/A 7-GN-42	01M	SAFETY	SS001 3
LDE DB S151 SYS	N/A 7-GN-42	01M	SAFETY	SS001 1
LDK DB S151 SYS	N/A 7-GN-42	01M	SAFETY	SS001 2

TABLE DB.TX152: 241-TX-152 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE TX 152 DB	N/A 7-GN-38	01M	SAFETY	TX408 1

TABLE DB.TX154: 241-TX-154 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE TX 154 SYS	N/A 7-GN-42	01M	SAFETY	TX403 1

TABLE DB.U151: 241-U-151 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA DB U151 SYS	N/A 7-GN-42	01M	SAFETY	U0001 3
LDE DB U151 SYS	N/A 7-GN-42	01M	SAFETY	U0001 1
LDK DB U151 SYS	N/A 7-GN-42	01M	SAFETY	U0001 2

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TABLE DB.U152: 241-U-152 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA DB U152 SYS	N/A 7-GN-42	01M	SAFETY	U0002 3
LDE DB U152 SYS	N/A 7-GN-42	01M	SAFETY	U0002 1
LDK DB U152 SYS	N/A 7-GN-42	01M	SAFETY	U0002 2

TABLE DB.UX154: 241-UX-154 DIVERSION BOX LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA DB UX154 SYS	N/A 7-GN-42	01M	SAFETY	U0006 3
LDE DB UX154 SYS	N/A 7-GN-42	01M	SAFETY	U0006 1
LDK DB UX154 SYS	N/A 7-GN-42	01M	SAFETY	U0006 2
LDT 21	N/A 7-GN-38	06M	OP. AID	U0007 1

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TABLE DC.A401.0: 241-A-401 SAMPLER LEAK DETECTION

INSTRUMENT			PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
AMP	401	1	PSCP-3-027 7-GN-38	06M	SAFETY	2A048 5
CRM	401	1	PSCP-3-030 7-GN-38	06M	SAFETY	2A048 7
DISC	401	1	PSCP-3-027 7-GN-38	06M	SAFETY	2A048 6
PAMP	401	1	PSCP-3-030 7-GN-38	06M	SAFETY	2A048 2
PWR	401	1	PSCP-3-027 7-GN-38	06M	SAFETY	2A048 4
RA	H	401 1	N/A 7-GN-38	06M	SAFETY	2A48A 3
RAIS	401	1	PSCP-3-030 7-GN-38	01M	SAFETY	2A48A 3
RE	401	1	6-TF-29 7-GN-38	06M	SAFETY	2A048 1
RR	401	1	PSCP-4-045 7-GN-38	06M	SAFETY	2A48A 1
XA	401	1	N/A 7-GN-38	06M	SAFETY	2A48A 2

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TABLE DC.A401.1: 241-A-401 DIVERTER CAISSON LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 401 1 1	N/A 7-GN-38	01M	SAFETY	2A069 3
LDE 4011 SYS	PM 2E07036 7-GN-42	02M	SAFETY	2A069 1

TABLE DS.AX152.0: 241-AX-152 DIVERTER STATION PUMP PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE PP 152AX	N/A 7-GN-42	02M	OSR	AX139 1
LDK PP 152AX	N/A 7-GN-42	01M	SAFETY	AX139 2

TABLE DS.AX152.1: 241-AX-152 DIVERTER STATION LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE DS 152AX	N/A 7-GN-42	01M	OSR	AX140 1
LDK DS 152AX	N/A 7-GN-42	01M	SAFETY	AX140 2

TABLE VP.A-A.0: 241-A-A VALVE PIT LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE LD3	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	2R072 1
LDK LD3	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	2R072 2
LDA LIQW 1A 1	N/A SPECIAL CHECK 7-GN-38	02M	SAFETY	2R072 3

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TABLE VP.A-A.1: 241-A-A VALVE PIT LINE LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE LD3 A	N/A FUNCTIONAL TEST 7-GN-42	02M	SAFETY	2R050 1
LDK LD3 A	N/A SPECIAL CHECK 7-GN-42	02M	SAFETY	2R050 2

TABLE VP.A-B: 241-A-B VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP241A-B 1	N/A 7-GN-38	01M	SAFETY	A0242 2
LDE VP241A-B 1	N/A 7-GN-38	01M	SAFETY	A0242 1

TABLE VP.AN-A: AN-A VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP AN A	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN020 3
LDE VP AN A SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN020 1
LDK VP AN A	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN020 2

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TABLE VP.AN-B: AN-B VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP AN B	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN233 3
LDE VP AN B SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AN233 1
LDK VP AN B	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AN233 2

TABLE VP.AP: AP VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP801 2
LDA VP 2	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP801 3
LDE VP 1 SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	AP801 1
LDXA VP 1	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AP801 4

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TABLE VP.AW-A: AW-A VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
KTD VP A	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW004 2
LDE VP AW A	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW004 1

TABLE VP.AW-B: AW-B VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE VP AW B	7-GN-42 FUNCTIONAL TEST 7-GN-42	02M	OSR	AW005 1
LDK VP B	N/A SPECIAL CHECK 7-GN-42	02M	OSR	AW005 2

TABLE VP.AX-A: 241-AX-A VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 241AX A	N/A 7-GN-42	01M	OSR	AX177 1

TABLE VP.AX-B: 241-AX-B VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDE 241AX B	N/A 7-GN-42	01M	OSR	AX178 1

9 2 1 2 5 7 4 0 4 9 9

TABLE VP.SY-A: SY-A VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP SY A	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY036 3
LDK VP SY A	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY036 2

TABLE VP.SY-B: SY-B VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA VP SY B	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY037 3
LDE VP SY-B SYS	N/A FUNCTIONAL TEST 7-GN-42	02M	OSR	SY037 1
LDK VP SY B	N/A SPECIAL CHECK 7-GN-42	02M	OSR	SY037 2

TABLE VP.AY-501: AY-501 CONDENSATE VALVE PIT LEAK DETECTION

INSTRUMENT	PROCEDURE	FREQ	CLASS	PISCES LOOP NO.
LDA 501 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY098 3
LDE 501AY	N/A FUNCTIONAL TEST 7-GN-42	01M	OSR	AY098 1
LDK 501 1	N/A SPECIAL CHECK 7-GN-42	01M	OSR	AY098 2

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APPENDIX V: INSTRUMENT ACRONYM LIST

9 2 1 2 5 7 4 0 5 0 1

AI	AMMETER INDICATOR
AIR	AMMETER INDICATING RECORDER
AMP	AMPLIFIER
ANN	ANNUNCIATOR
ANNK	ANNUNCIATOR RELAY
AT	AMMETER TRANSMITTER
AVB	ATMOSPHERIC VACUUM BREAKER
AY	AMMETER CONVERTER
BDV	BOTTOM DUMP VALVE
BFP	BACKFLOW PREVENTER
CA2	CONDUCTIVITY ALARM
CAM	CONTINUOUS AIR MONITOR
COV	CYLINDER OPERATED VALVE
CRM	COUNT RATE METER
CVT	CONVERTER
CW	COOLING WATER
CWM	COOLING WATER MOTOR
DA	DIFFERENTIAL ALARM
DCR	DISTRIBUTION CENTER RECORDER
DISC	DISCRIMINATOR
DM	DAMPER MOTOR
DOV	DIAPHRAM OPERATED VALVE
DPA	DIFFERENTIAL PRESSURE ALARM
DPAS	DIFFERENTIAL PRESSURE ALARM SWITCH
DPI	DIFFERENTIAL PRESSURE INDICATOR
DPIA	DIFFERENTIAL PRESSURE INDICATOR ALARM
DPIC	DIFFERENTIAL PRESSURE INDICATOR CONTROLLER
DPIS	DIFFERENTIAL PRESSURE INDICATOR SWITCH
DPR	DIFFERENTIAL PRESSURE RECORDER
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DPV	DIFFERENTIAL PRESSURE VALVE
DPY	DIFFERENTIAL PRESSURE CONVERTER
DTA	DIFFERENTIAL TRANSMITTER ALARM
DTC	DIFFERENTIAL TRANSMITTER CONTROLLER
EP	ELECTRO-PNEUMATIC
EPC	ELECTRIC-PNEUMATIC CONVERTER
EV	ELECTRIC VALVE
FA	FLOW ALARM
FAL	FLOW ALARM LOW
FAS	FLOW ALARM SWITCH
FASL	FLOW ALARM SWITCH LOW
FC	FLOW CONTROLLER
FCV	FLOW CONTROLLING VALVE
FD	FILTER UNIT
FE	FLOW ELEMENT
FI	FLOW INDICATOR

APPENDIX V: INSTRUMENT ACRONYM LIST (Cont)

9 2 1 2 5 7 4 0 5 0 2

FIAS	FLOW INDICATING ALARM SWITCH
FIC	FLOW INDICATING CONTROLLER
FIQ	FLOW INDICATING TOTALIZER
FIR	FLOW INDICATING RECORDER
FIT	FLOW INDICATOR TRANSMITTER
FL	FLOW/SIGNAL CHARACTERIZER
FM	FLOW METER
FPC	FLOW PRESSURE CONTROLLER
FPS	FLOW PRESSURE SWITCH
FQ	FLOW INTEGRATOR
FQI	FLOW TOTALIZER
FR	FLOW RECORDER
FRC	FLOW RECORDER CONTROLLER
FS	FLOAT SWITCH
FSL	FLOW SWITCH LOW
FT	FLOW TRANSMITTER
FTS	FLOW TRANSMITTER SWITCH
FXA	FLOW FAILURE ALARM
FY	FLOW CONVERTER
FYT	FLOW CONVERTER TRANSMITTER
HFA	HIGH FLOW ALARM
HLA	HIGH LEVEL ALARM
HLE	HIGH LEVEL ELEMENT
HLS	HIGH LEVEL SWITCH
HT	HEAT TRACE
HTA	HEAT TRACE ALARM
HTAS	HEAT TRACE ALARM SWITCH
HTS	HIGH TEMPERATURE SWITCH
HTTC	HEAT TRACE TEMPERATURE CONTROLLER
HVPS	HIGH VOLTAGE POWER SUPPLY
IA	INSTRUMENT AIR
IAS	INSTRUMENT AIR SWITCH
IC	INSTRUMENT CABINET
ID	INSIDE DIAMETER
IFR	INTERFACE RECORDER
IFT	INTERFACE TRANSMITTER
IIC	CURRENT INDICATING CONTROLLER
IL	INDICATING LIGHT
JA	JET ALARM
JSA	JET SHUT-DOWN ALARM
K	ELECTRIC RELAY
KH	HEATER ALARM UNIT
KHS	HEATER ALARM UNIT SWITCH
KM	TIMER
KP	PHASE SEPARATOR (KNOCKOUT POT)

APPENDIX V: INSTRUMENT ACRONYM LIST (Cont)

9 2 1 2 5 7 4 0 5 0 3

KTD	TIME DELAY RELAY
L	ELECTRIC PANEL
LA	LEVEL ALARM
LAK	LEVEL ALARM RELAY
LAM	CURRENT LIMIT ALARM MODULE
LAS	LEVEL ALARM SWITCH
LCA	LOW COUNT ALARM
LDA	LEAK DETECTOR ALARM
LDAS	LEAK DETECTOR ALARM SWITCH
LDE	LEAK DETECTOR ELEMENT
LDI	LEAK DETECTOR INDICATOR
LDK	LEAK DETECTOR RELAY
LDS	LEAK DETECTOR SWITCH
LDT	LEAK DETECTOR TRANSMITTER
LDXA	LEAK DETECTOR FAILURE ALARM
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LIAS	LEVEL INDICATOR ALARM SWITCH
LIT	LEVEL INDICATOR TRANSMITTER
LK	LEVEL RELAY
LLA	LIQUID LEVEL ALARM
LLAS	LIQUID LEVEL ALARM SWITCH
LLE	LIQUID LEVEL ELEMENT
LLI	LIQUID LEVEL INDICATOR
LLK	LIQUID LEVEL RELAY
LLR	LIQUID LEVEL RECORDER
LLT	LIQUID LEVEL TRANSMITTER
LR	LEVEL RECORDER
LS	LIMIT SWITCH
LVA	LOW VACUUM ALARM
LXA	LEVEL FAILURE ALARM
LY	SIGNAL DIVIDER
MA	MOISTURE ALARM
ME	MOISTURE ELEMENT
MOV	SHUT DOWN OPERATED VALVE
MR	MOISTURE RECORDER
MS	SHUT DOWN SWITCH
MSA	SHUT DOWN ALARM
MT	SHUT DOWN TRANSMITTER
MY	SHUT DOWN CONVERTER
NAN	NOX ANALYZER
NI	NOX INDICATOR
NR	NOX RECORDER
NT	NOX TRANSMITTER
OTC	OVER TEMPERATURE CONTROLLER
OTIC	OVER TEMPERATURE INDICATOR CONTROLLER

APPENDIX V: INSTRUMENT ACRONYM LIST (Cont)

9 2 1 2 5 7 4 0 5 0 4

OTS	OVER TEMPERATURE SWITCH
P	PUMP
PA	PRESSURE ALARM
PAD	PREAMP DISCRIMINATOR
PAMP	PRE-AMPLIFIER
PAS	PRESSURE ALARM SWITCH
PB	PUSH BUTTON
PC	PRESSURE CONTROLLER
PCI	PRESSURE CONTROLLER INDICATOR
PCV	PRESSURE CONTROL VALVE
PE	PRESSURE ELEMENT
PHAN	PULSE HEIGHT ANALYZER
PHE	PH ELEMENT
PHI	PH INDICATOR
PHT	PH TRANSMITTER
PI	PRESSURE INDICATOR
PIAS	PRESSURE INDICATOR ALARM SWITCH
PIC	PRESSURE INDICATOR CONTROLLER
PICV	PRESSURE INDICATOR CONTROLLER VALVE
PIR	PRESSURE INDICATOR RECORDER
PIT	PRESSURE INDICATOR TRANSMITTER
PK	PRESSURE RELAY
POV	PISTON OPERATED VALVE
PR	PRESSURE RECORDER
PRAM	PRE-RADIATION AMPLIFIER
PRC	PRESSURE RECORDER CONTROLLER
PRV	PRESSURE RELIEF VALVE
PS	PRESSURE SWITCH
PSC	PROPORTIONAL SAMPLE CONTROL
PSV	PRESSURE SAFETY VALVE
PT	PRESSURE TRANSMITTER
PWR	POWER UNIT
PWRR	POWER UNIT RECORDER
QA	QUANTITY ALARM
QQ	TIME TOTALIZER
RA	RADIATION ALARM
RAL	RADIATION ALARM LOW
RAM	RADIATION AIR MONITOR
RAMP	RADIATION AMPLIFIER
RAS	RADIATION ALARM SWITCH
RAT	RADIATION ALARM TRANSMITTER
RE	RADIATION ELEMENT
RFAS	RADIATION FAIL ALARM SWITCH
RI	RADIATION INDICATOR
RIAS	RADIATION INDICATOR ALARM SWITCH
RIY	RADIATION INDICATOR CONVERTER

APPENDIX V: INSTRUMENT ACRONYM LIST (Cont)

9 2 1 2 5 7 4 0 5 0 5

RM	RADIATION MONITOR
RMA	RADIATION MONITOR ALARM
RPAMP	RADIATION PRE-AMPLIFIER
RR	RADIATION RECORDER
RTD	RESISTANCE TEMPERATURE DEVICE
RV	RADIATION VALVE
RXA	RADIATION FAILURE ALARM
RY	RADIATION CONVERTER
SA	SUMP ALARM
SAS	SUMP ALARM SWITCH
SC	SIGNAL CONDITIONER
SCS	SAMPLE CONTROL SWITCH
SDA	SHUT DOWN ALARM
SGI	SPECIFIC GRAVITY INDICATOR
SGR	SPECIFIC GRAVITY RECORDER
SGT	SPECIFIC GRAVITY TRANSMITTER
SLE	SLUDGE LEVEL ELEMENT
SLI	SLUDGE LEVEL INDICATOR
SOV	SOLENOID OPERATED VALVE
SRV	SAFETY RELIEF VALVE
SS	SELECTOR SWITCH
ST	SETTLING TANK
SV	SAFETY VALVE
T	TEMPERATURE
TA	TEMPERATURE ALARM
TAS	TEMPERATURE ALARM SWITCH
TC	TEMPERATURE CONTROLLER
TCK	TIME CONTROL RELAY
TCV	TEMPERATURE CONTROL VALVE
TDC	TEMPERATURE DIFFERENTIAL CONTROLLER
TDK	TEMPERATURE DIFFERENTIAL RELAY
TDR	TEMPERATURE DIFFERENTIAL RECORDER
TDS	TEMPERATURE DIFFERENTIAL SWITCH
TDY	TEMPERATURE DIFFERENTIAL CONVERTER
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR
TIC	TEMPERATURE INDICATING CONTROLLER
TIS	TEMPERATURE INDICATOR SWITCH
TQ	TEMPERATURE INTEGRATOR
TR	TEMPERATURE RECORDER
TRC	TEMPERATURE RECORDER CONTROLLER
TRV	TEMPERATURE REGULATING VALVE
TS	TEMPERATURE SWITCH
TT	TEMPERATURE TRANSMITTER
TY	TEMPERATURE CONVERTER
UA	UNIT HEATER

APPENDIX V: INSTRUMENT ACRONYM LIST (Cont)

9 2 1 2 5 7 4 0 5 0 6

UTA	UNDER TEMPERATURE ALARM
UTAS	UNDER TEMPERATURE ALARM SWITCH
UTIC	UNDER TEMPERATURE INDICATOR CONTROLLER
UXA	UNDER TEMPERATURE FAILURE ALARM
VAS	VACUUM ALARM SWITCH
VBA	VIBRATION ALARM
VBAN	VIBRATION ANALYZER
VBE	VIBRATION ELEMENT
VC	VALVE CONTROLLER
VI	VIBRATION INDICATOR
VIB	VIBRATION MONITOR
VPA	VACUUM PUMP ALARM
VS	VACUUM SWITCH
VV	VESSEL VENT
WFA	WEIGHT FACTOR ALARM
WFAS	WEIGHT FACTOR ALARM SWITCH
WFI	WEIGHT FACTOR INDICATOR
WFIA	WEIGHT FACTOR INDICATOR ALARM
WFR	WEIGHT FACTOR RECORDER
WFRC	WEIGHT FACTOR RECORDER CONTROLLER
WFT	WEIGHT FACTOR TRANSMITTER
XA	FAILURE ALARM
XAS	FAILURE ALARM SWITCH
XE	FAILURE ELEMENT
XR	FAILURE RECORDER
XS	FAILURE SWITCH
XT	FAILURE TRANSMITTER
Y	CONVERTER
YC	SAMPLER CONTROLLER
ZL	POSITION LIGHT
ZR	POSITION RECORDER
ZS	POSITION SWITCH

INFORMATION RELEASE REQUEST

References:
WHC-CM-3-4

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