



**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

98-SCD-088

JUL 22 1998

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W., Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

COMPLETION OF THE DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) RECOMMENDATION 93-5 IMPLEMENTATION PLAN (IP), REVISION 1, MILESTONE 5.6.3.1.h, "LETTER REPORTING COMPLETION OF TANK-BY-TANK SAFETY STATUS EVALUATION"


The attached Tank-by-Tank Safety Status Evaluation Report summarizes the safety evaluations conducted for 177 single-shell and double-shell tanks in the Tank Waste Remediation System (TWRS) at the Hanford Site. This report is submitted to meet the requirements of DNFSB Recommendation 93-5 IP, Revision 1, Milestone 5.6.3.1.h, to issue a "Letter Reporting Completion of Tank-by-Tank Safety Status Evaluation," by July 31, 1998.

The format, content, and tank safety status sheets used in this report were developed through informal discussions with the DNFSB staff. This report is organized to provide "at-a-glance" the tank physical characteristics, waste characteristics, and safety status of the 177 tanks.

RL has completed the action identified under this milestone and proposes closure of this commitment.

If you have any questions, please contact me, or your staff may contact Jackson Kinzer, Assistant Manager for TWRS, on (509) 376-7591.

Sincerely,

  
John D. Wagoner  
Manager

SCD:WSL

Attachment

cc: See page 2

# Tank-by-Tank Safety Status Evaluation

J. G. Field  
Lockheed Martin Hanford Corp.

Date Published  
June 1998

Prepared for the U.S. Department of Energy  
Assistant Secretary for Environmental Management



**Fluor Daniel Hanford, Inc.**  
P.O. Box 1000  
Richland, Washington

Hanford Management and Integration Contractor for the  
U.S. Department of Energy under Contract DE-AC06-96RL13200

# Tank-by-Tank Safety Status Evaluation

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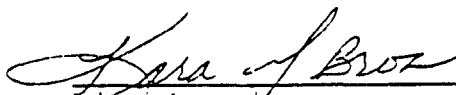
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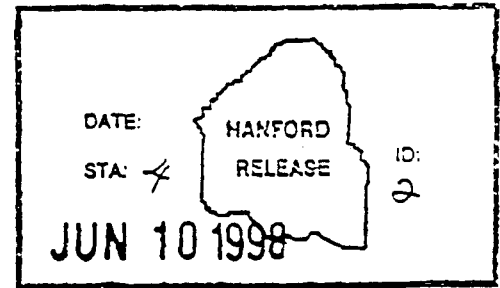
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Date



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**LIST OF TERMS (Continued)**

SHMS	Standard Hydrogen Monitoring System
SRR	Slurried PUREX sludge from A and AX Farms. This sludge was sent to B Plant for strontium recovery from 1967 to 1976: Some 801 kgal was sent to B Plant, and 2,819 kgal was returned from B Plant. Tanks 241-A-102, 241-A-106, and 241-AX-103 were the staging tanks from which sludge was sent to the AR vault, and supernatant was sent to tank 241-C-105.
TBP	tributyl phosphate
TCR	tank characterization report
TGA	thermogravimetric analysis
TOC	total organic carbon
TRU	transuranic
TSSS	tank safety status sheet(s)
T1	saltcake waste generated from the 242-T Evaporator crystallizer (1951 to 1955)
T2	saltcake waste generated from the 242-T Evaporator crystallizer (1955 to 1965)
TTSE	tank-by-tank safety evaluation
TWRS	Tank Waste Remediation System
USQ	unresolved safety question
URMA	underground radiation materials area
Zr	zirconium
$\mu\text{Ci/g}$	microcuries per gram
$\mu\text{Ci/mL}$	microcuries per milliliter

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**LIST OF TERMS**

A1	Saltcake waste generated from the 242-A Evaporator crystallizer (1977 to 1980)
A2	Salt slurry waste generated from the 242-A Evaporator crystallizer (1981 to 1994)
BiPO <sub>4</sub>	Bismuth phosphate process. This was the first precipitation process used at the Hanford Site for separating plutonium from irradiated uranium fuels. This process was replaced by REDOX and PUREX processes to gain the advantages of separation and recovery of the uranium and plutonium fission products in tanks 241-B-222 and 241-U-222 (1944 to 1956). The process left uranium in the waste.
CGM	combustible gas meter
CO <sub>3</sub>	carbonate
DNFSB	Defense Nuclear Facilities Safety Board
DQO	data quality objective
gal	gallons
GRE	gas release event
HDW	Hanford defined waste
HTI	Hanford Tank Initiative
H <sub>2</sub>	hydrogen
ICP	inductively coupled plasma (spectroscopy)
kgal	kilogallon
LaF <sub>3</sub>	Lanthanum fluoride waste generated in Plutonium Finishing Plant operation
LFL	lower flammability limit
m <sup>2</sup>	square meters
m <sup>3</sup>	cubic meters
NH <sub>3</sub>	ammonia
NPH	normal paraffin hydrocarbon (low-level non-transuranic liquid waste)
OVM	Organic vapor monitor
P2	PUREX high-level waste generated between 1963 and 1967
ppbv	parts per billion by volume
ppmv	parts per million by volume
PUREX	Plutonium-Uranium Extraction Plant
RBA	radiological buffer area
R/CWR	REDOX/cladding waste REDOX
REDOX	reduction-oxidation
RMA	radioactive material area
RGS	retained gas sampler
SCA	surface contamination area

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## TANK-BY-TANK SAFETY STATUS EVALUATION

### 1.0 INTRODUCTION

This report summarizes the safety analyses and evaluations conducted for 177 single-shell and double-shell tanks in the Tank Waste Remediation System at the Hanford Site. The report was completed to fulfill the Defense Nuclear Facilities Safety Board (DNFSB) Milestone 5.6.3.1.h, to issue a "letter reporting completion of tank-by-tank safety status evaluation" by July 1998. This is one of the milestones required to close issues identified in the *Recommendation 93-5 Implementation Plan* (DOE/RL 1996).

The proposed format and content to be used for the tank-by-tank safety evaluation were outlined in letter 9655904 from M. Payne to S. Marchetti, dated November 25, 1996 (see Appendix A). Through the process of document development and informal discussions with the DNFSB, the final format and content has been modified slightly from that of Appendix A. Appendix B contains a tank safety status sheet (TSSS) for each single-shell and double-shell tank.

### 2.0 OBJECTIVES AND SCOPE

The objective of this report is to provide "at-a-glance" safety and characterization information about the tanks. For this reason, the information for each tank is limited to one page. A TSSS is provided in Appendix B for each tank in alphabetical order, starting with tank 241-A-101 and ending with tank 241-U-204.

The TSSS for each single-shell tank is current as of November 30, 1997. The tank temperature information is current as of March 1, 1998.

All waste volumes for the double-shell tanks were updated to conditions existing on February 1, 1998, as specified in the Hanford double-shell tank transfers database (Koreski 1998). The volume and content of many double-shell tanks changes frequently because of liquid waste transfers. Consequently, tank volumes and temperatures shown in a TSSS may not be current.

Data has not been evaluated completely for all tanks within the scope of the organic complexants; and organic solvent safety issues. These issues are addressed in DOE-RL (1996) and are expected to be fully resolved during Fiscal Year 1998. Although the flammable gas unreviewed safety question is expected to be closed in Fiscal Year 1998, final resolution of the flammable gas safety issue is not expected until Fiscal Year 2001. The safety status or



designations identified in a TSSS were based on documented information available at the time this report was prepared.

### **3.0 INFORMATION CONTAINED IN A TANK SAFETY STATUS SHEET**

The types of information provided and the sources used to prepare each TSSS are described below.

#### **3.1 TANK PHYSICAL PARAMETERS**

- Tank type: double- or single-shell (Hanlon 1998)
- Capacity: maximum volume of waste the tank can hold
- Ventilation: active or passive (Jensen and Kriskovich 1998)
- Service: active or inactive status and stabilization status (Hanlon 1998)
- Integrity: sound or assumed leaker (Hanlon 1998)

#### **3.2 WASTE PARAMETERS**

- Volume: Appendix D of the tank characterization reports includes total tank volume and waste classification and supernatant volume and solids volume. Double-shell tank volumes and inventories are updated to values in the Waste Transactions Database as of January 1, 1998 (Koreski 1998).

##### Waste Classifications Shown in TSSS

Aging waste: high-level, first cycle solvent extraction waste from the Plutonium-Uranium Extraction Plant (PUREX)

Complexant concentrate waste: concentrated product from the evaporation of complexed waste

Dilute complexed waste: characterized by high organic carbon. Salt well liquids from single-shell tanks are the main source in the double-shell tank system.

Dilute noncomplexed waste: low-activity waste originating from T and S Plants, 300 and 400 areas, PUREX facility decladding supernatant and miscellaneous waste, 100 N Area sulfate waste, B Plant, salt well pumping and Plutonium Finishing Plant supernatant

Noncomplexed waste: general waste term applied to all Hanford Site waste not identified as "complexed"

Double-shell slurry: evaporator waste high in sodium aluminate

Double-shell slurry feed: waste concentrated in the evaporator before reaching the sodium aluminate saturation boundary in the evaporator

PUREX neutralized cladding removal waste, and transuranic waste

Plutonium Finishing Plant transuranic solids

- Solid waste types: Tank characterization reports (see Appendix D of the reports) identify the following types of sludge and saltcake waste in the TSSS.

Sludge

224 waste from the LaF<sub>3</sub> plutonium concentration process

B Plant high-level waste

B Plant ion exchange waste

B Plant low-level waste

B Plant strontium recovery waste

Concentrated phosphate waste precipitate

Cesium recovery waste

Decontamination waste

Ferrocyanide sludge from in-plant scavenging of uranium recovery waste

Ferrocyanide sludge from in-farm scavenging of uranium recovery waste

Ferrocyanide treated first cycle waste BiPO<sub>4</sub> decontamination waste

First cycle BiPO<sub>4</sub> decontamination waste

Hot semi-works waste

Metal waste from the bismuth phosphate (BiPO<sub>4</sub>) process

PUREX cladding waste

PUREX cladding waste from zirflex process

PUREX high-level waste

PUREX low-level waste

PUREX process organic wash waste

Washed PUREX sludge

PUREX neutralized high-level waste

PUREX neutralized cladding removal waste

PUREX zirconium cladding waste

Reduction-oxidation (REDOX) high-level waste  
REDOX cladding waste  
Second cycle BiPO<sub>4</sub> decontamination waste  
Strontium semi-works  
Thoria high-level waste

T Plant decontamination waste  
Uranium recovery/tributyl phosphate waste  
Uranium sludge from ion exchange process  
Z Plant decontamination waste  
Z Plant sludge

Saltcake

A1 saltcake from the 242-A Evaporator (1977 to 1980)  
A2 saltcake from the 242-A Evaporator (1981 to 1984)  
B Plant saltcake from the 242-B Evaporator (1951 to 1955)  
BY saltcake from the intank solidification evaporator unit  
Evaporator bottoms  
REDOX process saltcake  
S saltcake from 242-S Evaporator  
Salt well liquid precipitate  
T1 saltcake from 242-T Evaporator  
T2 saltcake from 242-T Evaporator

Other

Diatomaceous earth

- Maximum temperature: highest temperature in the tank on March 1, 1998. TSSS dates before March 1, 1998 are the most current dates prior to March 1, 1998 for which tank temperature measurements were available.
- Heat load: calculated from radionuclide inventories in tank characterization reports or based on Kummerer (1995) heat load estimates based on tank headspace temperature measurements
- Sample events: Core, auger, grab, and vapor tank samples taken to date are shown. Combustible gas testing dates are shown where no core samples were taken. Combustible gas testing is also conducted before and during core sampling. Historical samples (pre-1989) are listed only by date where information may be applicable to current tank contents and no comparable "post-1989" data is available. Only the dates for the most current grab samples are listed (tank characterization reports or Stanton 1998).

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Future samples were identified for Fiscal Year 1998 only. Although additional sampling may be conducted, all future samples are contingent on program direction, budget, and need.

- Significant results: Results include primary analytes and analytes in the waste at concentrations greater than one percent. Major radionuclides in the tank are shown also. No mention is made in a TSSS of energetics or vapor constituents except when values exceeded notification limits. See Appendix D of the appropriate tank characterization report or the tank characterization database for sample results after August 1997.

### 3.3 SAFETY ISSUE STATUS

- Watch List. See waste tank summary reports (Hanlon 1998).
- Unreviewed safety question (USQ) status. The *Tank Waste Remediation System Basis for Interim Operation* (Noorani 1997) identifies the following USQs applicable to tank farms. These USQs are expected to be closed during Fiscal Year 1998.
  - Flammable Gas/Slurry Growth USQ (No. TF-95-0096): applies to all tanks except tank 241-SY-101.
  - Condensed-Phase Organic Nitrate Reactions USQ (No. TF-95-0096): applies to all tanks.

A third USQ was added in Fiscal Year 1998, Waste Surface Level Growth in 241-SY-101 (No. TF-97-0975).

- Applicable safety data quality objectives. See the *Tank Characterization Technical Sampling Basis* (Brown et al. 1997).
- Organic Complexants: Applies to single-shell tanks only. See *Organic Complexants Topical Report* (Meacham et al. 1997) for complexant classification and basis and tank characterization reports or the tank characterization database for total organic carbon values. The classifications are as follows: "safe" indicates the exotherms or total organic compound values for a tank are below a threshold limit of 4.5 wt%, "conditionally safe" indicates the tank was judged to pose a small risk when waste moisture was considered but judged to pose a risk if the wastes were dried out.
- Organic solvents: See *Screening for Organic Solvents in Hanford Waste Tanks Using Organic Vapor Concentrations* (Huckaby and Sklarew 1997). Vapor

samples have not been taken for any double-shell tanks because the tanks are actively ventilated. Recent studies have shown that organic solvents are not a safety concern for the tanks. Consequently, this issue is expected to be resolved for all tanks in Fiscal Year 1998. Tanks were classified as "safe" for this issue if the estimated organic solvent pool size was less than 1m<sup>2</sup>.

- **Flammable gas:** See *Results of Vapor Space Monitoring of Flammable Gas Watch List Tanks* (Wilkins et al. 1997) and the tank characterization database. Facility group taken from the Tank Farms Operations Administrative Controls Procedure, (Cox 1997) Table 5-10.C-1. Group one indicates the highest level of controls are required. Group three indicates the lowest level of controls and that flammable gas is not a concern for these tanks. Although the flammable gas USQ is expected to be closed in Fiscal Year 1998, final resolution of flammable gas issues for all tanks will continue until FY 2001.
- **Criticality:** See the tank characterization reports or the tank characterization database. The threshold limit for criticality is 1 g/L total alpha. Assuming all alpha is from <sup>239/240</sup>Pu, this is equivalent to 41 μCi/g for solids with a density of 1.5 g/ml and 61.5 μCi/ml for liquids with a specific gravity of 1.0.
- **Noxious Vapors:** See the *Tank Farms Health and Safety Plan* (Anderson 1998).
- **Unique Hazards/Controls:** See the *Tank Farms Health and Safety Plan* (Anderson 1998) and radioactivity postings in the tank farms. Note: Radioactivity postings may be different than those listed in the TSSS. For current information, contact Jim McCauley of radiological control (telephone 376-1473).

The following types of radiological control areas are posted:

Radioactive Buffer Area  
Radiological Materials Area  
Underground Radiation Materials Area (URMA)  
Surface Contamination Area  
Interim Stabilized Area: Designation for BX-Farm, TX-Farm and TY-Farm. Formerly referred to as "controlled clean and stable" area.  
No radiological controls except in specific posted locations.

- **Unique Safety Class Equipment/Safety Significant Equipment:** Safety equipment lists (Jensen and Kriskovich 1998) and a summary of standard hydrogen monitoring system (SHMS) activity for the week ending January 11, 1998 (day 105) per performance agreement TWRS 1.1.2.

#### 4.0 REFERENCES

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**APPENDIX A**  
**TANK-BY-TANK SAFETY EVALUATION FORMAT AGREEMENT**



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Lockheed Martin Hanford Company  
P.O. Box 1500  
Richland, WA 99352-1505



November 25, 1996

9655904

Mr. Sal Marchetti, Project Director  
Tank Waste Remediation System  
Fluor Daniel Hanford, Inc.  
Post Office Box 1000  
Richland, Washington 99352-1000

Dear Mr. Marchetti:

TRANSMITTAL OF DEFENSE NUCLEAR FACILITIES SAFETY BOARD RECOMMENDATION 93-5 IMPLEMENTATION PLAN, REVISION 1, MILESTONE 5.6.3.1C, RL MILESTONE T24-97-156, AND PARTIAL COMPLETION OF PERFORMANCE AGREEMENT TWR2.1.1

- References: (1) Document, WHC, Tank Waste Remediation System Fiscal Year 1997 Multi-Year Work Plan, WBS 1.1, WHC-SP-11-1, Rev. 2, Volume 1, dated September 1996.
- (2) Performance Agreement TWR2.1.1, "FY 1997 Deliverables in Support of Completing Tank Waste Characterization Basis Sampling and Analysis DNFSB Recommendation 93-5 Implementation Plan, Revision 1 Commitment 5.6.3.1," dated September 25, 1996.
- (3) DOE/RL-94-0001, Revision 1, "Recommendation 93-5 Implementation Plan, "U.S. Department of Energy, Richland, Washington, May 1, 1996.

Attached is a proposed content and format for the tank-by-tank safety status evaluation. Transmittal of this attachment completes Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 93-5 Implementation Plan, Revision 1, milestone 5.6.3.1c "Letter Reporting Submittal of Proposed Content and Format for Tank-by-Tank Safety Status Evaluation," Reference 3. In addition, this submittal satisfies U.S. Department of Energy, Richland Operations Office (RL) milestone T24-97-156, *Contractor Letter to RL Reporting Submittal of Proposed Content and Format for Tank-by-Tank Safety Status Evaluation DNFSB 93-5, 5.6.3.1.c*, and partially completes Performance Agreement TWR2.1.1, "FY 1997 Deliverables in Support of Completing Tank Waste Characterization Basis Sampling and Analysis DNFSB Recommendation 93-5 Implementation Plan, Revision 1 Commitment 5.6.3.1," Reference 2.


Mr. Sal Marchetti  
Page 2  
November 25, 1996

9655904

DNFSB Recommendation 93-5 Implementation Plan Revision 1 milestone 5.6.3.1c is due to be submitted to RL on November 27, 1996. This milestone is due to be submitted to DNFSB by RL on January 31, 1997.

If you have any questions, please contact Dr. J. G. Kristofzski, on 373-4225.

Very truly yours,

  
M. A. Payne, Acting Director  
TWRS Characterization Project  
Tank Waste Remediation System

yr

Attachment

PROPOSED CONTENT  
OF  
TANK-BY-TANK SAFETY STATUS EVALUATION

Tank Physical Parameters

- Tank Number
- Type (double-shell tank or single-shell tank)
- Capacity
- Ventilation (Active or Passive)
- Service (In or Out, Special Functions, Evaporator Feed, Aging Waste)

Waste Parameters

- Volume, broken down by liquid/solid
- Waste Type (several options exist like Saltcake, Tank Layer Model)
- Temperature
- Heat Load
- Waste Sample Events (Type/Date)
- Vapor Sample Events (Type/Date)
- Safety Significant Waste Analysis Results (ie. energetics, Total Organic Carbon, %H<sub>2</sub>O)
- Safety Significant Vapor Analysis Results (ie. % Lower Flammability Limit, Noxious > Immediately Dangerous to Life and Health)
- Analysis complete per Date Quality Objectives (list DQOs w/complete, incomplete)

Safety Issue Status

- Watch List
- USQ Status
- Ferrocyanide (Safe, Conditionally Safe, Unsafe)
- Organic Complexants (Safe, Conditionally Safe, Unsafe)
- Organic Solvents (No evidence, Evidence of Solvent, Known Solvent)
- Flammable Gas (Type I, II, III)
- High-Heat (<40,000 BTU/hr, >40,000 BTU/hr, Requires Cooling)
- Criticality (Fissile Material Inventory)
- Noxious Vapors (no breathing zone restrictions, breathing zone restrictions)
- Any unique hazards identified in Authorization Basis documents
- Any unique controls identified in Authorization Basis documents (w/status)
- Any unique safety class/safety significant equipment (w/status)

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PROPOSED FORMAT  
CONTENT HAS NOT BEEN VERIFIED FOR ACCURACY.

Tank 241-C-106

Tank Physical Parameters

- Single-Shell Tank.
- Capacity: 530,000 gallons.
- Ventilation: Active (2000 cfm exhauster operating on C-105, -106).
- Service: Inactive, cooling water additions (approximately 5000 gallons/month).

Waste Parameters

- Volume: 32,000 gallons supernatant liquid/197,000 gallons sludge.
- Solids Waste Types: 15,000 gallons Uranium Recovery Waste, 34,000 gallons PUREX Cladding Waste, 96,000 gallons AR Vault Waste, 52,000 gallons B-Plant Low-Level Waste.
- Maximum Temperature/Heat Load: 151°F/132,000 Btu/hr.
- Sample Events: Core Sample 6/86, Grab Sample 3/96, Vapor Sample 3/96.
- Significant Results: 1986, one core sample was taken and composited for analysis. 1996, fifteen grab samples from two risers were taken. Both sets of samples indicated significant inventories of SODIUM, CARBONATE, IRON, ALUMINUM, NITRITE. Sludge is approximately 40 weight percent WATER. Hanford Defined Waste model predicts less sodium and carbonate, similar predictions of other major components. Major radionuclides STRONTIUM-90, CESIUM-137, however analysis of strontium-90 lower than expected by heat load. Under extreme centrifugation, trace amounts of SEPARATE PHASE ORGANIC were recovered from 1996 sludge sample. Vapor samples showed 0% of lower flammability limit.

Safety Issue Status

- Watch List: High-Heat.
- USQ Status: None.
- Ferrocyanide: Safe; process records/models indicate no ferrocyanide-containing waste.
- Organic Complexants: Safe; solid sample analysis indicates total organic carbon level of 2.4 weight percent (below safety criterion of 4.5 weight percent).
- Organic Solvents: Evidence of solvent during significant centrifugation of sludge (trace), however, no evidence in vapor samples.
- Flammable Gas: Facility Category III; analysis of tank level-barometric pressure indicates very low gas inventory.
- High-Heat: Requires cooling water additions.
- Criticality: Plutonium-239/240 inventory - 1.33 ( $10^3$ ) Ci.
- Noxious Vapors: No breathing zone restrictions, active ventilation keeps vapors low.
- Unique Safety Class Equipment (SCE)/Safety Significant Equipment (SSE): SCE-none, SSE-ventilation equipment, temperature monitoring.

**APPENDIX B**

**TANK STATUS SUMMARY SHEETS**

**HANFORD DOUBLE-SHELL AND SINGLE-SHELL TANKS**

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### Tank 241-A-101

#### Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partially interim isolated with screen installed.
- Integrity: Sound.

#### Waste Parameters

- Volume: 953,000 gal double-shell slurry feed; no supernatant, 953,000 gal solids.
- Solid Waste Types: 3,000 gal PUREX high level waste sludge, 950,000 gal A1 saltcake; top nonconductive solids layer (442,000 gal) and bottom conductive layer (508,000 gal).
- Maximum temperature on March 1, 1998: 148 °F.
- Heat Load: 21,450 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Vapor samples, April 1995 and June 1995; grab samples, April 1996; push mode core sample (RGS, no sludge in sample) August 1996.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, aluminum and total inorganic carbon; 37.5 wt% water; high ammonia and nitrous oxide in vapor; primary radionuclide, cesium-137; 14% by volume gas in nonconvective layer (75% hydrogen, 16% nitrogen).

#### Safety Issue Status

- Watch List: Flammable Gas, Organic Complexants.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.48 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 2.5% (below 25% threshold); facility group 2.
- Criticality: Safe; maximum total alpha 0.181  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub>, monitoring required within 5 ft of breather filter, pump pit and liquid level zones.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-A-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 41,000 gal double-shell slurry feed; 4,000 gal supernatant, 37,000 gal solids.
- Solid Waste Types: 15,000 gal A2 saltcake, 19,000 gal A1 saltcake, 3,000 gal strontium recovery sludge.
- Maximum temperature on January 1, 1998: 91.8 °F.
- Heat Load: 12,800 Btu/hr, based on tank temperature.
- Sample Events: Push-mode core samples, March 1986; auger samples, June 1995 and March 1996; vapor samples, November 1995.
- Significant Results: Primary analytes sodium, nitrate, nitrite, aluminum, uranium, iron and total organic carbon; 34.3 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe; passed TOC screening (one location).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.12 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.93%, facility group 3.
- Criticality: Safe; maximum total alpha 4.68 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-A-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 371,000 gal double-shell slurry feed; 5,000 gal supernatant, 366,000 gal solids.
- Solid Waste Types: 363,000 gal of A1 saltcake, 3,000 gal washed PUREX sludge.
- Maximum temperature on February 23, 1998: 115 °F.
- Heat Load: 12,800 Btu/hr, based on tank temperature.
- Sample Events: Core sample 1986; vapor samples, November 1995.
- Significant Results: Primary analytes sodium, nitrate, aluminum, silicon and phosphate; primary radionuclides, cesium-137, strontium-90 high in AR layer.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe; maximum total organic carbon 1.52 dry wt%.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.26 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.38% (below 25% limit); facility group 2.
- Criticality: Safe; plutonium-239/240, 3.67 µCi/g in AR layer (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-A-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 28,000 gal non-complexed waste; no supernatant, 28,000 gal solids.
- Solid Waste Types: 28,000 gal washed PUREX sludge.
- Maximum temperature on February 23, 1998: 163 °F.
- Heat Load: 30,600 Btu/hr, based on tank temperature.
- Sample Events: Core sample 1974.
- Significant Results: Primary analytes, aluminum, calcium, iron, manganese, nitrite, silicon and hydroxide; 42 wt% water; primary radionuclides, strontium-90 and less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.113  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-A-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 50,800 gal non-complexed; no supernatant, 50,800 gal sludge.
- Solid Waste Types: 50,800 gal of PUREX neutralized high level waste.
- Maximum temperature on February 23, 1998: 136 °F.
- Heat Load: 27,500 Btu/hr, based on tank temperature.
- Sample Events: Sludge sample 1972; combustible gas monitoring, January 1996.
- Significant Results: Primary analytes, sodium, hydroxide, aluminum and iron; 61.5 wt% water (HDW model); primary radionuclides, strontium-90 and less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Not measured.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 1.82  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-A-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 125,000 gal concentrated phosphate; no supernatant, 125,000 gal solids.
- Solid Waste Types: 29,000 gal strontium recovery waste, 21,000 gal washed PUREX sludge, and 75,000 gal of Al saltcake.
- Maximum temperature on January 1, 1998: 131 °F.
- Heat Load: 19,100 Btu/hr based on tank temperature.
- Sample Events: Core samples, March 1986; combustible gas monitoring, August 1996; vapor samples, January 1997.
- Significant Results: Primary analytes sodium, nitrate, aluminum, iron, phosphorous and silicon; 42.3 wt% water; primary radionuclide, strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.07 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 1.99 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-101**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 131,000 gal dilute non-complexed waste; 98,000 gal supernatant, 33,000 gal solids.
- Solid Waste Types: 33,000 gal salt well liquid precipitate.
- Maximum temperature on March 1, 1998: 60.6 °F.
- Heat Load: 717 Btu/hr based on radionuclides that generate heat.
- Sample Events: Supernatant grab samples, April 1993, September 1995, December 1995.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide, and aluminum; 66 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; Maximum total alpha < 0.0015  $\mu$ Ci/mL (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-102**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,073,000 gal concentrated complexant; 984,000 gal supernatant, 89,000 gal solids.
- Solid Waste Types: 89,000 gal sludge precipitated from concentrated complexant waste added after 1984.
- Maximum temperature on March 1, 1998: 89.8 °F.
- Heat Load: 27,800 Btu/hr based on radionuclides that generate heat.
- Sample Events: Supernatant; core samples, 1990; grab samples, 1994 and 1995.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, carbonate and hydroxide, aluminum and sulfate; 49.7 wt% water in supernatant; 44.6 wt% water in sludge; primary radionuclides, cesium-137 and strontium-90; 8 of 14 samples exceeded 480 J/g exotherm limit, maximum exotherm 1,200 J/g.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.865  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-103**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 959,000 gal double-shell slurry feed; 549,000 gal supernatant, 410,000 double-shell slurry with floating crust.
- Solid Waste Types: 410,000 gal A2 saltcake.
- Maximum temperature on March 1, 1998: 108 °F.
- Heat Load: 36,300 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, December 1986 and September 1996 (RGS).
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide and aluminum; 46 wt% water; primary radionuclide, cesium-137; 7.7% by volume retained gas in nonconvective layer consists of 62 mol% hydrogen, 33.1 mol% nitrogen and 3.8 mol% nitrous oxide; retained gas volume in tank, 380 m<sup>3</sup> (highest of all double-shell tanks).

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent, Flammable Gas.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 1; one gas release event; peak H<sub>2</sub> release 3,000 ppmv, August 1995.
- Criticality: Safe; maximum total alpha 0.18 µCi/mL (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-AN-104**

**Tank Physical Parameters**

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

**Waste Parameters**

- Volume: 1,055,000 gal double-shell slurry waste; 600,500 supernatant, 5,500 gal nonconvective crust, 449,000 gal slurry.
- Solid Waste Types: A2 saltcake.
- Maximum temperature on March 1, 1998: 110 °F.
- Heat Load: 39,150 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples, July and September 1996 (RGS).
- Significant Results: Primary analytes, sodium, nitrate, nitrite, carbonate and aluminum; 48.4 wt% water; primary radionuclides, cesium-137 with less strontium-90; crust (nonconvective) layer contains 5.7% by vol. retained gas consisting of 47 mol% hydrogen, 31 mol% nitrogen and 20 mol% nitrous oxide.

**Safety Issue Status**

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0.013%; 5.7% by volume retained gas; facility group 1; last gas release event, May 1997; Peak H<sub>2</sub> release, 6,109 ppmv, May 1996; safety evaluations in progress.
- Criticality: Safe; maximum total alpha 0.0808  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-105**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,129,000 gal (410 in) double-shell slurry feed; 230 to 250 in. convective layer (liquid), 160 to 180 in. nonconvective layer (solids), 12 in. floating crust.
- Solid Waste Types: A2 saltcake.
- Maximum temperature on March 1, 1998: 107 °F.
- Heat Load: 8,100 Btu/hr based on radionuclides that generate heat.
- Sample Events: Supernatant; core sample June 1996 (RGS).
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide and aluminum; 51.9 wt% water; primary radionuclides, cesium-137 with less strontium-90; crust contains 4.5% by vol. retained gas consisting of 60% hydrogen, 27% nitrogen and 11% nitrous oxide.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0.3%; facility group 1; last gas release event, April 1997; peak H<sub>2</sub> release, 17,000 ppmv, August 1995.
- Criticality: Safe; maximum total alpha 0.133  $\mu\text{Ci/g}$ .
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMAAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; gas characterization system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-106**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 42,000 gal concentrated complexant waste; 25,000 gal supernatant, 17,000 gal solids (Vol. as of December 31, 1997, several transfers occurred in 1997).
- Solid Waste Types: 17,000 gal concentrated phosphate waste precipitate.
- Maximum temperature on March 1, 1998: 61.5 °F.
- Heat Load: 333 Btu/hr based on radionuclides that generate heat.
- Sample Events: Supernatant; Grab samples, April and November 1995 (No solids samples).
- Significant Results: Primary analytes, aluminum, sodium, nitrate, nitrite, carbonate, phosphate, sulfate and hydroxide; 45.5 wt% water in sludge (HDW model); primary radionuclide expected, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha < 0.0633  $\mu\text{Ci/mL}$ .
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMAAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AN-107**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,050,000 gal concentrated complexant; 807,000 gal supernatant, 247,000 gal solids.
- Solid Waste Types: 247,000 gal A2 saltcake.
- Maximum temperature on March 1, 1998: 84.7 °F.
- Heat Load: 36,800 Btu/hr based on radionuclides that generate heat.
- Sample Events: Vapor samples, December 1994; latest grab samples, July 1996 and January 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide, carbonate and sulphate; 45.5 wt% water in solids, 49.9 wt% water in liquids; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Organic pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 3.44  $\mu\text{Ci/g}$ .
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RBAs, RMAs, and URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-101**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,116,000 gal double-shell slurry feed supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 67.1 °F.
- Heat Load: 11,500 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab samples, July 1993 and November 1995.
- Significant Results: Primary analytes, carbonate, aluminum, potassium, sodium, nitrate, nitrite, and hydroxide; 58.7 wt% water in 1995 grab; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha < 0.00341  $\mu\text{Ci/mL}$ .
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-102**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,094,000 gal concentrated phosphate waste, supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 68.0 °F.
- Heat Load: 15,100 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab samples, April 1989 and April 1993.
- Significant Results: Primary analytes, carbonate, sodium, nitrate and nitrite, also > 1% aluminum, hydroxide, phosphate, sulfate and TOC; 58.7 wt% water in 1993 grab; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL, 0%; facility group 2.
- Criticality: Safe; plutonium-239/240 below detection levels.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-103**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 28,000 gal dilute non-complexed waste; 27,000 gal supernatant, 1,000 gal sludge.
- Solid Waste Types: 1,000 gal precipitated from dilute nuclear waste.
- Maximum temperature on February 23, 1998: 55.0 °F.
- Heat Load: 9.29 Btu/hr based on radionuclides that generate heat.
- Sample Events: Latest grab samples March 1997 and August 1997.
- Significant Results: Primary analytes, carbonate, sodium, nitrate, nitrite and hydroxide; 98.4 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL not measured, facility group 2.
- Criticality: Safe; plutonium-239/240 below detection levels.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-104**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 25,000 gal dilute non-complexed waste (DN), supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 56.0 °F.
- Heat Load: 309 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab samples, 1987, January 1996 and October 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide; 96.6 wt% water; primary radionuclide, low levels of cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.000458  $\mu\text{Ci/mL}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-AP-105**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 768,000 gal double-shell slurry feed (DSSF); 679,000 gal supernatant, 89,000 gal solids.
- Solid Waste Types: Precipitate from double-shell slurry feed from the 89-1 Evaporator Campaign.
- Maximum temperature on February 23, 1998: 68.1 °F.
- Heat Load: 10,300 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab samples, January and February 1989, March 1993, and September 1996; core samples, July 1997.
- Significant Results: Primary analytes, sodium and nitrate and > 1 wt% carbonate, fluoride, nitrite and sulfate; 44.0 wt% water in sludge, 59.0 wt% water in supernatant; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.0265  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-106**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 366,000 gal dilute non-complexed waste, supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 63.9 °F.
- Heat Load: 741 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Latest grab samples, September 1996 and August 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide; 86.6 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum plutonium-239/240 1.89E-06 g/L (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-107**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 29,000 gal dilute non-complexed waste, supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 53.0 °F.
- Heat Load: 0.62 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab samples, August 1993, February 1995 and September 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide; 94.7 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL not measured, expect near 0%; facility group 2.
- Criticality: Safe; total alpha results below detection limits.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AP-108**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 254,000 gal dilute complexed waste supernatant.
- Solid Waste Types: Not applicable.
- Maximum temperature on February 23, 1998: 60.0 °F.
- Heat Load: 984 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab samples, January 1996 and November 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, carbonate and hydroxide; 93.0 wt% water; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL not measured, expect near 0%; facility group 2.
- Criticality: Safe; total alpha results below detection limits.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AW-101**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,125,000 gal double-shell slurry feed; 819,000 gal supernatant, 306,000 gal solids.
- Solid Waste Types: 61,000 gal PUREX low level waste, 245,000 gal A2 saltcake; waste has floating crust.
- Maximum temperature on February 23, 1998: 99.0 °F.
- Heat Load: 33,300 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; grab samples 1990 and June 1996; auger sample of floating crust, January 1995; core samples January to May 1996.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, carbonate, hydroxide, aluminum, and potassium; 50.1 and 43.6 wt% water in the slurry and supernatant; primary radionuclide, cesium-137, with lesser amounts of strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent, Flammable Gas.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0 to 3%; facility group 1 tank.
- Criticality: Safe; plutonium-239/240 sludge/crust results greater than TRU (1 µCi/g), but below the limit; 0.00115 µCi/mL measured in supernatant.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; gas characterization system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AW-102**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active, 242-A Evaporator Feed Tank.
- Integrity: Sound.

Waste Parameters

- Volume: 86,000 gal dilute non-complexed waste; 46,000 gal supernatant, 40,000 gal solids; supernatant volume changes frequently.
- Solid Waste Types: A2 saltcake 242-A Evaporator waste.
- Maximum temperature on September 1, 1997: 79 °F.
- Heat Load: 8,050 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab samples, August 1995 and August 1996 (limited analyses); vapor samples, August 1996.
- Significant Results: In sludge, expect primary analytes, iron, sodium, nitrate, nitrite, hydroxide, lead and phosphate, aluminum, fluoride (assuming similar to A1 saltcake); primary radionuclide, strontium-90, with lesser amounts of cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; plutonium-239/240 solids 0.0101 g/L (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AW-103**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 512,000 gal dilute non-complexed/PUREX decladding waste; 149,000 gal supernatant, 363,000 gal solids.
- Solid Waste Types: Double-shell slurry feed heel and neutralized cladding removal waste for PUREX.
- Maximum temperature on February 23, 1998: 61.0 °F.
- Heat Load: 2,750 Btu/hr, based on radionuclides that generate heat (sludge only).
- Sample Events: Core samples, January 1989; grab samples, September 1994; core samples, results to be determined, May 1997.
- Significant Results: In sludge, expect primary analytes, fluoride, sodium, nitrate, hydroxide, zirconium also > 1 wt% aluminum, carbonate, potassium, silicon and uranium; 39 wt% water in sludge, 92 wt% water in the supernatant; primary radionuclides, cesium-137, with lesser amounts of strontium-90 and plutonium-241; combustible gas tests showed 0% of the LFL (HNF-SD-WM-ER-455, Rev. 0A, 1997).

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; Facility group 2.
- Criticality: Safe; maximum plutonium-239/240 solids 2.05  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-AW-104

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 1,119,000 gal dilute non-complexed waste; 829,000 gal supernatant, 290,000 gal solids.
- Solid Waste Types: 188,000 A saltcake, 5,000 PUREX zirconium cladding waste, 97,000 PUREX low level waste.
- Maximum temperature on February 23, 1998: 77.0 °F.
- Heat Load: 37,000 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Supernatant grab samples, 1984, 1986 and September 1994; solids analyzed for water soluble anions only; core samples, June 1997.
- Significant Results: Primary analytes, fluoride, sodium, nitrate, hydroxide, zirconium, also > 1 wt% aluminum, carbonate, potassium, silicon and uranium; 97.8 wt% water in the supernatant; primary radionuclides, cesium-137, with lesser amounts of strontium-90 and plutonium-241.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent, Flammable Gas.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2. (Data needed to meet DQO.)
- Criticality: Safe; maximum total alpha 3.39  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-AW-105**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 436,000 gal dilute non-complexed/PUREX decladding waste; 156,000 gal supernatant, 280,000 gal solids.
- Solid Waste Types: Mostly neutralized coating removal waste, also contains dilute non-complexed waste from PUREX streams and supernatant mixing model A saltcake.
- Maximum temperature on February 23, 1998: 61 °F.
- Heat Load: 6,870 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical grab samples; grab samples, August 1996; core samples, May 1990 and May 1997.
- Significant Results: Expect primary analytes, fluoride, sodium, nitrate, and zirconium, also > 1 wt% carbonate, potassium, nitrite, hydroxide and uranium; 75.5 wt% water in sludge and 94.9 wt% water in supernatant; primary radionuclides, strontium-90 with lesser amounts of cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2. (Data needed to meet DQO.)
- Criticality: Safe; total alpha not detected in supernatant, maximum value of 3.86  $\mu\text{Ci/g}$  in 1996 sludge samples.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AW-106**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 578,000 gal complexant concentrate (CC); 350,000 gal supernatant, 228,000 gal solids. (Slurry receiver tank for 242-A Evaporator, supernatant volume changes frequently, solids volume relatively constant since 1994.)
- Solid Waste Types: Supernatant mixing model A saltcake and 1,000 gal heel B Plant low level waste.
- Maximum temperature on February 23, 1998: 97.0 °F.
- Heat Load: 2,890 Btu/hr, based on radionuclides that generate heat (solids only).
- Sample Events: Many grab samples; latest grab samples August 1995 and January 1998. August 1995 results include centrifuged sludge from thin floating layer on supernatant.
- Significant Results: Based on typical A saltcake (HDW model), primary analytes expected, sodium, nitrate, nitrite and hydroxide with 22.8 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0273  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AX-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Sound.

Waste Parameters

- Volume: 748,000 gal dilute double-shell slurry feed solids, no supernatant.
- Solid Waste Types: 735,000 gal supernatant mixing model A1 saltcake and 3,000 gal heel slurried PUREX sludge sent to B Plant for strontium recovery.
- Maximum temperature on September 8, 1997: 129 °F.
- Heat Load: 14,300 Btu/hr based on tank temperature estimate.
- Sample Events: 1975 sludge sample before tank was sluiced; 1980, boil down sample; vapor samples, June 1995; 1997 grab sample, core sample and RGS, February 1998.
- Significant Results: Based on tanks A-102 and A-103 with similar process history and typical SRR; primary analytes expected, nitrate, nitrite, hydroxide, aluminum and carbonate with 38.9 wt% water based on HDW model; primary radionuclides are expected to be strontium-90 with lesser amounts of cesium-137.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; organic pool size 0.18 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.32%; facility group 3.
- Criticality: Data not available, expect safe; plutonium-239 0.0846  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AX-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 33,000 gal complexed concentrate solids, no supernatant.
- Solid Waste Types: 26,000 gal supernatant mixing model A1 saltcake, 7,000 gal PUREX low level waste sludge.
- Maximum temperature on March 1, 1998: 72.1 °F.
- Heat Load: 7,390 Btu/hr, based on tank temperature.
- Sample Events: Sludge grab samples, 1974 and 1977; liquid grab samples, 1980 and 1988; auger samples, February 1995 (saltcake only); vapor samples, June 1995.
- Significant Results: Primary analytes, odium, nitrate, nitrite, hydroxide and carbonate; 39.3 wt% water in the saltcake; high total organic carbon and exotherms ranged from 406 to 506 J/g on a dry weight basis; primary radionuclides, expected to be strontium-90 with lesser amounts of cesium-137.

Safety Issue Status

- Watch List: Organics.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe; TOC results high, maintain moisture > 17%.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.92 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 1.35 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AX-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 112,000 gal complexed concentrate solids, no supernatant.
- Solid Waste Types: 98,000 gal supernatant mixing model A1 saltcake and 14,000 gal PUREX high level sludge.
- Maximum temperature on February 23, 1998: 109 °F.
- Heat Load: 13,100 Btu/hr, based on tank temperature.
- Sample Events: Vapor samples, June 1995; core samples, August 1997.
- Significant Results: Primary analytes, nitrate and hydroxide, > 1 wt% aluminum, carbonate, nitrite; 40 to 45 wt% water; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not evaluated.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.07 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL < 0.31%; facility group 3.
- Criticality: Safe; maximum total alpha 0.65 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-AX-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 7,000 gal non-complexed sludge; no supernatant.
- Solid Waste Types: PUREX high level sludge.
- Maximum temperature on July 1, 1997: 89 °F.
- Heat Load: 36,700 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical grab samples; vapor samples, January 1997; auger samples, November 1997 (analyses not completed).
- Significant Results: Primary analytes, iron, potassium, sodium, nitrate, hydroxide, silicate and aluminum; 19.6 wt% water in sludge; primary radionuclide, strontium-90 with less cesium-137 and plutonium-239/240.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Retrieval.
- Organic Complexants<sup>1</sup>: Not evaluated, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic pool size 0.03 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Data not available, expect safe; plutonium-239 1.82 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AY-101**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 142,000 gal dilute complexed waste; 34,000 gal supernatant, 108,000 gal solids; tank volume changes frequently.
- Solid Waste Types: 18,000 gal B Plant high and low level waste, 7,000 gal cesium recovery waste, 8,000 gal slurried PUREX plant sludge, 32,000 gal from unknown sources, 43,000 gal precipitate from evaporator slurry.
- Maximum temperature on February 23, 1998: 108 °F.
- Heat Load: 93,000 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Latest grab samples, February 1996 and April 1997; no core samples.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide, carbonate and > 1 wt% aluminum, iron, TOC, uranium and sulfate; 55.8 wt% water in the sludge; primary radionuclides, high levels of strontium-90 with less cesium-137, americium-241, cobalt-60 and plutonium-239/240.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 4.84  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system and stack monitoring system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-AY-102

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Active, Retrieval Tank for 241- C-106 waste.
- Integrity: Sound.

Waste Parameters

- Volume: 819,000 gal dilute non-complexed waste; 797,000 gal supernatant, 22,000 gal solids; tank volume changes frequently.
- Waste Types: Evaporator slurry, double-shell slurry feed from 242-A Evaporator; vitrification process test wastes; dilute non-complexed waste from B Plant, T Plant, and the 100, 300, and 400 Areas; high-level waste from strontium purification processes at B Plant; filtrate from the Waste Encapsulation and Storage Facility.
- Maximum temperature on February 23, 1998: 79.0 °F.
- Heat Load: 39,500 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, July 1987; latest grab samples, January 1998.
- Significant Results: Primary analytes, sodium, nitrite, hydroxide, and iron; 97.8 wt% water in supernatant, 54.4 wt% water in the sludge; primary radionuclides, high levels strontium-90 with less cesium-137, americium-24, nickel-63, samarium-151 and plutonium-241.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent, 241-C-106 Retrieval.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL% not measured; facility group 2.
- Criticality: Safe; maximum total alpha 3.6  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-AZ-101**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 879,000 gal aging waste; 832,000 gal supernatant, 47,000 gal solids.
- Solid Waste Types: PUREX Plant high level waste, may also contain PUREX Plant low level waste and B Plant low level waste.
- Maximum temperature on February 23, 1998: 166 °F.
- Heat Load: 265,000 Btu/hr based on radionuclides that generate heat.
- Sample Events: Sludge samples, 1987; push core samples, April and May 1989; supernatant grab samples 1995.
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide, and > 1 wt% carbonate, aluminum, iron and sulfate; 41.1 wt% water in the sludge; primary radionuclides, strontium-90 and cesium-137 with less americium-241 and plutonium-239/240/241.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent, HTI Retrieval.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: Not measured, facility group 2.
- Criticality: Safe; maximum plutonium-239/240 5.78  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-AZ-102**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 858,000 gal aging waste; 754,000 gal supernatant, 104,000 gal solids.
- Solid Waste Types: PUREX Plant high level waste, may also contain PUREX Plant low level waste and B Plant low level waste.
- Maximum temperature on February 23, 1998: 172 °F.
- Heat Load: 154,000 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical grab samples; push core samples, May 1989; grab samples, February 1995; FY 1998 Push core sample scheduled.
- Significant Results: Primary analytes, sodium, nitrate, nitrite and hydroxide, and > 1 wt% carbonate, aluminum, iron and sulfate; 51.0 wt% water in the sludge; primary radionuclides, strontium-90 and cesium-137 with less americium-241 and plutonium-239/240.

Safety Issue Status

- Watch List: None, aging waste tank.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: Not measured.
- Criticality: Safe; maximum plutonium-239/240 3.14  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface control area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 113,000 gal non complexed waste, no supernatant.
- Solid Waste Types: 30,000 gal B Plant low level waste, 5,000 gal B Plant high level waste, 75,000 B Plant saltcake, 3,000 gal metal waste heel.
- Maximum temperature on January 7, 1998: 105 °F.
- Heat Load: 12,900 Btu/hr, based on tank temperature.
- Sample Events: Push core samples (limited ICP and radionuclide data); June 1995.
- Significant Results: Based on samples and tanks with similar process history; primary analytes expected, sodium, nitrate, nitrite, hydroxide and sulphate, also > 1 wt% silicon uranium, iron, carbonate, and aluminum; 32.5 wt% water; primary radionuclide expected, strontium-90 less cesium-137, samarium-151, americium-241 and plutonium-241.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.095% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; total alpha 2.91  $\mu\text{Ci/g}$ .
- Noxious Vapors: Monitoring for OVM/NH<sub>3</sub> required within 5 feet of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 32,000 gal non complexed waste; 4,000 gal supernatant, 28,000 solids.
- Solid Waste Types: 3,000 gal metal waste for the BiPO<sub>4</sub> process, 24,000 gal B saltcake from 242-B Evaporator, 1,000 gal PUREX aluminum cladding waste.
- Maximum temperature on January 7, 1998: 63.0 °F.
- Heat Load: 2,580 Btu/hr, tank temperature estimate.
- Sample Events: Supernatant grab samples, 1970s; auger sample (only 25 % recovery), October 1994; vapor samples, April 1996.
- Significant Results: Based on auger sample and tanks with similar process history: primary analytes; expected to be sodium, nitrate, phosphate and sulfate, also > 1 wt% hydroxide, aluminum, carbonate, fluoride, iron, and nitrite; 17.3 wt% water in solids; primary radionuclides, strontium-90 and cesium-137, both at low levels.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.0074% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.95 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; total alpha less than detection levels.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 59,000 gal non complexed waste, no supernatant.
- Solid Waste Types: 3,000 gal metal waste for the BiPO<sub>4</sub> process, 56,000 gal B saltcake from 242-B Evaporator.
- Maximum temperature on March 1, 1998: 59.4 °F.
- Heat Load: 1,940 Btu/hr, based on tank temperature.
- Sample Events: Supernatant grab samples, 1975; vapor samples, February 1995; auger samples, May and June 1995.
- Significant Results: Based on auger samples and tanks with similar process history, the primary analytes; expected to be sodium, nitrate, phosphate and sulfate, also > 1 wt% carbonate; 56.3 wt% water in the solids; primary radionuclides, strontium-90 and cesium-137, both at low levels.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; organic pool size estimate 1.43 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; total alpha less than detection levels.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 371,000 gal non complexed waste; 1,000 gal supernatant, 370,000 gal solids.
- Solid Waste Types: 184,000 gal second cycle waste from the BiPO<sub>4</sub> process, 125,000 gal first cycle waste (includes 4,000 gal unknown attributed to first cycle waste), 61,000 gal B saltcake from 242-B Evaporator.
- Maximum temperature on January 7, 1998: 65.7 °F.
- Heat Load: 2,500 Btu/hr, based on tank temperature.
- Sample Events: 2 push mode core samples, June 1995.
- Significant Results: Primary analytes, expected to be sodium and nitrate, also > 1 wt% carbonate, bismuth, iron, phosphate, hydroxide and sulfate; 47 wt% water in solids and 52 wt% water in drainable liquids; primary radionuclides, strontium-90 and cesium-137, both at low levels.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.319  $\mu\text{Ci/g}$ , below limit.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 158,000 gal non complexed waste, no supernatant.
- Solid Waste Types: 16,000 gal second cycle waste from the BiPO<sub>4</sub> process, 12,000 gal first cycle waste, 130,000 gal B saltcake from 242-B Evaporator.
- Maximum temperature: on July 8, 1997: 64.5 °F.
- Heat Load: 2,580 Btu/hr, based on tank temperature.
- Sample Events: Grab samples, January 1976 and January 1980; vapor samples, July 1996.
- Significant Results: Primary analytes, expected to be sodium, nitrate, nitrite and phosphate. Also > 1 wt% carbonate, bismuth, iron, fluoride, uranium and sulfate; 44.4% by weight water (HDW model). Strontium-90 and cesium-137 are the primary radionuclide.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 1.46E-04% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; organic pool size 0.63 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.032 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 117,000 gal non complexed waste; 1,000 gal supernatant, 116,000 gal solids.
- Solid Waste Types: 116,000 gal B saltcake from 242-B Evaporator based on HDW model, but samples show top 3 segments are more likely uranium recovery waste.
- Maximum temperature on July 8, 1997: 63.4 °F.
- Heat Load: 302 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Supernatant grab samples, October 1975; push mode core samples, July 1995.
- Significant Results: Primary analytes, sodium, nitrate, hydroxide, phosphate and sulfate, also > 1 wt% aluminum, bismuth, iron, nitrite and uranium; 62.4 wt% water (HDW model); primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent and Historical.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; all total alpha results below limit.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-B-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 165,000 gal non complexed waste; 1,000 gal supernatant, 164,000 gal solids.
- Solid Waste Types: 164,000 gal first cycle BiPO<sub>4</sub> waste.
- Maximum temperature on July 8, 1997: 63.3 °F.
- Heat Load: 2,070 Btu/hr, based on tank temperature.
- Sample Events: Grab samples 1970; push core samples, September 1997.
- Significant Results: Primary analytes expected, sodium, nitrate, and sulfate, also > 1 wt% aluminum, bismuth, iron, fluoride, nitrite, phosphate and sulfate; 41.4 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; TOC 0.169 wt% (HDW model), no waste transfers after 1968.
- Organic Solvent<sup>1</sup>: Safe; organic pool size 0.13 m<sup>2</sup>
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0121 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 94,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Surface layer of cladding waste, 60,000 gal B saltcake from 242-B Evaporator, 34,000 gal first cycle BiPO<sub>4</sub> waste.
- Maximum temperature on July 8, 1997: 63.6 °F.
- Heat Load: 1,960 Btu/hr, based on tank temperature.
- Sample Events: Push mode core samples, full waste depth not sampled (no evidence of first cycle decontamination BiPO<sub>4</sub> process waste), September 1996.
- Significant Results: Primary analytes, sodium, nitrate, hydroxide and phosphate, also > 1 wt% aluminum, fluoride, iron, nitrite and uranium; 30.9 wt% water; primary radionuclides, strontium-90 and cesium-137, both at low levels; crystals found in upper segment of both cores.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 1.16E-04% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.0137 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 127,000 gal non complexed waste, no supernatant.
- Solid Waste Types: 32,000 gal cladding waste, 95,000 gal B saltcake from 242-B Evaporator.
- Maximum temperature on July 8, 1997: 62.7 °F.
- Heat Load: 1,760 Btu/hr, based on tank temperature.
- Sample Events: Grab sample 1975; push mode core samples, August 1996.
- Significant Results: Primary analytes, sodium, nitrate, phosphate and sulfate, also > 1 wt% aluminum and fluoride; 37.7 wt% water; primary radionuclides were not measured, but strontium-90 and cesium-137 are expected, both at low levels.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.136  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 246,000 gal non complexed waste; 1,000 gal supernatant, 245,000 gal solids.
- Solid Waste Types: 242,000 gal first cycle waste from the BiPO<sub>4</sub> process, 3,000 gal PUREX high level waste.
- Maximum temperature on July 8, 1997: 67.9 °F.
- Heat Load: 4,380 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Cores samples, August 1989 to April 1990 (7 cores analyzed).
- Significant Results: Primary analytes, sodium, nitrate, hydroxide, and phosphate, also > 1 wt% bismuth, iron, sulfate and silicate; 54.2 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; mean total alpha 0.155  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-B-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 237,000 gal non complexed waste; 1,000 gal supernatant, 236,000 gal solids.
- Solid Waste Types: 209,000 gal second cycle waste from the BiPO<sub>4</sub> process, 1,000 gal decontamination waste, 26,000 gal PUREX high level waste.
- Maximum temperature on July 8, 1997: 72.5 °F.
- Heat Load: 3,770 Btu/hr, based on tank temperature.
- Sample Events: 2 push core samples, September/October 1991.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, and phosphate, also > 1 wt% carbonate, bismuth, iron, sulfate and silicate; 63.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.252  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-B-112

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 33,000 gal non complexed waste; 3,000 gal supernatant, 30,000 gal solids.
- Solid Waste Types: 14,000 gal second cycle waste from the BiPO<sub>4</sub> process, 16,000 gal BY saltcake from in-tank solidification units 1 and 2.
- Maximum temperature on July 8, 1997: 64.5 °F.
- Heat Load: 2,440 Btu/hr, based on tank temperature.
- Sample Events: Auger samples (DSC, total alpha, and percent moisture only), March 1995; combustible gas monitoring, August 1995.
- Significant Results: Expect similar to 241-B-110 and 241-B-111 based on process history; primary analytes, sodium, nitrate, nitrite, and phosphate, also > 1 wt% carbonate, bismuth, iron, sulfate and silicate; 40.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.301% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.0109 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-201**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 29,000 gal non complexed waste; 1,000 gal supernatant, 28,000 gal solids.
- Solid Waste Types: 224 waste from LaF<sub>3</sub> plutonium concentration process.
- Maximum temperature on July 8, 1997: 60.6 °F.
- Heat Load: 185 Btu/hr, based on tank temperature.
- Sample Events: Push core samples, 1978 and July/August 1991; vapor samples, July 1996.
- Significant Results: Primary analytes, bismuth, hydroxide, nitrate and sodium, also > 1 wt% iron, lanthanum, manganese, silicate, calcium and phosphate; 60.7 wt% water; primary radionuclides, low levels of cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Pool size not estimated; expect safe based on low TOC/TIC.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; mean total alpha 1.14 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-202**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 27,000 gal non complexed waste; no supernatant, 27,000 gal solids.
- Solid Waste Types: 224 waste from LaF<sub>3</sub> plutonium concentration process.
- Maximum temperature on September 9, 1997: 69.3 °F.
- Heat Load: 198 Btu/hr, based on tank temperature.
- Sample Events: Two push core samples 1991; combustible gas monitoring, June 1996.
- Significant Results: Primary analytes, bismuth, hydroxide, nitrate and sodium, also > 1 wt% lanthanum, manganese and phosphate; 76 wt% water; primary radionuclide, low levels of strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; pool size 0.19 m<sup>2</sup>, below 1 m<sup>2</sup> limit.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; total alpha 0.406 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-B-203**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 51,000 gal non complexed waste; 1,000 gal supernatant, 50,000 gal solids.
- Solid Waste Types: 224 waste from LaF<sub>3</sub> plutonium concentration process.
- Maximum temperature on January 13, 1998: 60.3 °F.
- Heat Load: 146 Btu/hr, based on tank temperature.
- Sample Events: Grab samples 1978 and 1982; push core samples, November 1995.
- Significant Results: Primary analytes, bismuth, hydroxide, nitrate, TOC and sodium, also > 1 wt% fluoride, potassium, lanthanum, manganese and phosphate; 76 wt% water; primary radionuclide, low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; total alpha 0.214  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-B-204**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 50,000 gal non complexed waste, 1,000 gal supernatant, 49,000 gal solids.
- Solid Waste Types: 224 waste from LaF<sub>3</sub> plutonium concentration process.
- Maximum temperature on January 13, 1998: 62.1 °F.
- Heat Load: 1.3 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab sample 1978; push core samples, October 1995.
- Significant Results: Primary analytes, bismuth, hydroxide, nitrate, and sodium, also > 1 wt% lanthanum, manganese and TOC; 77.1 wt% water; primary radionuclides, low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; total alpha 0.496 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 43,000 gal non complexed waste, 1,000 gal supernatant.
- Solid Waste Types: 29,000 gal metal waste, 13,000 gal unknown assigned to B Plant low level waste.
- Maximum temperature on March 1, 1998: 66.2 °F.
- Heat Load: 8,430 Btu/hr, based on tank temperature.
- Sample Events: Two auger samples, analyzed for TGA, DSC and total alpha only, June 1994; combustible gas monitoring, April 1996.
- Significant Results: Based on other BX tank samples and HDW model, primary analytes expected, aluminum, sodium, nitrate, hydroxide and phosphate, also > 1% carbonate, uranium, nitrite and silicate; 46.6 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic activity.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 1.43  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area; posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 96,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 68,000 gal diatomaceous earth, 28,000 gal PUREX cladding waste, tri-butyl phosphate waste from uranium recovery operations.
- Maximum temperature on March 1, 1998: 63.7 °F.
- Heat Load: 3,320 Btu/hr, based on tank temperature.
- Sample Events: No solid/liquid samples; vapor samples, July 1996.
- Significant Results: Based on 241-BX-105 and 241-BX-106 tanks and HDW model, primary analytes expected, aluminum, sodium, hydroxide and silicate, also > 1% carbonate, uranium, nitrate, nitrite, silicate and phosphate; 43.2 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; organic solvent pool size 0.17 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.1%; facility group 3.
- Criticality: Safe; plutonium-239/240, 0.279 µCi/g.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 68,000 gal non-complexed waste; 6,000 gal supernatant, 62,000 gal solids.
- Solid Waste Types: PUREX cladding waste and tri-butyl phosphate waste.
- Maximum temperature on March 1, 1998: 65.3 °F.
- Heat Load: 5,740 Btu/hr, based on tank temperature.
- Sample Events: Supernatant grab samples, 1974 and 1975; push core sample (analysis for DSC, TGA and total alpha only), May 1995; vapor samples, August 1996.
- Significant Results: Based on other BX tanks and HDW model; primary analytes expected, aluminum, sodium and hydroxide, also > 1% carbonate, nitrate, nitrite, silicate, uranium and phosphate; 59.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.027% (HDW model).
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 4.3 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 5.17 µCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 99,000 gal non-complexed waste; 3,000 gal supernatant, 96,000 gal solids.
- Solid Waste Types: Unknown, possibly a combination of PUREX cladding waste, tri-butyl phosphate waste and saltcake.
- Maximum temperature on October 26, 1980: 87.0 °F.
- Heat Load: 6,210 Btu/hr, based on tank temperature.
- Sample Events: Core samples, February 1986; vapor samples, December 1994; core samples, January 1996.
- Significant Results: Primary analytes, aluminum, sodium and hydroxide, also > 1% carbonate, nitrate, nitrite and uranium; 29.5% by weight water in the sludge; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 10.6 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 2.54 µCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BX-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 51,000 gal non-complexed waste; 15,600 gal supernatant, 35,400 gal solids.
- Solid Waste Types: Mixture of PUREX cladding waste, tri-butyl phosphate waste, BY-saltcake, evaporator bottoms, and possible metal waste heel. Waste type volumes uncertain.
- Maximum temperature on March 1, 1998: 63.7 °F.
- Heat Load: 896 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, March 1986; Auger sample (DSC, TGA and total alpha only), October 1994; vapor samples, April 1996.
- Significant Results: Primary analytes, nitrate, sodium, phosphate and hydroxide, also > 1% aluminum, silicate, carbonate and nitrite; 60.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: estimated organic solvent pool size 0.84 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.589 µCi/g or 0.0143 g/L (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BX-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 38,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Mixture of PUREX cladding waste, tri-butyl phosphate waste,
- BY-saltcake, evaporator bottoms, and possible metal waste heel; waste type volumes uncertain.
- Maximum temperature on March 1, 1998: 63.3 °F.
- Heat Load: 824 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Supernatant grab samples, March 1995; auger samples, December 1995; vapor samples, August 1996.
- Significant Results: Primary analytes, sodium, aluminum and hydroxide, also > 1% carbonate, nitrate, nitrite, silicate, uranium and phosphate; 38.7 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.27 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.652  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-BX-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 345,000 gal non-complexed waste; 1,000 gal supernatant, 344,000 gal solids.
- Solid Waste Types: Primary waste type, first cycle decontamination waste from the BiPO<sub>4</sub> process, secondary waste tri-butyl phosphate/uranium recovery; waste type volumes uncertain.
- Maximum temperature on March 1, 1998: 68.4 °F.
- Heat Load: 952 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Two push core samples, poor recovery for several segments, May and June 1992; vapor samples, November 1995.
- Significant Results: Primary analytes, sodium, nitrate and phosphate, also > 1% bismuth, aluminum, fluoride, nitrite, iron and sulfate; 56 wt% weight water in the solids; primary radionuclides, strontium-90 and cesium-137; ammonia vapor concentrations exceeded DQO limits.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.29 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.1% LFL; facility group 2.
- Criticality: Safe; maximum total alpha 0.171 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub>, monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 26,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: first cycle decontamination waste from the BiPO<sub>4</sub> process, secondary waste tri-butyl phosphate/uranium recovery, coating waste, maybe some B Plant ion exchange waste; waste type volumes uncertain.
- Maximum temperature on March 1, 1998: 61.9 °F.
- Heat Load: 420 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Two auger samples, July 1997.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% bismuth, aluminum, nitrite, iron, hydroxide, phosphate and sulfate; 52.3 wt% water from riser 2 and only 5.5 wt% water in riser 6 (below 17% limit); primary radionuclide, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; based on no exothermic activity.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.123  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 193,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: First cycle decontamination waste from the BiPO<sub>4</sub> process, tri-butyl phosphate/uranium recovery, cladding waste, maybe some B Plant ion exchange waste; waste type volumes uncertain.
- Maximum temperature on March 1, 1998: 69.4 °F.
- Heat Load: 4,780 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Grab samples, May 1975 and March 1990; core samples, April 1995.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% nitrite, phosphate, hydroxide, sulfate, carbonate, iron and uranium; 50.3 wt% water; primary radionuclide, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.276  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BX-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 207,000 gal non-complexed waste; 3,000 gal supernatant, 204,000 gal solids.
- Solid Waste Types: 160,000 gal first cycle decontamination waste from the BiPO<sub>4</sub> process, 44,000 gal BY saltcake from the in-tank solidification evaporator unit.
- Maximum temperature on March 1, 1998: 64.8 °F.
- Heat Load: 569 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Supernatant grab samples, 1990 and 1993; auger samples (no IC or ICP analyses), October 1995; vapor samples, April 1996.
- Significant Results: Primary analytes expected based on limited auger sample data and data from tanks with similar process histories, sodium and nitrate, also > 1% nitrite, hydroxide, aluminum, bismuth, fluoride, iron, phosphate, sulfate and carbonate; 37.5 wt% water; primary radionuclides, cesium-137 and less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants and Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.10 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.0234 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BX-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 162,000 gal non-complexed waste; 1,000 gal supernatant, 161,000 gal solids based on Hanlon; lower than 211,000 gal predicted by HDW model (actual uncertain).
- Solid Waste Types: Based on HDW model, 32,000 gal first cycle decontamination waste from the BiPO<sub>4</sub> process, 179,000 gal BY saltcake from the in-tank solidification evaporator unit.
- Maximum temperature on March 1, 1998: 64.9 °F.
- Heat Load: 3,170 Btu/hr, based on tank temperature.
- Sample Events: Push core samples, June 1997; vapor samples, August 1996.
- Significant Results: Primary analytes expected based on data from tanks with similar process histories, sodium and nitrate, also > 1% nitrite, hydroxide and carbonate, 40.1 wt% water (HDW model estimate); primary radionuclide expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.389% (HDW model).
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.17 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum plutonium-239/240 0.009 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub>, monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BX-112**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 165,000 gal non-complexed waste; 1,000 gal supernatant, 164,000 gal solids.
- Solid Waste Types: 132,000 gal first cycle decontamination waste from the BiPO<sub>4</sub> process, 32,000 gal B saltcake from the 242-B Evaporator.
- Maximum temperature on March 1, 1998: 64.0 °F.
- Heat Load: 3,170 Btu/hr, based on tank temperature.
- Sample Events: Core sample 1978; supernatant grab sample 1990; auger samples, November 1995; core samples, November and December 1995; vapor samples, August 1996.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% nitrite, hydroxide and carbonate; 63.7 wt% water; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; mean total alpha 0.250  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBAs/RMAs and URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 387,000 gal non-complexed waste; no supernatant.
- Solid Waste Types: 50,000 gal ferrocyanide sludge produced by in-plant scavenging of uranium recovery waste, 59,000 gal first cycle decontamination waste from the BiPO<sub>4</sub> process, 278,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature on March 1, 1998: 70.0 °F.
- Heat Load: 3,700 Btu/hr, based on tank temperature.
- Sample Events: Vapor samples, August 1996; core sample (RGS, poor recovery), May 1997.
- Significant Results: Based on tanks containing similar waste types, expected primary analytes, sodium, nitrate and carbonate, also > 1% nitrite, hydroxide, aluminum, phosphate and sulfate; 69.8 wt% water; primary radionuclides are cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.402% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.2 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.00309 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 277,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: All BY saltcake generated from in-tank solidification units, may be some tri-butyl phosphate and metal waste but none observed in samples.
- Maximum temperature on April 22, 1979: 72 °F (Thermocouple removed).
- Heat Load: 3,540 Btu/hr, based on tank temperature.
- Sample Events: Supernate grab samples, 1990, core samples, (partial core), stopped due high down forces, June and July 1996; vapor samples, November 1995.
- Significant Results: Primary analytes, sodium, carbonate, hydroxide and nitrate, also > 1% aluminum, fluoride, oxalate, nitrite, carbonate, phosphate and sulfate; 26.5 wt% water; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.26 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.26% LFL; facility group 2.
- Criticality: Safe; maximum total alpha 0.332 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter and liquid level zones.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-BY-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 400,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 9,000 gal PUREX cladding waste sludge, 391,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature on March 1, 1998: 76.8 °F.
- Heat Load: 5,500 Btu/hr, based on tank temperature.
- Sample Events: Auger samples, March 1995; liquid grab samples, March 1995; vapor samples, October 1994.
- Significant Results: Based on tanks with the same waste types, expected primary analytes, sodium, nitrate and carbonate, also > 1% aluminum, fluoride, oxalate, nitrite, phosphate and sulfate; 36.6 wt% water; primary radionuclide, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.437% (HDW model).
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.79 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.1%; facility group 2.
- Criticality: Safe; maximum total alpha 0.0268 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BY-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 326,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 150,000 gal ferrocyanide sludge, 176,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature on March 1, 1998: 119 °F.
- Heat Load: 23,800 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Sludge grab sample 1976; auger samples 1992; vapor samples, June 1994; core samples, October and November 1995.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% aluminum, oxalate, nitrite, phosphate and sulfate; 25.6 wt% water; primary radionuclides, strontium-90 and cesium-137; 3 samples exceeded 480 J/g limit for exotherms; 1 sample exceeded TOC limit 3.0%; 8 samples less than 8% water content; 3 samples exceeded 8,000 µg/g criteria for ferrocyanide test.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; speciation shows almost all TOC (6,810 µCi/g) is solvent.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.63 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1%; facility group 3.
- Criticality: Safe; maximum total alpha 0.78 µCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub>, monitoring required within 5 ft of breather filter and liquid level zones.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-BY-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 503,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 150,000 gal ferrocyanide sludge, 8,000 gal cement, 345,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature March 1, 1998: 108 °F.
- Heat Load: 8,700 Btu/hr, based on tank temperature.
- Sample Events: Partial core (2 segments only), couldn't push through hard layer (probably cement), August and October 1995; liquid grab samples, March 1995; vapor samples, July 1994.
- Significant Results: Based on limited sample data and tanks with the same waste types, primary analytes expected, sodium, nitrate and carbonate, also > 1% aluminum, iron, oxalate, nitrite, phosphate, sulfate; 33.1 wt% water (HDW model estimate); two samples exceeded 480 J/g exotherm limits; primary radionuclides; strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Vapor.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.45 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.3% LFL; facility group 2.
- Criticality: Safe; maximum total alpha 0.31  $\mu$ Ci/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 642,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 95,000 gal ferrocyanide sludge, 547,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature on March 1, 1998: 119 °F.
- Heat Load: 22,700 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, November 1994 to January 1995; vapor samples, May and July 1994.
- Significant Results: Primary analytes, sodium, nitrate and hydroxide, also > 1% carbonate, aluminum, nitrite, phosphate, TOC and sulfate; 25.5 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.62 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.2%LFL; facility group 2.
- Criticality: Safe; maximum total alpha 0.0290 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 266,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 73,000 gal ferrocyanide sludge, 149,000 gal BY saltcake generated from in-tank solidification units and 44,000 gal tri-butyl phosphate and first cycle decontamination waste from the BiPO<sub>4</sub> process.
- Maximum temperature on March 1, 1998: 96.4 °F.
- Heat Load: 3,748 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Solid grab sample 1979; vapor samples, October 1994; core samples, June and July 1996.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% aluminum, oxalate, nitrite, carbonate, phosphate and sulfate; 32.0 wt% water; primary radionuclides, cesium-137 with less strontium-90; high ammonia concentration in vapor samples.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 3.1 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 2.3% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.214 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 228,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 154,000 gal ferrocyanide sludge, 74,000 gal BY saltcake generated from in-tank solidification units.
- Maximum temperature on March 1, 1998: 117 °F.
- Heat Load: 10,100 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Two auger samples from the waste surface, August 1994; three core samples 1995; January 1997 was the most recent of many vapor samples starting October 1994.
- Significant Results: Primary analytes, sodium, nitrate and hydroxide, also > 1% aluminum, carbonate, nitrite, phosphate and sulfate; 27.2 wt% water; DSC exceeded 480 J/g for several samples, but water content > 17%; primary radionuclides, cesium-137 and strontium-90; high ammonia concentration in vapor samples.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 10.5 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 3.4% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.45 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 290,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 57,000 gal tri-butyl phosphate and PUREX cladding waste sludge, 233,000 gal BY saltcake generated from evaporator bottoms waste and in-tank solidification units.
- Maximum temperature on December 1, 1991: 87.2 °F (no thermocouples currently in tank).
- Heat Load: 1,040 Btu/hr, based on tank temperature.
- Sample Events: Core samples, June 1997.
- Significant Results: Primary analytes, sodium and nitrate, also > 1% carbonate, aluminum, nitrite, phosphate, sulfate and hydroxide; 40.0% by weight water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.50 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0%LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.286  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-BY-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 398,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 103,000 ferrocyanide scavenged sludge, 295,000 gal BY saltcake generated from evaporator bottoms waste and in-tank solidification units.
- Maximum temperature on March 1, 1998: 112 °F.
- Heat Load: 9,160 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Vapor samples, November 1994; nine push/rotary core samples, July to October 1995.
- Significant Results: Primary analytes, sodium, nitrate and carbonate, also > 1% aluminum, nitrite, phosphate, sulfate and hydroxide; 30.5 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.47 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.4%LFL; facility group 3.
- Criticality: Safe, maximum total alpha 0.272 µCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter and liquid level barricade.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



Tank 241-BY-111

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 459,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: BY saltcake generated from evaporator bottoms waste and in-tank solidification units, potential ferrocyanide scavenged tri-butyl phosphates sludge layer.
- Maximum temperature on March 1, 1998: 81.3 °F.
- Heat Load: 5,050 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Vapor samples, November 1994; partial core samples, August 1996.
- Significant Results: Primary analytes, sodium, nitrate and hydroxide, also > 1% aluminum, carbonate, fluoride, nitrite, phosphate, sulfate and silicate; 31.7 wt% water; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: TOC data not evaluated.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.58 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.2%; facility group 3.
- Criticality: Safe; maximum total alpha 0.389  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

## Tank 241-BY-112

### Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

### Waste Parameters

- Volume: 291,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Assumed all BY saltcake generated from evaporator bottoms waste and in-tank solidification units; potential ferrocyanide scavenged tri-butyl phosphate sludge layer or metal waste.
- Maximum temperature on March 1, 1998: 86.9 °F.
- Heat Load: 6,090 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical grab samples; vapor samples, November 1994; core samples, October 1996.
- Significant Results: Primary analytes, sodium, nitrate, carbonate and hydroxide, also > 1% aluminum, chromium, nitrite, phosphate and sulfate; 32.0 wt% water; primary radionuclides, cesium-137 and strontium-90.

### Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.16 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0.1%LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.279 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 88,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 33,000 gal tri-butyl phosphate waste from uranium recovery operations, 55,000 gal PUREX cladding waste.
- Maximum temperature on March 1, 1998: 86.5 °F.
- Heat Load: 10,500 Btu/hr, based on tank temperature.
- Sample Events: One auger sample (safety screening analyses only), March 1995; vapor samples, September 1994.
- Significant Results: Based on data for tanks with the same waste type and HDW model; primary analytes expected, sodium, nitrate, aluminum, and hydroxide, also > 1% nitrite, carbonate, silicate, uranium and iron; 24.0 wt% water; primary radionuclides, cesium-137 and strontium-90; organic species found above limit in vapor samples.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exotherms, passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 7.0 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.8%; facility group 3.
- Criticality: Safe; maximum total alpha 1.37 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-C-102

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 402,000 gal dilute complexed waste, no supernatant.
- Solid Waste Types: 37,800 gal thorium high level waste, metal waste and tri-butyl phosphate from uranium recovery operations, 364,500 gal PUREX cladding waste.
- Maximum temperature on March 1, 1998: 80.4 °F.
- Heat Load: 12,950 Btu/hr, based on tank temperature.
- Sample Events: Core samples, 1986; vapor samples, August 1994.
- Significant Results: Based on 1986 data, primary analytes, sodium, nitrate, aluminum, hydroxide, carbonate and silicate; 52.8 wt% water (HDW model estimate); primary radionuclides, cesium-137 and strontium-90; 16 of the TO-14 compounds exceeded 5 ppbv.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; speciation of TOC shows almost all organic is solvent.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 42 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.2%; facility group 3.
- Criticality: Safe; maximum total alpha 2.9 µCi/g (below limit).
- Noxious Vapors: Full face APR with GME-H cartridges or supplied air inside entire tank barricade. Full face APR with GME-H cartridges plus N<sub>2</sub>O monitoring in 2 small barricades central to C-102/103.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-C-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Sound.

Waste Parameters

- Volume: 195,000 gal non-complexed waste; 133,000 gal supernatant, 62,000 gal sludge (based on tank surveillance records); sample data indicates there may be more sludge and less supernatant; supernatant includes a thin (about 5,000 gal organic layer).
- Solid Waste Types: 25,000 gal washed PUREX sludge, 37,000 gal PUREX cladding waste.
- Maximum temperature on March 1, 1998: 113 °F.
- Heat Load: 31,700 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, 1986; grab samples, 1990; grab samples, December 1993; vapor samples, May 1994; core samples, October 1994 to February 1995.
- Significant Results: Primary analytes, sodium, iron, hydroxide, carbonate and silicate, with > 1% nitrite; 57.7 wt% water in the sludge; primary radionuclides, strontium-90 with less cesium-137; vapor samples showed 9 organic compounds exceeded limits; 2 samples with exotherms > 480 J/g; organic layer consists of 64 wt% TBP and 33 wt% NPH.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; speciation of TOC shows almost all organic is solvent.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 16.0 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 1.3% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 19.6 µCi/g (below limit).
- Noxious Vapors: Full face APR with GME-H cartridges or supplied air inside entire tank barricade. Full face APR with GME-H cartridges plus N<sub>2</sub>O monitoring in 2 small barricades central to C-102/103.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 295,000 gal complexant concentrate waste, no supernatant.
- Solid Waste Types: Bottom to top of tank, PUREX cladding waste, PUREX process thoria waste, PUREX process organic wash waste, PUREX cladding waste from zirflex process, PUREX high level waste, and small amounts of other waste types.
- Maximum temperature on March 1, 1998: 93.7 °F.
- Heat Load: 16,300 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Many historical samples; core composite samples, April 1986; grab samples, 1988; vapor samples, March 1994; core samples, July 1996.
- Significant Results: Primary analytes, sodium and hydroxide, with > 1% aluminum, fluoride, iron, carbonate, zirconium, uranium, nitrite and nitrate; 50.8 wt% water; primary radionuclides, strontium-90 with less cesium-137, samarium-151, plutonium-239/240/241 and americium-241; vapor samples showed 24 tentatively identified organic compounds and high ammonia.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: 0.3% LFL; facility group 2.
- Criticality: Safe; maximum plutonium-239/240 4.3  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-C-105

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Active (2000 cfm exhauster).
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 134,000 gal non-complexed waste, 2,000 gal supernatant.
- Solid Waste Types: Primarily tri-butyl phosphate waste from uranium recovery operations and PUREX cladding waste.
- Maximum temperature on March 1, 1998: 96.1 °F.
- Heat Load: 10,400 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, April 1986; vapor samples, February 1994; core samples, March 1996.
- Significant Results: Primary analytes, sodium, hydroxide, aluminum, silicate, nitrate and nitrite; 37.7 wt% water in the sludge; primary radionuclides, strontium-90 and cesium-137; vapor samples showed ammonia was 2.4 ppmv; low concentrations of flammable components.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally safe; TOC below 3% limit; maximum 95% CI was 0.652%.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: < 1% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 2.0  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-C-106

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Active (2,000 cfm exhauster operating on C-105, -106).
- Service: Inactive, cooling water additions (approximately 5,000 gallons/month), partial interim isolated, screen installed.
- Integrity: Sound.

Waste Parameters

- Volume: 229,000 gal non-complexed waste; 32,000 gal supernatant, 197,000 gal solids.
- Solids Waste Types: 15,000 gal Uranium Recovery Waste, 34,000 gal PUREX Cladding Waste, 96,000 gal AR Vault Waste, 52,000 gal B Plant Low Level Waste.
- Maximum temperature on March 1, 1998: 142 °F.
- Heat Load: 114,000 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, June 1986; grab sample and vapor samples, March 1996, grab samples, June 1996.
- Significant Results: Primary analytes, sodium, carbonate, iron, aluminum, nitrite and hydroxide, also > 1 wt% phosphate, silicate and TOC; 40 wt% water in sludge; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: High-Heat.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Retrieval (HTI).
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 6.33  $\mu\text{Ci/g}$ .
- Unique Hazards/Controls: Surface contamination area.
- Noxious Vapors: No restrictions.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-C-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 257,000 gal dilute complexed waste, no supernatant.
- Solid Waste Types: 211,000 gal BiPO<sub>4</sub> first cycle sludge, 35,000 gal PUREX coating waste and 11,000 gal hot semi-works and strontium recovery waste.
- Maximum temperature on March 1, 1998: 116 °F.
- Heat Load: 39,000 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical sludge samples; grab samples, November 1996; core samples, March 1995; vapor samples, September 1994.
- Significant Results: Primary analytes expected based on sampling and tanks containing similar waste, sodium, nitrate, aluminum, hydroxide, iron and phosphate, also > 1% nitrite, carbonate, bismuth and silicate, 32.0 wt% water (minimum); primary radionuclides, strontium-90 with less cesium-137, samarium-151 and plutonium-239/240/241.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Vapor.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.05 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.6%; facility group 3.
- Criticality: Safe; maximum total alpha 15.1 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 66,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 29,000 gal BiPO<sub>4</sub> first cycle decontamination waste, 25,000 gal uranium recovery waste, 12,000 gal in-farm ferrocyanide scavenging waste.
- Maximum temperature on March 1, 1998: 70.7 °F.
- Heat Load: 1,680 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Push core attempt (poor sample), June 1994; auger samples, November and December 1994; vapor samples, August 1994.
- Significant Results: Primary analytes based on sampling and tanks containing similar waste, sodium, nitrate, nitrite, aluminum, hydroxide and phosphate, also > 1% carbonate and calcium; 38.8 wt% water; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.09 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha < 1.15 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: C Farm, surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 66,000 gal non-complexed waste; 4,000 gal supernatant, 62,000 gal sludge.
- Solid Waste Types: 10,000 gal BiPO<sub>4</sub> first cycle decontamination waste, 45,000 gal in-farm ferrocyanide scavenging waste, and 7,000 gal hot semi-works waste from strontium recovery.
- Maximum temperature on March 1, 1998: 72.9 °F.
- Heat Load: 8,880 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, September 1992; vapor samples, August 1994.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, aluminum and hydroxide, also > 1% iron, calcium, nickel, phosphate, uranium and carbonate; 35.7 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.08 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.3%; facility group 3.
- Criticality: Safe; maximum total alpha 0.992 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 178,000 gal dilute complexed waste; 1,000 gal supernatant, 177,000 gal sludge.
- Solid Waste Types: Mostly BiPO<sub>4</sub> first cycle decontamination waste, also some uranium recovery and PUREX organic wash waste.
- Maximum temperature on March 1, 1998: 65.8 °F.
- Heat Load: 433 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, April 1992; vapor samples, August 1994.
- Significant Results: Primary analytes, sodium, nitrate and phosphate, also > 1% bismuth, iron, silicate and sulfate; 62.7 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 1.83 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.2%; facility group 3.
- Criticality: Safe; maximum total alpha 0.14 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 57,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Hot semi-works waste, ferrocyanide scavenged waste, PUREX cladding waste, and BiPO<sub>4</sub> first cycle decontamination waste.
- Maximum temperature on March 1, 1998: 69.1 °F.
- Heat Load: 26,700 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, April 1994; vapor sample (low recovery), September 1994; auger samples (limited IC data), January and March 1995.
- Significant Results: Based on sample data and tanks containing the same waste types, primary analytes, aluminum and hydroxide, also > 1% calcium, iron, nickel, nitrate, nitrite, phosphate, and uranium; 21.1 wt% water; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.06 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.03%; facility group 3.
- Criticality: Safe; maximum total alpha 0.748 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-112**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 104,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 1,000 gal Hot semi-works waste, 16,000 gal PUREX cladding waste, 72,000 gal ferrocyanide scavenged waste and 15,000 gal BiPO<sub>4</sub> first cycle decontamination waste.
- Maximum temperature on March 1, 1998: 76.6 °F.
- Heat Load: 32,600 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, March 1992; vapor samples, June and August 1994.
- Significant Results: Primary analytes, sodium, nitrite, nitrate, phosphate, uranium and hydroxide, also > 1% aluminum, calcium, iron carbonate, sulfate and nickel; 41.6 wt% water; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.26 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.5%; facility group 3.
- Criticality: Safe; maximum total alpha 1.18 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-201**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 2,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Hot semi-works/strontium semi-works waste, may be a metal waste heel.
- Maximum temperature on March 1, 1998: 56.8 °F.
- Heat Load: 392 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core sample 1978; auger samples (poor recovery, limited analyses), May 1995; vapor samples, June 1996; core sample attempted (5% water, poor recovery) September 1997; grab samples, October 1997 (analyses in progress).
- Significant Results: Primary analytes lead and phosphate, also > 1 wt% iron, sodium, carbonate, nitrate and hydroxide; about 5 wt% water; primary radionuclides, strontium-90 with less plutonium-239/240 and cesium-137; exothermic activity > 481 J/g in auger samples.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Expect safe; exotherms < 480 J/g, maximum TOC 3%.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 1.7 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 21.2 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-202**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 1,000 gal, no supernatant.
- Solid Waste Types: Hot semi-works/strontium semi-works waste, may be metal waste.
- Maximum temperature on March 1, 1998: 56.3 °F.
- Heat Load: 337 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples, 1978; auger samples (poor recovery, limited analyses), May 1995; vapor samples, June 1996; core sample (poor recovery), October 1997, grab sample December 1997.
- Significant Results: Primary analytes, phosphate, lead, iron, sodium, nitrate, tic and hydroxide; 5-7 wt% water in 1995 samples; primary radionuclide, strontium-90; exothermic activity > 481 J/g in auger samples.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.53 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 9.3 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



Tank 241-C-203

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 5,000 gal, no supernatant.
- Solid Waste Types: Hot semi-works/strontium semi-works waste, may be metal waste.
- Maximum temperature on March 1, 1998: 56.1 °F.
- Heat Load: 215 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core sample (limited results), 1978; auger samples (DSC, TGA and total alpha analyses), April 1995.
- Significant Results: Primary analytes expected, phosphate, lead, iron, sodium, nitrate, TIC and hydroxide; a minimum of 31.4 wt% water in auger samples; primary radionuclide, strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; based on DSC measurements.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 2.83  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-C-204**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 3,000 gal, no supernatant.
- Solid Waste Types: Hot semi-works/strontium semi-works waste, may be metal waste.
- Average temperature from 1955 to 1977: 55-68 °F, (no temperature data after 1977).
- Heat Load: 9.0 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; auger samples (DSC, TGA, TOC and total alpha analyses), May 1995; vapor samples, July 1996.
- Significant Results: Primary analytes expected, phosphate, lead, iron, sodium, nitrate, TIC and Hydroxide; 55.0 wt% water in auger samples; primary radionuclide expected, strontium-90; high TOC in vapor samples; 33% tri-butyl phosphate; exothermic activity > 481 J/g.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; organic is mostly solvent, TOC 13 wt%.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated solvent pool size 53 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.052 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

### Tank 241-S-101

#### Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Sound.

#### Waste Parameters

- Volume: 427,000 gal non-complexed waste, 12,000 gal supernatant, 415,000 gal solid.
- Solid Waste Types: 204,000 gal 242-S Evaporator saltcake, 211,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 115 °F.
- Heat Load: 20,400 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, March and April 1996; vapor samples, June 1996.
- Significant Results: Primary analytes expected are aluminum, sodium, nitrate, nitrite and hydroxide; 40.2 wt% water in solid and 53.1 wt% water in liquid samples; primary radionuclides, cesium-137 and strontium-90; ammonia in vapor samples.

#### Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated solvent pool size, 0.47 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 7%; facility group 2.
- Criticality: Safe; maximum total alpha 1.06 μCi/g (below limit).
- Noxious Vapors: Monitoring for OVM/NH<sub>3</sub> required within 5 feet of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-S-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 549,000 gal double-shell slurry feed waste, no supernatant.
- Solid Waste Types: 545,000 gal 242-S Evaporator saltcake, 4,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 104 °F.
- Heat Load: 6,960 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, January through March 1996; February 1997 most recent of many vapor samples since March 1995.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% aluminum, hydroxide and phosphate; 22.7 wt% water; primary radionuclides, cesium-137 and strontium-90; ammonia in vapor samples.

Safety Issue Status

- Watch List: Flammable Gas, Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Vapor.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size, 0.05 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 2.
- Criticality: Safe; maximum total alpha 1.79 µCi/g (below limit).
- Noxious Vapors: Monitoring for OVM/NH<sub>3</sub> required within 5 feet of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Sound.

Waste Parameters

- Volume: 248,000 gal double-shell slurry feed waste; 17,000 gal supernatant, 231,000 gal solids.
- Solid Waste Types: 222,000 gal 242-S Evaporator saltcake, 9,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 84.7 °F.
- Heat Load: 5,720 Btu/hr, based on tank temperature.
- Sample Events: No current waste samples; vapor samples, June 1996.
- Significant Results: Based on S-Farm tanks containing the same waste types; primary analytes expected, sodium and nitrate, with > 1% aluminum, hydroxide and nitrite; 34.6 wt% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.768% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size, 0.07 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0424  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 294,000 gal non-complexed waste; 1,000 gal supernatant. 293,000 gal solids.
- Solid Waste Types: 269,000 gal REDOX high level waste and 24,000 gal REDOX cladding waste.
- Maximum temperature on March 1, 1998: 104 °F.
- Heat Load: 14,300 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical liquid grab; core samples, July 1992.
- Significant Results: Primary analytes, sodium, aluminum, nitrate and hydroxide, with > 1% nitrite; 31.6 wt% water; primary radionuclides expected strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.998  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 456,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 2,000 gal REDOX high level waste and 454,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 76.8 °F.
- Heat Load: 3,740 Btu/hr, based on tank temperature.
- Sample Events: No current solid or liquid samples; vapor samples, December 1995.
- Significant Results: Based on tanks with similar waste types; expected primary analytes, sodium and nitrate, with > 1% nitrite, hydroxide, aluminum and sulfate; 44.7 wt% water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.262% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.25 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.09%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0246 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 479,000 gal non-complexed waste, 4,000 gal supernatant.
- Solid Waste Types: 32,000 gal REDOX high level waste/REDOX cladding waste and 443,000 gal 242-S Evaporator saltcake.
- Maximum temperature on October 6, 1997: 79.0 °F.
- Heat Load: 6,020 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Vapor samples, June 1996; push core samples, March 1997.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% nitrite, hydroxide, aluminum, phosphate and sulfate; > 30 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Flammable Gas.
- Organic Complexants<sup>1</sup>: Expect Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.29 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum gross alpha 0.038 µg/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-S-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, screen installed.
- Integrity: Sound.

Waste Parameters

- Volume: 376,000 gal non-complexed waste; 14,000 gal supernatant, 362,000 gal solids.
- Solid Waste Types: 275,000 gal REDOX high level waste, 18,000 gal PUREX Zr cladding waste, and 69,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 106 °F.
- Heat Load: 12,100 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Core samples, September 1995; vapor samples, June 1996.
- Significant Results: Primary analytes, sodium, nitrate and aluminum, with > 1% nitrite, hydroxide and phosphate; 32.1 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.35 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 4%; facility group 2.
- Criticality: Safe; maximum total alpha 3.46  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-S-108

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 502,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 5,000 gal REDOX high level waste, 497,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 82.6 °F.
- Heat Load: 4,400 Btu/hr, based on tank temperature.
- Sample Events: Core samples, September 1995; vapor samples, June 1996.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium and nitrate, with > 1% aluminum, nitrite, hydroxide and phosphate; 30.6 wt% water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.318% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.23 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.09%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.748 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 507,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 13,000 gal REDOX high level waste, 494,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 84.0 °F.
- Heat Load: 7,990 Btu/hr, based on tank temperature.
- Sample Events: Historical samples; solids sample 1976; liquid grab sample 1991; partial push core samples (3 of 9 segments), June and July 1996; vapor samples, June 1996.
- Significant Results: Hard layer, can't push; based on saltcake sample and tanks containing the R/CWR waste type; primary analytes expected, sodium and nitrate, with > 1% hydroxide and phosphate; 7.3 wt% water (in saltcake); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.53 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.022 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-S-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 390,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 113,000 gal REDOX high level waste, 277,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 113 °F.
- Heat Load: 7,830 Btu/hr, based on tank temperature.
- Sample Events: Historical samples; grab samples, April 1995 and April 1996; vapor samples, December 1995; partial core sample (too hard to push), April 1996.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum and phosphate; 32.1 wt% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.392% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated solvent pool size 0.20 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.45%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.146 μCi/g (HDW model).
- Noxious Vapors: Monitoring for OVM/NH<sub>3</sub> required within 5 ft of breather filter.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-S-111

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 540,000 gal non-complexed waste; 23,000 gal supernatant, 517,000 gal solids.
- Solid Waste Types: 139,000 gal REDOX high level waste, 277,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 89.4 °F.
- Heat Load: 8,410 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical grab and core samples; vapor samples, March 1995; grab samples, May 1995; partial core samples (too hard to push), June 1996.
- Significant Results: Primary analytes, sodium, nitrate, aluminum and hydroxide, with > 1% nitrite and carbonate; 28.5 wt% water (in solids); primary radionuclide, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: Flammable Gas, Organic
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated solvent pool size 0.19 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.1%; facility group 2.
- Criticality: Safe; maximum total alpha 0.207 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system, SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-S-112

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 523,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 6,000 gal REDOX high level waste, 517,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 83.1 °F.
- Heat Load: 17,200 Btu/hr, based on radionuclides that generate heat.
- Sample Events: Historical; no current solid samples; vapor samples, July 1995.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite and phosphate; 29.2 wt% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Flammable Gas, Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.324% (HDW model).
- Organic Solvent<sup>1</sup>: Estimated solvent pool size 0.01 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0322 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 456,000 gal dilute complexed waste; 1,000 gal supernatant, 455,000 gal solids.
- Solid Waste Types: 112,000 gal REDOX high level waste, 343,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 133 °F.
- Heat Load: 12,600 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, July 1995; core samples, February 1998 (analytical results not available).
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite and phosphate; 38.3 wt% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Data not available, expect safe; TOC 0.115% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Data not available, expect safe; plutonium-239 0.121  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 543,000 gal double-shell slurry feed, no supernatant.
- Solid Waste Types: 117,000 gal REDOX high level waste, 426,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 141 °F.
- Heat Load: 15,100 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, July 1995.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite, carbonate and phosphate; 38.3% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0626  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-SX-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 652,000 gal non-complexed waste, 1,000 gal supernatant.
- Solid Waste Types: 115,000 gal REDOX high level waste, 536,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 163 °F.
- Heat Load: 27,700 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, March 1995; FY 1998 core samples scheduled.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite, carbonate and phosphate; 28.5 wt% water (HDW model estimate); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas, Organic
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.758% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0406  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-SX-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated, pumping initiated.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 614,000 gal double-shell slurry feed, no supernatant.
- Solid Waste Types: 136,000 gal REDOX high level waste, 478,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 154 °F.
- Heat Load: 12,200 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, June 1995; grab samples, April 1997; core sample scheduled FY 1998.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite, carbonate and phosphate; 28.1 wt% water (HDW model estimate); primary radionuclides expected are cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.619% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0748  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system, SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 683,000 gal double-shell slurry feed, no supernatant.
- Solid Waste Types: 73,000 gal REDOX high level waste, 610,000 gal 242-S and T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 170 °F.
- Heat Load: 12,600 Btu/hr, based on tank temperature.
- Sample Events: Historical; vapor samples, July 1995, core samples, November 1997.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium, nitrate and hydroxide, with > 1% aluminum, nitrite, carbonate, sulfate and phosphate; 27.0 wt% water (HDW model estimate); primary radionuclides expected, Cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.815% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0522  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system, SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 538,000 gal non-complexed waste, 61,000 gal supernatant, 477,000 gal solids.
- Solid Waste Types: 12,000 gal REDOX high level waste, 465,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 106 °F.
- Heat Load: 10,800 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, March 1995; core samples, November 1997 (analytical results not available).
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, sodium and nitrate, with > 1% aluminum, hydroxide, carbonate, phosphate and nitrite; 32.7 wt% water (HDW model estimate); primary radionuclides expected are cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Flammable Gas, Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Flammable Gas, Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Expect safe; maximum TOC 6,640 µg/g, maximum exotherm 280 J/g (interim data).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Expect safe; HDW estimate for plutonium-239 0.0315 µCi/g (sample data not available).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 104,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 104,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 161 °F.
- Heat Load: 54,800 Btu/hr, based on tank temperature.
- Sample Events: Historical; no current solid samples; vapor samples, May 1997.
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, hydroxide, aluminum, sodium and nitrate, with > 1% nitrite; 29.3 wt% water (HDW model estimate); primary radionuclide expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, high heat load tank.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 8.42E-04 (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.363  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

## Tank 241-SX-108

### Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

### Waste Parameters

- Volume: 87,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 87,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 182 °F.
- Heat Load: 56,000 Btu/hr, based on tank temperature.
- Sample Events: Historical; auger samples, September 1995; vapor samples, July 1997.
- Significant Results: Primary analytes, hydroxide, aluminum, sodium and nitrate also > 1 wt% chromium, iron, nitrite, sulfate and uranium; 2.03 wt% water (solids dry and powdery); primary radionuclides expected, strontium-90 with less cesium-137.

### Safety Issue Status

- Watch List: None, high heat load tank.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Safe; no exotherms, passed TOC screening.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Safe; maximum total alpha 5.70  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 250,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 75,000 gal REDOX high level waste, 175,000 gal REDOX process saltcake.
- Maximum temperature on March 1, 1998: 141 °F.
- Heat Load: 31,000 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; vapor samples, August 1995.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 33.1 wt% water (HDW model estimate); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no waste received after 1968.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.136  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 72,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 72,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 161 °F.
- Heat Load: 40,800 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; vapor samples, July 1997.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected are hydroxide, aluminum, sodium and nitrate; 33.1 wt% water (HDW model estimate); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, high heat load tank.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.00252% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.456  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-SX-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 122,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 122,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 186 °F.
- Heat Load: 61,000 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; vapor samples, May 1997.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 31.1 wt% water (HDW model estimate); primary radionuclides expected; strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.00174% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.381  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-SX-112

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 107,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 107,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 145 °F.
- Heat Load: 41,600 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; vapor samples, June 1997.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 30.2 wt% water (HDW model estimate); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Safe; no waste received after 1968.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.368  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-113**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 31,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 2,000 gal REDOX high level waste, 29,000 gal diatomaceous earth.
- Maximum temperature on March 1, 1998: 74.7 °F.
- Heat Load: 6,820 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; auger samples (DSC, TGA, total alpha analyses only), May 1995.
- Significant Results: Based on auger samples and tanks containing the same waste type; primary analyte expected, silicon with > 1% aluminum, iron, sodium, nitrate and hydroxide; 46.6 wt% water; primary radionuclide expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Safe; no waste received after 1968; no exotherms.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.481  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-114**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Active.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 181,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 147,000 gal REDOX high level waste, 34,000 gal REDOX process saltcake.
- Maximum temperature on March 1, 1998: 176 °F.
- Heat Load: 58,700 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples; vapor samples, June 1997.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 33.6 wt% water (HDW model estimate); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.00384 (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.222  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SX-115**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 1,000,000 gallons.
- Ventilation: Passive.
- Service: Inactive.
- Integrity: Assumed leaker, interim stabilized.

Waste Parameters

- Volume: 12,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 12,000 gal REDOX high level waste.
- Maximum temperature: No temperature sensors.
- Heat Load: 760 Btu/hr, based on tank temperature.
- Sample Events: Historical; no solid samples.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 30.8 wt% water (Based on tank temperature); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Vapor.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.00259% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.158  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Surface contamination area.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-SY-101****Tank Physical Parameters**

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

**Waste Parameters**

- Volume: 1,126,000 gal concentrated complexant waste; tank had three layers in 1991; convective layer (626,000 gal), non-convective layer (442,000 gal) and crust, (58,000 gal); layers may no longer exist due to mixer pump installation.
- Waste Types: 564,000 gal 242-S Evaporator saltcake, 544,000 gal B Plant cesium and strontium recovery process waste, plus lance water and miscellaneous.
- Maximum temperature on March 1, 1998: 118 °F.
- Heat Load: 40,400 Btu/hr based on radionuclides that generate heat.
- Sample Events: 1986 grab samples; crust samples, November 1990; crust samples and push core samples, May 1991; push mode core samples, December 1991.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide, carbonate and aluminum; 35 wt% water; primary radionuclides, cesium-137 with less strontium-90; high exotherms (> 480 J/g).

**Safety Issue Status**

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Organic Nitrate Reactions, Waste Surface Level Growth.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: Mixer pump installed July 3, 1993 to mitigate flammable gas buildup and control release of hydrogen and nitrous oxide gas release events, last gas release event. June 1993; maximum H<sub>2</sub> release 35,000 ppmv, April 1990.
- Criticality: Safe; total alpha 0.787 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RMA/RBA.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level monitoring system; temperature monitoring system; mixer pump; hydrogen monitor; pressure monitoring system; ventilation flowmeter; ammonia detection system; gas characterization system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-SY-102**

Tank Physical Parameters

- Double-shell tank.
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 732,000 gal dilute non-complexed/Plutonium Finishing Plant TRU solids; 644,000 gal liquids (frequent transfers), 88,000 gal solids.
- Waste Types: 242-S Evaporator saltcake, Z Plant waste, T Plant decontamination.
- Maximum temperature on March 1, 1998: 64.0 °F.
- Heat Load: 1,700 Btu/hr based on radionuclides that generate heat (sludge only).
- Sample Events: Core samples, 1990; supernatant grab samples, October 1995 and January 1997; push core samples, August 1997.
- Significant Results: Primary analytes sodium, nitrate and nitrite, with > 1% hydroxide, oxalate, carbonate, aluminum and phosphate; 58.2 wt% water (in sludge); primary radionuclides expected, cesium-137, strontium-90 and americium-241 with less plutonium-239/240.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: Safe; LFL 1%, facility group 2.
- Criticality: Safe; maximum plutonium-239/240 in sludge 27.5 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RMA/RBA.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level monitoring system; temperature monitoring system; SHMS (installed, not operating).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-SY-103**

Tank Physical Parameters

- Double-shell tank.<sup>1</sup>
- Capacity: 1,160,000 gallons.
- Ventilation: Active.
- Service: Active.
- Integrity: Sound.

Waste Parameters

- Volume: 748,000 gal concentrated complexant waste; 382,000 gal supernatant (includes 4,000 gal crust), 362,000 gal sludge.
- Waste Types: 207,000 gal 242-S Evaporator saltcake, 123,000 gal B Plant cesium and strontium recovery process waste, 32,000 gal uranium sludge from ion-exchange processing; supernatant includes evaporator saltcake and slurry from tank 241-SX-104.
- Maximum temperature on March 1, 1998: 94.3 °F.
- Heat Load: 20,100 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples, 1986; auger sample (crust only), June 1994; core samples (one core only), August and September 1994.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, hydroxide, carbonate and aluminum, and > 1% chloride, phosphate, sulfate; 33 wt% water; primary radionuclides, cesium-137 with less strontium-90; two exotherms observed > 480 J/g, lower exotherms throughout samples.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Flammable Gas, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; tank contains aqueous waste.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 7.4%; facility group 1; multiple GRE's; maximum H<sub>2</sub> release 5110 ppmv.
- Criticality: Safe; total alpha 0.95 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Posted RMA/RBA.
- Unique Safety Class Equipment/Safety Significant Equipment: Active ventilation system; ventilation CAM interlock to exhaust fan; annulus ventilation system; tank leak detection system; tank level monitoring system; temperature monitoring system; hydrogen monitor; pressure monitoring system; ventilation flowmeter; ammonia detection system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-T-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 102,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 2,000 gal heel BiPO<sub>4</sub> metal waste, 35,000 gal REDOX cladding waste, 65,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 66.0 °F.
- Heat Load: 4,190 Btu/hr based on tank temperature.
- Sample Events: Historical supernatant; no solids samples; combustible gas monitoring, July 1996; vapor samples, December 1997.
- Significant Results: Based on tanks containing the same waste type; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 30.8 wt% water (Based on tank temperature); primary radionuclides expected, strontium-90 and cesium-137; LFL < 1%.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.048% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL < 1%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 1.42 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 32,000 gal non-complexed waste; 13,000 gal supernatant, 19,000 gal sludge.
- Solid Waste Types: 2,000 gal BiPO<sub>4</sub> metal waste, 17,000 gal PUREX cladding, waste sludge.
- Maximum temperature: No waste temperature sensor.
- Heat Load: 3,840 Btu/hr, based on tank headspace temperature.
- Sample Events: Historical supernatant; push core samples, March 1993; grab samples, July 1994.
- Significant Results: Primary analytes, aluminum, sodium and nitrate, with > 1 wt% iron, nitrite and carbonate; 60.5 wt% water (HDW estimate); primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.295  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: T Farm, RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 27,000 gal non-complexed waste; 4,000 gal supernatant, 23,000 gal sludge.
- Solid Waste Types: 1,000 gal BiPO<sub>4</sub> metal waste, 17,000 gal PUREX cladding, waste sludge, 5,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 58.1 °F.
- Heat Load: 1,080 Btu/hr, based on tank temperature.
- Sample Events: Historical supernatant; grab samples, May 1996 (DSC, TGA and total alpha only).
- Significant Results: Based on tanks containing the same waste types; primary analytes expected, aluminum and hydroxide, with > 1 wt% sodium, nitrate, nitrite, uranium, iron and carbonate; 60.5 wt% water (HDW estimate); primary radionuclides expected, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.04% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.0216 µCi/mL (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-T-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, pumping initiated.
- Integrity: Sound.

Waste Parameters

- Volume: 347,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 347,000 gal first cycle decontamination BiPO<sub>4</sub>, mixed with BiPO<sub>4</sub> cladding waste.
- Maximum temperature on March 1, 1998: 63.3 °F.
- Heat Load: 136 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical supernatant; core samples, August 1992; vapor samples, February 1996.
- Significant Results: Primary analytes, sodium, nitrate and phosphate, with > 1 wt% hydroxide, aluminum and bismuth; 70.5 wt% water; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no waste transfers after 1968; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.58 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.217 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 98,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 98,000 gal first and second cycle decontamination BiPO<sub>4</sub>, mixed with BiPO<sub>4</sub> cladding waste.
- Maximum temperature: No temperature sensor.
- Heat Load: 4,670 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples (poor recovery), March 1993; core samples, June 1997.
- Significant Results: Primary analytes, aluminum, sodium and hydroxide, with > 1 wt% iron, nitrite and carbonate; 39.3 wt% water; primary radionuclide, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.823  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-T-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 21,000 gal non-complexed waste; 2,000 gal supernatant, 19,000 gal sludge.
- Solid Waste Types: 7,000 gal first cycle BiPO<sub>4</sub> decontamination waste, REDOX aluminum cladding waste.
- Maximum temperature on March 1, 1998: 58.3 °F.
- Heat Load: 46 Btu/hr based on radionuclides that generate heat.
- Sample Events: Solids samples, 1975; auger samples, (low recovery), July/August 1995.
- Significant Results: Based on sample data and tanks containing the same waste types; primary analytes expected are aluminum, sodium and hydroxide, with > 1 wt% nitrate and phosphate; 12.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic reactions.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.364  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 173,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 131,000 gal first cycle BiPO<sub>4</sub> decontamination waste, 42,000 gal tri-butyl phosphate waste or uranium recovery waste.
- Maximum temperature on March 1, 1998: 63.1 °F.
- Heat Load: 2,660 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, November 1992 to March 1993; vapor samples, January 1995.
- Significant Results: Primary analytes, sodium, phosphate, nitrate and hydroxide, with > 1 wt% aluminum, bismuth, iron, fluoride, uranium and nitrite; 48.5 wt% water. The primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.70 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.1%; facility group 3.
- Criticality: Safe; maximum total alpha 0.473 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: T Farm is a RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 44,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 21,000 gal first cycle BiPO<sub>4</sub> decontamination waste, 23,000 gal 242-T Evaporator saltcake waste.
- Maximum temperature on March 1, 1998: 58.5 °F.
- Heat Load: 2,200 Btu/hr based on tank temperature.
- Sample Events: Historical samples; auger samples, July 1995.
- Significant Results: Primary analytes, sodium, phosphate and nitrate; 19.5 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic activity.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.095  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-T-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 58,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 58,000 gal 242-T Evaporator saltcake waste.
- Maximum temperature on March 1, 1998: 58.8 °F.
- Heat Load: 1,770 Btu/hr based on tank temperature.
- Sample Events: Historical; auger samples, August 1995.
- Significant Results: Primary analytes, sodium and phosphate, with > 1 wt% fluoride and nitrate, 47.7 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic activity.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.021  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated, pumping initiated.
- Integrity: Sound.

Waste Parameters

- Volume: 376,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 301,000 gal second decontamination cycle BiPO<sub>4</sub> waste, 75,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 62.2 °F.
- Heat Load: 1,180 Btu/hr based on tank temperature.
- Sample Events: Vapor samples, August 1995; supernatant grab, January 1997; core (safety screening analyses only), March 1997.
- Significant Results: Based on tank T-111 and T-112 data; primary analytes expected, sodium, bismuth, hydroxide, nitrate, phosphate and iron; 75.0 wt% water (HDW model, probably lower since salt well pumping was completed in 1997); primary radionuclide expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Indeterminate, data being evaluated.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.16 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.1%; facility group 3.
- Criticality: Safe; maximum total alpha 0.0896 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: T Farm is RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-T-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 446,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 336,000 gal second decontamination cycle BiPO<sub>4</sub> waste, 110,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 61.9 °F.
- Heat Load: 255 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical grab samples; core samples, October and November 1991; vapor samples, January 1995.
- Significant Results: Primary analytes expected, sodium, bismuth, hydroxide, nitrate, phosphate and iron; 76.0 wt% water, probably lower since salt well pumping was completed); primary radionuclide expected, strontium-90 with less cesium-137 and plutonium-239/240.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 7.2 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.2%; facility group 3.
- Criticality: Safe; maximum total alpha 0.649 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-112**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 67,000 gal non-complexed waste; 7,000 gal supernatant, 60,000 gal sludge.
- Solid Waste Types: 55,000 gal second decontamination cycle BiPO<sub>4</sub> waste, 5,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 60.3 °F.
- Heat Load: 37 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical grab samples; core samples, March 1997.
- Significant Results: Primary analytes, sodium, bismuth, hydroxide, nitrite, nitrate and iron; 73.9 wt% water (in solids); primary radionuclides expected, strontium-90 with less cesium-137 and plutonium-239/240.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.312 μCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMAs.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-201**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 29,000 gal non-complexed waste; 1,000 gal supernatant, 28,000 gal sludge.
- Solid Waste Types: 28,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 62.2 °F.
- Heat Load: 14.0 Btu/hr, based on tank temperature.
- Sample Events: Core samples, April 1997.
- Significant Results: Based on single core and Tank B-201 samples, primary analytes, sodium, bismuth, hydroxide, and nitrate, also > 1 wt% lanthanum, manganese; > 70 wt% water; primary radionuclides; low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 1.15  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-202**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 21,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 21,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 61.0 °F.
- Heat Load: 35.0 Btu/hr, based on tank temperature.
- Sample Events: core samples, April 1997.
- Significant Results: Based on a single core and tank B-202 samples, primary analytes, sodium, bismuth, hydroxide, and nitrate, also > 1 wt% lanthanum and manganese, > 70 wt% water; primary radionuclides are low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 2.
- Criticality: Safe; maximum total alpha 0.30  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-T-203**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 35,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 35,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 63.9 °F.
- Heat Load: 1,380 Btu/hr, based on tank temperature.
- Sample Events: Core samples, April 1997.
- Significant Results: Based on a single core and tank B-203 samples; primary analytes, sodium, bismuth, hydroxide, and nitrate, also > 1 wt% lanthanum and manganese; > 70 wt% water; primary radionuclides, low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.311  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-T-204**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 38,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 38,000 gal lanthanum fluoride precipitation process waste originating in 224-B and 224-T buildings.
- Maximum temperature on March 1, 1998: 61.9 °F.
- Heat Load: 50.0 Btu/hr, based on tank temperature.
- Sample Events: Core samples, April 1997.
- Significant Results: Based on a single core and tank B-204 samples, primary analytes, sodium, bismuth, hydroxide, and nitrate, also > 1 wt% lanthanum and manganese; > 70 wt% water; primary radionuclides, low levels of strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Safe; maximum total alpha 0.208  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: RBA/RMA, posted URMA's.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-TX-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 87,000 gal non-complexed waste; 3,000 gal supernatant, 84,000 gal solids.
- Solid Waste Types: 74,000 gal REDOX high level waste, 10,000 gal 242-T Evaporator saltcake.
- Maximum temperature: No temperature sensors in tank.
- Heat Load: 6,130 Btu/hr based on tank temperature.
- Sample Events: No current solid/liquid samples; vapor samples, October 1997.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, hydroxide, aluminum, sodium and nitrate; 30.4 wt% water (based on tank temperature); primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.0644% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.414  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 217,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 217,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 80.1 °F.
- Heat Load: 4,650 Btu/hr based on HDW model (no tank temperature calculations).
- Sample Events: Historical; no current solid/liquid samples; vapor samples, October 1997.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, hydroxide, sodium and nitrate, and < 1% aluminum and carbonate; 45.3 wt% water (Based on tank temperature); primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.829% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.252 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-TX-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 157,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 157,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 70.2 °F.
- Heat Load: 642 Btu/hr based on tank temperature.
- Sample Events: Historical; no current solid/liquid samples; vapor samples, October 1997.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, sodium and nitrate, and > 1% aluminum, hydroxide, nitrite and carbonate; 69.1 wt% water (Based on tank temperature); primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.252% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0138  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-TX-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 65,000 gal non-complexed waste; 1,000 gal supernatant, 64,000 gal solids.
- Solid Waste Types: 47,000 gal 242-T Evaporator saltcake, 18,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 65.0 °F.
- Heat Load: 1,380 Btu/hr based on tank temperature.
- Sample Events: No current solid/liquid samples; vapor sample April 1997.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, nitrite and carbonate; 45.8% water (Based on tank temperature); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.523% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.38 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0177 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 609,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 609,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 95.5 °F.
- Heat Load: 6,780 Btu/hr based on tank temperature.
- Sample Events: Historical samples, no current solid/liquid samples; vapor samples, December 1994.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, sodium and nitrate, and > 1% hydroxide, aluminum, nitrite, carbonate and sulfate; 44.8 wt% water (Based on tank temperature); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Organic, assumed leaker.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.35% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.32 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0226 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-TX-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 341,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 341,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 79.5 °F.
- Heat Load: 1,070 Btu/hr based on tank temperature.
- Sample Events: No current solid/liquid samples; vapor samples, March 1997.
- Significant Results: Based on tanks containing the similar waste types; primary analytes expected, Sodium and nitrate, and > 1% hydroxide, aluminum, nitrite and carbonate; 45.0 wt% water (Based on tank temperature); primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.505% (HDW model).
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 1.0 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0270  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 36,000 gal non-complexed waste; 1,000 gal supernatant, 35,000 gal solids.
- Solid Waste Types: 27,000 gal 242-T Evaporator saltcake, 6,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 67.3 °F.
- Heat Load: 998 Btu/hr based on tank temperature.
- Sample Events: Historical liquid grab samples; auger sample (safety screening analysis only), January 1996.
- Significant Results: Based on auger sample and tanks containing similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, nitrite, sulfate and carbonate; 22.2 wt% water; primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exotherms.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 6.96  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: OVM/ $\text{NH}_3$  monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 134,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 128,000 gal 242-T Evaporator saltcake, 6,000 gal uranium recovery/tri-butyl phosphate waste.
- Maximum temperature on March 1, 1998: 60.4 °F.
- Heat Load: 1,390 Btu/hr based on tank temperature.
- Sample Events: No current samples; vapor samples, December 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, nitrite and carbonate; 53.4 wt% water; primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.262% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0177  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



**Tank 241-TX-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 384,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 384,000 gal first cycle decontamination waste from the bismuth phosphate process and cladding waste.
- Maximum temperature March 1, 1998: 83.3 °F.
- Heat Load: 2,240 Btu/hr based on tank temperature.
- Sample Events: No current samples.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, nitrate, phosphate and hydroxide, and > 1% aluminum, bismuth, iron and uranium; 63.2 wt% water; primary radionuclides expected, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0288  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: OVM/ $\text{NH}_3$  monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-TX-110

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 462,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 37,000 gal first cycle decontamination waste from the bismuth phosphate process and cladding waste, 425,000 gal 242-T Evaporator saltcake.
- Maximum temperature on April 21, 1991: 77.4 °F.
- Heat Load: 9,840 Btu/hr based on tank temperature.
- Sample Events: No current liquid/solid samples; vapor samples, September 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, iron, carbonate, nitrite, sulfate, and phosphate; 50.9 wt% water; primary radionuclides expected, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.631% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0236  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: OVM/ $\text{NH}_3$ , monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 370,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 43,000 gal first cycle decontamination waste from bismuth phosphate process and cladding waste, 327,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998, 1997: 78.1 °F.
- Heat Load: 6,160 Btu/hr based on tank temperature.
- Sample Events: No current samples; vapor samples, October 1995; FY 1998 core sample scheduled.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, carbonate, nitrite, sulfate, phosphate; 48.5 wt% weight water; primary radionuclides expected, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.694% (HDW model).
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.08 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.78%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0263 μCi/g (HDW model).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of breather filter.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-112**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilization.
- Integrity: Sound.

Waste Parameters

- Volume: 649,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 24,000 gal 242-T Evaporator saltcake, 625,000 gal.
- Maximum temperature on March 1, 1998: 71.8 °F.
- Heat Load: 9,730 Btu/hr based on tank temperature.
- Sample Events: No current samples; vapor samples, December 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate, and > 1% aluminum, carbonate, nitrite, sulfate, phosphate; 44.8 wt% water; primary radionuclides expected, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.343 % (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0234  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area; posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-113**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilization.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 607,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 183,000 gal first cycle decontamination waste from the bismuth phosphate process and cladding waste, 424,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 73.0 °F.
- Heat Load: 5,590 Btu/hr based on tank temperature.
- Sample Events: No current liquid/solid samples; vapor samples, August 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, nitrate and hydroxide, and > 1% aluminum, carbonate, nitrite, sulfate, phosphate; 51.6 wt% water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.401% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.01 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0286 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-TX-114**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilization.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 535,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 4,000 gal first cycle decontamination waste from the bismuth phosphate process and cladding waste, 531,000 gal 242-T Evaporator saltcake.
- Maximum temperature on May 10, 1982: 90 °F.
- Heat Load: 9,800 Btu/hr based on tank temperature.
- Sample Events: No current liquid/solid samples; vapor samples, March 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate and > 1% aluminum, hydroxide, carbonate, nitrite, sulfate and phosphate; 44.6 wt% water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.499% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.28 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0254 μCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-115**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 568,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 568,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 71.1 °F.
- Heat Load: 10,150 Btu/hr based on radionuclides that generate heat.
- Sample Events: No current liquid/solid samples; vapor samples, November 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate and > 1% aluminum, hydroxide, carbonate, nitrite, sulfate and phosphate; 44.4 wt% water; primary radionuclides expected, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.362% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0226  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-116**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilization.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 631,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 323,000 gal 242-T Evaporator saltcake and 308,000 gal T2 saltcake and diatomaceous earth.
- Maximum temperature: No temperature sensors.
- Heat Load: 5,460 Btu/hr based on HDW model.
- Sample Events: No current liquid/solid samples; vapor samples, September 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate and > 1% aluminum, hydroxide, carbonate, nitrite, sulfate, silicate and phosphate; 37.5 wt% water; primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.0898% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0309  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



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**Tank 241-TX-117**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilization.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 626,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 197,000 gal 242-T Evaporator saltcake, 400,000 gal T2 saltcake and 29,000 gal diatomaceous earth.
- Maximum temperature on May 10, 1982: 97 °F.
- Heat Load: 7,020 Btu/hr based on tank temperature.
- Sample Events: No current liquid/solid samples; FY 1998 vapor samples, December 1997.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate and > 1% aluminum, hydroxide, carbonate, nitrite, sulfate and phosphate; 41.7 wt% water; primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.135% (HDW model).
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0272  $\mu\text{Ci/g}$  (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TX-118**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 347,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 266,000 gal 242-T Evaporator saltcake, 301,000 gal Z Plant sludge.
- Maximum temperature on March 1, 1998: 73.2 °F.
- Heat Load: 4,790 Btu/hr based on tank temperature.
- Sample Events: No current liquid/solid samples; vapor samples, December 1994.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium and nitrate and > 1% aluminum, hydroxide, carbonate, nitrite, sulfate and phosphate; 54.4 wt% water; primary radionuclides expected, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: Organics.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.339% (HDW model).
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.13 m<sup>2</sup> (below limit).
- Flammable Gas<sup>2</sup>: LFL 0.3%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 2.83 µCi/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RMA/RBA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-TY-101

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 118,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 12,000 gal 242-T Evaporator saltcake, 106,000 gal ferrocyanide treated first cycle decontamination waste from the bismuth phosphate process.
- Maximum temperature on March 1, 1998: 64.4 °F.
- Heat Load: 463 Btu/hr based on radionuclides that generate heat.
- Sample Events: 1985, core sample; vapor samples, April 1995.
- Significant Results: Based on 1985 sample; primary analytes, sodium, nitrate, phosphate and hydroxide and > 1% aluminum, bismuth, iron and silicate; 43.5 wt% water; primary radionuclide, strontium-90.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.38 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum plutonium-239/240 0.192 µCi/L (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TY-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 64,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 29,000 gal 242-T Evaporator saltcake and 35,000 gal T2 saltcake.
- Maximum temperature on March 1, 1998: 59.4 °F.
- Heat Load: 59 Btu/hr based on radionuclides that generate heat.
- Sample Events: 1985, core sample; vapor samples, April 1996.
- Significant Results: Based on 1985 sample; primary analytes, sodium, and nitrate and > 1% carbonate and phosphate; 43.2 wt% water (Based on tank temperature); primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Estimated organic solvent pool size 0.32 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; < 1.82 µCi/L total alpha.
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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Tank 241-TY-103

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 162,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 61,000 gal uranium recovery or tri-butyl phosphate waste, 47,000 gal ferrocyanide treated first cycle decontamination waste from the bismuth phosphate process, 54,000 gal 242-T Evaporator saltcake.
- Maximum temperature on March 1, 1998: 69.3 °F.
- Heat Load: 2,400 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples 1985; vapor samples, April 1995 and November 1996.
- Significant Results: Based on 1985 sample; primary analytes, sodium, phosphate and nitrate and > 1% bismuth, iron, nitrite, hydroxide and uranium; 44.8 wt% water (based on tank temperature); primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Exceeds limit; estimated organic solvent pool size 32 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.2%; facility group 3.
- Criticality: Safe; maximum plutonium-239/240, 0.184  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-TY-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 46,000 gal non-complexed waste, 3,000 gal supernatant, 43,000 gal sludge.
- Solid Waste Types: 13,000 gal uranium recovery or tri-butyl phosphate waste, 30,000 gal ferrocyanide treated first cycle decontamination waste from the bismuth phosphate process.
- Maximum temperature on March 1, 1998: 61.7 °F.
- Heat Load: 905 Btu/hr based on radionuclides that generate heat.
- Sample Events: 6 core samples, August 1985; auger sample (safety screening analysis), February 1995; vapor samples, April 1995.
- Significant Results: Primary analytes, sodium, nitrate and hydroxide, with > 1% bismuth, iron, carbonate and uranium, and 51.8 wt% water; primary radionuclide, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: Organic, was on ferrocyanide watch list.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Organic solvent pool size estimate 0.66 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha, 0.184 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TY-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 231,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 231,000 gal uranium recovery or tri-butyl phosphate waste.
- Maximum temperature on March 1, 1998: 78.1 °F.
- Heat Load: 7,520 Btu/hr based on radionuclides that generate heat.
- Sample Events: 1986 core sample; vapor samples, October 1997.
- Significant Results: Based on 1986 samples; primary analytes, sodium, nitrate and phosphate, with > 1% carbonate and iron; 32.6 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Organic solvent pool size not estimated.
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 3.
- Criticality: Safe; maximum plutonium-238/239, 0.0235  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-TY-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 758,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 17,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: Mostly diatomaceous earth, probable heel of uranium recovery/tri-butyl phosphate sludge.
- Maximum temperature on March 1, 1998: 59.4 °F.
- Heat Load: 241 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core sample 1985; auger samples (safety screening analysis), March 1995; vapor samples, August 1995.
- Significant Results: Primary analytes, iron, nitrate, hydroxide, silicate and phosphate, with > 1% sulfate; 34.8 wt% water; primary radionuclides, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.033  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Interim stabilized area, posted RBA/RMA and URMA.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



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**Tank 241-U-101**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 25,000 gal non-complexed waste; 3,000 gal supernatant, 22,000 gal sludge.
- Solid Waste Types: 22,000 gal REDOX high level waste.
- Maximum temperature on March 1, 1998: 62.8 °F.
- Heat Load: 4,840 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab sample (few solids, safety screening only), May 1996.
- Significant Results: Based on samples from other tanks with "R" waste; primary analytes expected, aluminum, sodium, nitrate, and hydroxide; 29.8 wt% water (grab samples); primary radionuclides expected, strontium-90 and cobalt-60 with less cesium-137. Tank contains ~70,000 Ci of cobalt-60 in shroud tubes, ceramic balls, stainless steel capsules and fuel elements.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0% (HDW model).
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 1% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.102  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-102**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 375,000 gal non-complexed waste; 18,000 gal supernatant, 357,000 gal solids.
- Solid Waste Types: 43,000 gal REDOX high level waste at tank bottom, overlain by 215,000 gal 242-T Evaporator saltcake and 99,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 85.3 °F.
- Heat Load: 8,000 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical samples; core samples, May 1996; vapor samples, December 1997.
- Significant Results: Primary analytes expected, sodium, nitrate, nitrite, and hydroxide with > 1% aluminum, carbonate, phosphate and sulfate; 35.0 wt% water; primary radionuclides, cesium-137 with less strontium-90; 2 exotherms > 480 J/g found.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally Safe; maximum TOC dry weight basis 2.36%.
- Organic Solvent<sup>1</sup>: Organic solvent pool size estimate not available.
- Flammable Gas<sup>2</sup>: LFL 3%; facility group 2.
- Criticality: Safe; maximum total alpha 0.644 µg/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS (installation planned for FY 1998).

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-103**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 468,000 gal non-complexed waste, 13,000 gal supernatant, 455,000 gal solids.
- Solid Waste Types: 32,000 gal REDOX high level waste at tank bottom, overlain by 423,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 85.5 °F.
- Heat Load: 13,700 Btu/hr based on radionuclides that generate heat.
- Sample Events: Vapor samples, February 1995; latest grab samples, May 1995; core samples (RGS), September 1996 through April 1997.
- Significant Results: Primary analytes, sodium, nitrate, nitrite, and hydroxide with > 1% aluminum, carbonate, phosphate and sulfate; 39.8 wt% water; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Organic, Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Flammable Gas, Safety Screening, Organic Complexants, Organic Solvent, Vapor.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.04 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.9%; facility group 2.
- Criticality: Safe; maximum total alpha 0.689  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of distribution pit.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-104**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 122,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 40,000 gal REDOX high level waste, 43,000 gal 242-T Evaporator saltcake, and 39,000 gal diatomaceous earth.
- Maximum temperature: No temperature sensors in this tank.
- Heat Load: 2,600 Btu/hr based on radionuclides that generate heat.
- Sample Events: No solid or liquid samples; vapor samples, July 1996.
- Significant Results: Based on tanks containing similar waste; primary analytes expected, sodium, nitrate, and hydroxide with > 1% aluminum, carbonate, and silicate; 29.9 wt% water (based on tank temperature); primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Not measured, expect safe; TOC 0.0823% (HDW model).
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.09 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Not measured, expect safe; plutonium-239 0.0132  $\mu$ Ci/g (HDW model).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-105**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 418,000 gal non-complexed waste; 37,000 gal supernatant, 381,000 gal solids.
- Solid Waste Types: 32,000 gal REDOX high level waste and REDOX cladding waste, 74,000 gal 242-T Evaporator saltcake, and 275,000 gal 242-S Evaporator saltcake.
- Maximum temperature on November 11, 1997: 89.1 °F.
- Heat Load: 9,520 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical samples; vapor samples, February 1995; grab samples, June 1995; core samples, March 1996.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% aluminum, nitrate, carbonate, phosphate and sulfate; 28.6 wt% water in the solids; high energetics in 9 samples; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Organic, Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally Safe; maximum TOC 3.28%.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.41 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0.2%; facility group 2.
- Criticality: Safe; maximum total alpha 4.04 µCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of distribution pit and within 5 ft of breather filter.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-106**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 226,000 gal non-complexed waste, 15,000 gal supernatant, 211,000 gal solids.
- Solid Waste Types: 211,000 gal 242-S Evaporator saltcake.
- Maximum temperature on November 11, 1997: 80.8 °F.
- Heat Load: 5,890 Btu/hr based on radionuclides that generate heat.
- Sample Events: Historical samples; grab samples, September 1994; vapor samples, September 1994 and March 1995; core samples, May 1996.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% aluminum, carbonate, nitrite, phosphate, sulfate; 42.9 wt% water in the solids; high energetics in samples; primary radionuclides, cesium-137 and strontium-90.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally Safe; TOC above 3.0% limit in most samples.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.09 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.2%; facility group 2.
- Criticality: Safe; maximum total alpha 1.70 μCi/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of distribution pit.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-107**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 406,000 gal double-shell slurry feed; 31,000 gal supernatant, 375,000 gal solids.
- Solid Waste Types: 15,000 gal REDOX cladding waste, 360,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 76.8 °F.
- Heat Load: 3,510 Btu/hr based on radionuclides that generate heat.
- Sample Events: Vapor samples, February 1995; grab samples, April 1995; core samples (poor recovery, too hard to push), March 1996; Rotary core samples scheduled for FY 1998.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% aluminum, hydroxide, carbonate, nitrite and phosphate; 22.7 wt% water in the solids; two samples had dry weight exotherms > 480 j/g; primary radionuclide, cesium-137.

Safety Issue Status

- Watch List: Flammable Gas, Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.09 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.6% LFL; facility group 2.
- Criticality: Safe; maximum total alpha 0.609 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-108**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial Interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 468,000 gal non-complexed waste; 24,000 gal supernatant, 444,000 gal solids.
- Solid Waste Types: 29,000 gal REDOX cladding waste, 415,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 86.9 °F.
- Heat Load: 7,290 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab samples, May 1995; vapor samples, August 1995; core samples, April and May 1996.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% carbonate, hydroxide, nitrite, aluminum, sulfate and phosphate; 36.4 wt% water in the solids; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.60 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.85%; facility group 2.
- Criticality: Safe; maximum total alpha 0.365 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



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**Tank 241-U-109**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 463,000 gal non-complexed waste, 19,000 gal supernatant, 444,000 gal solids.
- Solid Waste Types: 35,000 gal REDOX cladding waste, 409,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 83.5 °F
- Heat Load: 7,350 Btu/hr based on radionuclides that generate heat.
- Sample Events: Grab samples, May 1995; vapor samples August 1995; core samples, January 1996; FY 1998 core sample (RGS) scheduled.
- Significant Results: Primary analytes, sodium and nitrate, with > 1% carbonate, nitrite, and aluminum; 27.3 wt% water in the solids; primary radionuclides, cesium-137 with less strontium-90.

Safety Issue Status

- Watch List: Flammable Gas.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.45 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 2.33%; facility group 2.
- Criticality: Safe; maximum total alpha 0.713  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system; SHMS.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-110**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 186,000 gal non-complexed waste, no supernatant.
- Solid Waste Types: 186,000 gal first cycle decontamination waste from the bismuth phosphate process, REDOX high level waste and REDOX aluminum cladding waste. Contribution of each waste type, unknown.
- Maximum temperature on March 1, 1998: 75.7 °F.
- Heat Load: 8,200 Btu/hr based on radionuclides that generate heat.
- Sample Events: Eight core samples, January through April 1989.
- Significant Results: Primary analytes, aluminum, sodium, hydroxide and nitrate, with > 1% bismuth, nitrite, phosphate and silicate; 40.0 wt% water; primary radionuclide, strontium-90 with less cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 2% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.35  $\mu$ Ci/g (below limit).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of distribution pit.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-111**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, partial interim isolated.
- Integrity: Sound.

Waste Parameters

- Volume: 329,000 gal double-shell slurry feed, no supernatant.
- Solid Waste Types: 26,000 gal first cycle decontamination waste from the bismuth phosphate process and REDOX high level waste, 303,000 gal 242-S Evaporator saltcake.
- Maximum temperature on March 1, 1998: 78.4 °F.
- Heat Load: 9,050 Btu/hr based on radionuclides that generate heat.
- Sample Events: Vapor samples, March 1995; no liquid or solid samples.
- Significant Results: Based on tanks containing similar waste types; primary analytes expected, sodium, hydroxide and nitrate, with > 1% aluminum, carbonate, nitrite, phosphate and sulfate; 43.1 wt% water (based on tank temperature); primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Flammable Gas, Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Conditionally Safe; based on TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.04 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 1.1%; facility group 2.
- Criticality: Not measured, expect safe; plutonium-239 0.0375 µCi/g (HDW model).
- Noxious Vapors: OVM/NH<sub>3</sub> monitoring required within 5 ft of distribution pit.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-112**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 530,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Assumed leaker.

Waste Parameters

- Volume: 45,000 gal non-complexed feed.
- Solid Waste Types: 32,000 gal first cycle decontamination waste from the bismuth phosphate process, 13,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 61.9 °F.
- Heat Load: 648 Btu/hr based on radionuclides that generate heat.
- Sample Events: Vapor samples, July 1996; core samples, September 1997.
- Significant Results: Primary analytes, aluminum, sodium, hydroxide and nitrate, with > 1% phosphate; 26.0 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent, Vapor.
- Organic Complexants<sup>1</sup>: Safe, no exothermic energy.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.48 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 2%; facility group 3.
- Criticality: Safe; maximum total alpha 0.004 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

**Tank 241-U-201**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 5,000 gal non-complexed feed, 1,000 gal supernatant.
- Solid Waste Types: 4,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 59.9 °F.
- Heat Load: 115 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples (safety screening only), March 1995.
- Significant Results: Based on tank samples and data from tanks with similar waste types; primary analytes expected, aluminum, sodium, hydroxide and nitrate, with > 1% nitrite; 37.5 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic energy.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha < 0.003  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-U-202**

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 5,000 gal non-complexed waste, 1,000 gal supernatant.
- Solid Waste Types: 4,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 60.3 °F.
- Heat Load: 115 Btu/hr based on radionuclides that generate heat.
- Sample Events: Core samples (safety screening only), March 1995.
- Significant Results: Based on tank samples and data from tanks with similar waste types; primary analytes expected, aluminum, sodium, hydroxide and nitrate, with > 1% nitrite; 44.9 wt% water; primary radionuclides, strontium-90 and cesium-137.

Safety Issue Status

- Watch List: None.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic energy.
- Organic Solvent<sup>1</sup>: Not vapor sampled.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.0015  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

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**Tank 241-U-203**

**Tank Physical Parameters**

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

**Waste Parameters**

- Volume: 3,000 gal non-complexed waste, 1,000 gal supernatant.
- Solid Waste Types: 2,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 58.8 °F.
- Heat Load: 500 Btu/hr based on tank temperature.
- Sample Events: Core samples (safety screening only), April 1995; vapor samples, August 1995.
- Significant Results: Based on tank samples and data from tanks with similar waste types; primary analytes expected, aluminum, sodium, hydroxide and nitrate, with > 1% nitrite; 46.3 wt% water; primary radionuclides, strontium-90 and cesium-137.

**Safety Issue Status**

- Watch List: Organic
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; no exothermic energy.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.05 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: LFL 0%; facility group 3.
- Criticality: Safe; maximum total alpha 0.0015 µCi/g (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.

Tank 241-U-204

Tank Physical Parameters

- Single-shell tank.
- Capacity: 55,000 gallons.
- Ventilation: Passive.
- Service: Inactive, interim stabilized.
- Integrity: Sound.

Waste Parameters

- Volume: 3,000 gal non-complexed feed, 1,000 gal supernatant, 2,000 gal solids.
- Solid Waste Types: 2,000 gal REDOX high level waste and REDOX cladding waste.
- Maximum temperature on March 1, 1998: 58.5 °F.
- Heat Load: 1,616 Btu/hr based on tank temperature.
- Sample Events: Historical samples; core samples, April 1995; vapor samples, August 1995.
- Significant Results: Primary analytes, aluminum and hydroxide; 26 wt% water (solids); primary radionuclide, cesium-137 at low levels.

Safety Issue Status

- Watch List: Organic.
- Unreviewed Safety Questions: Flammable Gas/Slurry Growth, Organic Nitrate Reactions.
- Applicable Safety DQOs: Safety Screening, Organic Complexants, Organic Solvent.
- Organic Complexants<sup>1</sup>: Safe; passed TOC screening.
- Organic Solvent<sup>1</sup>: Safe; estimated organic solvent pool size 0.02 m<sup>2</sup>.
- Flammable Gas<sup>2</sup>: 0% LFL; facility group 3.
- Criticality: Safe; maximum total alpha 0.0967  $\mu\text{Ci/g}$  (below limit).
- Noxious Vapors: No restrictions.
- Unique Hazards/Controls: Mostly an SCA with RBA and RMA zones.
- Unique Safety Class Equipment/Safety Significant Equipment: Passive ventilation system; tank level detection system; temperature monitoring system.

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<sup>1</sup>Closure of issue expected in FY 1998.

<sup>2</sup>Closure of USQ expected in FY 1998, Final closure in FY 2001.



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