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# Tank Waste Remediation System Optimized Processing Strategy with an Altered Treatment Scheme

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Abstract: This report provides an alternative strategy evolved from the current Hanford Site Tank Waste Remediation System (TWRS) programmatic baseline for accomplishing the treatment and disposal of the Hanford Site tank wastes. This optimized processing strategy with an altered treatment scheme performs the major elements of the TWRS Program, but modifies the deployment of selected treatment technologies to reduce the program cost. The present program for development of waste retrieval, pretreatment, and vitrification technologies continues, but the optimized processing strategy reuses a single facility to accomplish the separations/low-activity waste (LAW) vitrification and the high-level waste (HLW) vitrification processes sequentially, thereby eliminating the need for a separate HLW vitrification facility.

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# TANK WASTE REMEDIATION SYSTEM OPTIMIZED PROCESSING STRATEGY WITH AN ALTERED TREATMENT SCHEME

February 1996

E. J. Slaathaug

Westinghouse Hanford Company
Richland, Washington

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## LIST OF TERMS

| | |
|---|---|
| CC | Complex concentrate |
| CV | Column volume |
| CVOG | Condenser vessel offgas |
| DCPD | Dicyclopentadiene |
| DF | Decontamination factor |
| DOE | U.S. Department of Energy |
| DCRT | Double-contained receiver tank |
| DSS | Double-shell slurry |
| DSSF | Double-shell slurry feed |
| DST | Double-shell tank |
| EIS | Environmental Impact Statement |
| FAST-C | Freidman Analysis System Technique for Construction |
| FTE | Full time equivalent |
| FY | Fiscal year |
| HEMF | High-efficiency metal fiber |
| HEPA | High-efficiency particulate air |
| HLW | High-level waste |
| LERF | Liquid Effluent Retention Facility |
| LETF | Liquid Effluent Treatment Facility |
| LAW | Low-activity waste |
| MOG | Melter offgas |
| NCAW | Neutralized current acid waste |
| NCRW | Neutralized cladding removal waste |
| NRC | U.S. Nuclear Regulatory Commission |
| OPC | Other project costs |
| OPS | Optimized processing strategy |
| PFP | Plutonium Finishing Plant |
| PUREX | Plutonium-Uranium Extraction |
| SPF | Sequential Processing Facility |
| SPFC | Sequential Processing Facility with Crystalline Silicotitanate |
| SST | Single-shell tank |
| TEC | Total estimated cost |
| TEDF | Treated Effluent Disposal Facility |
| TOE | Total operating efficiency |
| TPC | Total project cost |
| TRU | Transuranic |
| TWRS | Tank Waste Remediation System |
| VOG | Vessel offgas |
| WESF | Waste Encapsulation and Storage Facility |
| WHC | Westinghouse Hanford Company |

# TANK WASTE REMEDIATION SYSTEM OPTIMIZED PROCESSING STRATEGY WITH AN ALTERED TREATMENT SCHEME

## 1.0 INTRODUCTION

This document defines a modified processing scenario to the one proposed for the optimized processing strategy as outlined in *Tank Waste Remediation Systems Optimized Processing Strategy* (WHC 1996a). This modification emerged after the work for the optimized processing strategy had been completed and is investigated due to its improved processing safety, improved environmental performance, and reduced cost.

### 1.1 OPTIMIZED PROCESSING STRATEGY BACKGROUND

The current Tank Waste Remediation System (TWRS) program baseline consists of enhanced sludge washing, cesium ion exchange, vitrification of low-activity waste (LAW), and vitrification of high-level waste (HLW). In the baseline strategy, the facilities for LAW and HLW vitrification are deployed in parallel. The optimized processing strategy incorporates all waste treatment functions and associated technologies currently defined in the TWRS program baseline into a single process facility which sequentially processes LAW and HLW.

The optimized processing strategy complies with the same functional requirements identified for the baseline program. The expected system performance requirements change to allow the postponing of HLW operations until after LAW processing occurs. This shift of the HLW campaign does not affect the functional analysis because such analyses are independent of time.

Most of the process and facility engineering analyses performed for the baseline apply to the alternate strategy. Changes in the analyses do occur as a result of the lower throughput requirements and the elimination of mission over-lap between LAW and HLW processing. Thus, the optimized processing strategy evolves the TWRS strategy as opposed to replacing the existing strategy with a completely new one.

### 1.2 ALTERNATE PROCESSING BACKGROUND

In 1995 WHC prepared a study (WHC 1995a) that evaluated the removal of radionuclides from the liquid phase of the tank wastes. This study examined removal options to produce a LAW fraction that meets all U.S. Nuclear Regulatory Commission (NRC)

guidelines for onsite disposal. To meet the guidelines the study states that the NRC must make the determination that the LAW is classified as "Incidental Waste."

The NRC guidelines for the determination as Incidental Waste are as follows:

- The waste has been processed (or will be further processed) to remove key radionuclides to the maximum extent that is technically and economically practical.

- The waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C LAW as set out in 10 CFR 61.

- The waste will be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR 61 are satisfied.

This study (WHC 1995a) found that the use of crystalline silicotitanate (CST) material to remove cesium and melter volatility to remove cesium and technetium from the LAW may prove to be a viable and attractive alternative to using an organic based ion exchange resin for cesium removal only.

This document describes the necessary changes to the Sequential Processing Facility (SPF) (WHC 1996a) to incorporate CST and melter volatility. This new facility will be referred to as the Sequential Processing Facility with Crystalline Silicotitanate (SPFC) throughout this document. Included are the impacts these changes have on program schedule, operations, product specifications, waste volume, cost, and radionuclide removal performance.

## 2.0 SUMMARY OF FINDINGS

The SPFC has several key findings with respect to the SPF. Use of CST instead of ion exchange to remove cesium and the implementation of melter volatility for separation of cesium and technetium have impacts on schedule, safety, operations, facility size, and radionuclide removal from the LAW. These findings from this study are summarized in Table 2-1 and are given below:

- Incorporation of the optimized processing strategy (regardless of processing scheme) into the TWRS Program baseline requires modification of interim milestones established in the *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) (Ecology et al. 1994). Both strategies comply with the 2028 date to complete processing.

- The SPFC reduces the amount of processing the waste stream undergoes thereby increasing operational safety. Reduced processing leads to reduced opportunity for spills and accidents from equipment failure and operator error.

- The SPFC eliminates concentration of the cesium product (from the acid evaporator). This eliminates the safety and operational concerns about handling and storing a concentrated cesium stream.

- The SPFC process is a much simpler operation than regenerable ion exchange. Unit operations that are eliminated are ion exchange feed evaporation, ion exchange, column elution/regeneration, acid evaporation, and resin replacement.

- The SPFC offers the advantage of technetium (and possibly selenium) removal from the LAW product through melter volatility.

- The SPFC reduces the volume of HLW produced and has relatively little impact on LAW volume.

- The SPFC reduces the total facility footprint by about 14 percent and reduces the remote hot cell space by about 22 percent. The corresponding capital cost reductions favor the SPFC approach over the SPF.

- The SPFC increases the amount of cesium in the LAW, but does not exceed Class C concentrations.

These topics are discussed in more detail in Section 4.0.

Table 2-1. Summary of Findings.

| | Sequential Processing Facility | Sequential Processing Facility with CST |
|---|---|---|
| Schedule | -- | No Impact |
| Operations | -- | Simpler |
| LAW Specifications | No Technetium Removal | Has Technetium Removal |
| LAW Volume ($m^3$) | 244,000 | 246,000 |
| LAW 32-$m^3$ Containers | 7,630 | 7,690 |
| HLW Volume ($m^3$) | 9,140 | 8,720 |
| HLW 1.26-$m^3$ Canisters | 7,250 | 6,920 |
| Total Project Cost (billions) | 2.0 | 1.9 |
| Operating Cost (billions) | 3.8 | 3.8 |
| Life-Cycle Cost (billions) | 15.6 | 15.5 |
| MCi Cesium in LAW[a] | 1.4 | 5.4 |
| kCi Technetium in LAW[b] | 22.7 | 7.5 |
| MCi Total in LAW[c] | 5.1 | 9.7 |

CST = Crystalline silicotitanate
HLW = High-level waste
LAW = Low-activity waste
[a]Includes $Ba^{137}$ daughter. Feed contains 67.9 MCi.
[b]Feed contains 32.3 kCi.
[c]Includes $Ba^{137}$ and $Y^{90}$ daughter. Feed contains 174 MCi.

Use of this strategy implies modest development to deploy CST and melter volatility for cesium and technetium separations as listed below. This work is in addition to the development of similar processes in the SPF (HLW melter, sludge separations, etc.).

- CST use in multiple concurrent contacts
- Raw material cost for CST
- CST separations
- Cesium and technetium volatility.

These development needs are described in more detail in Section 5.0.

# 3.0 PROCESS DEFINITION

This section defines the development of the process from inception to process facility. Included in the following sections is the evolution of the CST material and the description of its insertion into the processing scheme. Also included are the process facility, support facility, and facility site descriptions.

## 3.1 EVOLUTION OF CRYSTALLINE SILICOTITANATE PROCESS

The Sandia National Laboratories (SNL) in conjunction with Texas A&M University and UOP Molecular Sieves developed CST as an alternative to organic ion exchange resins for cesium removal from Hanford Site tank wastes. The material presently is commercially available and has been manufactured into a suitable engineered form. The cost and performance information from these sources is used in this evaluation of CST.

The CST material has the advantages of offering an increased ion exchange capacity, can eliminate safety concerns regarding organic resin degradation, reduces the complexity of the cesium removal process, and can reduce secondary waste generation compared to the use of regenerated organic resins. The reduction in secondary waste is due to the fact that CST can not be regenerated and must be disposed of in its loaded form.

It is proposed that the cesium loaded CST be vitrified along with the other HLW. However, CST contains titanium which is expected to have a low solubility in the HLW glass (1 wt% as $TiO_2$). Therefore, the amount of CST used must be controlled to ensure that it will not dramatically affect the volume of HLW glass produced.

The CST can remove 99 percent (DF=100) or greater of the soluble cesium in the facility feed stream (WHC 1995a). However, it has been calculated (WHC 1995a) that treating all of the tank wastes to produce 1 Ci $^{137}Cs/m^3$ in the LAW would increase the HLW glass by at least 300 percent.

Previous applications of CST strived to obtain cesium DFs comparable to that of organic ion exchange resins with regeneration (DF $>>$ 100). However, if it can be shown that the use of CST is more economically practical and has the same or greater technical practicality of organic ion exchange, it would be a viable option. The resulting LAW waste material will still need the NRC's acceptance as an "incidental waste."

CST could be used to remove the bulk of the cesium before LAW vitrification. If necessary to comply with disposal guidelines, a second process may be employed to remove additional radionuclides (specifically technetium and cesium). The secondary process proposed in the SPFC is increased volatilization of cesium and technetium from the LAW melter and the removal of volatilized radionuclides by treatment of the melter offgas scrub solutions.

## 3.2 PROCESS DESCRIPTION

The SPFC uses CST in facility's feed/receipt tank to remove approximately 90 percent of the cesium before pretreatment. The loaded CST material follows the remainder of the sludges/solids to HLW DST storage. The LAW melter operation and equipment are modified to permit increased volatilization of cesium and technetium. Additional offgas equipment is used to separate the cesium and technetium using CST and selective precipitation respectively. Previous flowsheets recycled the offgas scrub solutions back to the LAW melter feed system thereby incorporating the volatile radionuclides into the LAW glass product.

Figure 3-1 provides a top-level flowsheet for the TWRS mission. This flowsheet shows the major streams and their compositions for feeds to the facility; sludge washing/leaching; and the streams leaving the facility as LAW product, HLW for interim storage, and the vitrified HLW product. A detailed process flow diagram (PFD) and material balance for the SPFC is contained in Appendix A.

The following subsections describe the major functions in Figure 3-1 in more detail. Included in the discussion is separations, LAW processing, and HLW processing. Also included is in-process waste storage which describes the early feed to the facility as well as the method for freeing up DST space in preparation for SST retrieval.

### 3.2.1 In-Process Waste Storage System

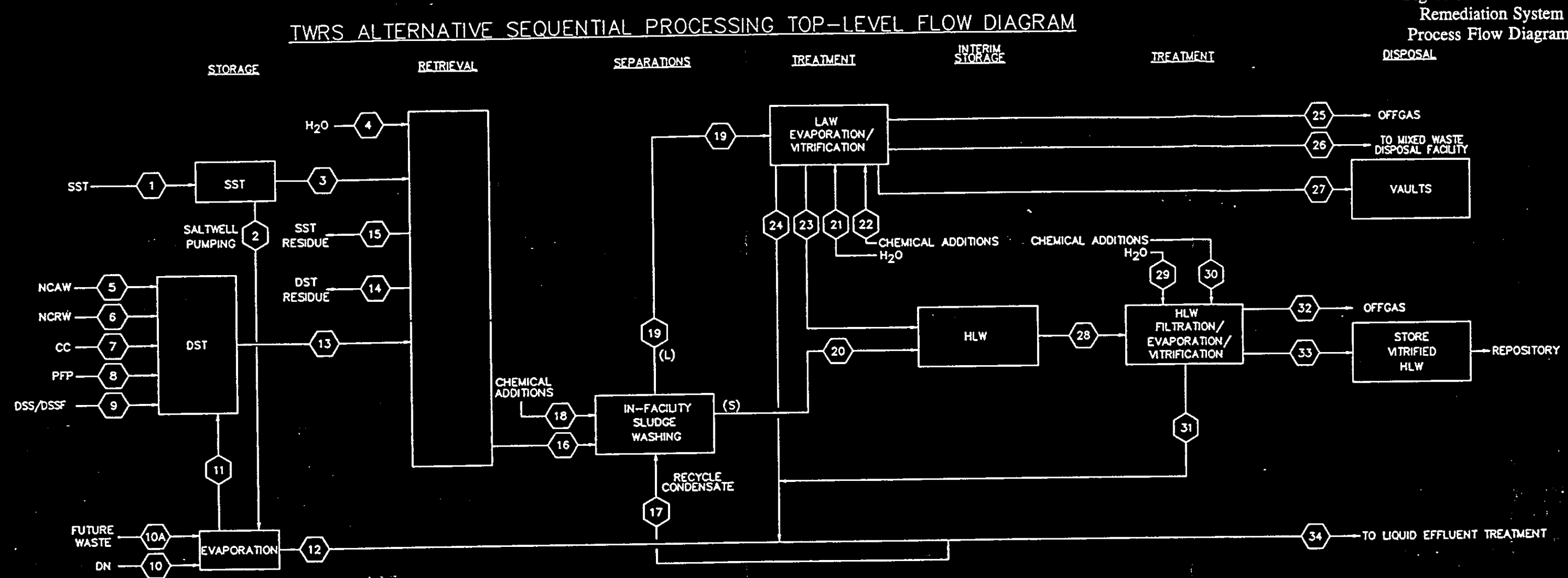
The in-process waste storage function includes all storage activities following the initial retrieval of waste. This function primarily consists of storing retrieved waste and washed sludges until the SPFC can process the material. Existing DSTs, after initial waste retrieval, will be used to store in-process waste solutions.

### 3.2.2 Separations and Low-Activity Waste Processing System

The equipment in the separations and LAW processing system is designed based upon a maximum melter throughput of 120 MT/day, a 60 percent total operating efficiency (TOE), and a campaign length of 18 years.

Tank waste separations consists of sludge/solids leaching/washing and cesium sorption by CST from supernatants. Before any washing/leaching steps, the retrieved waste is treated with CST to adsorb soluble cesium from the supernates. Enough CST is added to provide an average DF of approximately 10. Sludge/solids leaching/washing then removes by caustic solution (leaching) and water (washing) soluble components (e.g., aluminum, chromium, and phosphate) that would otherwise increase the volume of vitrified HLW. The washed sludges and loaded CST are temporarily stored in DSTs where blending for the HLW vitrification process is conducted (i.e., in-process waste storage sub-system).

Figure 3-1. Tank Waste Remediation System Process Flow Diagram.




TWRS Sequential Processing Alternative Flowsheet - Top-Level Material Balance

| STREAM NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10A | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Mass Flow, (MT) | 6.04E+5 | 1.40E+4 | 5.90E+5 | | 1.22E+4 | 1.48E+4 | 5.59E+4 | 1.83E+4 | 2.70E+4 | 4.42E+4 | 4.00E+3 | 2.71E+4 | 3.55E+4 | 1.00E+5 | | |
| Component Flow, (MT) | | | | | | | | | | | | | | | | |
| Al, (MT) | 3.37E+3 | 1.51E+2 | 3.22E+3 | | 9.00E+1 | 1.40E+1 | 4.42E+2 | 2.97E+1 | 7.19E+2 | 6.91E+1 | 3.00E+1 | 2.00E+2 | | 1.51E+3 | | |
| Fe, (MT) | 6.31E+2 | | 6.31E+2 | | 5.88E+1 | 1.92E+0 | 6.99E+1 | 1.98E+1 | 5.57E-1 | 1.28E+1 | 2.57E+0 | 1.54E+1 | | 1.67E+2 | | |
| Cr, (MT) | 2.68E+2 | 1.12E+1 | 2.57E+2 | | 7.02E+0 | 1.07E+0 | 5.12E+1 | 8.89E+0 | 1.19E+1 | 4.85E+0 | 1.09E-1 | 1.62E+1 | | 9.63E+1 | | |
| Na, (MT) | 5.77E+4 | 3.35E+3 | 5.44E+4 | | 5.78E+2 | 4.85E+2 | 3.95E+3 | 2.81E+2 | 5.05E+3 | 1.02E+3 | 1.31E+2 | 4.49E+3 | | 1.48E+4 | | |
| Si, (MT) | 4.60E+2 | | 4.60E-2 | | 1.27E+1 | 1.17E+1 | 1.91E+2 | 8.39E+0 | 5.23E+0 | 5.95E+0 | 3.19E-3 | 5.96E+0 | | 2.34E+2 | | |
| P, (MT) | 1.54E+3 | 3.27E+1 | 1.51E+3 | | 2.03E+0 | 1.49E-1 | 3.48E+1 | 7.48E+0 | 1.12E+1 | 2.27E+1 | 2.53E+1 | 8.07E+1 | | 1.36E+2 | | |
| NO2- and NO3-, (MT) | 1.06E+5 | 3.62E+3 | 1.03E+5 | | 5.24E+2 | 2.77E+1 | 3.36E+3 | 3.25E+2 | 5.58E+3 | 8.61E+2 | 1.38E+2 | 4.62E+3 | | 1.45E+4 | | |
| H2O, (MT) | 4.04E+5 | 5.74E+3 | 3.99E+5 | | 1.02E+4 | 1.32E+4 | 4.25E+4 | 1.72E+4 | 1.13E+4 | 4.11E+4 | 3.92E+3 | 1.53E+4 | 3.55E+4 | 1.10E+5 | | |
| Radionuclides | | | | | | | | | | | | | | | | |
| 14C, (Ci) | 3.17E+3 | | 3.17E+3 | | 3.51E+2 | | 1.97E+3 | 1.18E+0 | 9.29E+0 | 3.53E+0 | 3.66E-2 | 3.56E+0 | | 2.34E+3 | | |
| 60Co, (Ci) | | | | | | | | | | | | | | | | |
| 90Sr+90Y, (Ci) | 8.13E+7 | 3.35E+5 | 8.10E+7 | | 1.67E+7 | 1.01E+5 | 3.45E+6 | 8.79E+4 | 1.84E+5 | 3.92E+6 | | 4.25E+6 | | 2.47E+7 | | |
| 99Tc, (Ci) | 1.79E+4 | 6.87E+3 | 1.10E+4 | | 2.12E+3 | | 8.40E+3 | 2.81E+1 | 2.92E+3 | 8.82E+2 | 5.03E+0 | 7.75E+3 | | 2.12E+4 | | |
| 137Cs+137Ba, (Ci) | 1.87E+7 | 3.12E+6 | 1.56E+7 | | 1.91E+7 | 5.90E+5 | 9.26E+6 | 1.22E+5 | 1.78E+7 | 2.19E+6 | 9.76E+4 | 5.41E+6 | | 5.23E+7 | | |
| TRU, (Ci) | 1.26E+5 | | 1.26E+5 | | 4.80E+4 | 1.56E+3 | 2.08E+4 | 1.34E+4 | 3.09E+2 | 3.94E+3 | 7.26E+2 | 4.67E+3 | | 8.87E+4 | | |
| Total Ci | 1.00E+8 | 3.47E+6 | 9.67E+7 | | 3.58E+7 | 8.92E+5 | 1.27E+7 | 2.23E+5 | 1.80E+7 | 6.10E+6 | 9.83E+4 | 9.66E+6 | | 7.72E+7 | | |
| 0.62-m3 HLW Canisters | | | | | | | | | | | | | | | | |
| 1.26-m3 HLW Canisters | | | | | | | | | | | | | | | | |
| 32-m3 LLW Containers | | | | | | | | | | | | | | | | |
| 5300-m3 LLW Vaults | | | | | | | | | | | | | | | | |

| STREAM NUMBER | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Mass Flow, (MT) | 7.46E+5 | 1.98E+5 | 6.05E+4 | 1.05E+6 | 1.49E+5 | 5.86E+5 | 4.69E+6 | 1.92E+2 | 1.48E+6 | 4.17E+6 | 5.11E+3 | 8.03E+5 | 1.49E+5 | 4.17E+0 | 1.68E+4 | 1.37E+5 | 7.05E+3 | 2.32E+4 | 1.22E+6 |
| Component Flow, (MT) | | | | | | | | | | | | | | | | | | | |
| Al, (MT) | 4.79E+3 | 2.34E-4 | | 3.54E+3 | 1.18E+3 | | 8.59E+3 | 6.26E-3 | 9.59E-4 | 6.13E-3 | | 1.21E+4 | 1.18E+3 | | | 5.21E-6 | 1.17E-5 | 1.19E+3 | 7.30E-4 |
| Fe, (MT) | 7.96E+2 | 2.27E-6 | | 3.87E+1 | 7.58E+2 | | | 1.99E-5 | 9.29E-6 | 1.95E-5 | | 3.86E+1 | 7.58E+2 | | | 4.98E-6 | 1.12E-7 | 7.58E+2 | 7.07E-6 |
| Cr, (MT) | 3.53E+2 | 1.95E-5 | | 2.94E+2 | 5.91E+1 | | | 1.52E-4 | 7.97E-5 | 1.49E-4 | | 2.94E+2 | 5.91E+1 | | | 4.32E-7 | 9.71E-7 | 5.92E+1 | 6.07E-5 |
| Na, (MT) | 6.92E+4 | 1.54E-2 | 1.72E+4 | 8.47E+4 | 1.66E+3 | | 6.49E+2 | 7.37E+0 | 8.33E-2 | 4.31E-2 | 3.61E+2 | 8.50E+4 | 1.66E+3 | | | 2.94E-4 | 2.71E-4 | 1.66E+3 | 4.62E-2 |
| Si, (MT) | 6.94E+2 | 1.05E-6 | 2.66E+2 | 2.13E+1 | 9.38E+2 | | 1.26E+5 | 3.58E+0 | 4.30E-6 | 6.35E-2 | | 1.26E+5 | 9.42E+2 | | 4.05E+3 | 2.31E-6 | 5.41E-6 | 4.99E+3 | 3.28E-6 |
| P, (MT) | 1.64E+3 | 1.24E-4 | | 1.48E+3 | 1.66E+2 | | | 5.57E-1 | 5.07E-4 | 7.50E-4 | | 1.48E+3 | 1.66E+2 | | | 2.30E-6 | 5.17E-6 | 1.66E+2 | 3.85E-4 |
| NO2- and NO3-, (MT) | 1.17E+5 | 1.79E-2 | 4.54E+1 | 1.15E+5 | 1.84E+3 | | 2.47E+4 | 4.70E+0 | 7.35E-2 | 7.36E-5 | 1.58E+0 | | 1.85E+3 | | 5.61E-4 | 3.43E-4 | 3.84E-4 | | 5.59E-2 |
| H2O, (MT) | 5.08E+5 | 3.96E+5 | 2.98E+4 | 8.02E+5 | 1.32E+5 | 5.86E+5 | 6.33E+4 | 1.63E+2 | 1.48E+6 | 6.27E+4 | 1.61E+3 | | 1.32E+5 | 4.17E+0 | 1.78E+3 | 1.37E+5 | 4.51E+2 | | 1.22E+6 |
| Radionuclides | | | | | | | | | | | | | | | | | | | |
| 14C, (Ci) | 5.50E+3 | 2.19E-4 | | 3.30E+3 | 2.19E+3 | | | | 8.96E-4 | 3.31E+3 | | | 2.19E+3 | | | 4.80E-6 | 2.19E+3 | | 6.82E-4 |
| 60Co, (Ci) | | | | | | | | | | | | | | | | | | | |
| 90Sr+90Y, (Ci) | 1.06E+8 | 2.44E-1 | | 4.28E+6 | 1.01E+8 | | | 2.20E+0 | 1.00E+0 | 2.16E+0 | | 4.28E+6 | 1.01E+8 | | | 5.36E-3 | 1.21E-2 | 1.01E+8 | 7.62E-1 |
| 99Tc, (Ci) | 3.23E+4 | 6.73E-3 | | 2.28E+4 | 9.47E+3 | | | 1.53E+4 | 2.03E-2 | 4.14E-3 | | 7.48E+3 | 2.48E+4 | | | 7.47E-3 | 1.41E-2 | 2.48E+4 | 2.10E-2 |
| 137Cs+137Ba, (Ci) | 8.79E+7 | 7.06E-1 | | 6.50E+6 | 6.13E+7 | | | 1.09E+6 | 2.91E+0 | 2.77E+0 | | 5.42E+6 | 6.24E+7 | | | 9.32E-3 | 2.09E-2 | 6.24E+7 | 2.21E+0 |
| TRU, (Cl) | 2.14E+5 | 9.78E-4 | | 1.59E+4 | 1.98E+5 | | | 8.21E-3 | 4.01E-3 | 8.05E-3 | | 1.59E+4 | 1.98E+5 | | | 2.14E-5 | 4.83E-5 | 1.98E+5 | 3.05E-3 |
| Total Ci | 1.74E+8 | 9.60E-1 | | 1.08E+7 | 1.63E+8 | | | 1.10E+6 | 3.93E+0 | 3.31E+3 | | 9.72E+6 | 1.64E+8 | | | 2.22E-2 | 2.19E+3 | 1.64E+8 | 2.99E+0 |
| 0.62-m3 HLW Canisters | | | | | | | | | | | | | | | | | | 14,000 | |
| 1.26-m3 HLW Canisters | | | | | | | | | | | | | | | | | | 6,900 | |
| 32-m3 LLW Containers | | | | | | | | | | | | 7,700 | | | | | | | |
| 5300-m3 LLW Vaults | | | | | | | | | | | | 46 | | | | | | | |

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A top-level block diagram for the separations and LAW processing is given in Figure 3-2. More detailed descriptions of the separations and LAW processing systems are given below.

**3.2.2.1 Separations.** Before the start of SST retrieval, supernatants are decanted from DSTs (in-process waste storage) by use of decant pumps and transferred to the pretreatment process. The CST material is added and pumps transfer the supernatant through cross-flow filters to remove the entrained solids.

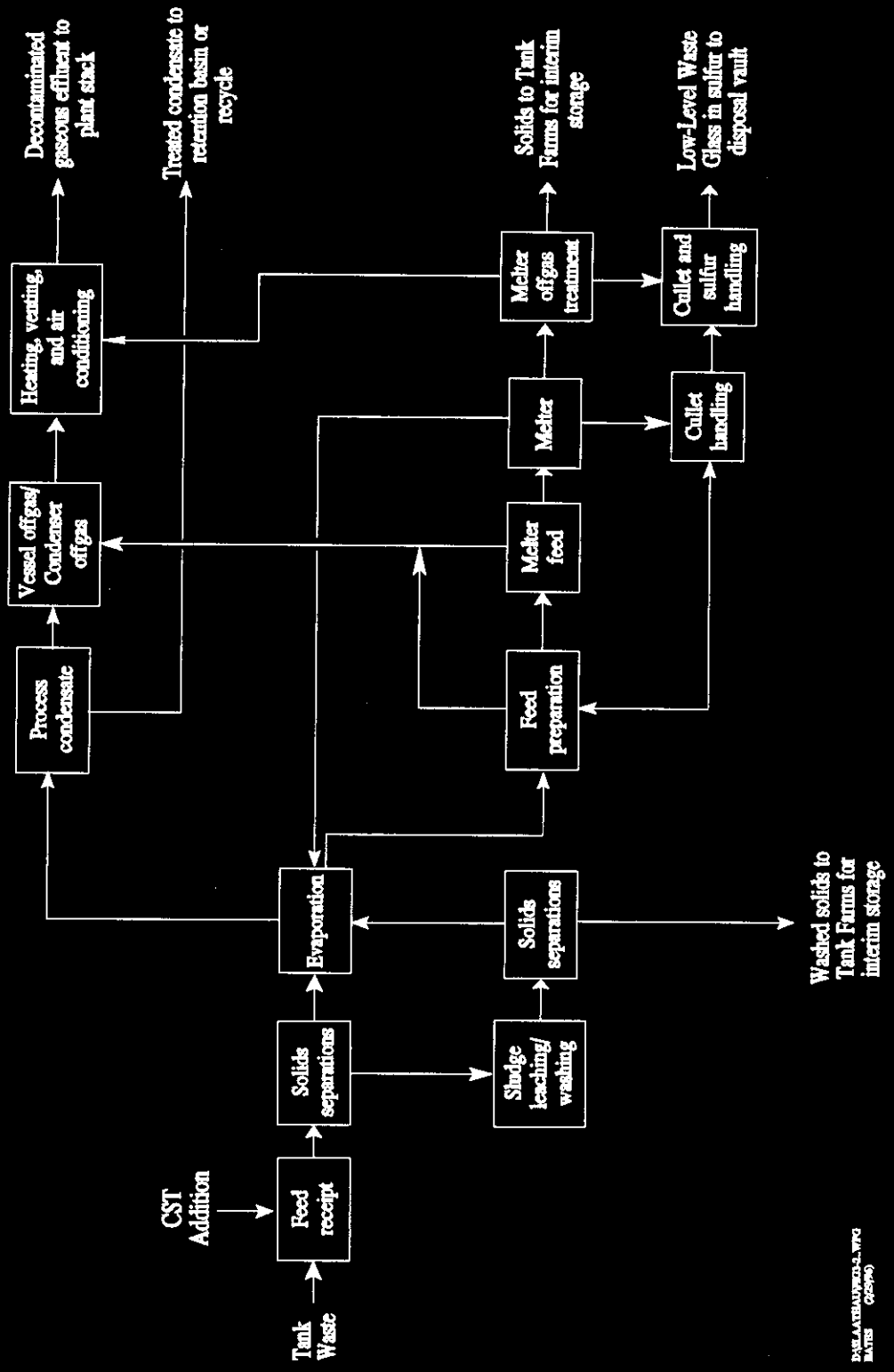
After providing sufficient storage capacity by initially processing DST supernatants, waste is retrieved from the SSTs to the DSTs. Batches of retrieved tank waste are slurry transferred from the DSTs to the separations portion of the facility, where the waste slurry is sampled. The waste slurry is mixed with CST on a batch by batch basis and pumped through cross-flow filters to separate the liquid fraction (i.e., supernatant).

The amount of CST added is controlled to minimize its effect on the amount of HLW produced, but optimize its removal efficiency per kilogram. The reason the amount of CST added has to be controlled is the CST material contains $TiO_2$, which is predicted to have a low solubility in the HLW glass product (1 wt%). This results in a maximum usage of approximately 230 MT of $TiO_2$ (WHC 1995a) before the 1 wt% $TiO_2$ is exceeded.

For each batch, the cesium concentration is calculated. If the existing concentration is less than the target concentration, no CST is added. If the existing concentration exceeds the target, the number of separate contacts resulting in a DF of 2 are calculated and rounded down. An additional contact with a DF of less than 2 may be necessary to reduce the concentration below the target - this DF is calculated separately. From these numbers the total amount of CST added and the residual curies per batch are calculated. The target concentration is varied until the total amount of CST added equals the amount of CST equalling 230 MT $TiO_2$. The final calculated cesium concentration is approximately 0.006 Ci/L. This concentration equals an overall DF of approximately 10 (90 percent removal).

In the process, small doses of CST are added to the batches as they are mixing in the DSTs or in the receipt/sample tanks located in the facility. The slurries equilibrate in approximately 10 to 24 hours depending on the degree of mixing and the process is repeated as necessary.

Figure 3-2. Process Block Flow Diagram for Separations and Low-Activity Waste Campaign.



The incremental addition of CST to the liquid phase with equilibration between additions increases the utilization efficiency of CST. The cesium sorption into the CST is irreversible and multiple additions are equivalent to a multiple stage concurrent operation. This operation is described (Treybal 1955 pg 472) as:

> *"The removal of a given amount of solute may be accomplished with greater economy of adsorbent if the solution is treated with separate small batches of adsorbent rather than in a single batch, with filtration between each stage. This method of operation is sometimes called "split-feed" treatment, and it is usually done in batch fashion, although continuous operations is also possible. Economy is particularly important when activated carbon, a fairly expensive adsorbent, is used. The savings are greater the larger the number of batches used but result at the expense of greater filtration and other handling costs. It is therefore rarely economical to use more than two stages. In rare instances, the adsorption may be irreversible so that separate adsorbent dosages may be applied without intermediate filtration at considerable savings in operating costs. This is by far the exception rather than the rule, and when applied to ordinary reversible adsorption it will provide the same end result as if all the adsorbent had been used in a single step."*

The average batch requires 2 to 3 contacts. The largest number of contacts per batch is 8. The efficiency of the "split feed" CST treatment of tank wastes is a candidate for additional development as discussed in Section 4.0.

Sludges/solids and the loaded CST material are collected and leached with 3*M* sodium hydroxide solution to dissolve fractions of specific solid components (aluminum, chromium, phosphate, and sodium). The resulting slurry is then filtered and washed with water to remove the dissolved interstitial components. The washed solids are filtered and slurried to DSTs for interim storage until HLW vitrification is conducted.

**3.2.2.2 Low-Activity Waste Vitrification.** After separations, the pretreated LAW supernatant transfers to the LAW feed preparation system where the LAW recycle streams mix with the supernatant feed before concentration by the LAW evaporator. Evaporator overheads are condensed and collected in the process liquid waste system where they are either routed to the retention basin or are recycled to retrieval or pretreatment. The evaporator bottoms are sampled, cooled, and adjusted (if necessary) before transfer to the LAW melter feed system.

The liquid melter feed and dry glass formers feed into a combustion melter where the streams combine and melt into glass. The glass exits the melter and enters a quench flume where the glass fractures into cullet. The cullet enters a crusher and then goes to a lag storage area before mixing with a sulfur polymer cement. The cullet/sulfur polymer cement mixture is poured into 32-$m^3$ steel boxes, which are transported to near surface vaults for disposal.

The LAW melter offgas (MOG) system receives the hot combustion gases from the glass separator section of the melter. Quenching of these offgases by contact with cool scrub water removes most of the entrained particulates and water-soluble contaminants, and condenses much of the water vapor. Excess condensates from the LAW MOG system recycle to the LAW feed preparation system for re-evaporation.

A bleed stream from the condensates from the MOG system is routed through a filter and to the chloride removal system as required. This system separates chloride from the process condensate not incorporated into the glass. The bleed stream is filtered to remove LAW solids carried over in the melter offgas. The solids are recycled back to the LAW evaporator feed tank and the filtrate is routed to the chloride removal system.

The chloride removal system first distills the $HNO_3$, HCl, and HF from the bleed stream. The bottoms from this column are routed to the cesium/technetium removal section and the overheads are routed to a second distillation column. In the second column the HCl and HF are separated from the $HNO_3$. A third column then separates the HCl from the HF. The HCl is neutralized and grouted for disposal. The distilled/separated $HNO_3$ and HF are neutralized and recycled back to the LAW feed evaporator.

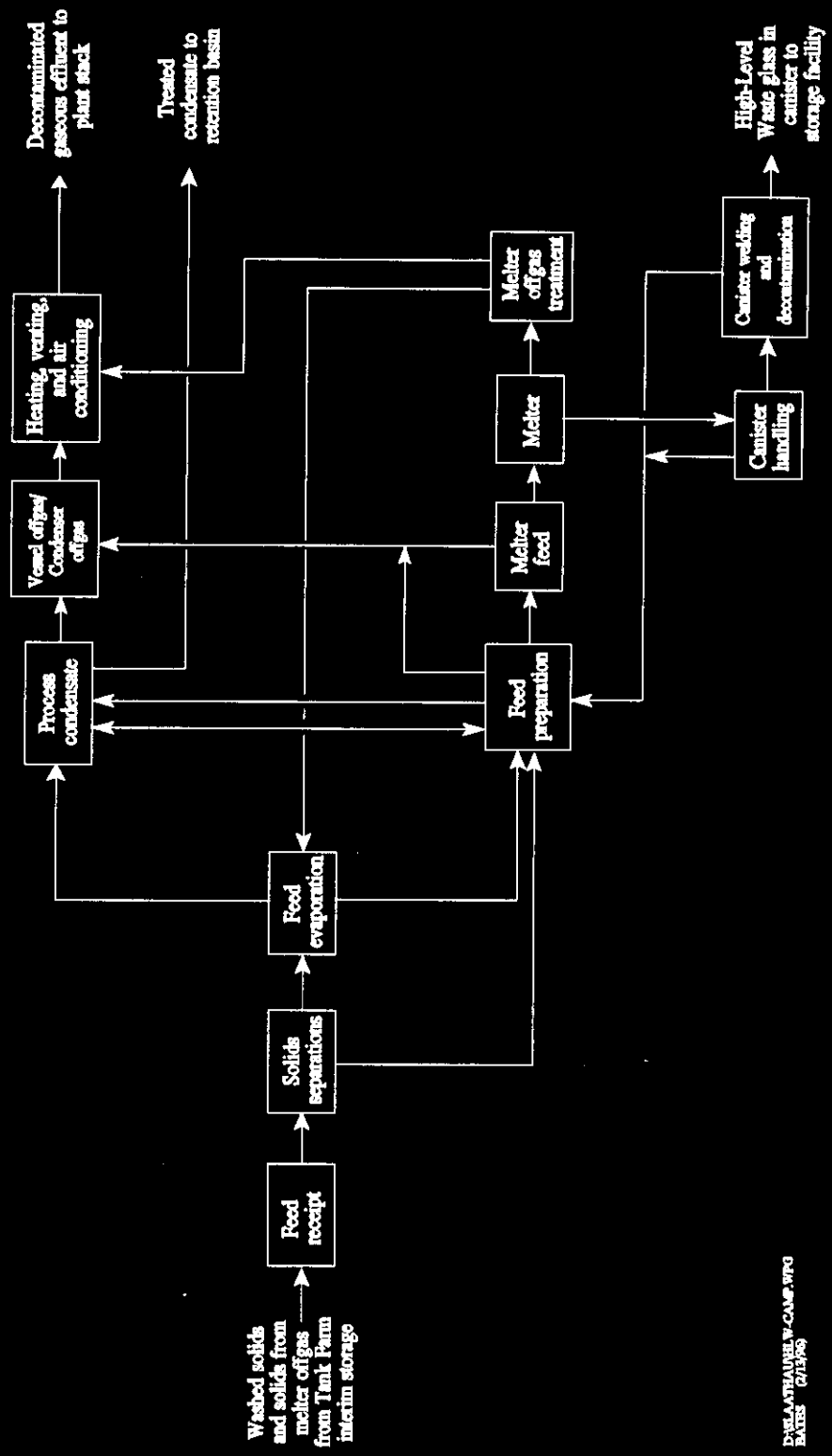
The cesium/technetium removal section employs CST and sodium sulfide to remove the cesium and technetium respectively from the LAW treatment process. The feed from the chloride removal system is partially neutralized with caustic and then filtered to remove precipitates. The filtered solids are routed back to the LAW evaporator feed tank and the filtrate is combined with a CST slurry. The amount of CST added is calculated to provide a DF of 5 (80 percent removal). The resulting stream is then neutralized further and mixed with a sodium sulfide solution to precipitate technetium as $Tc_2S_7$. This stream is filtered with the solids being routed to HLW lag storage. The resulting filtrate is recycled to the LAW evaporator feed tank.

The scrubbed melter offgases cool and pass through successive stages of filtration before flowing to a sulfur dioxide adsorption process and a catalytic de-$NO_x$ reactor and final discharge to the HVAC system. The recovered sulfur dioxide is converted into elemental sulfur by a Claus unit that discharges its product to a storage tank for use in the sulfur polymer cement mixing.

### 3.2.3 High-Level Waste Processing System

After completing LAW vitrification, the LAW vitrification system is removed and replaced with a HLW vitrification system. The washed solids from separations are combined with the recovered cesium and technetium and are fed to the HLW vitrification process. Figure 3-3 shows the process steps for the HLW vitrification process.

Figure 3-3. Process Block Flow Diagram for High-Level Waste Campaign.



At the completion of the plant conversion, the optimized processing strategy begins processing HLW in 2024. This date allows about five years to process the HLW before the Tri-Party Agreement milestone for the completion of tank processing. Equipment for vitrifying HLW is sized to complete this portion of the TWRS mission in 5 years, at a maximum melter throughput of 20 MT/day, and 60 percent TOE.

The sludges are transferred to the SPFC from the DSTs. The solids/liquid separations equipment removes the majority of the solution from the feed slurry. The melter feed evaporator concentrates the solution so as to reduce the heat load on the melter. The bottoms from the evaporator recombine with the solids and the concentrated slurry goes to the melter feed tank. After condensing, the overheads from the evaporator go to the process condensate system before discharge to the retention basin.

The melter feed system adjusts the chemical composition of the feed and combines the feed with glass formers. This mixture continuously feeds the melter. From the melter, the glass pours into 1.26-$m^3$ canisters. The package handling system cools the canister, welds the canister shut, decontaminates the canister, and places it in an overpack. Shipping and receiving places the loaded overpacks on a storage pad to await shipment to the repository.

The HLW MOG system receives the hot combustion gases from the glass melter. Quenching of these offgases by contact with cool scrub water removes most of the entrained particulates and water-soluble contaminants and also condenses much of the water vapor. Excess condensates from the HLW MOG system recycle to the HLW feed preparation system for re-evaporation. The scrubbed melter offgases cool and pass through successive stages of filtration before flowing to a catalytic de-$NO_x$ reactor and final discharge to the HVAC system.

## 3.3 PROCESS FACILITY DESCRIPTION

The combined separations and vitrification process facility provides the heart of a consolidated TWRS Treatment Complex. The utility and chemical facilities support the operations of the process facility. The arrangement of these buildings and facilities must support the mission of the process facilities. Adjacency issues associated with supporting facilities are discussed under the heading of each of the individual supporting facility. The process facility requires truck access to allow for movement of various sizes of equipment and supplies into and out of them.

The main separations and vitrification processes are contained within a building about 80-m long, 60-m wide, 40-m high above grade, and 15-m below grade. The facility layout drawings (see Appendix B), show the relative position of equipment, cells, and support systems, with associated facility dimensions in plan and cross-section views. The process facility consists of a single aisle facility with adjoining remote maintenance cells. The aisle concept allows moving failed equipment into the maintenance area for repair or replacement.

This concept allows replacement of small equipment packages or entire vessels in a relatively short period of time.

Above the aisle area, a limited maintenance area exist that contains many of the process vessels. A "flasking" system maintains these vessels as necessary. "Flasking" permanently installs the tankage in a removable unit but allows for the replacement of valves, pumps, and other components prone to failure. A major failure of a vessel in this area would require either a termination of use or a major maintenance effort to regain use of the vessel.

## 3.4 SUPPORT FACILITY DESCRIPTION

Figure 3-4 provides a drawing of a treatment complex consolidated about the SPFC. The ancillary areas and structures required to support the operation of the SPF are collectively referred to as "support and infrastructure" and are arranged with respect to the SPFC as shown in Figure 3-4.

The support and infrastructure functions associated with the TWRS processing flowsheet have been systematically identified and documented in *Facility Design Philosophy: Tank Waste Remediation System Process Support and Infrastructure Definition*, WHC-SD-W378-ES-002 (Leach 1995). Utilities and structures have been mapped to the TWRS functional block diagram for "Remediate Tank Waste" to ensure a complete identification of processing support and infrastructure. Subsequently, each support function was assessed for location and process constraints. Specifically, on the bases of safety and operational considerations, it was determined whether support functions should be close coupled with the main processing facility or could otherwise be placed some distance away. It was also determined whether the function could be shared between pretreatment and vitrification or must otherwise be dedicated to each. Finally, opportunities for cost savings and efficiencies were considered through grouping or collocating functions in common structures.

Facility layouts and equipment lists for the support and infrastructure for the SPFC are assumed to be identical to that given for the SPF (WHC 1996a). No noticeable changes to the support and infrastructure will occur due to the changes in the processing scheme.

The elements of the SPFC capital cost estimate that comprise the processing support and infrastructure include the following:

- Interim storage pads for the HLW glass product
- LAW glass product transfer tunnel to LAW vaults
- 6 LAW vaults

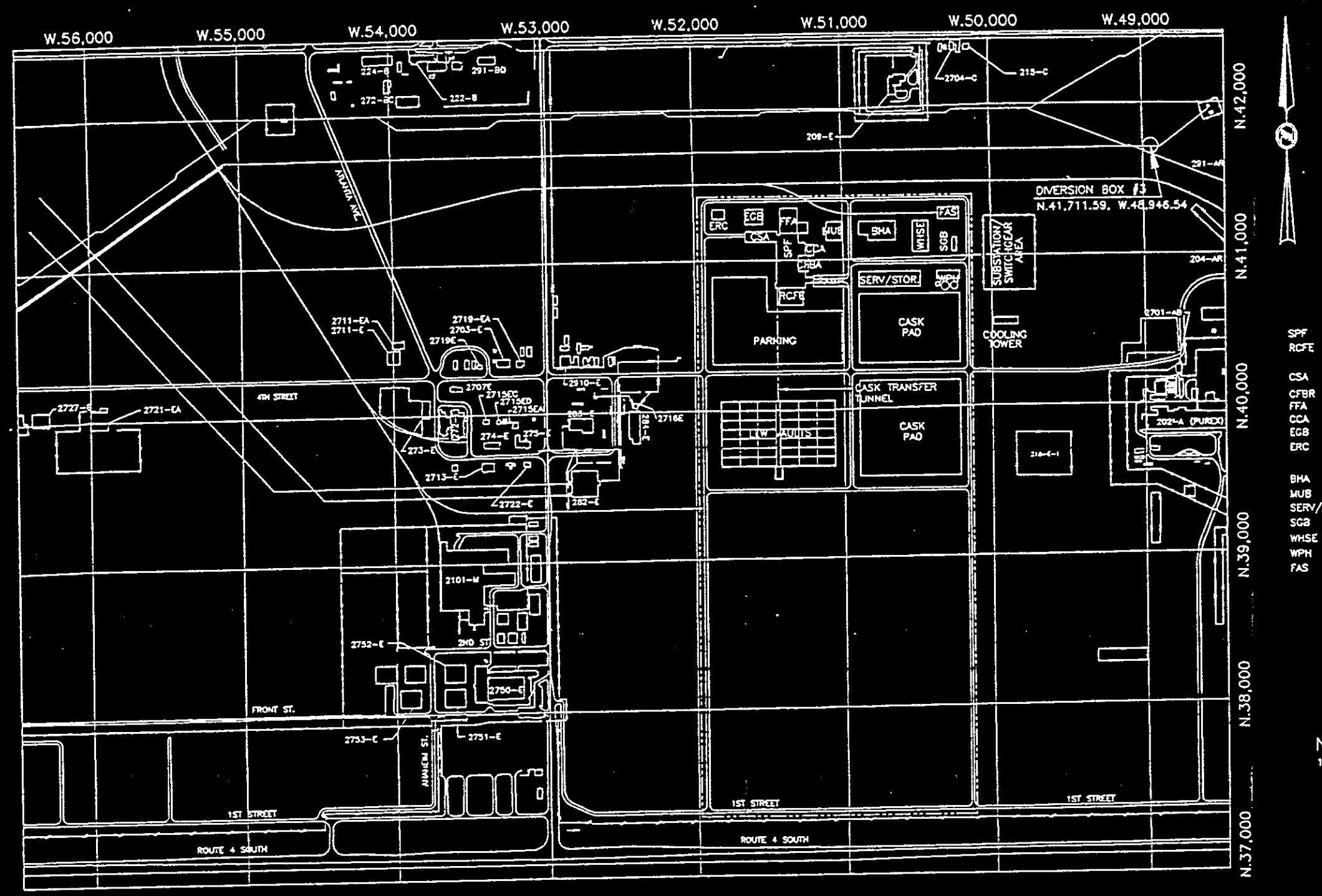
- Site preparation and upgrades for the TWRS Treatment Complex: e.g., clearing, grading, roads, fencing, utility tie-ins, parking area, etc.
- Cooling tower
- Electrical substation/switchgear area and switchgear building
- Mechanical Utilities Building (MUB)
- Emergency Response Center (ERC) and Emergency Generator Building
- Bulk Materials Handling Area (BHA)
- Service/storage yard
- Fabrication and Assembly Shop (FAS)
- Water Pumphouse (WPH)
- Warehouse.

Certain support functions that were identified to be close-coupled with the SPFC were arranged as annexes to the main process building. Annexing saves costs over the option to construct multiple stand alone facilities. The site layout shown in Figure 3-4 maximizes the use of annexes while recognizing the practical restrictions of annexing too many of the support functions. Annexed support functions are not included in the support facilities cost reflected in Table 3-2. Instead, these costs are included in the SPFC cost. The functions are shown as the following in Figure 3-4:

- Container Staging Annex (CSA)
- Fan/Filter Annex (FFA)
- Cold Chemical Annex (CCA)
- Contact Filter/Blower Annex (CFBA)
- Regulated Complex/Facility Entry and Analytical Lab Annex (RCFE).

Figure 3-4. Preliminary Site Selection.






## LEGEND

| | |
|---|---|
| SPF | SEQUENTIAL PROCESSING FACILITY |
| RCFE | REGULATED COMPLEX/FACILITY ENTRY AND ANALYTICAL LAB ANNEX |
| CSA | CONTAINER STAGING ANNEX |
| CFBR | CONTACT FILTER/BLOWER ROOM ANNEX |
| FFA | FAN/FILTER ANNEX |
| CCA | COLD CHEMICAL ANNEX |
| EGB | EMERGENCY GENERATOR BUILDING |
| ERC | EMERGENCY RESPONSE CENTER |
| BHA | BULK HANDLING AREA |
| MUB | MECHANICAL UTILITY BUILDING |
| SERV/STOR | SERVICE/STORAGE YARD |
| SGB | SWITCHGEAR BUILDING |
| WHSE | WAREHOUSE |
| WPH | WATER PUMPHOUSE |
| FAS | FABRICATION & ASSEMBLY SHOP |

NOTE:
1. OVERALL AREA OF THE TWRS TREAMENT COMPLEX IS ACRES.

200 EAST AREA

0 100 200 300 400 500
GRAPHIC SCALE IN METERS

0 100 400 700 1000 1300 1600
GRAPHIC SCALE IN FEET

U.S.DEPARTMENT OF ENERGY

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

SINGLE LINE
TWRS TREATMENT COMPLEX
SITE PLAN

SITE40
28:8M:AC02:10.02:SS
J.THOMPSON 4-3-95 1:3000
NONE NOT REQD ES--SITE4D-1 1 1 A
REFERENCE DRAWINGS
NEXT USED ON
ACAD

## 3.5 SITE LOCATION

The outlined rectangular area shown in Figure 3-4 has been assumed in this study for the location of the TWRS Treatment Complex. This area was also the preferred location in *Facility Design Philosophy: Tank Waste Remediation System Process Support and Infrastructure Definition* (Leach 1995) for the parallel processing scheme. The marked area is approximately 89 hectares (220 acres) and is situated north of Route 4 South and between Baltimore Avenue and the PUREX Plant. There is road access from the existing Hanford Site road system and close proximity on the north to the planned Replacement Cross Site Transfer System.

The TWRS Treatment Complex, as shown in Figure 3-4, occupies less than half of the available area and collocates most of the functions necessary to support a self-contained processing and storage mission. A premium is placed on collocation to support efficient use of land mission attainment. The arrangement of the facilities and areas on the site considers the efficient movement of materials and personnel, as well as the efficient supply of utilities. Structures are placed on the north end of the site to be near the cross-site transfer lines and the existing rail line. The switchgear building is located on the east side to be near the electrical supply system while the water pumphouse is located on the west side to be near the supply tie-in points. The area to the south of the HLW interim storage pad and LAW vaults is available for construction laydown. Additional site location considerations are discussed in WHC 1996a.

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# 4.0 IMPACTS

This section discusses the impacts on schedule, operations, LAW specifications, volume of waste produced, life-cycle cost, and radionuclide removal performance the modifications to the SPF process will have.

## 4.1 SCHEDULE

Incorporation of the optimized processing strategy (regardless of processing scheme) into the TWRS Program baseline requires modification of interim milestones established in the Tri-Party Agreement, but still complies with the 2028 date to complete processing. These interim milestones include the start of separations in 2004 (M-50-02), hot start of the HLW treatment process in 2008 (M-50-04), conclusion of SST retrieval in 2018 (M-45-05), SST retrieval schedule (M-45-05-T01 - T15), and complete closure of all SSTs in 2024 (M-45-06). With the SPFC, the HLW vitrification process is scheduled to start operations in 2023, but completion of tank waste pretreatment and LLW/HLW vitrification would still be accomplished before December 2028 (M-60-00).

No additional modifications to the program schedule will be necessary to implement this alternative save those already defined in WHC 1996a (see above) for the optimized processing strategy.

## 4.2 OPERATIONS

The CST/volatility process has several processing advantages over the regenerable, organic cesium ion exchange process. These advantages generally fall into the categories of processing safety and ease of operations.

In general the processing advantages of using CST and melter volatility outweigh the disadvantages. The increased curie load in the offgas and the LAW product will not affect how the process/product is handled (i.e., remote versus contact maintained). Also the additional process steps required in offgas processing are not complicated and do not employ any unique pieces of equipment.

The sections below define the advantages and the disadvantages that the CST process has when compared to the regenerable, organic cesium ion exchange process.

### 4.2.1 Processing Safety

This section defines areas in the process where safety will be increased/decreased by changes in the processing scheme. The quantitative degree of the increase/decrease is not given because it is beyond the ability of the author. The areas are generally listed in the order that they appear in the PFD.

**4.2.1.1 Less Processing of Supernate**. The SPFC removes the ion exchange feed evaporator and much of the upfront tankage plus the entire ion exchange section itself. The less processing the waste stream undergoes, the less risk of exposure. Also, less processing reduces the risk of leaks or spills due to equipment failure.

**4.2.1.2 Elimination of Acid Evaporator**. The SPF has an evaporator that concentrates the cesium rich effluent from the columns by boiling off water and nitric acid. The acid is removed to reduce the amount of caustic that is added to the cesium rich stream before it is routed to tank farms. This reduction can impact the amount of HLW produced dramatically. Removal of this evaporator eliminates the concerns with acidic overheads, concentrated acidic bottoms, and failure of this equipment.

**4.2.1.3 No Concentrated Cesium Stream Routed to Tank Farms**. The concentrated cesium product from the SPF is routed to tank farms and stored separately from the solids removed in pretreatment. Concerns about the heat load this stream carries and its effect on the DST it is stored in have been voiced. The handling of this stream, which contains the bulk of cesium, may be a safety concern in the facility and in tank farms. The cesium removed by the CST process is dispersed in the stored sludges and not concentrated in a single tank.

**4.2.1.4 Elimination of Organic Ion Exchange Resin**. The ultimate disposal of spent resin is a point of concern. If the resin is routed to the LAW melter, it may impact the performance of the melter due to its high organic content. If the resin is removed from the process and stored separately, it may degrade and release potentially flammable compounds.

**4.2.1.5 Reduction in Amount of Caustic and Nitric Acid Needed**. The removal of the regeneration steps for the ion exchange column reduces the need for concentrated caustic and nitric acid.

**4.2.1.6 Increased Volatility of Cesium and Technetium**. Increasing the amount of cesium and technetium in the offgas impacts safety because it places more radionuclides in process streams. As stated earlier, more processing is directly proportional to increased safety risk due to leaks, accidents, spills, etc.

**4.2.1.7 Increased Offgas Processing**. The additional processing steps necessary to remove radionuclides from the offgas scrub are mature and fairly simple. However, as stated earlier, more processing is directly proportional to increased safety risk due to leaks, accidents, spills, etc.

### 4.2.2 Ease of Operations

This section describes areas in the process where operations are changed and the affects these changes have on the ease of day-to-day operations. The areas are generally listed in the order that they appear in the PFD.

**4.2.2.1 Less Processing of Supernate.** The removal of the ion exchange feed adjustment section decreases processing.

**4.2.2.2 Elimination of Complicated Column Feed.** The ion exchange section in the SPF utilized four columns in two sets of two. The columns are configured so that one set is being loaded while the other is in the elution/regeneration mode. In elution/regeneration the lead column is eluted/regenerated while the lag column is in stand-by. After elution/regeneration the valving is adjusted so that the stand-by column becomes the lead column and the other column becomes the lag. The first set of columns is then taken off line and enters the elution/regeneration cycle. The second set is then put on line and the process repeated.

This switching of the feed to the columns will require many steps and valving changes. The elimination of the columns will remove these steps.

**4.2.2.3 Elimination of Column Regeneration Steps.** The columns are sized so that, on average, one regeneration cycle will be performed per 8-hour shift. This cycle, like the feed cycle, requires many valving changes. The elimination of the columns will simplify operations as well as shift change over.

**4.2.2.4 Elimination of Acid Evaporator.** The safety concerns about the acid evaporator stated in Section 4.2.1 will be removed thereby eliminating its effect on process operations.

**4.2.2.5 Increased Offgas Processing.** The additional offgas processing steps are not complicated nor unique. However, they will increase processing.

## 4.3 LOW-ACTIVITY WASTE SPECIFICATIONS

The SPFC process offers the flexibility of removing technetium, if deemed necessary, while reducing the total cost and complexity of operations. The *TWRS Privatization Request for Proposal* (pg C-44) states that the average LAW glass product must meet both of the following fractional release rate requirements:

Equation 1 $$R_{TC} = \left(\frac{C_g}{\rho}\right) \times \left(\frac{S_g}{V_g}\right) \times F < 2.8E{-14}\ (s^{-1})$$

Equation 2 $$R = \left(\frac{C_g}{\rho}\right) \times \left(\frac{S_g}{V_g}\right) < 1.4E{-13}\ (s^{-1})$$

where:

$R_{TC}$ is the average fractional release rates for $^{99}Tc$

R is the average fractional release rates for $^{79}Se$, $^{129}I$, $^{237}Np$, and uranium isotopes

$C_g$ is the corrosion rate of the glass ($kg/(m^2\text{-}s)$)

$\rho$ is the glass density ($kg/m^3$)

$S_g$ is the surface area of the glass in the package that is available for corrosion ($m^2$)

$V_g$ is the glass volume in the package ($m^3$)

F is the fraction of the soluble technetium (after solid/liquid separation) that is solidified in the LAW glass.

By examining Equations 1 and 2, it becomes obvious that if the constraint for R is just met, the value of F must be less than or equal to 0.2. This corresponds to an 80 percent overall removal of soluble technetium from the LAW stream. For the SPF, the calculated value of F is 1.0 and for the SPFC the calculated value is 0.33 for the technetium volatility and purge rates assumed. Neither of these meet the conservative 0.2 mark, but the SPFC realizes a factor of 3 decrease in F over the SPF.

The *TWRS Privatization Request for Proposal* also states that the average technetium concentration in the LAW product must be less than or equal to 3 $Ci/m^3$. Using the amount of LAW glass produced at 25 wt% $Na_2O$ and a void space of 30 percent (246,000 $m^3$ - total product volume) the total amount of technetium that can remain in the LAW is 0.74 MCi. Using the above volume, the SPF (with no removal of technetium) and the SPFC have average technetium concentrations of 0.09 $Ci/m^3$ and 0.03 $Ci/m^3$ respectively. Therefore this limit is not a discriminating factor.

Technetium removal could be added to the reference process either through volatilization, mixed bed ion exchange, or anionic exchange. Volatilization would increase the cost by the $5 - $10 million for offgas processing. The removal efficiency for technetium would equal that for the SPFC (approximately 67 percent). The mixed bed ion exchange and the anionic exchange systems would add approximately $160 and $660 million respectively (WHC 1995a). However the removal efficiency for technetium would increase to an assumed 99 percent.

These cost increases would be realized even if there is no need for technetium removal. The SPFC offers the flexibility of removing technetium, if it is deemed necessary, without a major impact on the total cost.

## 4.4 WASTE VOLUME PRODUCED

This section compares the volume of LAW and HLW produced for the SPF to the SPFC. Also given is an explanation for the differences.

### 4.4.1 Low-Activity Waste Volume

The SPF (WHC 1996a) produces 244,000 $m^3$ (7,630 32-$m^3$ containers) of product. The SPFC produces 246,000 $m^3$ (7,690 32-$m^3$ containers). This results in an 0.8 percent increase.

The reason for the increase is attributed to the addition of the CST before the filtration and caustic leaching steps. The cross-flow filters in the Aspen file output concentrated slurries at 30 wt% solids. Caustic additions for leaching purposes are controlled so that the resulting stream is 3*M* hydroxide. If the amount of liquid carryover from the filters increases, the amount of caustic added will increase and thus the amount of LAW produced will increase. The amount of solids in the feed (Stream #1 - Appendix A) is 19,700 MT and the CST additions (Stream #66 - Appendix A) amount to a total of 798 MT. This increases the amount of solids by 4 percent thereby increasing the caustic additions by about the same percentage.

The increase in the amount of sodium routed to LAW for the SPFC is partially buffered by the extra sodium added in the SPF by cesium ion exchange. However, this only buffers the extra added by 50 to 60 percent.

### 4.4.2 High-Level Waste Volume

The SPF (WHC 1996a) produces 9,140 $m^3$ (7,250 1.26-$m^3$ canisters) of glass. The SPFC produces 8,720 $m^3$ (6,920-1.26 $m^3$ canisters) of glass. This results in a 4.6 percent decrease (330 1.26-$m^3$ canisters).

The reason for the decrease is attributed to the deletion of the regenerable cesium ion exchange process. In the SPF, the cesium was eluted off of the column using nitric acid. Also eluted off the column was sodium from any remaining ion exchange sites not occupied by cesium. The eluted stream was then evaporated to boil off most of the nitric acid, however some still remained and needed to be neutralized with caustic. These two sources of sodium directly impacted the amount of HLW produced.

The decrease is buffered by the addition of the CST material. CST contains $TiO_2$ and $Na_2O$ (assumed to be 28.8 wt% and 10 wt%, respectively; the balance is $SiO_2$). The actual makeup is proprietary, but the assumptions are within the ranges. The addition of CST increases the amount of HLW produced, but it is much less than the decrease realized by the deletion of the ion exchange process.

## 4.5 LIFE-CYCLE COST

This section provides a summary of the costs associated with implementation of the SPFC processing concept. The costs considered include the following:

- Costs for the remainder of the TWRS program
- Initial capital cost
- Cost of melter line conversion (from LAW to HLW processing)
- Operating costs
- HLW disposal costs.

Table 4-1 provides a summary of the TWRS life-cycle cost for the SPFC escalated in a fashion to be consistent with the values reported for the SPF. The following sections of this chapter discuss the life-cycle cost elements in more detail. The values for the SPF are taken from WHC 1996a Table 2-1.

Table 4-1. Life-Cycle Cost Summary.

| Cost element | Billions | |
|---|---|---|
| | Sequential Processing Facility | Sequential Processing Facility with CST |
| Program management | 1.0 | 1.0 |
| Operations and maintenance | 1.8 | 1.8 |
| Tank safety | 0.2 | 0.2 |
| Characterization | 0.6 | 0.6 |
| Disposal Program | | |
| Retrieval | 4.4 | 4.4 |
| Facility | 2.0 | 1.9 |
| Facility operating | 3.8 | 3.8 |
| High-level waste disposal | 1.8 | 1.8 |
| Total | 15.6 | 15.5 |

CST = Crystalline Silicotitanate.

### 4.5.1 Initial Capital Cost

The initial capital cost for the SPFC has a total project cost (TPC) of about $1.9 billion. The TPC consists of the TEC for the facility ($1.345 million) and the other project costs (OPC) ($544 million). The TEC includes the costs for acquisition of the facility's civil and structural elements and equipment in the facility. The OPC includes the

cost not related to the facility construction necessary to bring the facility on line. These other costs include development and start-up costs for the project.

**4.5.1.1 Total Estimated Cost.** Fluor-Daniel Inc. originally prepared the facility layouts and equipment lists for the SPF for WHC. This estimate was used by ICF Kaiser Hanford to parametrically estimate the cost for the modified facility based upon total square foot reduction. This estimate is included in Appendix D.

WHC reduced the original facility cost estimate prepared by Fluor-Daniel Inc. for the SPF by $85 million. This reduction reflects the findings from an independent cost estimate conducted by Stone and Webster (WHC 1996a). It is assumed that the cost estimate for the SPFC, which is calculated in the same fashion as the original, can be reduced by the same $85 million. The $85 million consists of $60 million reduction for support facilities and $25 million for the process facility and equipment.

The process and support buildings for the SPFC have an estimated cost of $1,345 million for the facility, in 1995 dollars. The estimate includes engineering, construction management, program management, and contingency. Table 4-2 shows the revised cost estimate breakdown.

Table 4-2. Initial Capital Cost Estimate for the Sequential Processing Facility with Crystalline Silicotitanate in Millions of 1995 Dollars.

| Cost element[a] | | Cost |
|---|---|---|
| Vitrification Civil and Structural | | 119.2 |
| Equipment | | |
| Vitrification Facility | | |
| In-Cell Equipment | | 80.0 |
| Out-Cell Equipment | | 224.1 |
| Support Facilities | | 195.6 |
| Total Direct Cost (DC) | | 618.9 |
| Engineering (E) | at 40 Percent | 247.6 |
| Construction Management (CM) | at 10 Percent | 61.9 |
| Project Management (PM) | at 10 Percent | 92.8 |
| Contingency (C) | at 40 Percent | 408.5 |
| Total Estimated Cost (TEC) | | 1,430 |
| Cost Adjustment From Stone and Webster | | -85 |
| Adjusted Total Estimated Cost (TEC) | | 1,345 |

[a]The buildup for the TEC comes from the following relationships: CM = 0.1 * DC, E = 0.4 * DC, PM = 0.1 * (DC + CM + E), C = 0.4 * (DC + CM + E + PM), TEC = DC + CM + E + PM + C.

The TEC estimate performed by ICF Kaiser Hanford for the SPFC comes from a FAST-C parametric estimate for the building based on the layout drawing and a equipment list for the major process equipment. Appendix B contains the facility drawings. Appendix C contains the equipment list. A summary of the capital cost estimate is given in Appendix D.

**4.5.1.2 Other Project Costs.** The OPC totals about $544 million. The development, start-up, and escalation costs comprise the main part of the OPC. The DOE includes the development and start-up cost as part of the total project cost to allow one funding source to provide all the necessary resources for a project. Normally the escalation is included as part of the TEC, but for this study escalation includes both TEC dollars as well as OPC dollars.

The development costs totals about $180 million in unescalated dollars. The three main process systems (separations, LAW vitrification, and HLW vitrification) each require research and development (R&D). The optimized processing strategy originally scaled down the R&D costs from the MYPP because it does not explore all of the alternatives embodied in the TWRS program baseline. These reduced costs R&D activities are as follows:

| | |
|---|---|
| Separations R&D | = $40 million |
| LAW Vitrification R&D | = $140 million |
| HLW Vitrification R&D | = $125 million. |

In addition, the SPFC defers the HLW R&D costs until after 2009. This deferral moves the HLW R&D from the OPC estimate to the melter conversion estimate. Startup of the HLW vitrification system following melter line conversion is included in the conversion costs (Section 4.5.2)..

The initial startup cost for the SPFC has been set to the equivalent of three years of operating staff. This allocation results in a cost of about $164 million for the initial startup of the SPFC in unescalated dollars. The start-up cost for a facility includes such items as the staff training, acceptance testing, permit preparation, and safety documentation. This work begins 5 years before the start-up of the facilities and has an assumed cost of 3 years of the LAW facility staff cost.

The escalation totals about $200 million. This equals the escalation used for the SPF. The escalation in the SPF uses a technique consistent with the escalation found in the MYPP. The MYPP escalated for the first 6 years at a rate of about three percent. From the seventh year, the dollars did not escalate but used the escalation calculated for the sixth year of the MYPP. This escalation had the impact of increasing the cost of the MYPP on average by about 20 percent over constant fiscal year 1995 dollars.

### 4.5.2 Melter Line Conversion Cost

As the process mission changes from LAW vitrification to HLW vitrification, certain facility modifications must occur. The facility's design accommodates these changes as efficiently as possible. Table 4-3 summarizes the melter equipment and start-up conversion costs. Escalation assumes a 20 percent increase as defined in Section 4.5.1.2.

Table 4-3. Melter Line Conversion Cost
(Millions of 1995 Dollars Except Where Noted).

| Cost Element | Cost |
|---|---|
| Research and development | 125 |
| Equipment removal | 9 |
| Equipment replacement | 67 |
| Waste disposal | 15 |
| Startup | 31 |
| Total unescalated | 247 |
| Total escalated | 296 |

This strategy leaves in place all LAW equipment not needed for HLW vitrification as long as it does not interfere with HLW processing. The conversion for SPFC requires the removal of more equipment than the SPF. Therefore, a 50 percent increase over the SPF for equipment removal and waste disposal was included.

### 4.5.3 Operating Costs

The operating costs consist of four main cost elements: development and startup, staff, consumables, and decontamination and decommissioning (D&D) costs. An operating cost summary is provided in Table 4-4. The details of these costs are provided in Appendix E. Escalation assumes a 20 percent increase as defined in Section 4.5.1.2.

Table 4-4. Operating Cost Summary
(Millions of 1995 Dollars Except Where Noted).

| Cost Element | Cost |
|---|---|
| Staff | 1,239 |
| Consumables | 1,224 |
| Decontamination and decommissioning | 438 |
| Total unescalated | 2,901 |
| Total escalated | 3,482 |

**4.5.3.1 Staff Cost.** The SPFC has two distinct campaigns each of which requires staff tailored to the needs of the campaign. The first operating campaign (separations and LAW vitrification) takes about 18 years to process the waste and requires the staffing levels shown in Table 4-5. The second operating campaign (HLW vitrification) takes about 5 years to process the waste and requires the staffing levels shown in Table 4-6. Appendix E contains breakdowns of both staffing estimates.

Table 4-5. Single Line Melter Yearly Facility Staff and Cost for Low-Activity Waste Processing Campaign.

| Staff element | Full Time Employees | | | | Millions of 1995 Dollars | | | |
|---|---|---|---|---|---|---|---|---|
| | Exempt | Nonexempt | Bargaining Unit | Total | Exempt | Nonexempt | Bargaining Unit | Total |
| Plant support | 72 | 19 | 81 | 172 | 9.36 | 1.14 | 7.29 | 17.79 |
| Engineering | 46 | 12 | 0 | 58 | 5.98 | 0.72 | 0.00 | 6.70 |
| Operations | 45 | 11 | 72 | 128 | 5.85 | 0.66 | 6.48 | 12.99 |
| Maintenance | 26 | 4 | 110 | 140 | 3.38 | 0.24 | 9.90 | 13.52 |
| Indirect Support | 29 | 0 | 0 | 29 | 3.77 | 0.00 | 0.00 | 3.77 |
| Total | 218 | 46 | 263 | 527 | 28.34 | 2.76 | 23.67 | 54.77 |

Table 4-6. Single Line Melter Yearly Facility Staff and Cost for High-Level Waste Processing Campaign.

| Staff element | Full Time Employees | | | | Millions of 1995 Dollars | | | |
|---|---|---|---|---|---|---|---|---|
| | Exempt | Nonexempt | Bargaining Unit | Total | Exempt | Nonexempt | Bargaining Unit | Total |
| Plant support | 67 | 19 | 72 | 158 | 8.71 | 1.14 | 6.48 | 16.33 |
| Engineering | 47 | 11 | 0 | 58 | 6.11 | 0.66 | 0.00 | 6.77 |
| Operations | 39 | 15 | 62 | 116 | 5.07 | 0.90 | 5.58 | 11.55 |
| Maintenance | 26 | 5 | 108 | 139 | 3.38 | 0.30 | 9.72 | 13.40 |
| Indirect Support | 20 | 0 | 0 | 20 | 2.60 | 0.00 | 0.00 | 2.60 |
| Total | 199 | 50 | 242 | 491 | 25.87 | 3.00 | 21.78 | 50.65 |

The annual cost for staff includes $130,000 per exempt full time employee (FTE), $90,000 per bargaining FTE, and $60,000 per non-exempt FTE. These rates include all of the overheads for maintaining an FTE and providing support from all of site services. The total staff cost for the LAW processing campaign based on Table 4-5 and an 18-year operating campaign is $986 million. The total staff cost for the HLW processing campaign based on Table 4-6 and a 5-year operating campaign is $253 million.

**4.5.3.2 Consumable Costs.** The consumable costs for the SPFC are summarized in Table 4-7 and consist of the following cost elements:

1. **LAW Containers and Vaults.** This cost includes the purchase of containers and construction and closure of the LAW storage vaults. At 32 $m^3$ a container, approximately 7,690 will be needed (246,000 $m^3$/32 $m^3$). The cost for each container is about $18,000 ($138 million total). The required vaults can be constructed and closed for a total of approximately $3 million each. It is assumed that 196 32-$m^3$ containers will be disposed of per vault (39 total). Since six vaults are built during the construction phase of the facility and are accounted for in the capital cost the operating cost for vaults is $100 million.

2. **HLW Containers and Storage Pads.** This cost is associated with packaging and interim storage of the HLW glass. It is assumed that the glass produced will be packaged in canisters ($10,000 per canister), four canisters will be packaged in an overpack container ($25,000 per container) for interim storage on a HLW storage pad ($13 million per pad with two pads required). Each container is then placed in a shipping cask ($60,000 per cask) for transportation to the HLW repository. A total of 6,920 HLW canisters will be produced ($242 million).

3. **Chemicals and Utilities.** This is the cost for chemicals, steam, water and electricity used to operate the facilities based on the process material balance. These values are calculated in Appendix E using the results from the material balance contained in Appendix A.

4. **Spares and Equipment.** Assumes $9 million and $5 million per year for the LAW and HLW campaigns respectively. This cost provides for the periodic replacement of equipment from normal deterioration and failure. Also included in the cost is the cost associated with the disposition of failed equipment that would be categorized as mixed waste.

Table 4-7. Single Line Melter Facility Consumable Costs (Millions of 1995 Dollars).

| Campaign | Low-activity waste containers and vaults | High-level waste containers and pads | Chemicals | Utilities | Spares and equipment | Total |
|---|---|---|---|---|---|---|
| Low-activity waste | 238 | 0 | 250 | 177 | 162 | 827 |
| High-level waste | 0 | 242 | 7 | 123 | 25 | 397 |
| Total | 238 | 242 | 257 | 300 | 187 | 1,224 |

**4.5.3.3 Decontamination and Decommissioning Costs.** An allocation for the D&D cost for the SPFC has been included in the life-cycle cost. The allocation includes the sufficient funds to remove radionuclides and equipment as necessary to allow the transition of the facility from EM-30 to EM-60. The allocation was approximated by assigning a cost equal to 30 percent of the TEC for the vitrification facility only (Appendix D) plus the equivalent of 3 years of HLW operating staff costs. Therefore, the D&D costs are approximated as follows:

| | | |
|---|---|---|
| Facility TEC | = ($950 million) x 0.30 | = $285 million |
| Operating Staff Cost | = 3 years x $51 million | = $153 million |
| Total D&D cost | = $285 million + $153 million | = $438 million. |

These dollars are spread over the five years following operation of the HLW vitrification campaign.

### 4.5.4 High-Level Waste Disposal Costs

The costs and basis associated with disposal of the HLW produced is given in Table 4-8. The repository disposal fee used totals to $1.5 billion in 1995 dollars, which becomes $1.8 billion when escalated consistent with MYPP. This 1995 value comes from information provided to DOE-EM from DOE-RW (DOE-RW 1993). The DOE-RW has provided more information recently (DOE-RW 1995), but information consistent with the MYPP has not yet arrived (i.e., Hanford's share for a single repository case).

Table 4-8. High-Level Waste Repository Cost Basis.

| Disposal input parameter | Value |
|---|---|
| High-level waste volume ($m^3$) | 8,700 |
| Canister basis | 68 cm x 457 cm canister with a net volume of 1.26 $m^3$ of glass |
| Number of canisters | 6,900 |
| Number of overpacks | 1,730 |
| Disposal cost ($ billion)* | 1.8 |

*Single repository cost; 2 repository case may cost up to $4.8 billion.

The new information from DOE-RW suggests Hanford's waste disposal cost for a two repository case may increase to between $4 and $5 billion. A repository disposal fee of $4 billion would escalate to $4.8 billion. This cost would significantly increase the portion of the operating cost for repository disposal (from less than 20 percent to greater than 30 percent).

The recent communication with RW indicates that a large reduction in the amount of waste shipped to the repository would only reduce the cost by $500 million for a two repository case. No credit was taken for the reduction in the number of HLW packages for the SPFC over the SPF. It is estimated that the realized savings could be on the order of $100 million, but for conservatism the same fee is used.

### 4.5.5 Other Tank Waste Remediation System Program Costs

To implement any waste disposal concept, support is required from a number of program elements, of which the SPF represents one program element. The other TWRS program elements which must be accounted for in a life-cycle cost analysis are given in Table 4-9. The costs for program management, maintenance and operations, safety, characterization, and upgrades come from the guidance budget provided for fiscal year 1996 activity data sheet preparation (contained in Appendix E) and a modified MYPP. In addition to those two sources, the retrieval cost incorporates a sluice based strategy.

Table 4-9. Tank Waste Remediation System Program Cost Required To Implement the Sequential Processing Alternative.

| Program element | Cost (Billions of escalated dollars) |
|---|---|
| Program management | 1.0 |
| Operations and maintenance | 1.8 |
| Safety | 0.2 |
| Characterization | 0.6 |
| Retrieval | 4.4 |
| Total | 8.0 |

## 4.6 RADIONUCLIDE REMOVAL FROM LAW

Table 4-10 shows the radionuclide separation efficiencies between the two processes. The curies of radionuclides for the two processes may not be equal due to rounding.

The increased removal of technetium is performed at a cost of $5 to $10 million. If the radionuclide removal from the offgas scrub is deleted, the TEC would decrease by the $5 to $10 million. Doing this would leave the percentage of technetium equal to that for the SPF, but the amount of cesium-barium in LAW would increase by over 1 MCi from what is reported in Table 4-10.

Table 4-10. Comparison of High-Level Waste and Low-Activity Waste Radionuclide Content for the Sequential Processing Facility and Sequential Processing Facility with Crystalline Silicotitanate.

| | Sequential Processing Facility | | | | Sequential Processing Facility with Crystalline Silicotitanate | | | |
|---|---|---|---|---|---|---|---|---|
| | High-level waste | | Low-activity waste | | High-level waste | | Low-activity waste | |
| Radionuclide | Curies | % | Curies | % | Curies | % | Curies | % |
| $Cs^{137}+Ba^{137}$ | 6.65E+7 | 98 | 1.42E+6 | 2 | 6.24E+7 | 92 | 5.42E+6 | 8 |
| $Sr^{90}+Y^{90}$ | 1.02E+8 | 97 | 3.68E+6 | 3 | 1.01E+8 | 96 | 4.28E+6 | 4 |
| $Tc^{99}$ | 9.28E+3 | 29 | 2.27E+4 | 71 | 2.42E+4 | 77 | 7.47E+3 | 23 |
| Transuranics | 1.99E+5 | 93 | 1.48E+4 | 7 | 1.98E+5 | 93 | 1.59E+4 | 7 |
| Total | 1.69E+8 | 97 | 5.14E+6 | 3 | 1.64E+8 | 94 | 9.72E+6 | 6 |

The amount of cesium in the LAW, assuming a 50-50 split between cesium and barium, increases by approximately 2 MCi for the SPFC. Using the cost difference between the two processes of $100 million, the incremental cost for removing those 2 MCi is $50/Ci. This shows that the additional removal of cesium by ion exchange is not warranted. The removal is technically practical, but it is not economically practical.

The increase in the amount of curies of transuranics (TRU) and $Sr^{90}$ going to LAW for the SPFC is due to solids carryover. When the cesium ion exchange pretreatment process was removed a polishing filter was also removed. The purpose of this filter was to remove any entrained solids from the LAW stream before cesium ion exchange to prevent plugging of the columns. The deletion of this filter allowed the entrained solids to go to LAW instead of being routed to HLW as in the SPF. The entrained solids amounted to approximately 1 percent of the total solids fed to the process. Since most of the TRU and $Sr^{90}$ is in the solids phase this amounts to roughly a 1 percent curie increase in the LAW for these species.

The deletion of the polishing filter also affects the amount of cesium going to LAW. The upfront CST additions "transfers" approximately 90 percent of the soluble cesium to the solids phase. When the slurry is filtered, approximately 1 percent of the cesium that was soluble (plus 1 percent of what was insoluble) goes to LAW. This is not a large portion of the total cesium, but it should be noted.

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# 5.0 PROPOSED FUTURE DEVELOPMENT

The section outlines future development work that would be useful in maturing the SPFC process. This work is in addition to the development of similar processes in the SPF (HLW melter, sludge separations, etc.).

## 5.1 CRYSTALLINE SILICOTITANATE DEVELOPMENT

The use of CST in multiple concurrent contacts needs to be developed. The main characteristic of CST which allows multiple contacts without intermediate separation is that the ion exchange process is irreversible. If the process were reversible (i.e., the CST "bleeds" cesium as the liquid concentration decreases) the net effect would be the same as if all adsorbent had been used in a single contact. This results in less cesium being removed from the waste solution.

The final cost for the CST material also needs to be determined. Preliminary estimates have the CST cost at $176/kg ($80/lb). Using this number, over half of the total chemical usage for LAW treatment is for the CST material ($137 million out of $250 million). If the cost for CST is decreased, the cost savings over the ion exchange option would increase.

## 5.2 CRYSTALLINE SILICOTITANATE SEPARATIONS

In conjunction with the development of the cross-flow filters, the ease of CST separations should be investigated. The CST material needs to have a large enough particle size so that the filters remove most of the material from the liquid. Preliminary material was extremely fine and would not settle readily. However, the engineered form is of larger particle size and should settle easily, but this should be validated with the proposed separations equipment.

## 5.3 MELTER VOLATILITY

In conjunction with the development of the LAW melter, cesium and technetium volatility should be investigated. The amount of volatilization and the amount of other species that volatilize should be documented. These data will then be used to validate the removal of cesium and technetium from the offgas scrub solutions. These validation tests will also show any unwanted reactions/precipitations that may occur in the removal system.

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## 6.0 REFERENCES

10 CFR 61, "Licensing Requirements for Land Disposal of Radioactive Waste," *Code of Federal Regulations*, as amended.

DOE-RW, 1993, *Estimates for the Disposal of Hanford Single-Shell Tank Waste in a Geologic Repository*, memorandum (July 13, 1993) from H. H. Brandt, Director Program Control and Administration Division, U.S. Department of Energy Office of Civilian Radioactive Waste Management to J. Tseng, Acting Director Tank Waste Remediation System Division, U.S. Department of Energy Office of Waste Management, U.S. Department of Energy, Washington D.C.

DOE-RW, 1995, *Assessment of Pre-Closure System Cost and Health and Safety Impacts of Hanford High-Level Waste Vitrification Options on the Civilian Radioactive Waste Management System*, A00000000-01717-5705-00003, Rev. 0, WBS: 9.2.1.1.3, U.S. Department of Energy, Office of Civilian Radioactive Waste Management, Washington, D.C.

Ecology, EPA, and DOE, 1994, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.

Leach, C. E., 1995, *Facility Design Philosophy: Tank Waste Remediation System Process Support and Infrastructure Definition*, WHC-SD-W378-ES-002, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

Treybal, R. E. 1955, *Mass-Transfer Operations,* McGraw-Hill Book Company, Inc., New York, New York.

WHC, 1995a, *Determination of Low-Activity Waste Fraction From Hanford Site Tanks,* WHC-SD-WM-TI-699, Rev. A, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995b, *Tank Waste Remediation System Fiscal Year 1996 Multi-Year Work Plan, W.B.S.1.1,* WHC-SP-1101, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

WHC, 1996a, *Tank Waste Remediation Systems Optimized Processing Scheme,* WHC-SD-WM-TI-694, Rev. 0, Westinghouse Hanford Company, Richland, Washington.

WHC, 1996b, *TWRS Privatization Request for Proposal,* Sol. No. DE-RP06-96RL13308, Westinghouse Hanford Company, Richland, Washington.

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# APPENDIX A

# PROCESS DESCRIPTION

Figure A-1 provides a summary material balance. In Section A3.0, Figure A-2 shows the sequential process facility flow diagram, including separations, low-level waste (LLW) vitrification, and high-level waste (HLW) vitrification.

## A1.0 PROCESS DESCRIPTION FOR SEPARATIONS AND LOW-LEVEL WASTE

### A1.1 PRETREAT WASTE

The waste pretreatment portion of the combined pretreatment and vitrification facility is described in this section. The following process systems are included in this portion of the facility:

- Waste Receipt
- Sludge Washing
- Supernatant Concentration
- Polishing Filtration
- Cesium Ion Exchange
- HLW Evaporation
- LLW Evaporation.

#### A1.1.1 Waste Receipt

The retrieved tank wastes are collected in the Receipt/Sample Tanks (TK-131 A, B, and C). Here the crystalline silicotitanate (CST) is added as described in Section 2.2.2.2. The contents of each tank are sampled before they are pumped to the sludge washing process.

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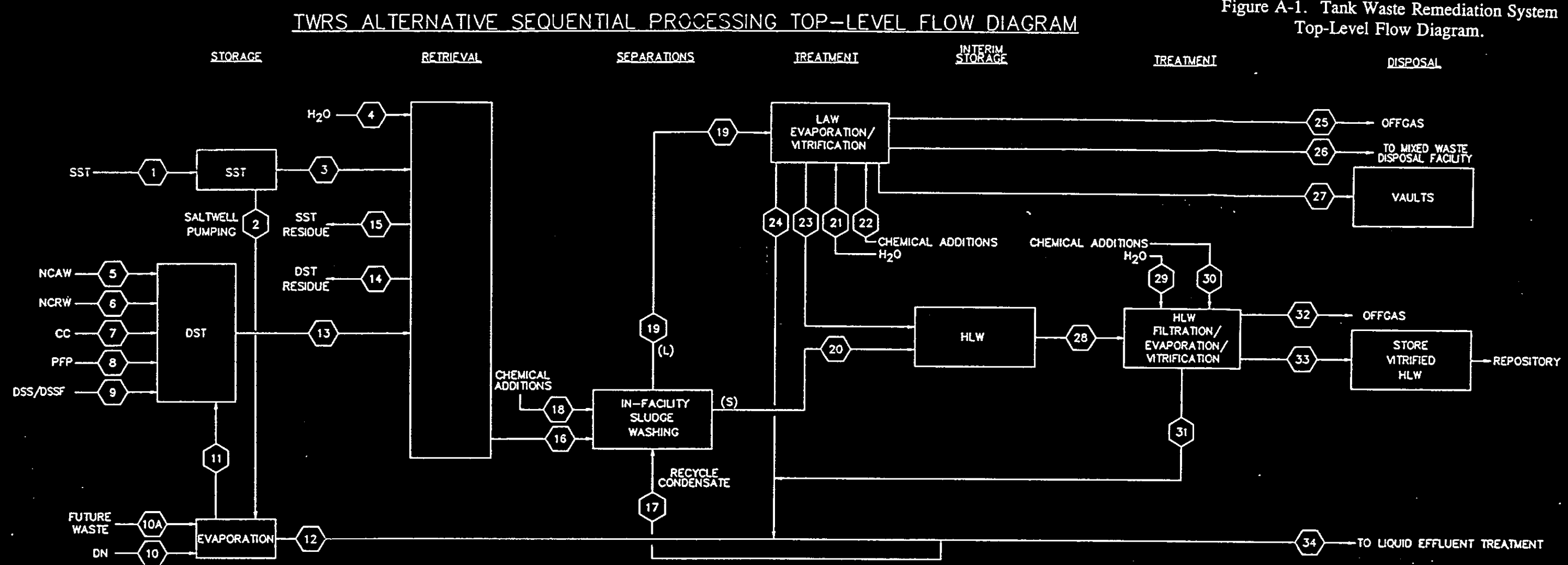
Figure A-1. Tank Waste Remediation System Top-Level Flow Diagram.




TWRS Sequential Processing Alternative Flowsheet - Top-Level Material Balance

| STREAM NUMBER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10A | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Mass Flow, (MT) | 6.04E+5 | 1.40E+4 | 5.90E+5 | | 1.22E+4 | 1.48E+4 | 5.59E+4 | 1.83E+4 | 2.78E+4 | 4.42E+4 | 4.38E+3 | 2.71E+4 | 3.55E+4 | 1.56E+5 | | | 7.46E+5 | 3.96E+5 | 8.05E+4 | 1.05E+6 | 1.49E+5 | 5.86E+5 | 4.69E+6 | 1.92E+2 | 1.48E+6 | 4.17E+6 | 5.11E+3 | 6.03E+5 | 1.49E+5 | 4.17E+0 | 1.68E+4 | 1.37E+5 | 7.05E+3 | 2.32E+4 | 1.22E+6 |
| Component Flow, (MT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Al, (MT) | 3.37E+3 | 1.51E+2 | 3.22E+3 | | 6.60E+1 | 1.40E+1 | 4.42E+2 | 2.97E+1 | 7.19E+2 | 8.81E+1 | 3.85E-1 | 2.39E+2 | | 1.51E+3 | | | 4.73E+3 | 2.34E-4 | | 3.54E+3 | 1.18E+3 | | 8.59E+3 | 6.26E-3 | 9.59E-4 | 6.13E-3 | | 1.21E+4 | 1.18E+3 | | | 5.21E-6 | 1.17E-5 | 1.19E+3 | 7.30E-4 |
| Fe, (MT) | 6.31E+2 | | 6.31E+2 | | 5.88E+1 | 1.92E+0 | 6.99E+1 | 1.98E+1 | 5.57E-1 | 1.28E+1 | 2.57E+0 | 1.54E+1 | | 1.67E+2 | | | 7.96E+2 | 2.27E-6 | | 3.87E+1 | 7.58E+2 | | | 1.99E-5 | 3.29E-6 | 1.95E-5 | | 3.88E+1 | 7.58E+2 | | | 4.98E-6 | 1.12E-7 | 7.58E+2 | 7.07E-6 |
| Cr, (MT) | 2.68E+2 | 1.12E+1 | 2.57E+2 | | 7.02E+0 | 1.07E+0 | 5.12E+1 | 8.89E+0 | 1.19E+1 | 4.85E+0 | 1.09E-1 | 1.62E+1 | | 9.63E+1 | | | 3.53E+2 | 1.95E-5 | | 2.94E+2 | 5.91E+1 | | | 1.52E-4 | 7.97E-5 | 1.49E-4 | | 2.94E+2 | 5.91E+1 | | | 4.32E-7 | 9.71E-7 | 5.92E+1 | 6.07E-5 |
| Na, (MT) | 5.77E+4 | 3.35E+3 | 5.44E+4 | | 5.78E+2 | 4.88E+2 | 3.95E+3 | 2.81E+2 | 5.05E+3 | 1.02E+3 | 1.31E+2 | 4.49E+3 | | 1.48E+4 | | | 6.92E+4 | 1.54E-2 | 1.72E+4 | 8.47E+4 | 1.66E+3 | | 8.49E+2 | 7.37E+0 | 8.33E-2 | 4.31E-2 | 3.81E+2 | 8.50E+4 | 1.66E+3 | | | 2.94E-4 | 2.71E-4 | 1.66E+3 | 4.82E-2 |
| Si, (MT) | 4.60E+2 | | 4.60E+2 | | 1.27E+1 | 1.17E+1 | 1.91E+2 | 6.39E+0 | 5.23E+0 | 5.95E+0 | 3.19E-3 | 5.96E+0 | | 2.34E+2 | | | 6.94E+2 | 1.05E-6 | 2.66E+2 | 2.13E+1 | 9.38E+2 | | 1.26E+5 | 3.58E+0 | 4.30E-6 | 6.35E-2 | | 1.26E+5 | 9.42E+2 | | 4.05E+3 | 2.31E-6 | 5.41E-6 | 4.99E+3 | 3.28E-6 |
| P, (MT) | 1.54E+3 | 3.27E+1 | 1.51E+3 | | 2.03E+0 | 1.49E-1 | 3.48E+1 | 7.46E+0 | 1.12E+1 | 2.27E+1 | 2.53E+1 | 8.07E+1 | | 1.38E+2 | | | 1.84E+3 | 1.24E-4 | | 1.48E+3 | 1.66E+2 | | | 5.57E-1 | 5.07E-4 | 7.50E-4 | | 1.48E+3 | 1.66E+2 | | | 2.30E-6 | 5.17E-6 | 1.66E+2 | 3.85E-4 |
| NO2- and NO3-, (MT) | 1.06E+5 | 3.62E+3 | 1.03E+5 | | 5.24E+2 | 2.77E+1 | 3.38E+3 | 3.25E+2 | 5.58E+3 | 8.61E+2 | 1.38E+2 | 4.62E+3 | | 1.45E+4 | | | 1.17E+5 | 1.79E-2 | 4.54E+1 | 1.15E+5 | 1.84E+3 | | 2.47E+4 | 4.70E+0 | 7.35E-2 | 7.36E-5 | 1.58E+0 | | 1.85E+3 | | 5.61E-4 | 3.43E-4 | 3.84E-4 | | 5.59E-2 |
| H2O, (MT) | 4.04E+5 | 5.74E+3 | 3.99E+5 | | 1.02E+4 | 1.32E+4 | 4.25E+4 | 1.72E+4 | 1.13E+4 | 4.11E+4 | 3.92E+3 | 1.53E+4 | 3.55E+4 | 1.10E+5 | | | 5.08E+5 | 3.96E+5 | 2.98E+4 | 8.02E+5 | 1.32E+5 | 5.86E+5 | 8.33E+4 | 1.63E+2 | 1.48E+6 | 8.27E+4 | 1.61E+3 | | 1.32E+5 | 4.17E+0 | 1.78E+3 | 1.37E+5 | 4.51E+2 | | 1.22E+6 |
| Radionuclides | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14C, (Ci) | 3.17E+3 | | 3.17E+3 | | 3.51E+2 | | 1.97E+3 | 1.18E+0 | 9.29E+0 | 3.53E+0 | 3.66E-2 | 3.56E+0 | | 2.34E+3 | | | 5.50E+3 | 2.19E-4 | | 3.30E+3 | 2.19E+3 | | | | 8.96E-4 | 3.31E+3 | | | 2.19E+3 | | | 4.60E-6 | 2.19E+3 | | 6.82E-4 |
| 60Co, (Ci) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90Sr+90Y, (Ci) | 8.13E+7 | 3.35E+5 | 8.10E+7 | | 1.67E+7 | 1.01E+5 | 3.45E+6 | 8.79E+4 | 1.64E+5 | 3.92E+6 | | 4.25E+6 | | 2.47E+7 | | | 1.06E+8 | 2.44E-1 | | 4.28E+6 | 1.01E+8 | | | 2.20E+0 | 1.00E+0 | 2.16E+0 | | 4.28E+6 | 1.01E+8 | | | 5.36E-3 | 1.21E-2 | 1.01E+8 | 7.82E-1 |
| 99Tc, (Ci) | 1.79E+4 | 8.87E+3 | 1.10E+4 | | 2.12E+3 | | 8.40E+3 | 2.61E+1 | 2.92E+3 | 8.82E+2 | 5.03E+0 | 7.75E+3 | | 2.12E+4 | | | 3.23E+4 | 8.73E-3 | | 2.28E+4 | 9.47E+3 | | | 1.53E+4 | 2.03E-2 | 4.14E-3 | | 7.48E+3 | 2.48E+4 | | | 7.47E-3 | 1.41E-2 | 2.48E+4 | 2.10E-2 |
| 137Cs+137Ba, (Ci) | 1.87E+7 | 3.12E+6 | 1.56E+7 | | 1.91E+7 | 5.90E+5 | 9.26E+6 | 1.22E+5 | 1.78E+7 | 2.19E+6 | 9.76E+4 | 5.41E+6 | | 5.23E+7 | | | 8.79E+7 | 7.08E-1 | | 6.50E+6 | 6.13E+7 | | | 1.09E+6 | 2.91E+0 | 2.77E+0 | | 5.42E+6 | 6.24E+7 | | | 9.32E-3 | 2.09E-2 | 6.24E+7 | 2.21E+0 |
| TRU, (Ci) | 1.28E+5 | | 1.28E+5 | | 4.80E+4 | 1.56E+3 | 2.08E+4 | 1.34E+4 | 3.09E+2 | 3.94E+3 | 7.26E+2 | 4.67E+3 | | 8.87E+4 | | | 2.14E+5 | 9.78E-4 | | 1.59E+4 | 1.98E+5 | | | 8.21E-3 | 4.01E-3 | 8.05E-3 | | 1.59E+4 | 1.98E+5 | | | 2.14E-5 | 4.83E-5 | 1.98E+5 | 3.05E-3 |
| Total Ci | 1.00E+8 | 3.47E+6 | 9.67E+7 | | 3.58E+7 | 6.92E+5 | 1.27E+7 | 2.23E+5 | 1.80E+7 | 6.10E+6 | 9.83E+4 | 9.66E+6 | | 7.72E+7 | | | 1.74E+8 | 9.60E-1 | | 1.08E+7 | 1.63E+8 | | | 1.10E+6 | 3.93E+0 | 3.31E+3 | | 9.72E+6 | 1.64E+8 | | | 2.22E-2 | 2.19E+3 | 1.64E+8 | 2.99E+0 |
| 0.62-m3 HLW Canisters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14,000 | |
| 1.26-m3 HLW Canisters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 6,900 | |
| 32-m3 LLW Containers | | | | | | | | | | | | | | | | | | | | | | | | | | | | 7,700 | | | | | | | |
| 5300-m3 LLW Vaults | | | | | | | | | | | | | | | | | | | | | | | | | | | | 48 | | | | | | | |

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### A1.1.2 Sludge Washing

The function of sludge washing is to separate non-radioactive components from insoluble radioactively contaminated sludges/solids. The separation of non-radioactive components (primarily sodium, aluminum, chromium, and phosphate) is achieved by leaching the sludges/solids with a 3*M* caustic solution and washing the leached solids with water to remove dissolved interstitial components.

Received tank waste solutions are transferred from the Receipt/Sample Tanks into the Solid/Liquid Separations Feed Tank (TK-100). The tank waste solutions are recirculated from TK-100 through a cross-flow filter unit (F-102 A, B, and C) to separate the supernatants and concentrate the sludge fraction. Sludges are concentrated to 25 to 30 wt% solids by recirculation from F-102 A, B, and C back into TK-100. The separated supernatant is collected in the Filtrate Catch Tank (TK-106), sampled and transferred to the LLW Feed Evaporation System. The concentrated sludge fraction is transferred into one of two Caustic/Water Wash Filter Feed Tanks (TK-103 A and B).

A 3*M* caustic solution is added to the solids collected in TK-103 A or B to dissolve (i.e., caustic digest) non-radioactive components such as aluminum, chromium and phosphate. The tanks are equipped with steam heating and water cooling coils to regulate the temperature of the caustic digestion process. After digestion, the slurry in the is cooled and pumped through a second cross-flow filter unit (F-105 A, B, and C) to separate the supernatant and concentrate the leached sludges. The leached sludges are washed continuously with water during recirculation through F-105 A, B, and C. The separated supernatant and wash solutions are collected in TK-106, sampled, and transferred to the LLW Feed Evaporation System. The leached and washed sludges are collected in the first sludge leaching tank (TK-103 A or B) and sampled to determine whether additional leaching is required. If additional leaching is required, the sludges are transferred to the second sludge leaching tank (TK-103 B or A) and the process repeated. Leached and washed sludges are slurry transferred from TK-103 A and/or B to a DST for interim storage and blending.

### A1.1.3 Low-level Waste Evaporation

The function of LLW evaporation is to reduce the volume of the feed stream before the waste is feed to the LLW melter system. This reduces the heat load on the melter.

The LLW stream is pumped from TK-106 to the LLW Evaporator Feed Tank (TK-400) and mixed with recycled LLW from the vitrification and offgas treatment systems. The combined LLW solution is pumped to the LLW Evaporator (EV-402) where it is concentrated to 10*M* sodium.

The overhead from EV-402 is condensed in the Condenser (EC-403). The cooled condensate is pumped to the Condensate Recycle Tanks (TK-800 A, B, and C) where some of the condensate is recycled to the sludge washing process and the remaining condensate is sent to the liquid effluent treatment facility.

Concentrated liquid is withdrawn from EV-402 and is collected in the LLW Melter Feed Adjustment Tank (TK-404A). After the liquid level in TK-404A reaches a pre-determined level, the contents of the tank are transferred to the second LLW Melter Feed Adjustment Tank (TK-404B) for sampling. After the sampling, the stream is transferred to the LLW Melter Feed Tanks (TK-406 A and B) before being transferred to the LLW melter system.

## A1.2 LOW-LEVEL WASTE VITRIFICATION AND DISPOSAL

The main vitrification process systems are: feed preparation, melter feed, the melter, cullet handling, cullet/sulfur polymer cement mixing, MOG, vessel offgas systems, and process liquid waste handling. The LLW vitrification process is based on a single 120-Mg/d melter line. However, the process flow diagram shows two LLW melter trains.

### A1.2.1 Feed Preparation, and Melter Feed

The primary functions of these systems are to allow for possible chemical adjustment, provide for sampling, and supply a controlled, monitored waste feed to the melter. The process and equipment are described below.

The vitrification process feed stream consists of an aqueous solution from the pretreatment process. In addition to the normal feed from the evaporator, TK-404A can occasionally receive slurried off-spec cullet (Stream 514) for rework. For this study, no required chemical additives or other adjustments to the feed have been identified for a combustion melter.

### A1.2.2 Low-Level Waste Melter

The LLW Melter (EM-412) used for this process is a combustion-type melter. The waste slurry is pumped under pressure through spray nozzles into a combustion chamber. The semi-volatiles and volatiles are partitioned to the offgas and the remaining solids and waste oxides are combined with glass forming oxides.

The combustion gases, combustion byproducts and pre-heated glass flow axially downward through the combustion chamber and enter a cyclone unit on a tangent. The hot combustion gases and byproducts flow axially through the cyclone creating a rotating gas

flow. The glass solids are deposited along the refractory wall by the action of the rotating gases centrifugal force and form a thin film as they flow axially through the cyclone.

The molten glass film is approximately 1300 °C that collects in the base of the melter and is discharged into the Glass Separator (S-413). The combustion chamber and glass separations chambers are refractory line to eliminate heat losses and protect the vessel wall from the hot, caustic gases. Molten glass continuously overflows a weir built into the glass separator for flow control. The molten glass gravity flows into the Quench Flume (MQ-414) where it is cooled with chilled water and fractured into cullet. The glass cullet contains up to 25 percent by weight of waste as sodium oxide.

### A1.2.3 Low-Level Waste Cullet Handling

The cullet and water pass through a roll crusher (MC-415) to break up large pieces of glass. The cullet and water are collected in the LLW Cullet Catch Tank (TK-416). The cullet slurry is pumped to the Screen (FS-422) to remove water and to separate undersized cullet. The cullet is then transferred by gravity to the LLW Cullet Day Lag Storage and dried (B-427A). The cullet is held in the lag storage bin until sample analyses are complete. Accepted cullet is then transferred via a pneumatic transfer system through a cyclone (FC-432) to the day bin (B-434). From the day bin, the cullet is fed by gravity to the Mixer (MM-440) where the cullet is mixed with molten sulfur, an oligomer, and dicyclopentadiene (DCPD) to form the sulfur polymer cement.

If necessary, out-of-specification cullet is transferred via the pneumatic transfer system from the cullet lag storage bin to the Recycle Cullet Catch Tank (TK-508) through Cyclone (FC-500) and another Roll Crusher (MC-502). In the cyclone, the exhaust air passes through sintered metal filters, where fine particles are removed.

**A1.2.3.1 Equipment Descriptions.** The equipment for the cullet handling system is described below:

- The Quench Flume (MQ-414) is an enclosed trough in which chilled water passes through. In the quench flume, the molten glass that discharges from the Melter Separator (S-413) makes contact with chilled water and forms cullet. The quench flume is equipped with a chilled water inlet nozzle, a molten glass inlet, cullet slurry outlet and a vapor outlet.

- The Roll Crushers (MC-415 and MC-502) break large pieces of cullet into desired sizes. There are two roll crushers in the cullet handling system. One Roll Crusher (MC-415) located after the Quench Flume (MQ-414), breaks oversize cullet pieces into 6 mm or smaller cullet. The second Roll Crusher (MC-502), that is in the cullet recycle system, crushes the cullet before it enters the Recycle Cullet Catch Tank (TK-503).

- The Screen (FS-422) removes water and separates the undersized cullet. The Screen is designed for accurate sizing of the cullet. Cullet is transferred to LLW Cullet Lag Storage (B-427). The undersized cullet and water are collected in the LLW Filter Catch Tank (TK-426). Clean demineralized water is periodically added to the screen to enable periodic water and fines purge.

- The LLW Cullet Lag Storage (B-427) dries cullet and provides cullet lag storage. Cullet is dried by blowing heated air through the cullet. Cullet enters the cullet pneumatic transfer system through a bottom discharge in the lag storage bin.

- The Pneumatic Transfer System transports cullet from the cullet lag storage bins through Cyclones (FC-432 and FC-500) to either the Day Bin (B-434) or the Recycle Cullet Catch Tank (TK-503). The pneumatic transfer system uses plant air as a motive force for transferring the cullet.

- The Cyclones (FC-432 and FC-500) receive cullet from the cullet storage bins via the pneumatic transfer system. Cyclones in the cullet handling system are located before the Day Bin (B-434) and the Recycle Cullet Catch Tank (TK-503). In the cyclones, the sintered metal filters are high-efficiency filters to remove particle sizes 3-5 $\mu$m or larger. The sintered metal filters in the cyclones are cleaned by a compressed air pulse system. The particles from the filters are discharged to either the day bin or the recycle cullet catch tank.

- The Day Bin (B-434) is designed to accept cullet from the Cyclone (FC-432) via a rotary star feeder (M-433). The day bin is equipped with a load cell to weigh the cullet before the cullet is discharged into the Mixer (MM-440).

### A1.2.4 Cullet Disposal

A cullet-in-sulfur polymer cement storage concept was used for this facility configuration evaluation, however, cullet alone can be placed into the disposal packages. LLW glass cullet is transferred by gravity from the cullet day bins to the mixer. At the mixer, sulfur cement from the sulfur make-up system is mixed with the cullet. The resulting sulfur/cullet mixture is approximately 70 wt% cullet. This mixture is discharged from the mixer into 32 stere carbon steel disposal packages.

### A1.2.5 Melter Offgas

The functions of the Melter Offgas (MOG) System are to cool and quench the melter offgas, remove radionuclides, catalytically destroy $NO_x$, and recover $SO_2$ as elemental sulfur to permit the release of the offgas stream from the plant stack to an uncontrolled area.

The gas cooling and quenching portion of the MOG system consists of a quench tower, a venturi scrubber and separator, and a mist eliminator. A cooler, chiller, scrub solution tank, scrub solution recirculating pump, and scrub solution transfer pump are also provided. The radionuclide removal portion of the MOG system includes submicron particulate filtration and blowers. The emissions abatement portion of the MOG system consists of a single operating train of catalytic $NO_x$ destruction and $SO_2$ removal/sulfur recovery equipment.

MOG from the LLW melter is quenched from 1,360 °C to 75 °C by direct, counter-current contact with water in a LLW Quench Tower (T-609). Entrained particulates are scrubbed from the offgas in the quench tower. The scrub water and condensed moisture from the bottom of the tower gravity drains back to the LLW Scrub Solution Tank (TK-614) for re-use. The quenched MOG exits T-609 and is contacted with scrub water in the LLW Venturi Scrubber (SC-615) to further remove entrained particulates. The LLW Separator (S-616) receives the venturi scrubber discharge and separates the offgas from the scrub water. The scrub water gravity drains to TK-614.

A Chiller (EC-617) cools the offgas leaving the separator to 30 °C before it enters the LLW Mist Eliminator (DE-618). The mist eliminator removes mist and particulates from the offgas stream. A continuous water spray ensures self-cleaning run-down of condensate and particulates from the elements. The rinse from the mist eliminator gravity drains to the scrub solution tank where it mixes with scrub solution and condensate from the quench tower and separator. The liquid mixture from the scrub solution tank is cooled (EC-610) and recycled back to the quench tower and venturi scrubber as needed. The extra liquid is pumped from TK-614 to the LLW Scrub Solution Transfer Tank (TK-611) or is pumped to the LLW Scrub Solution Filter (PHP-644). PHP-644 removes entrained solids and transfers them to TK-611. The filter liquid is collected in the LLW Scrub Solution Filter Catch Tank (TK-645). The slurry in TK-611 is transferred to the LLW Evaporator Feed Tank (TK-400) for treatment.

From TK-645 the liquid is transferred to the Acid Evaporator Feed Tank (TK-1100) where it is adjusted with $HNO_3$ as necessary. The stream from TK-645 is transferred to the Acid Evaporator (EV-1102) where a large quantity of the water as well as $HNO_3$, HCl, and HF are boiled off. The offgas from EV-1102 is condensed in EC-1103 and routed to the Acid Recycle Catch/Neutralization Tank (TK-1110) and the bottoms are routed to the Acid Distillation Feed Tank (TK-1104). From TK-1104 the stream is pumped to the Nitric Evaporator (EV-1120). In EV-1120 water is added to steam strip out most of the remaining acids. The offgas from EV-1120 is routed to the Acid Distillation Column (T-1106) and the bottoms are routed to the Nitric Evaporator Catch Tank (TK-1121) before being transferred to the Cs/Tc Removal System. In T-1106, HCl and HF are separated from the bulk of the $HNO_3$. The bottoms from T-1106 are routed to TK-1110 and the overheads are routed to the Acid Rectifying Column (T-1107). In T-1107, HF is selectively partitioned from the HCl. The overheads (containing most of the HF) are condensed (EC-1108) and routed to TK-1110. The bottoms (containing most of the HCl) are transferred to the HCl Catch Tank (TK-1109).

In TK-1110 the streams are combined and neutralized with calcium hydroxide. Calcium hydroxide is used instead of sodium hydroxide because the calcium precipitates the fluoride (which reduces volatility) and because calcium is already added to the LLW Melter in order to meet glass specifications. In this way the amount of LLW glass produced is not effected. From TK-1110 the stream is routed to the LLW Evaporator Feed Tank (TK-400).

In the HCl Catch Tank (TK-1109) the contents are neutralized with sodium hydroxide and calcium hydroxide. The calcium hydroxide is used to precipitate any fluoride that was not separated. From TK-1109 the stream is pumped to the Grout Feed Evaporator (EV-1113) where it is concentrated to 5*M* sodium, transferred to the Grout Evaporator Catch Tank (TK-1115) where it is sampled, and finally transferred to the Grout Process Feed Tank (TK-1117). From TK-1117 the solution is combined with flyash and cement in drums to form grout. The grout drums are allowed to cure, sampled, deconned, and then transferred to a mixed waste disposal facility. This grouting process is contained in a contact maintained cell.

The solution in TK-1109 is pumped to the Neutralization Filter Feed Tank (TK-1121) where it is partially neutralized with sodium hydroxide. From TK-1109 it is pumped to the Neutralization Filter (PHP-1213) to remove any precipitates that might have formed during the evaporation and neutralization steps. The solids from PHP-1213 are routed to the Filtrate Collection Tank (TK-1207) and the filtrate is sent to the Cesium/Technetium Removal Tank (TK-1200). In TK-1200 the solution combines with a CST slurry to remove any cesium that was volatilized from the LLW Melter and captured in the MOG scrub section. The amount of CST added controlled to give a DF of approximately 5 (80 percent removal). After sufficient mixing and equillibrating time, the slurry is further neutralized with caustic. Sodium sulfide is added to precipitate technetium as technetium sulfide (90 percent removal). The slurry is then pumped to the Filter Tank (TK-1204). From TK-1204 the slurry is pumped to the Pneumatic Hydro-Pulse Filter (PHP-1206). The solids from PHP-1206 are routed back to TK-1204 and the filtrate is routed to TK-1207. The solution in TK-1207 is diluted if necessary and routed to the LLW Evaporator Feed Tank (TK-400) for reprocessing. The solids in TK-1204 are diluted, adjusted with caustic and sodium nitrite to meet tank farm specifications, and routed to DSTs for interim storage. In the DSTs the solids are combined with the solids from pretreatment.

From the mist eliminator (DE-615), offgas flows to one of two identical parallel trains of filtration. One of the two trains is in operation while the second train is on standby. Each train consists of a Heater (E-625 A and B), two Metal HEPA Filters in series (FM-625 A1 and B1 and FM-625 A2 and B2), and a Blower (MB-625 A and B). The first of the two filters is a high-efficiency metal fiber (HEMF) filter, while the second is a conventional HEPA filter. The heater and the HEMF filter are remotely maintainable and are located inside a hot cell. The HEPA filter and blower are both located in a contact-maintained room.

The heater raises the offgas temperature to prevent the downstream condensation of moisture. The metal HEPA filters provide filtration of the offgas for submicron particulates. The blower draws the offgas through the system and provides a pressure confinement boundary for all of the serviced equipment, including the melter, relative to the remote cells.

The filtered offgases discharged from the blowers are combined and then processed further to remove $SO_2$ and catalytically destroy $NO_x$. The combined offgas stream is first blended with pure oxygen and the recycled tailgas from the downstream Claus Unit (CL-650) before entering the Melter Offgas Heat Exchanger (EC-628). Oxygen addition facilitates $SO_2$ absorption and catalytic $NO_x$ destruction. In the exchanger, the offgas is warmed to 400 °C by exchange with the hot effluent gas from the $NO_x$ Catalytic Reactor (R-632). The offgas then flows to one of three CuO bed absorbers containing CuO-impregnated alumina sorbent. Approximately 90 percent of the $SO_2$ is absorbed and converted to copper sulfate ($CuSO_4$) in the presence of oxygen in the $SO_2$ Absorber (R-630).

One CuO bed provides $SO_2$ absorption, the remaining two CuO beds are in the sulfate reduction mode and the $SO_2$ absorber regeneration mode, respectively. For Sulfate Reduction (R-633), a reducing gas stream containing hydrogen reduces the $CuSO_4$ to form gaseous $H_2S$. The reducing gas is produced by catalytically cracking ammonia to nitrogen gas and hydrogen. The $H_2S$-rich effluent is sent to the Claus Unit that recovers most of the sulfur in its elemental form. The tailgas from the Claus Unit is recycled to the melter offgas, downstream of the blowers, and sent to the $SO_2$ absorber for further removal of $SO_2$. The $SO_2$ Absorber Regeneration (R-635) prepares the CuO bed for $SO_2$ absorption service by passing air across the absorber bed to oxidize the sorbent. Air leaving absorber regeneration the stream is sent to the Vessel OffGas (VOG) system for treatment.

From the $SO_2$ absorption process, the offgas is preheated to 500 °C in an electric Heater (E-631) before entering the $NO_x$ Reducer. The $NO_x$ reactor contains a catalyst bed for the selective catalytic reduction of nitrogen oxides to produce nitrogen and water vapor in the presence of ammonia. The treated offgas stream is cooled to 65 °C or less as it passes through a heat exchanger and the water-cooled MOG Discharge Cooler (EC-636) before release to the HVAC exhaust system.

### A1.2.6 Vessel Offgas and Condenser Vessel Offgas

The primary function of the VOG and Condenser Vessel Offgas (CVOG) Systems is to decontaminate vessel vent gases to meet requirements for stack release to an uncontrolled area. An additional function of the VOG and CVOG systems is to provide a pressure differential between the process vessels, remote cells, and serviced equipment.

Each of the VOG and CVOG systems consists of a vent collection header, filter preheaters, metal HEPA filters, and blowers. The offgases from the process vessels are collected by the vent header and routed to one of two identical parallel trains of filtration. Each train consists of a heater, two metal HEPA filters, and a blower. The first of the two

filters is a HEMF filter while the second is a conventional HEPA filter. The heater and the HEME filter are remotely maintainable and are located inside a hot cell. The HEPA filter and blower are both located in a contact maintained room. The filters remove submicron particulates from the gas stream and the heater raises the offgas temperature to prevent downstream moisture condensation. Following filtration, the vent gases are boosted by one of the two 100-percent capacity blowers before discharge to the HVAC exhaust system.

### A1.2.7 Process Liquid Waste

All of the process liquid waste from the facility is in the form of process condensate. This condensate has been evaporated from contaminated process streams.

The Process Condensate Recycle Tanks (TK-800 A and B) and the pH Adjustment Tank (TK-803) are located adjacent to the processing area of the facility. The process condensate recycle tanks receives condensates from the LLW Feed Evaporator, the Grout Evaporator, and the HLW Feed Evaporator.

The process condensate recycle tanks accumulate the incoming feeds as the liquid is continuously generated. The process liquid waste is sampled before being transferred to the pH Adjustment Tank (TK-803). Out-specification waste is returned to the LLW Evaporator Feed Tank (TK-400) for rework.

The condensate recycle and pH adjustment tanks are sized so that two tanks can accommodate the normal forward flow of on-spec liquid. The third tank is used for short-term storage of off-spec waste.

In the adjustment tank, a measured volume of sodium hydroxide is added based on laboratory analysis of samples. The contents of the tank are sampled and analyzed after any further pH adjustments and before transfer out of the facility.

# A2.0 PROCESS DESCRIPTION FOR HIGH-LEVEL WASTE

## A2.1 HIGH-LEVEL WASTE VITRIFICATION

The process facility is initially constructed as a combined Separations/LLW vitrification facility but with features built-in to allow for the conversion of the 120 Mg/d melter train to a 20 Mg/d HLW melter train and the addition of HLW canister and cask handling equipment at a future date.

The feed material consists of washed HLW slurry and recovered radionuclides from pretreatment. The feed is periodically transferred from storage to the feed preparation system where excess water is removed by filtering the HLW slurry. Soluble solids are removed from the filtrate by evaporation. Solids from other aqueous waste systems are also removed by this evaporation step. The resulting condensate is sent to the process liquid waste system. The concentrated feed slurry is sampled and, if necessary, adjusted before batchwise transfer to the melter feed system. The melter feed system periodically receives batches of melter-ready feed slurry from the feed preparation system and provides a continuous, controlled delivery of it to the melter system.

The melter system continuously receives feed slurry and dry glass formers (frit). Feed slurry and glass formers are blended before the resulting mixture is fed to the melter. The molten glass is poured on a semi-continuous basis from the glass separator, through an opening in the melter cell floor, and into 4.57-m high cylindrical canisters. The canister contains 1.26 stere of glass in 1.44 stere of gross internal volume. As it cools, the glass forms a fractured solid inside the canister.

The glass-filled canisters are plugged and welded closed before they are decontaminated to remove exterior contamination. The spent decontamination liquids are accumulated and recycled to the feed preparation system for evaporation of excess water and recovery of contaminants. The decontaminated canisters, filled with monolithic HLW glass, are placed into an overpack container (four canisters per overpack). Overpack containers are transferred from the Vitrification Building to interim storage while awaiting eventual shipment to a federal geologic repository. The process produces 7,400 canisters in 1,850 overpacks.

In the MOG system, hot gases from the melter combustion chamber and glass separator are first cooled by counter-current contact with scrub water. This operation also results in significant water vapor condensation and the capture of entrained particulates and water-soluble contaminants. A bleed stream of the excess condensates from the MOG system routes to the chloride/fluoride removal system. This system removes the chloride and fluoride not incorporated into the glass as HCl and HF, neutralizes the stream, and grouts the waste for disposal. Excess condensates from the MOG system are recycled to the feed preparation system evaporator.

The scrubbed MOG undergoes further cooling and successive stages of filtration to remove radionuclides, after which sulfur dioxide ($SO_2$) is absorbed from the gas and subsequently converted into elemental sulfur by a Claus unit. The MOG finally passes through a catalytic reactor where $NO_x$ is converted into nitrogen and water vapor before being discharged to the HVAC system.

The VOG and condenser vessel offgas (CVOG) systems decontaminate the ventilation gases from tanks in the feed receipt, feed preparation, melter feed, and process liquid waste systems. The treated VOG and condenser offgas streams are discharged to the HVAC system.

The process liquid waste system receives the continuously generated, clean overhead condensates from the feed preparation system. It performs sampling, interim storage, and pH adjustment before periodically transferring aqueous waste to a retention basin. Off-specification waste is returned to the feed preparation system for reevaporation.

The HVAC system combines building ventilation gases with the treated MOG, VOG, and CVOG streams. The combined stream undergoes further high-efficiency filtration before discharge from the plant stack. Several utility systems supply heat, cooling, electricity, and other utilities to the plant process systems.

## A3.0 PROCESS FLOW DIAGRAMS

Figure A-2, sheets 1 through 21, show the process flow for the Sequential Process Facility Flow Diagram.

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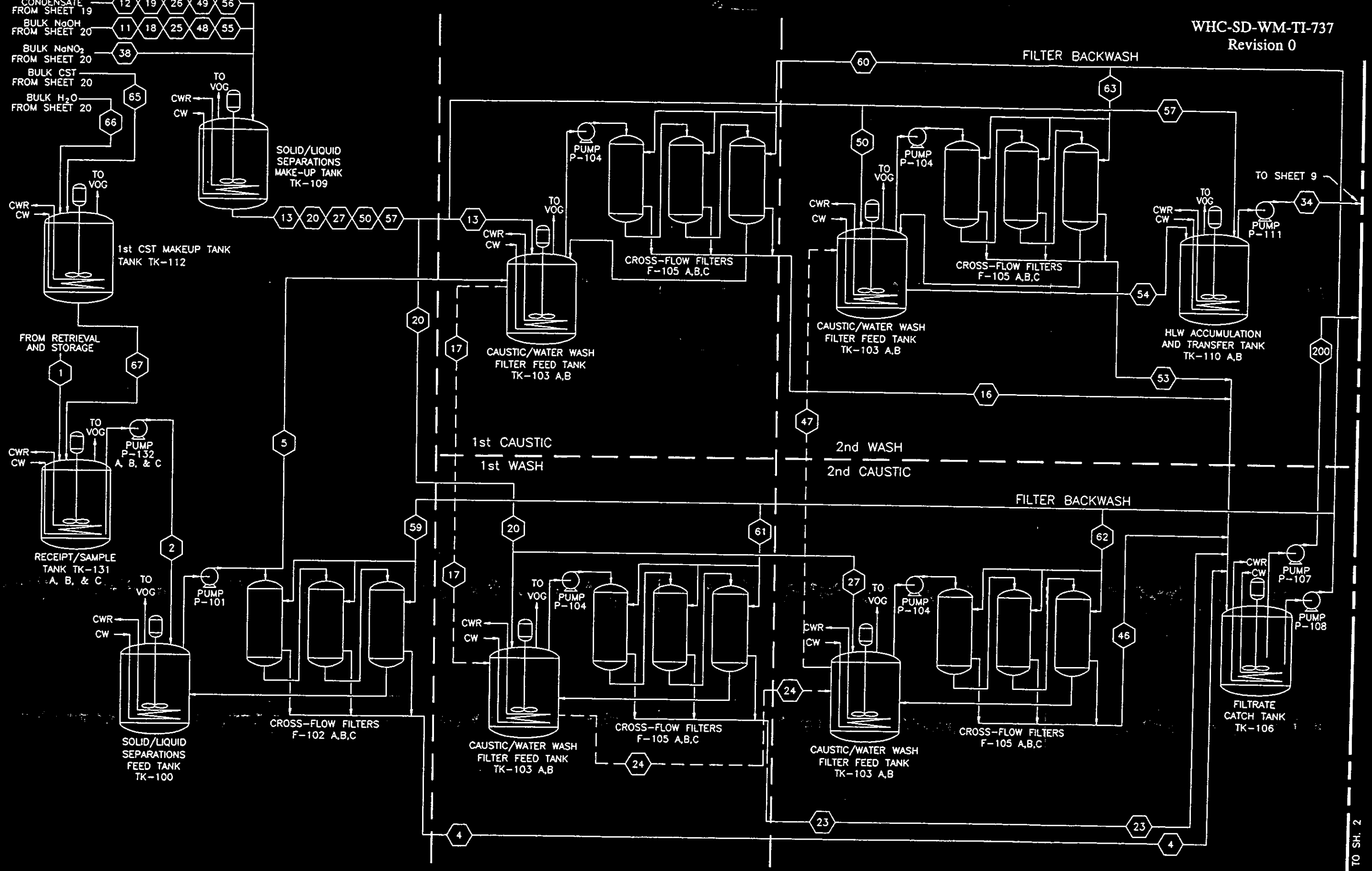



SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 1

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 1 of 21)

D0360101 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 2 of 21)

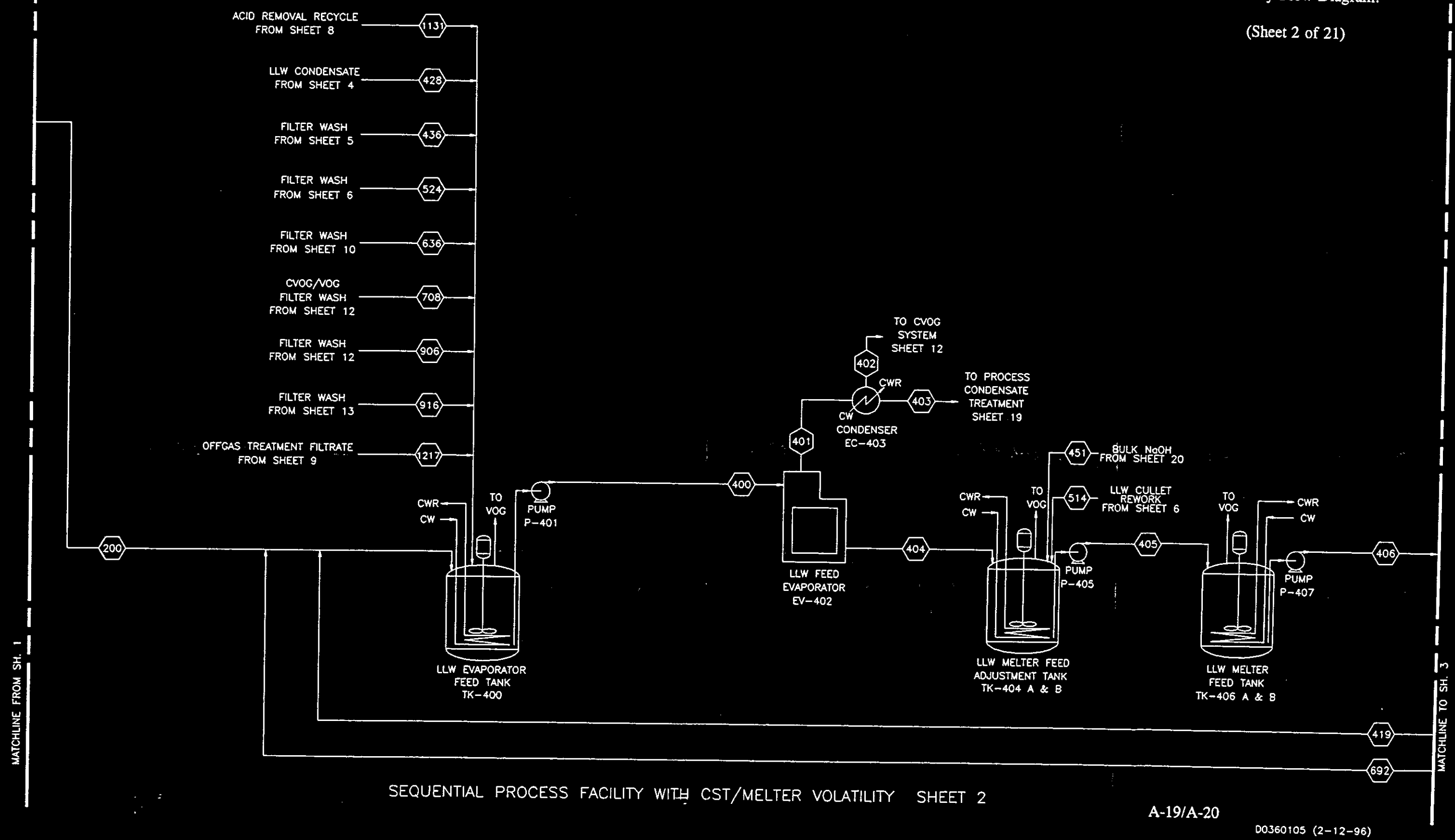
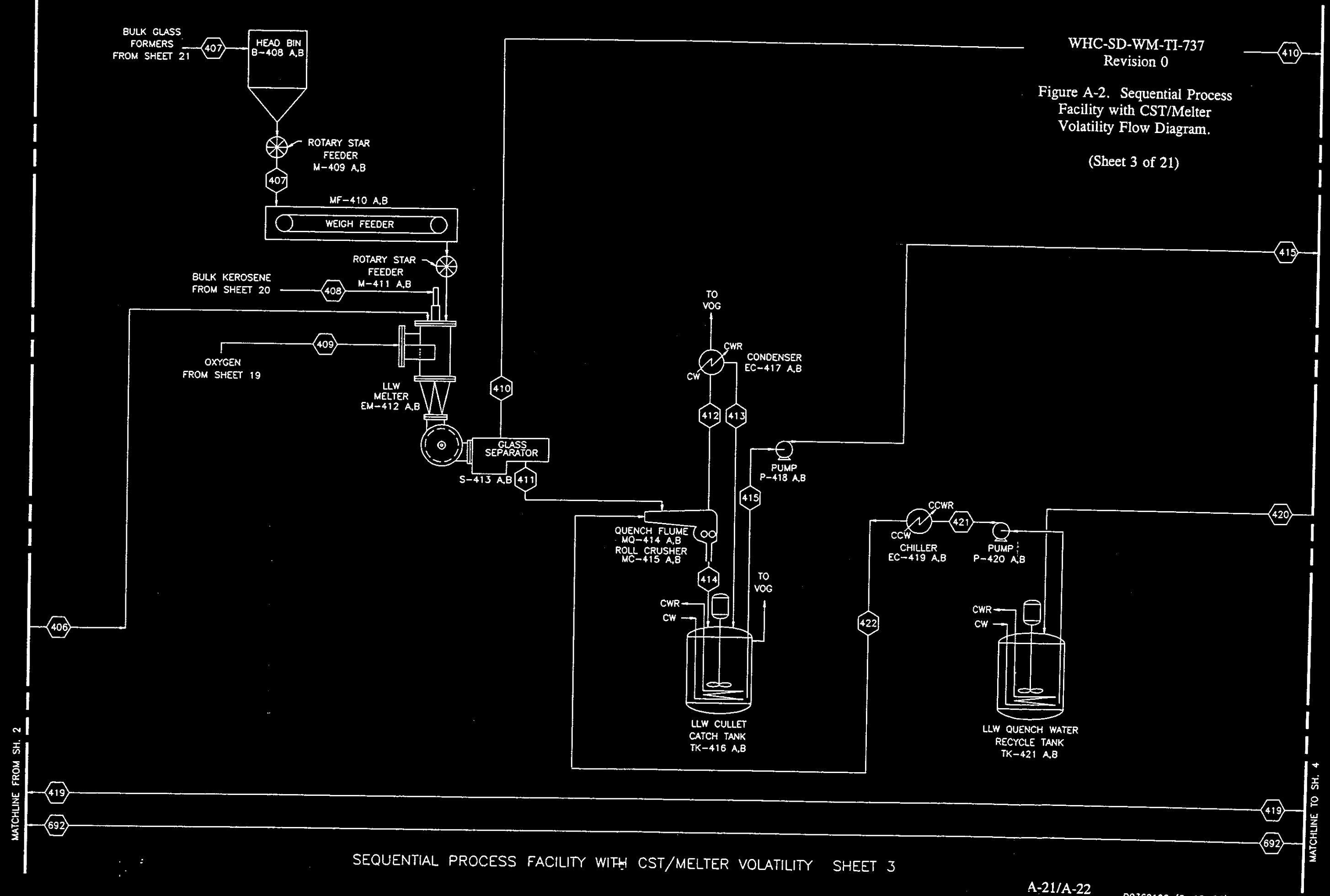


Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 3 of 21)



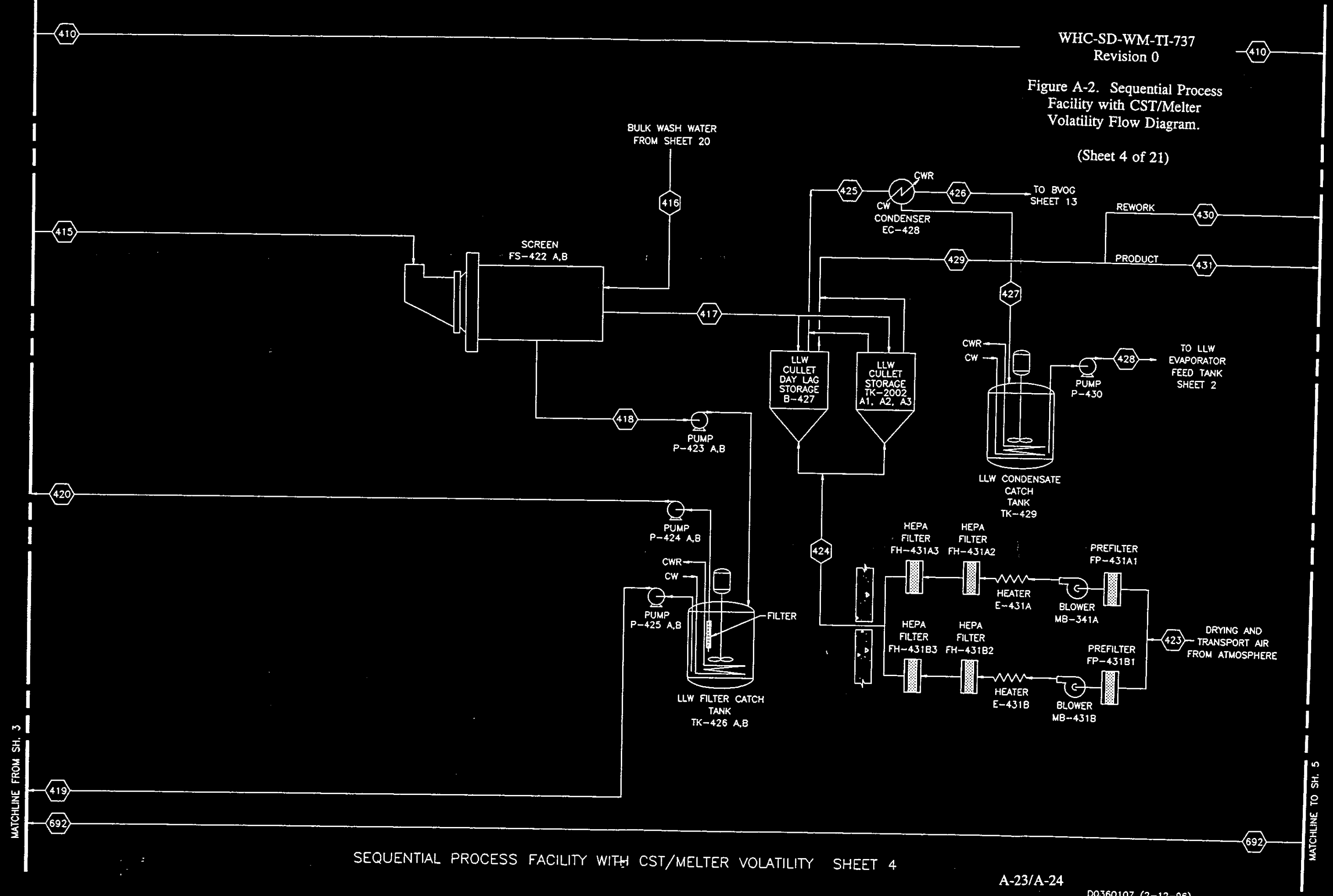

SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 3



D0360106 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 4 of 21)

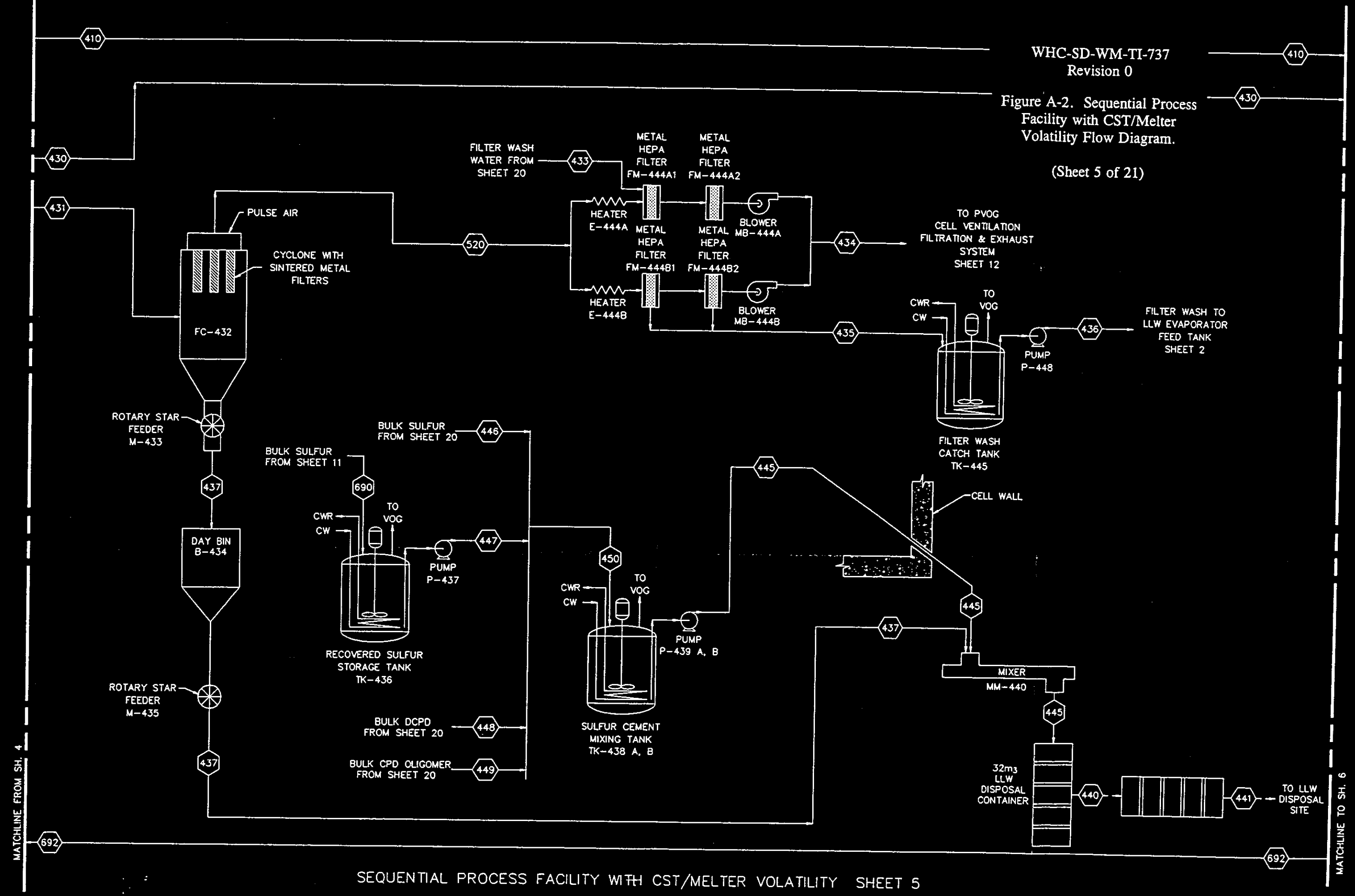





D0360107 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 5 of 21)




D0360109 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 6 of 21)

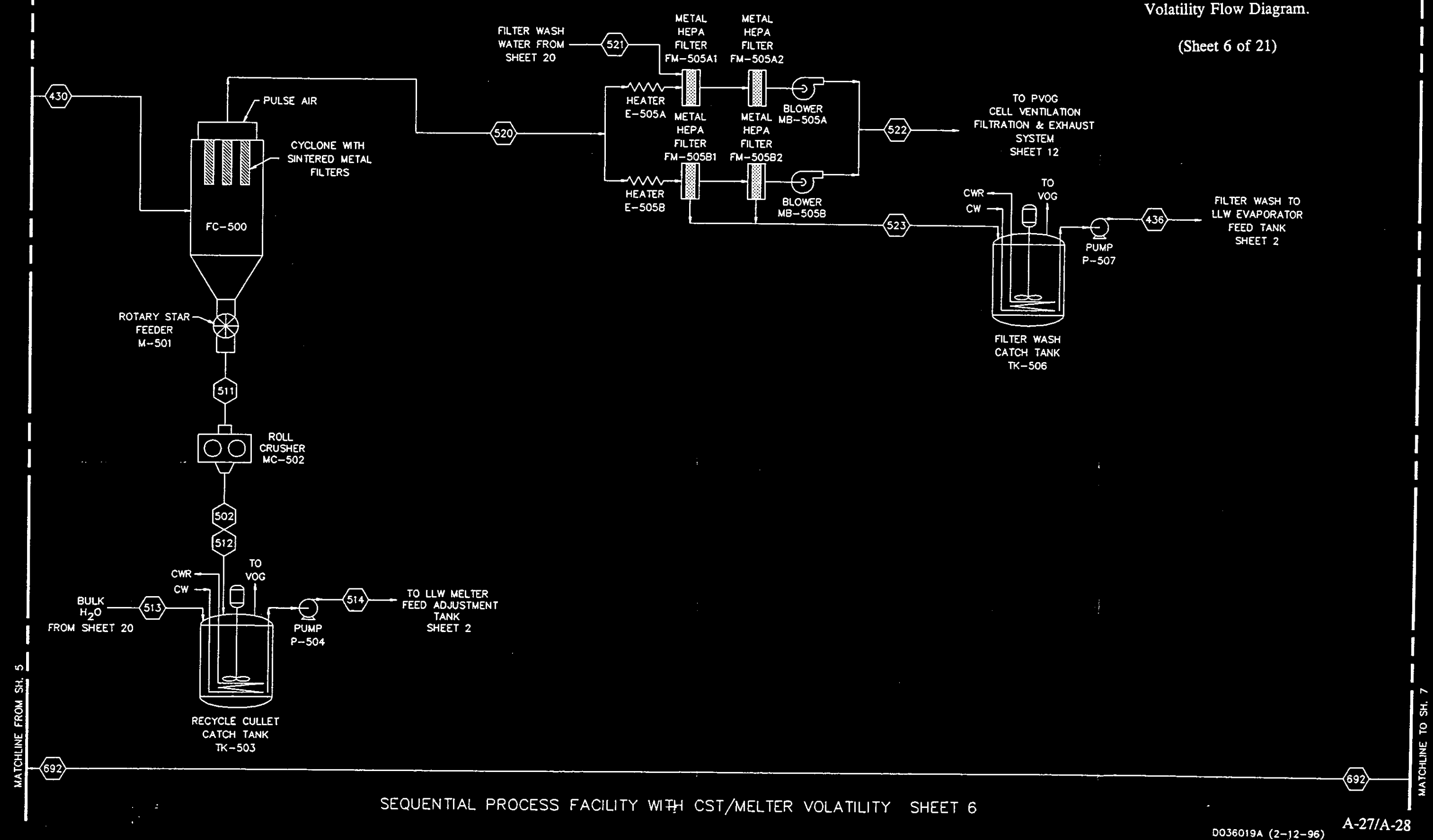
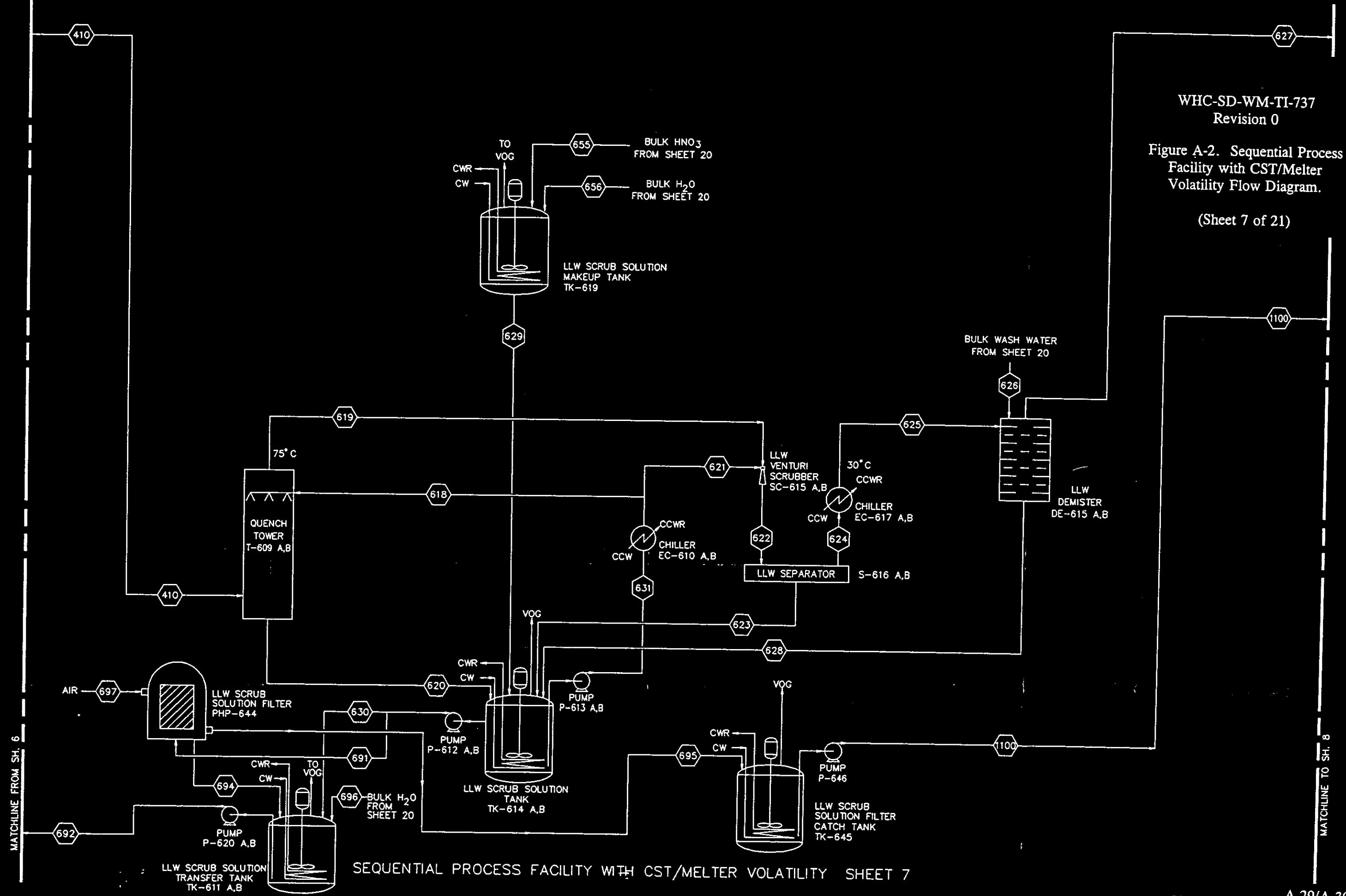


Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 7 of 21)



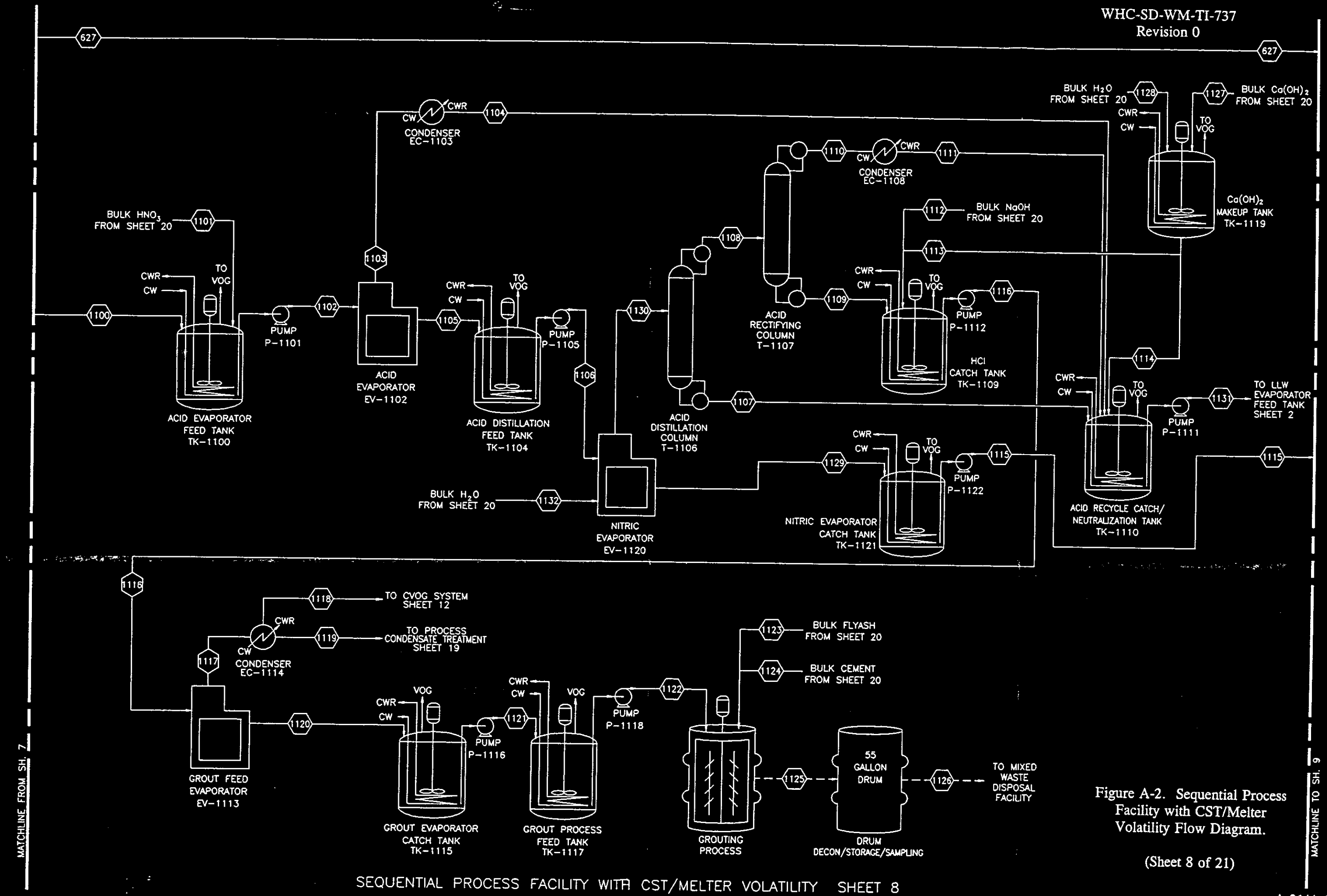
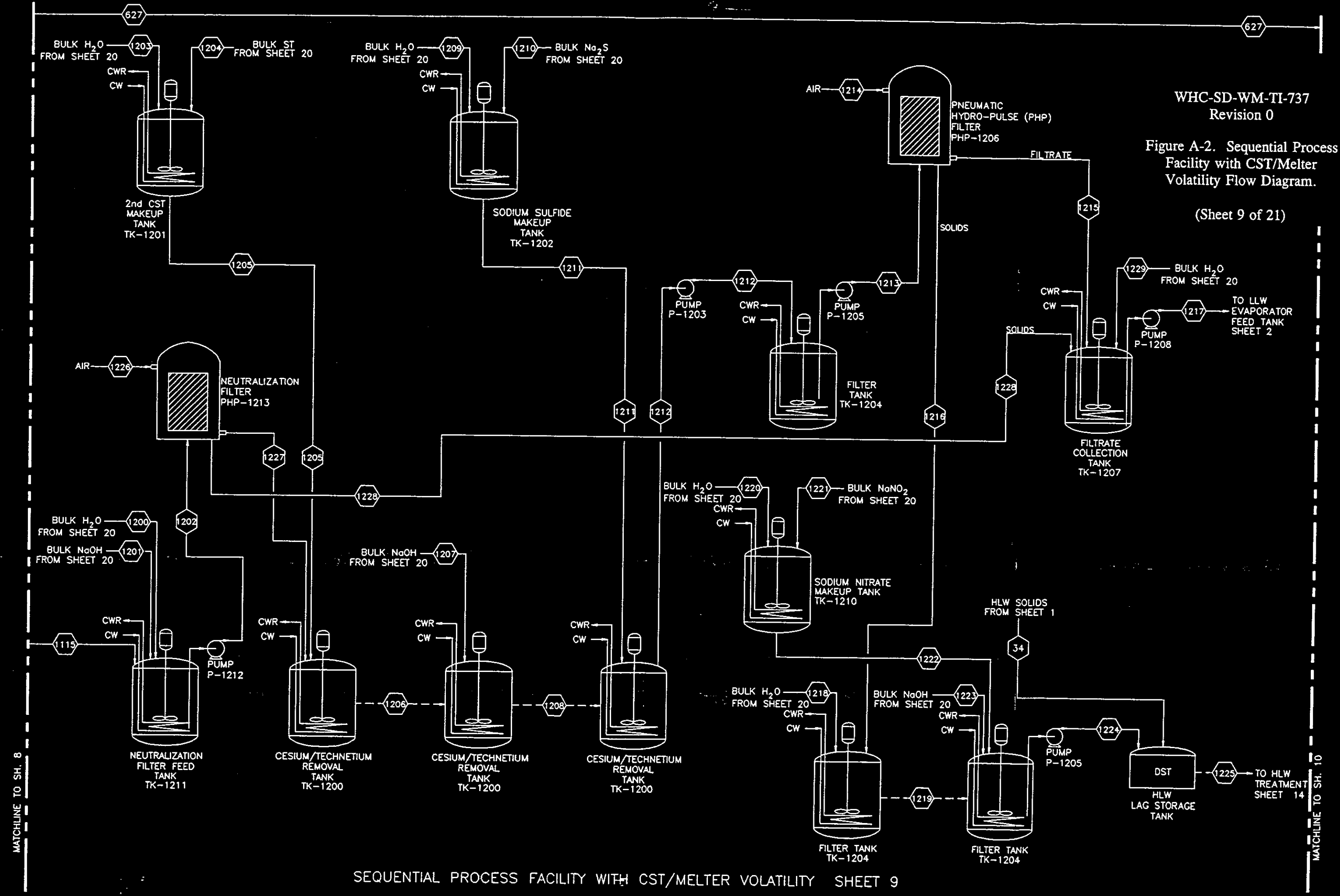



Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 8 of 21)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

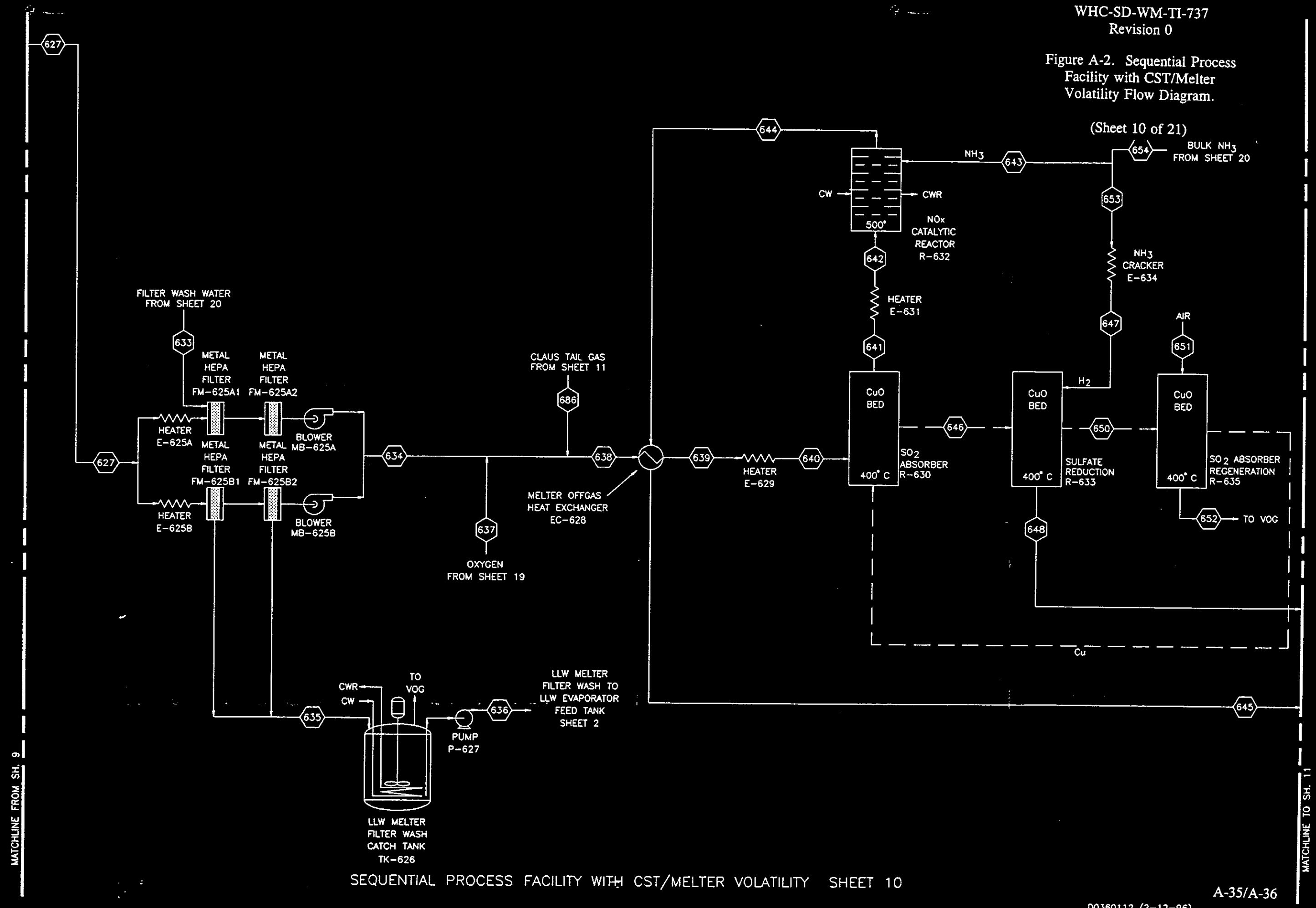
(Sheet 9 of 21)




SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 9

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 10 of 21)



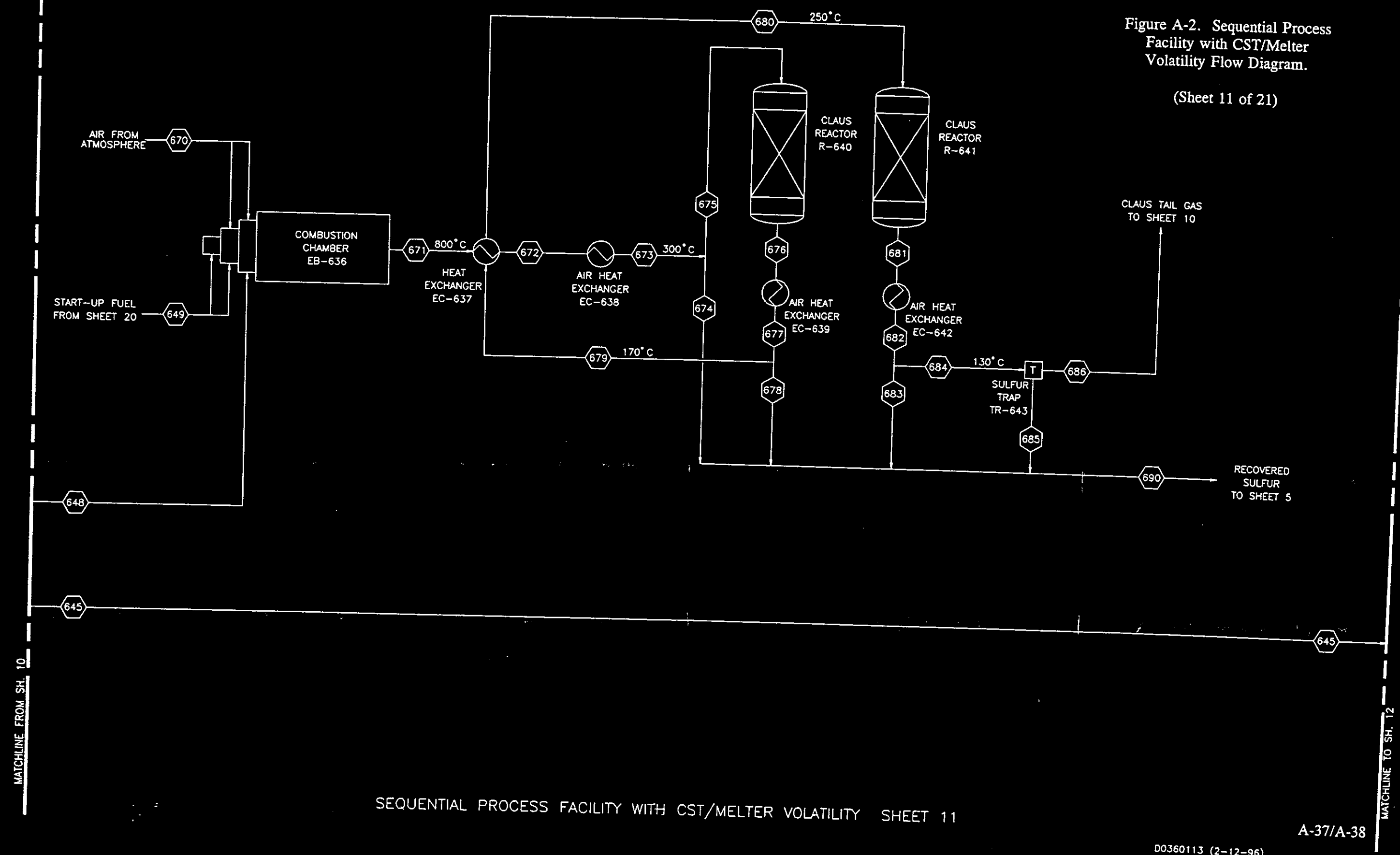

SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 10



D0360112 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 11 of 21)




SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 11



D0360113 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 12 of 21)

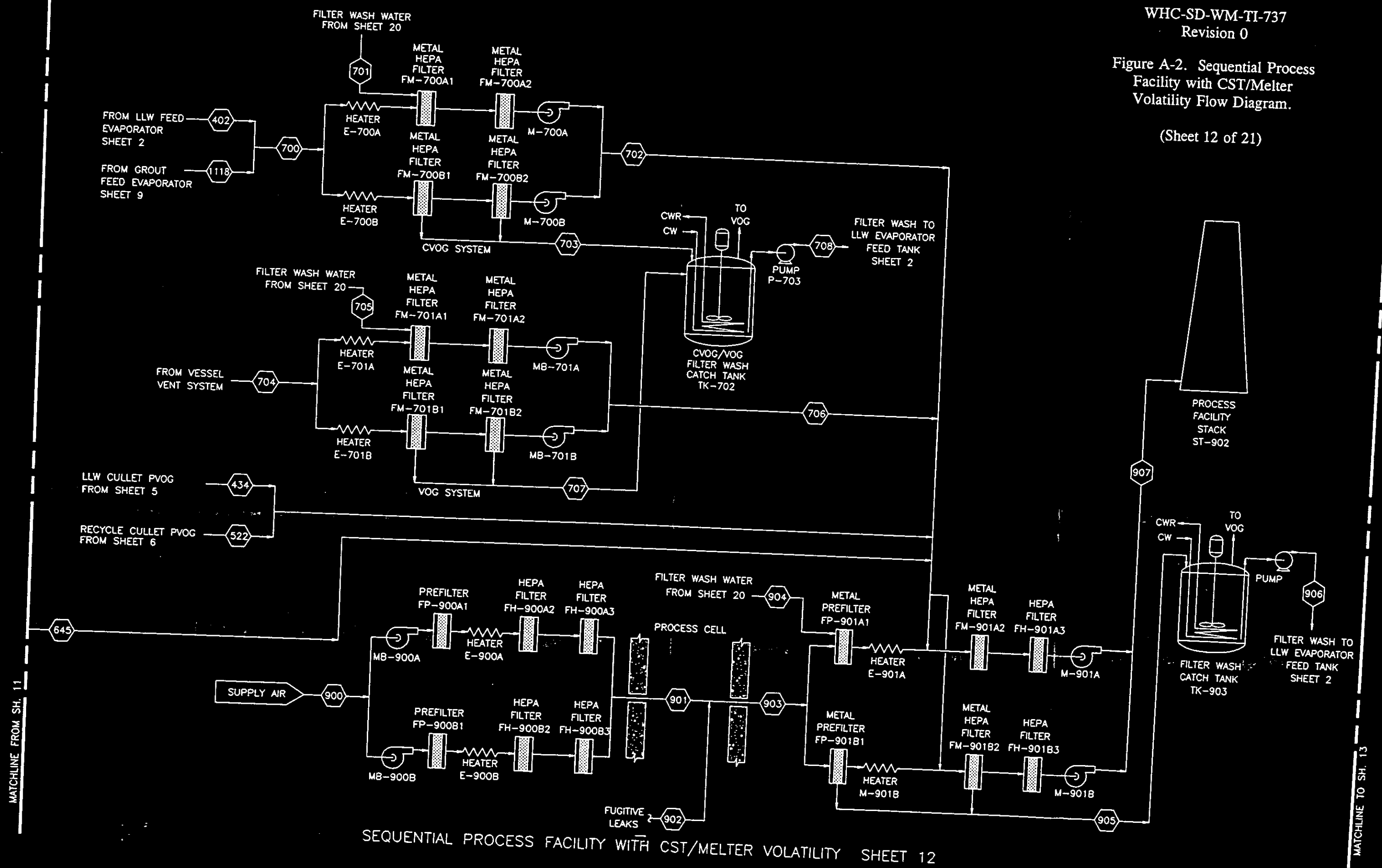
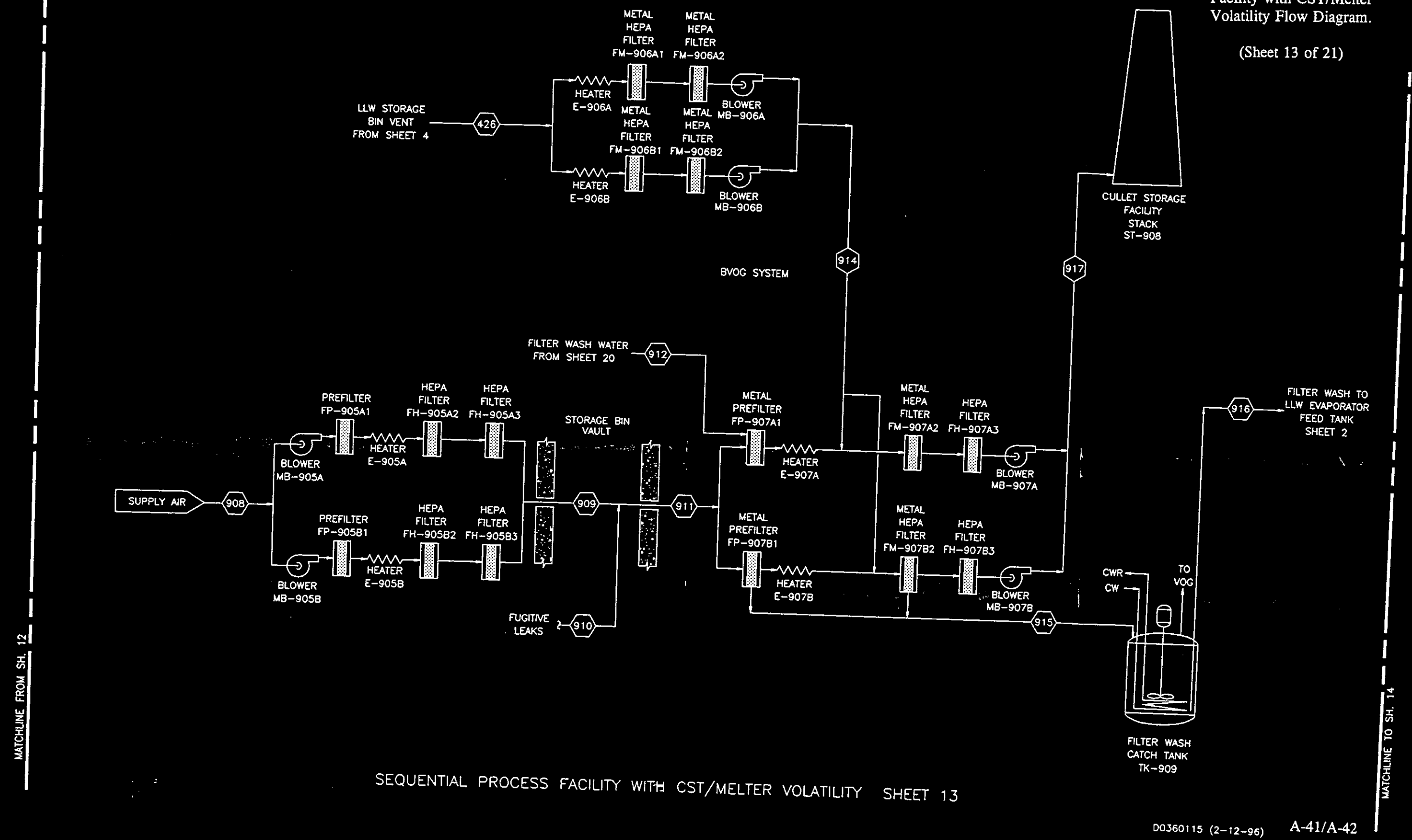


Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 13 of 21)



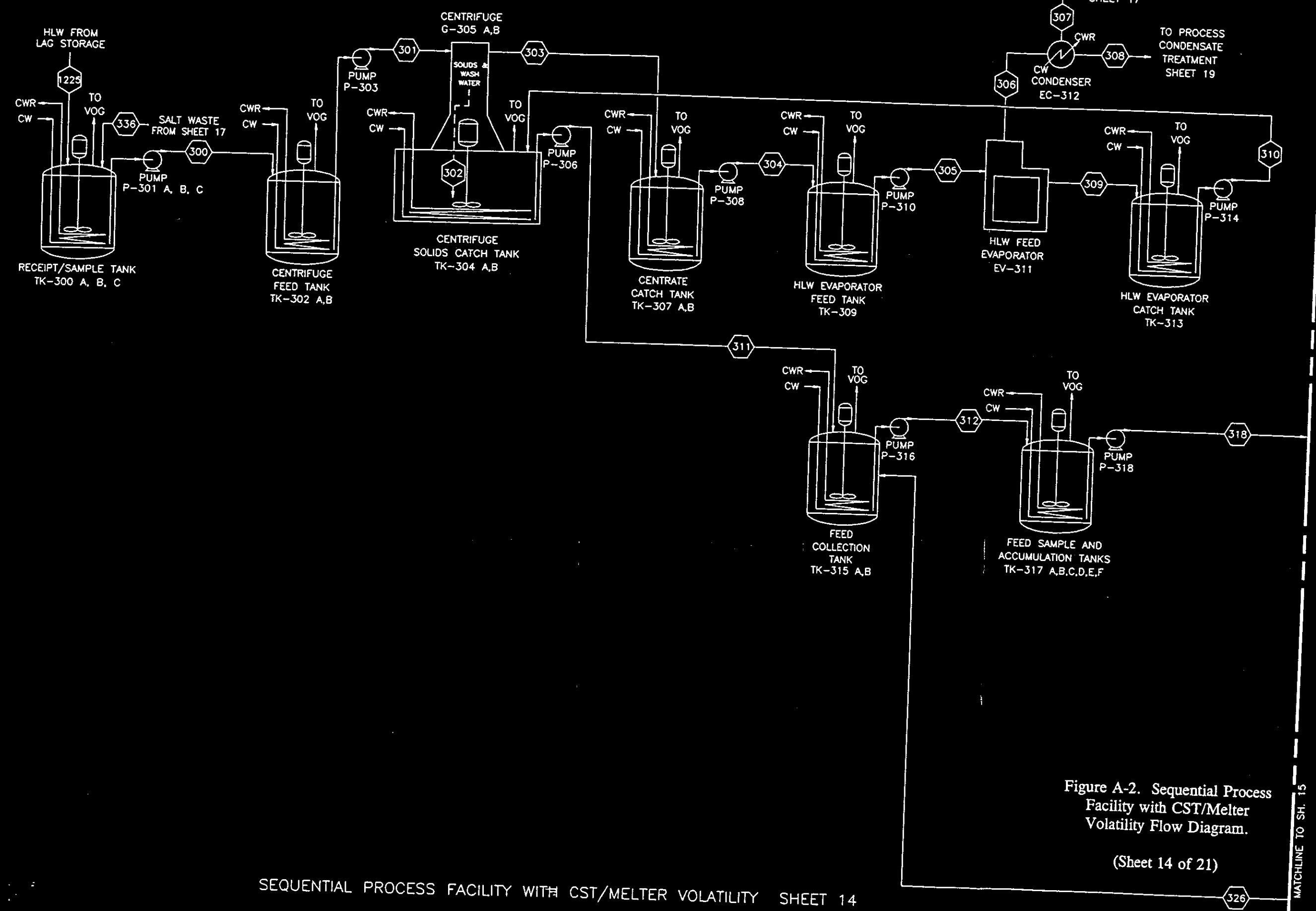



Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 14 of 21)

SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 14

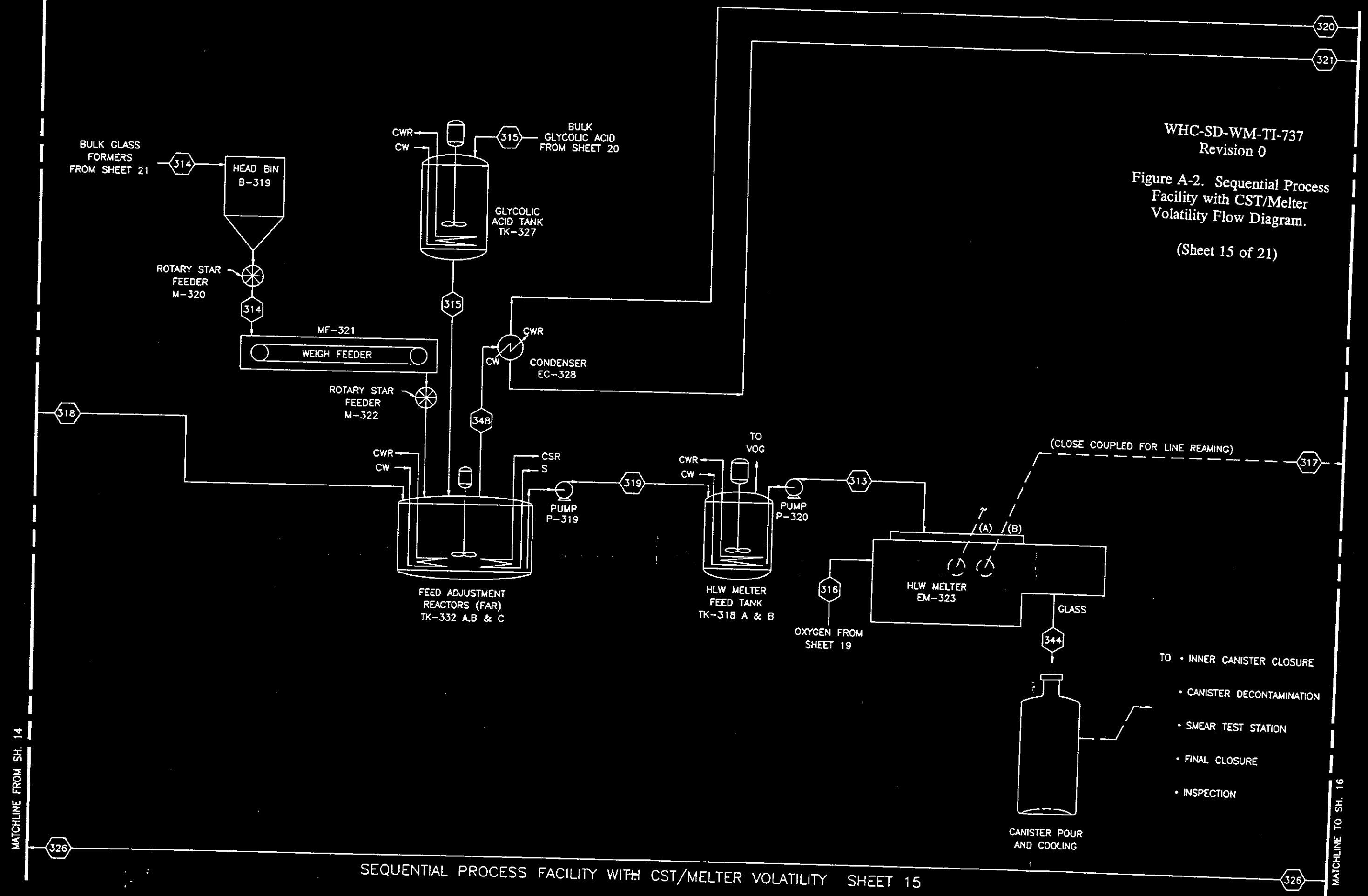



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Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 15 of 21)

D0360117 (2-12-96)

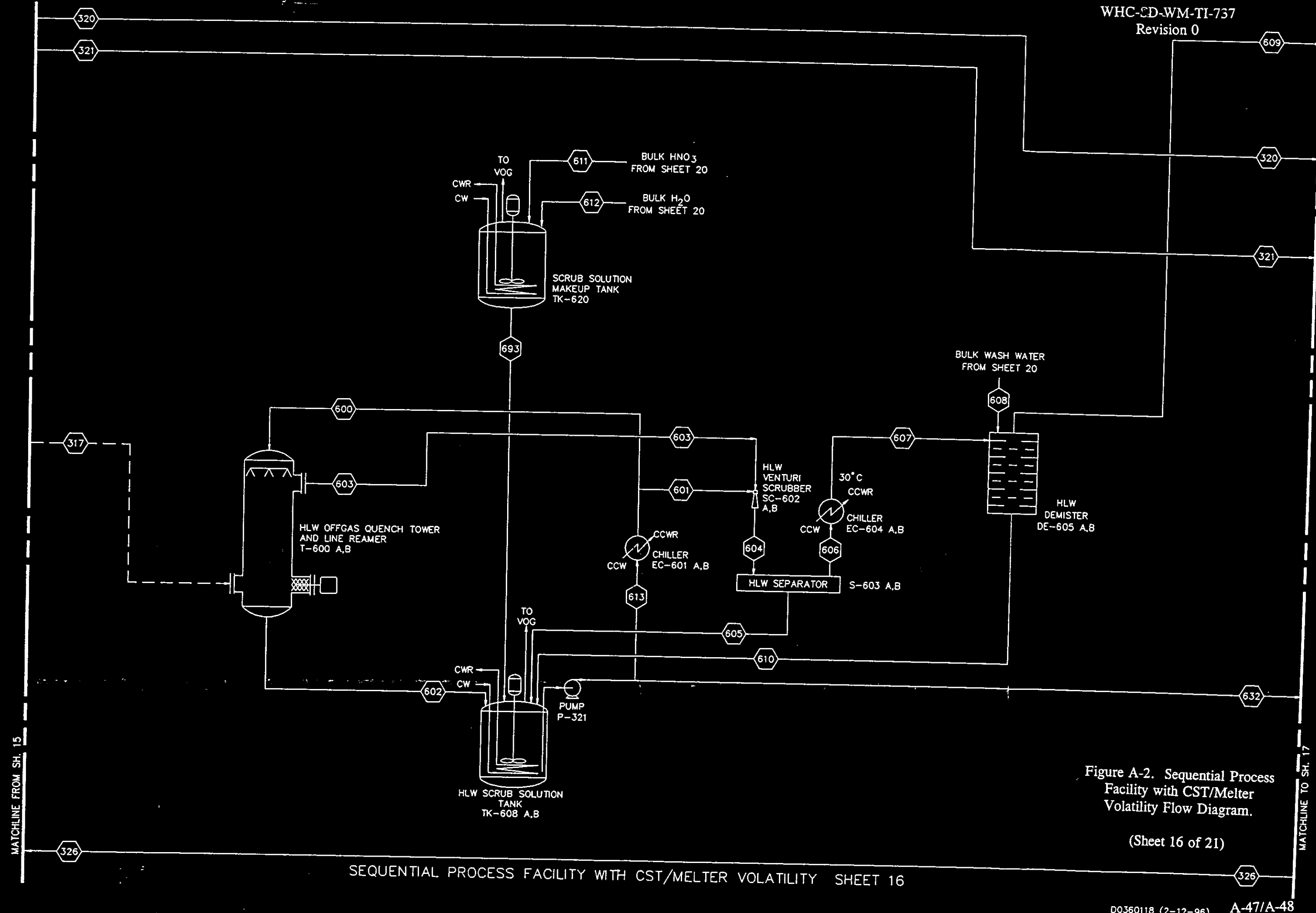
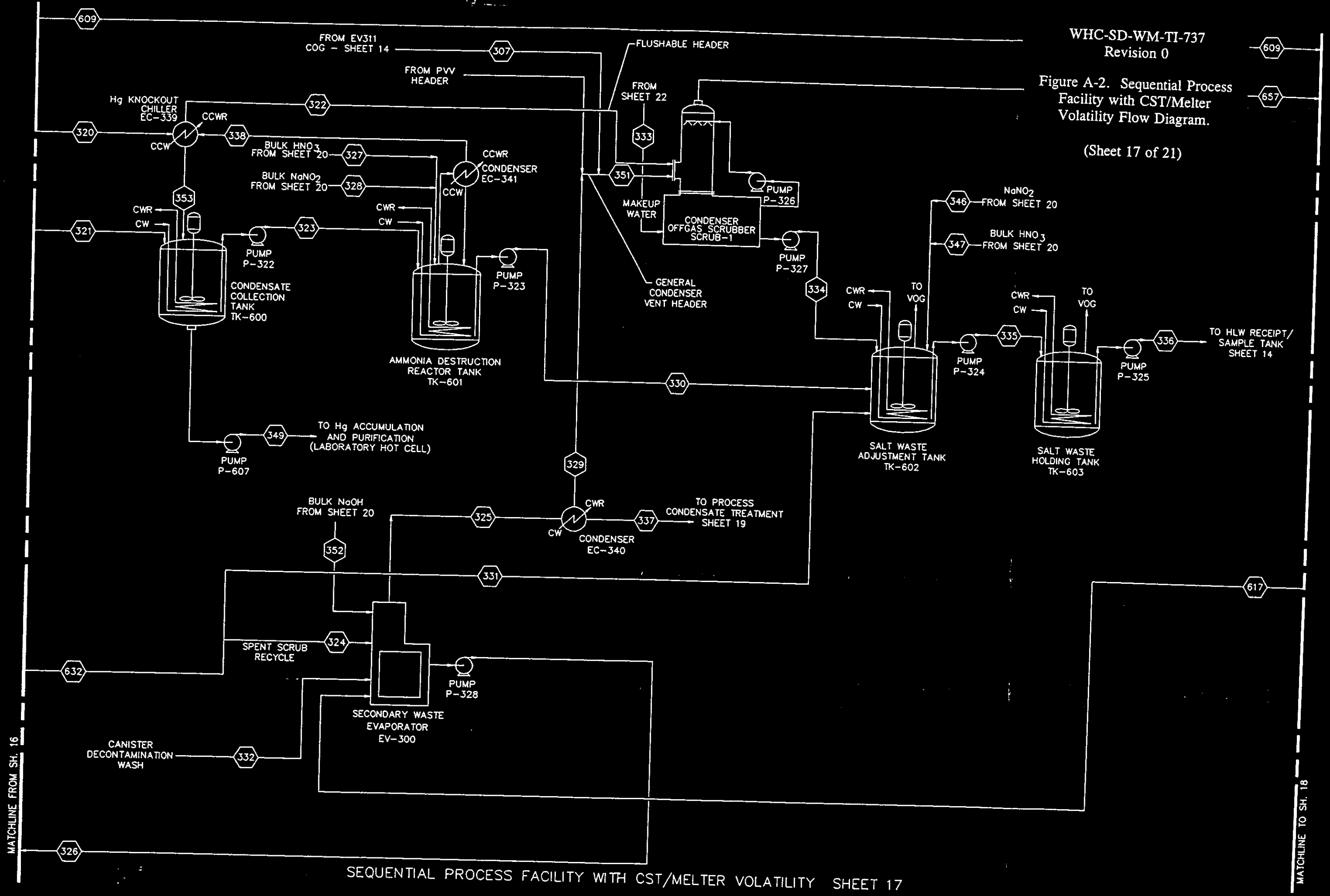



Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 16 of 21)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 17 of 21)



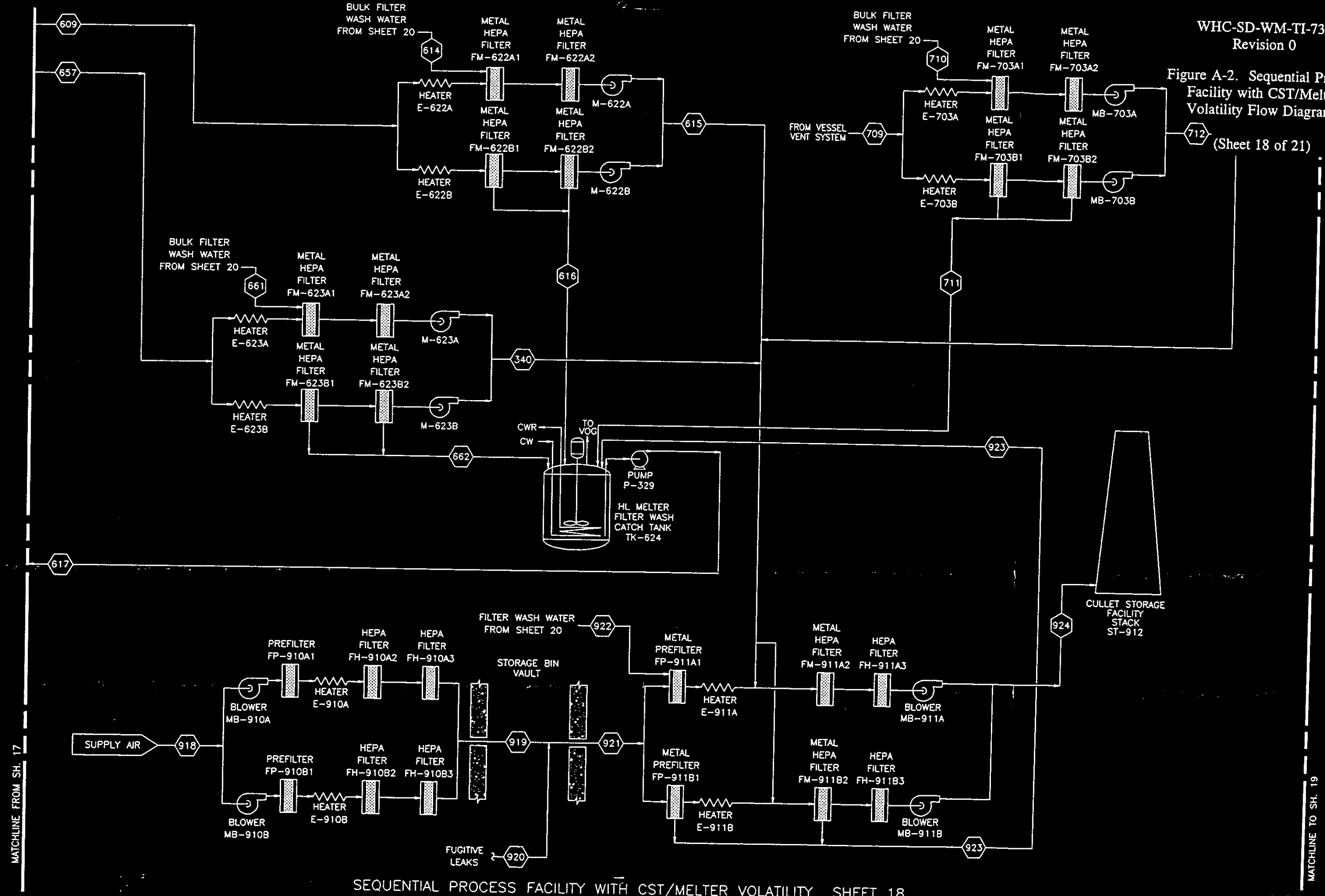

SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 17



D0360119 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 18 of 21)

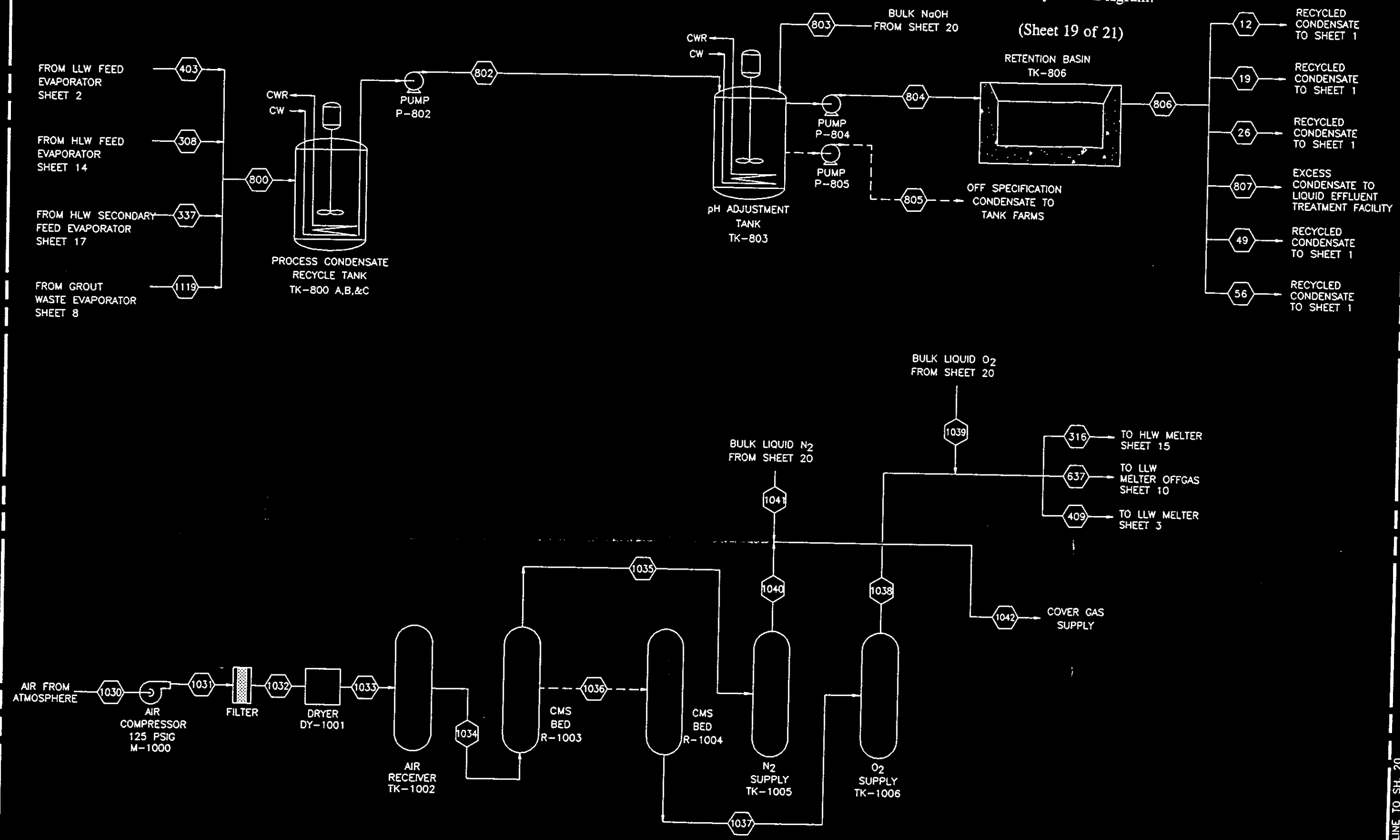



SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 18

D0360120 (2-12-96

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 19 of 21)

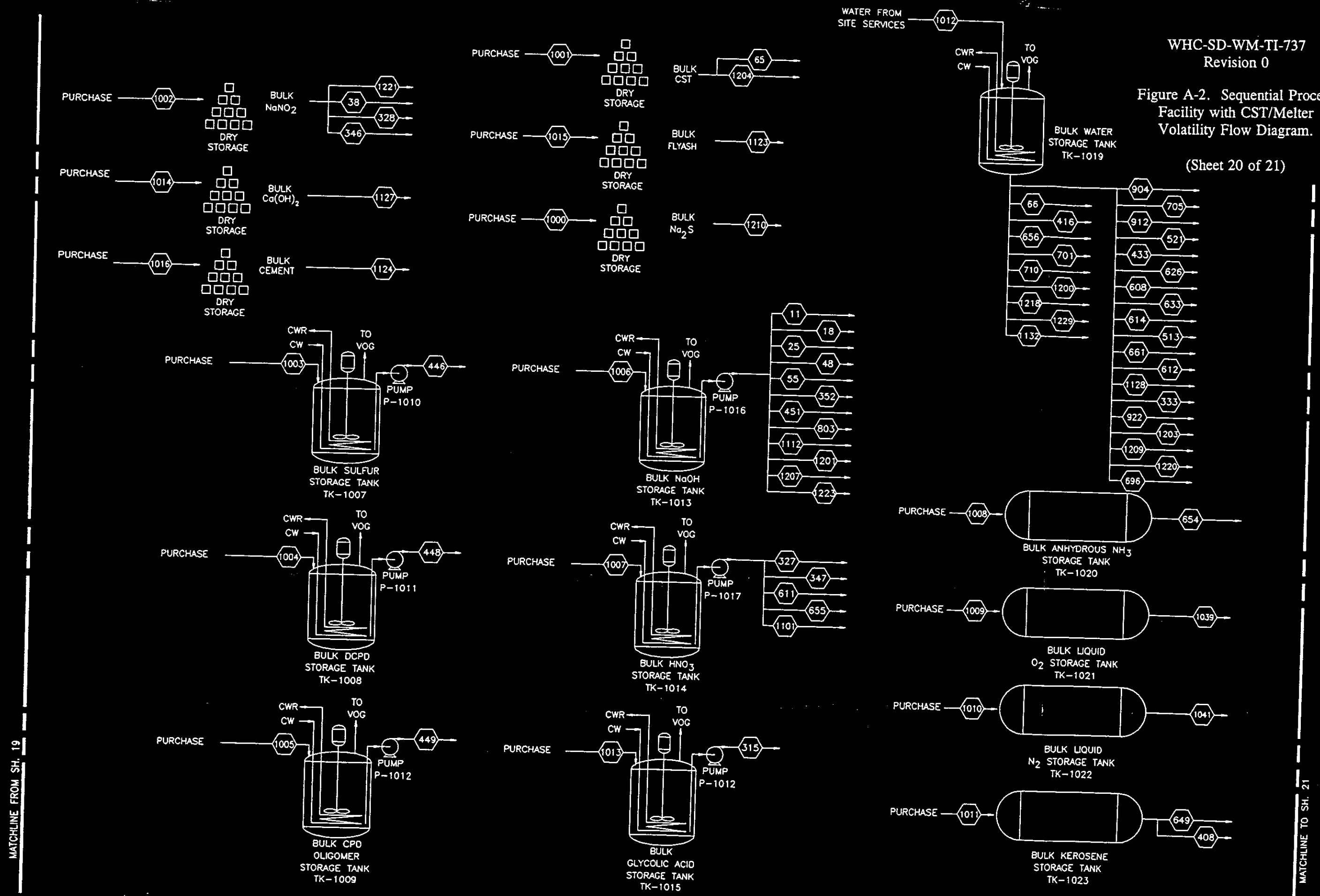



SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 19

D0390121 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 20 of 21)

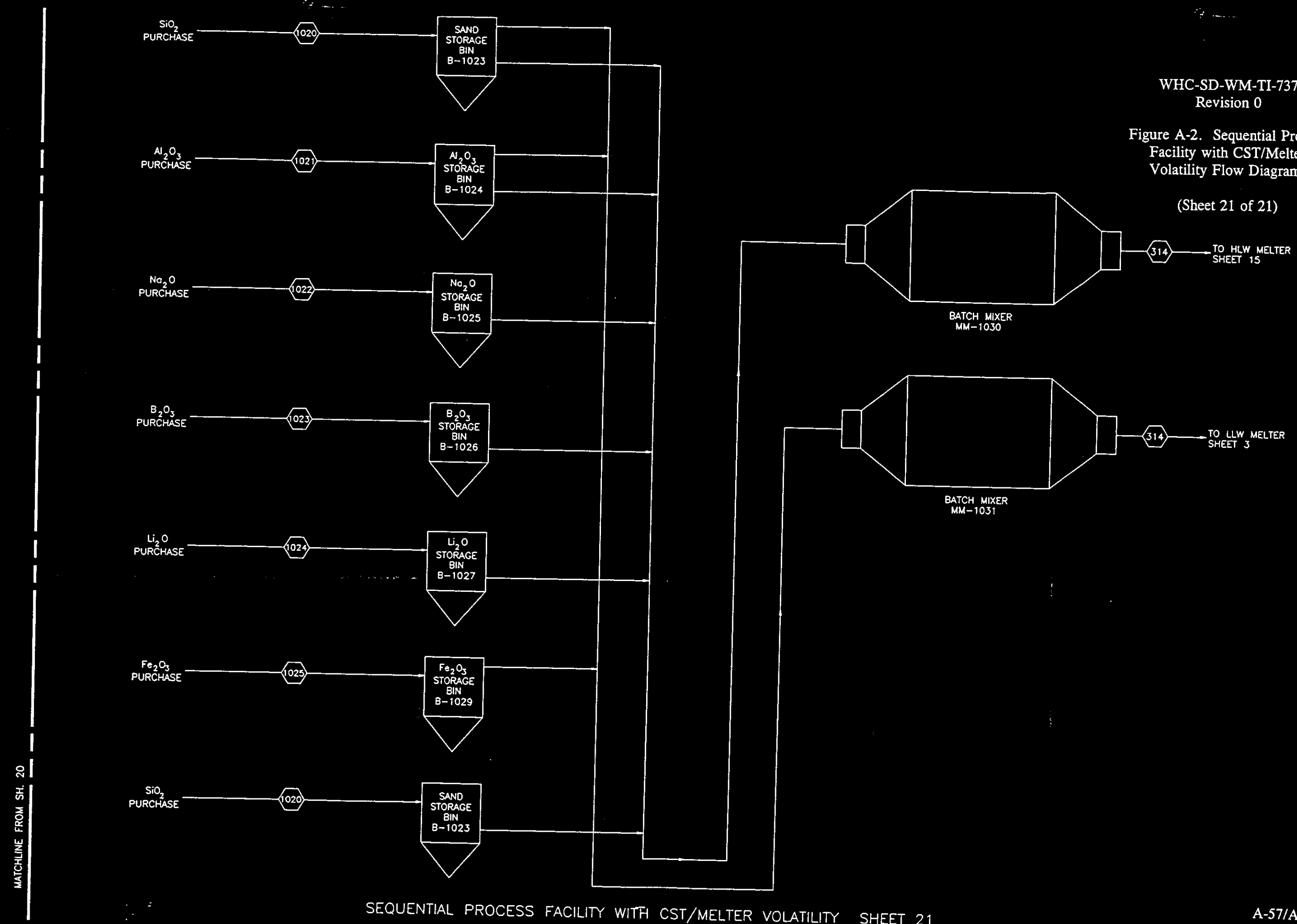



SEQUENTIAL PROCESS FACILITY WITH CST/MELTER VOLATILITY SHEET 20

D0360122 (2-12-96)

Figure A-2. Sequential Process Facility with CST/Melter Volatility Flow Diagram.

(Sheet 21 of 21)






D0360123 (2-12-96)

# A4.0 Material Balance Sheets

14-Feb-96 SLiM Flowsheet - In-Facility Washing 07:42:30
Units of this run are shown below

| STREAM NAME | 1 | 2 | 4 | 5 | 11 | 12 | 13 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 7.26E+05 | 7.29E+05 | 6.90E+05 | 4.78E+04 | 2.89E+04 | 5.06E+04 | 7.95E+04 | 1.05E+05 | 3.45E+04 | 7.18E+02 |
| Volume (L) | 5.85E+08 | 5.88E+08 | 5.57E+08 | 3.86E+07 | 1.88E+07 | 5.06E+07 | 6.94E+07 | 8.50E+07 | 2.79E+07 | 4.67E+05 |
| Specific Gravity | 1.24E+00 | 1.24E+00 | 1.24E+00 | 1.24E+00 | 1.54E+00 | 1.00E+00 | 1.15E+00 | 1.24E+00 | 1.24E+00 | 1.54E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 7.91E+03 | 7.91E+03 | 7.46E+03 | 5.17E+02 | | 6.73E-05 | 6.73E-05 | 4.27E+02 | 1.40E+02 | |
| C-14 | 3.32E+03 | 3.32E+03 | 3.13E+03 | 2.17E+02 | | 2.82E-05 | 2.82E-05 | 1.79E+02 | 5.86E+01 | |
| Cs-137 | 3.18E+07 | 3.17E+06 | 2.99E+06 | 2.07E+05 | | 4.59E-02 | 4.59E-02 | 1.71E+05 | 5.61E+04 | |
| Ba-137 | 3.02E+07 | 3.01E+06 | 2.84E+06 | 1.97E+05 | | 4.36E-02 | 4.36E-02 | 1.63E+05 | 5.33E+04 | |
| Np-237 | 6.97E+00 | 6.97E+00 | 6.57E+00 | 4.55E-01 | | 5.92E-08 | 5.92E-08 | 3.76E-01 | 1.23E-01 | |
| Pu-239 | 1.65E+03 | 1.65E+03 | 1.56E+03 | 1.08E+02 | | 1.40E-05 | 1.40E-05 | 8.90E+01 | 2.92E+01 | |
| Pu-240 | 4.31E+02 | 4.31E+02 | 4.07E+02 | 2.82E+01 | | 3.67E-06 | 3.67E-06 | 2.33E+01 | 7.63E+00 | |
| Pu-241 | 4.84E+03 | 4.84E+03 | 4.56E+03 | 3.16E+02 | | 4.11E-05 | 4.11E-05 | 2.61E+02 | 8.55E+01 | |
| Sr-90 | 1.85E+06 | 1.85E+06 | 1.75E+06 | 1.21E+05 | | 1.58E-02 | 1.58E-02 | 9.99E+04 | 3.28E+04 | |
| Y-90 | 1.85E+06 | 1.85E+06 | 1.75E+06 | 1.21E+05 | | 1.58E-02 | 1.58E-02 | 9.99E+04 | 3.28E+04 | |
| Tc-99 | 2.29E+04 | 2.29E+04 | 2.16E+04 | 1.49E+03 | | 8.02E-04 | 8.02E-04 | 1.23E+03 | 4.04E+02 | |
| Total Curies | 6.57E+07 | 9.93E+06 | 9.37E+06 | 6.49E+05 | | 1.22E-01 | 1.22E-01 | 5.36E+05 | 1.76E+05 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 3.20E-01 | 3.20E-01 | 3.02E-01 | 2.09E-02 | | 2.72E-09 | 2.72E-09 | 1.73E-02 | 5.66E-03 | |
| Am+3 | 2.31E-03 | 2.31E-03 | 2.18E-03 | 1.51E-04 | | 1.96E-11 | 1.96E-11 | 1.24E-04 | 4.08E-05 | |
| As+5 | 4.05E-05 | 4.05E-05 | 3.82E-05 | 2.65E-06 | | 3.45E-13 | 3.45E-13 | 2.19E-06 | 7.17E-07 | |
| B+3 | 3.43E-02 | 3.43E-02 | 3.24E-02 | 2.24E-03 | | 2.92E-10 | 2.92E-10 | 1.85E-03 | 6.07E-04 | |
| Ba+2 | 7.91E-01 | 7.91E-01 | 7.46E-01 | 5.17E-02 | | 6.72E-09 | 6.72E-09 | 4.26E-02 | 1.40E-02 | |
| Be+2 | 2.43E-05 | 2.43E-05 | 2.29E-05 | 1.59E-06 | | 2.06E-13 | 2.06E-13 | 1.31E-06 | 4.29E-07 | |
| Bi+3 | 1.18E+01 | 1.18E+01 | 1.12E+01 | 7.72E-01 | | 1.01E-07 | 1.01E-07 | 6.37E-01 | 2.09E-01 | |
| Ca+2 | 1.65E+01 | 1.65E+01 | 1.56E+01 | 1.08E+00 | | 2.06E-05 | 2.06E-05 | 8.89E-01 | 2.92E-01 | |
| Cd+2 | 7.63E+00 | 7.63E+00 | 7.20E+00 | 4.99E-01 | | 9.72E-08 | 9.72E-08 | 4.12E-01 | 1.35E-01 | |
| Ce+3 | 2.36E+00 | 2.36E+00 | 2.23E+00 | 1.55E-01 | | 2.01E-08 | 2.01E-08 | 1.28E-01 | 4.18E-02 | |
| Cm+3 | 9.51E-08 | 9.51E-08 | 8.97E-08 | 6.21E-09 | | 8.04E-16 | 8.04E-16 | 5.13E-09 | 1.68E-09 | |
| Co+3 | 1.46E-03 | 1.46E-03 | 1.38E-03 | 9.54E-05 | | 1.24E-11 | 1.24E-11 | 7.88E-05 | 2.58E-05 | |
| Cs+ | 1.83E+00 | 1.83E-01 | 1.73E-01 | 1.19E-02 | | 2.65E-09 | 2.65E-09 | 9.86E-03 | 3.23E-03 | |
| Cu+2 | 9.89E-02 | 9.89E-02 | 9.33E-02 | 6.46E-03 | | 8.41E-10 | 8.41E-10 | 5.34E-03 | 1.75E-03 | |
| Fe+2 | 1.19E-03 | 1.19E-03 | 1.13E-03 | 7.79E-05 | | 1.01E-11 | 1.01E-11 | 6.43E-05 | 2.11E-05 | |
| Fe+3 | 3.44E+01 | 3.44E+01 | 3.25E+01 | 2.25E+00 | | 2.93E-07 | 2.93E-07 | 1.86E+00 | 6.08E-01 | |
| H+ | | | | | | | | | | |
| Hg+2 | 5.84E-02 | 5.84E-02 | 5.51E-02 | 3.81E-03 | | 4.96E-10 | 4.96E-10 | 3.15E-03 | 1.03E-03 | |
| K+ | 7.07E+02 | 7.07E+02 | 6.67E+02 | 4.62E+01 | | 6.07E-06 | 6.07E-06 | 3.81E+01 | 1.25E+01 | |
| La+3 | 2.39E-01 | 2.39E-01 | 2.25E-01 | 1.56E-02 | | 2.03E-09 | 2.03E-09 | 1.29E-02 | 4.22E-03 | |
| Mg+2 | 1.46E-04 | 1.46E-04 | 1.38E-04 | 9.54E-06 | | 1.24E-12 | 1.24E-12 | 7.88E-06 | 2.58E-06 | |
| Mn+2 | 4.85E-05 | 4.85E-05 | 4.57E-05 | 3.17E-06 | | 4.12E-13 | 4.12E-13 | 2.61E-06 | 8.57E-07 | |
| Mn+4 | 1.08E+01 | 1.08E+01 | 1.02E+01 | 7.06E-01 | | 9.19E-08 | 9.19E-08 | 5.83E-01 | 1.91E-01 | |
| Mo+6 | 7.23E-03 | 7.23E-03 | 6.82E-03 | 4.73E-04 | | 6.48E-11 | 6.48E-11 | 3.90E-04 | 1.28E-04 | |
| Na+ | 6.80E+04 | 6.79E+04 | 6.42E+04 | 4.45E+03 | 8.30E+03 | 2.00E-03 | 8.30E+03 | 1.02E+04 | 3.33E+03 | 2.06E+02 |
| Ni+3 | 8.21E+00 | 8.21E+00 | 7.74E+00 | 5.36E-01 | | 6.98E-08 | 6.98E-08 | 4.43E-01 | 1.45E-01 | |
| Np+4 | 9.88E-03 | 9.88E-03 | 9.32E-03 | 6.46E-04 | | 8.40E-11 | 8.40E-11 | 5.33E-04 | 1.75E-04 | |
| Pb+4 | 9.60E+00 | 9.60E+00 | 9.06E+00 | 6.27E-01 | | 1.23E-07 | 1.23E-07 | 5.18E-01 | 1.70E-01 | |
| Pu+4 | 2.86E-02 | 2.86E-02 | 2.69E-02 | 1.87E-03 | | 2.43E-10 | 2.43E-10 | 1.54E-03 | 5.05E-04 | |
| Ra+ | 2.40E-04 | 2.40E-04 | 2.26E-04 | 1.57E-05 | | 2.04E-12 | 2.04E-12 | 1.29E-05 | 4.24E-06 | |
| Re+7 | 1.08E-04 | 1.08E-04 | 1.02E-04 | 7.07E-06 | | 9.20E-13 | 9.20E-13 | 5.83E-06 | 1.91E-06 | |
| Rh+3 | 8.50E-04 | 8.50E-04 | 8.02E-04 | 5.55E-05 | | 7.23E-12 | 7.23E-12 | 4.59E-05 | 1.50E-05 | |
| Ru+3 | 1.18E-03 | 1.18E-03 | 1.12E-03 | 7.74E-05 | | 1.51E-11 | 1.51E-11 | 6.39E-05 | 2.09E-05 | |
| Se+6 | 1.35E-04 | 1.35E-04 | 1.27E-04 | 8.81E-06 | | 8.38E-11 | 8.38E-11 | 7.27E-06 | 2.38E-06 | |
| Si+4 | 1.59E+01 | 1.59E+01 | 1.50E+01 | 1.04E+00 | | 1.36E-07 | 1.36E-07 | 8.59E-01 | 2.82E-01 | |
| Sr+2 | 3.80E-01 | 3.80E-01 | 3.59E-01 | 2.49E-02 | | 3.23E-09 | 3.23E-09 | 2.05E-02 | 6.73E-03 | |
| Te+6 | 8.27E-04 | 8.27E-04 | 7.80E-04 | 5.40E-05 | | 1.05E-11 | 1.05E-11 | 4.46E-05 | 1.46E-05 | |
| UO2+2 | 1.06E+02 | 1.06E+02 | 1.00E+02 | 6.92E+00 | | 9.01E-07 | 9.01E-07 | 5.72E+00 | 1.87E+00 | |
| Zn+2 | 7.78E-04 | 7.78E-04 | 7.34E-04 | 5.08E-05 | | 6.61E-12 | 6.61E-12 | 4.19E-05 | 1.38E-05 | |
| Zr+4 | 2.43E-05 | 2.43E-05 | 2.29E-05 | 1.59E-06 | | 2.06E-13 | 2.06E-13 | 1.31E-06 | 4.29E-07 | |
| Al(OH)4- | 6.99E+03 | 6.99E+03 | 6.64E+03 | 4.60E+02 | | 1.06E-04 | 1.06E-04 | 4.56E+03 | 1.50E+03 | |
| BO2- | | | 1.28E-11 | 8.88E-13 | | 3.84E-10 | 3.84E-10 | 2.97E-10 | 9.75E-11 | |
| Cl- | 6.78E+02 | 6.78E+02 | 6.40E+02 | 4.43E+01 | | 4.57E-05 | 4.57E-05 | 3.66E+01 | 1.20E+01 | |
| CO3-2 | 3.10E+03 | 3.10E+03 | 2.93E+03 | 2.03E+02 | | 1.38E-07 | 1.38E-07 | 1.67E+02 | 5.49E+01 | |
| Cr(OH)4- | 4.46E+02 | 4.46E+02 | 4.23E+02 | 2.93E+01 | | 5.80E-06 | 5.80E-06 | 2.03E+02 | 6.64E+01 | |
| F- | 1.14E+03 | 1.14E+03 | 1.07E+03 | 7.43E+01 | | 2.58E-05 | 2.58E-05 | 6.13E+01 | 2.01E+01 | |
| I- | 9.03E-02 | 9.03E-02 | 8.52E-02 | 5.90E-03 | | 1.93E-08 | 1.93E-08 | 4.87E-03 | 1.60E-03 | |
| NO2- | 9.47E+03 | 9.47E+03 | 8.93E+03 | 6.19E+02 | | 8.08E-05 | 8.08E-05 | 5.11E+02 | 1.67E+02 | |
| NO3- | 1.07E+05 | 1.07E+05 | 1.00E+05 | 6.96E+03 | | 2.26E-03 | 2.26E-03 | 5.74E+03 | 1.88E+03 | |
| OH- | 1.43E+04 | 1.43E+04 | 1.36E+04 | 9.42E+02 | 6.14E+03 | 1.67E-04 | 6.14E+03 | 4.24E+03 | 1.39E+03 | 1.53E+02 |
| PO4-3 | 3.20E+03 | 3.20E+03 | 3.03E+03 | 2.10E+02 | | 4.85E-05 | 4.85E-05 | 1.21E+03 | 3.96E+02 | |
| SO4-2 | 2.02E+03 | 2.02E+03 | 1.91E+03 | 1.32E+02 | | 1.72E-05 | 1.72E-05 | 1.09E+02 | 3.57E+01 | |
| TcO4- | 2.21E+00 | 2.21E+00 | 2.09E+00 | 1.45E-01 | | 7.77E-08 | 7.77E-08 | 1.19E-01 | 3.91E-02 | |
| H2O | 5.08E+05 | 5.11E+05 | 4.85E+05 | 3.36E+04 | 1.45E+04 | 5.06E+04 | 6.51E+04 | 7.81E+04 | 2.56E+04 | 3.59E+02 |
| Organic Carbon | 1.06E+03 | 1.06E+03 | 9.97E+02 | 6.91E+01 | | 2.57E-05 | 2.57E-05 | 5.70E+01 | 1.87E+01 | |
| ZrO2:2H2O | 7.53E+00 | 7.53E+00 | 7.11E+00 | 4.92E-01 | | 6.40E-08 | 6.40E-08 | 4.06E-01 | 1.33E-01 | |
| He | | | 2.55E-11 | 1.77E-12 | | 7.64E-10 | 7.64E-10 | 5.91E-10 | 1.94E-10 | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | 7.24E-07 | 5.01E-08 | | 2.17E-05 | 2.17E-05 | 1.68E-05 | 5.50E-06 | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | 3.32E-10 | 2.30E-11 | | 9.95E-09 | 9.95E-09 | 7.70E-09 | 2.53E-09 | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1 | 2 | 4 | 5 | 11 | 12 | 13 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.97E+04 | 2.06E+04 | 6.90E+01 | 2.05E+04 | | | | 1.05E+01 | 1.48E+04 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 9.65E+04 | 9.65E+04 | 3.24E+02 | 9.61E+04 | | | | 6.84E+01 | 9.61E+04 | |
| C-14 | 2.18E+03 | 2.18E+03 | 7.33E+00 | 2.18E+03 | | | | 1.55E+00 | 2.17E+03 | |
| Cs-137 | 3.01E+06 | 3.16E+07 | 1.06E+05 | 3.15E+07 | | | | 2.24E+04 | 3.15E+07 | |
| Ba-137 | 2.86E+06 | 3.00E+07 | 1.01E+05 | 2.99E+07 | | | | 2.13E+04 | 2.99E+07 | |
| Np-237 | 6.27E+01 | 6.27E+01 | 2.11E-01 | 6.25E+01 | | | | 4.44E-02 | 6.24E+01 | |
| Pu-239 | 2.53E+04 | 2.53E+04 | 8.50E+01 | 2.52E+04 | | | | 1.79E+01 | 2.52E+04 | |
| Pu-240 | 6.28E+03 | 6.28E+03 | 2.11E+01 | 6.26E+03 | | | | 4.45E+00 | 6.26E+03 | |
| Pu-241 | 7.07E+04 | 7.07E+04 | 2.38E+02 | 7.05E+04 | | | | 5.01E+01 | 7.04E+04 | |
| Sr-90 | 5.10E+07 | 5.10E+07 | 1.71E+05 | 5.08E+07 | | | | 3.61E+04 | 5.08E+07 | |
| Y-90 | 5.10E+07 | 5.10E+07 | 1.71E+05 | 5.08E+07 | | | | 3.61E+04 | 5.08E+07 | |
| Tc-99 | 9.37E+03 | 9.37E+03 | 3.15E+01 | 9.34E+03 | | | | 6.64E+00 | 9.33E+03 | |
| Total Curies | 1.08E+08 | 1.64E+08 | 5.50E+05 | 1.63E+08 | | | | 1.16E+05 | 1.63E+08 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.48E+00 | 1.48E+00 | 4.97E-03 | 1.48E+00 | | | | 1.05E-03 | 1.48E+00 | |
| Al+3 | 2.31E+03 | 2.31E+03 | 7.76E+00 | 2.30E+03 | | | | 5.25E-01 | 7.37E+02 | |
| Am+3 | 2.81E-02 | 2.81E-02 | 9.44E-05 | 2.80E-02 | | | | 1.99E-05 | 2.80E-02 | |
| As+5 | 2.26E-03 | 2.26E-03 | 7.60E-06 | 2.26E-03 | | | | 1.61E-06 | 2.26E-03 | |
| Ba+2 | 3.74E+00 | 3.74E+00 | 1.26E-02 | 3.73E+00 | | | | 2.65E-03 | 3.73E+00 | |
| Be+2 | 3.08E-03 | 3.08E-03 | 1.03E-05 | 3.07E-03 | | | | 2.18E-06 | 3.06E-03 | |
| Bi+3 | 2.52E+02 | 2.52E+02 | 8.45E-01 | 2.51E+02 | | | | 1.78E-01 | 2.51E+02 | |
| Ca+2 | 1.45E+02 | 1.45E+02 | 4.86E-01 | 1.44E+02 | | | | 1.03E-01 | 1.44E+02 | |
| Cd+2 | 6.55E+00 | 6.55E+00 | 2.20E-02 | 6.53E+00 | | | | 4.65E-03 | 6.53E+00 | |
| Ce+3 | 2.35E+02 | 2.35E+02 | 7.90E-01 | 2.34E+02 | | | | 1.67E-01 | 2.34E+02 | |
| Cm+3 | 1.76E-05 | 1.76E-05 | 5.89E-08 | 1.75E-05 | | | | 1.24E-08 | 1.75E-05 | |
| Co+3 | 1.49E-06 | 1.49E-06 | 4.99E-09 | 1.48E-06 | | | | 1.05E-09 | 1.48E-06 | |
| Cr+3 | 1.60E+02 | 1.60E+02 | 5.37E-01 | 1.59E+02 | | | | 4.08E-02 | 5.73E+01 | |
| Cs+ | 2.01E-01 | 1.85E+00 | 6.21E-03 | 1.84E+00 | | | | 1.31E-03 | 1.84E+00 | |
| Cu+2 | 1.88E-01 | 1.88E-01 | 6.33E-04 | 1.88E-01 | | | | 1.34E-04 | 1.88E-01 | |
| Fe+3 | 7.62E+02 | 7.62E+02 | 2.56E+00 | 7.60E+02 | | | | 5.40E-01 | 7.59E+02 | |
| Hg+2 | 8.81E-02 | 8.81E-02 | 2.96E-04 | 8.78E-02 | | | | 6.25E-05 | 8.78E-02 | |
| K+ | 2.96E+01 | 2.96E+01 | 9.95E-02 | 2.95E+01 | | | | 2.10E-02 | 2.95E+01 | |
| La+3 | 2.30E+01 | 2.30E+01 | 7.71E-02 | 2.29E+01 | | | | 1.63E-02 | 2.29E+01 | |
| Mg+2 | 8.25E+00 | 8.25E+00 | 2.77E-02 | 8.22E+00 | | | | 5.85E-03 | 8.22E+00 | |
| Mn+4 | 1.80E+02 | 1.80E+02 | 6.04E-01 | 1.79E+02 | | | | 1.28E-01 | 1.79E+02 | |
| Mo+6 | 3.21E-02 | 3.21E-02 | 1.08E-04 | 3.20E-02 | | | | 2.28E-05 | 3.20E-02 | |
| Na+ | 7.77E+02 | 8.57E+02 | 2.88E+00 | 8.54E+02 | | | | 4.70E-01 | 6.60E+02 | |
| Ni+3 | 2.06E+02 | 2.06E+02 | 6.93E-01 | 2.06E+02 | | | | 1.46E-01 | 2.05E+02 | |
| Np+4 | 8.89E-02 | 8.89E-02 | 2.99E-04 | 8.86E-02 | | | | 6.30E-05 | 8.85E-02 | |
| Pb+4 | 2.93E+01 | 2.93E+01 | 9.84E-02 | 2.92E+01 | | | | 2.08E-02 | 2.92E+01 | |
| Pu+4 | 4.36E-01 | 4.36E-01 | 1.47E-03 | 4.35E-01 | | | | 3.09E-04 | 4.35E-01 | |
| Rh+3 | 1.93E-01 | 1.93E-01 | 6.47E-04 | 1.92E-01 | | | | 1.37E-04 | 1.92E-01 | |
| Se+6 | 3.31E+00 | 3.31E+00 | 1.11E-02 | 3.30E+00 | | | | 2.35E-03 | 3.30E+00 | |
| Si+4 | 2.32E+02 | 2.32E+02 | 7.78E-01 | 2.31E+02 | | | | 1.64E-01 | 2.31E+02 | |
| Sr+2 | 3.66E+01 | 3.66E+01 | 1.23E-01 | 3.64E+01 | | | | 2.59E-02 | 3.64E+01 | |
| Th+4 | 2.79E+00 | 2.79E+00 | 9.37E-03 | 2.78E+00 | | | | 1.98E-03 | 2.78E+00 | |
| Ti+4 | 1.55E-01 | 1.55E-01 | 5.19E-04 | 1.54E-01 | | | | 1.10E-04 | 1.54E-01 | |
| UO2+2 | 1.54E+03 | 1.54E+03 | 5.19E+00 | 1.54E+03 | | | | 1.09E+00 | 1.54E+03 | |
| Zr+2 | 5.06E-01 | 5.06E-01 | 1.70E-03 | 5.05E-01 | | | | 3.59E-04 | 5.04E-01 | |
| Cl- | 9.00E+00 | 9.00E+00 | 3.02E-02 | 8.97E+00 | | | | 6.38E-03 | 8.96E+00 | |
| CO3-2 | 1.09E+02 | 1.09E+02 | 3.66E-01 | 1.09E+02 | | | | 7.72E-02 | 1.09E+02 | |
| F- | 6.82E+01 | 6.82E+01 | 2.29E-01 | 6.80E+01 | | | | 4.83E-02 | 6.79E+01 | |
| I- | 1.40E-03 | 1.40E-03 | 4.69E-06 | 1.39E-03 | | | | 9.89E-07 | 1.39E-03 | |
| NO2- | 6.18E+01 | 6.18E+01 | 2.07E-01 | 6.16E+01 | | | | 4.38E-02 | 6.15E+01 | |
| NO3- | 9.85E+02 | 9.85E+02 | 3.31E+00 | 9.82E+02 | | | | 6.98E-01 | 9.81E+02 | |
| OH- | 5.63E+03 | 5.63E+03 | 1.89E+01 | 5.61E+03 | | | | 2.23E+00 | 3.14E+03 | |
| PO4-3 | 1.85E+03 | 1.85E+03 | 6.21E+00 | 1.84E+03 | | | | 3.41E-01 | 4.79E+02 | |
| SO4-2 | 2.56E+01 | 2.56E+01 | 8.59E-02 | 2.55E+01 | | | | 1.81E-02 | 2.55E+01 | |
| TcO4- | 9.08E-01 | 9.08E-01 | 3.05E-03 | 9.05E-01 | | | | 6.43E-04 | 9.04E-01 | |
| Cancrinite | 2.71E+03 | 2.71E+03 | 9.08E+00 | 2.70E+03 | | | | 1.92E+00 | 2.69E+03 | |
| B2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | 8.73E+01 | 8.73E+01 | 2.93E-01 | 8.70E+01 | | | | 6.19E-02 | 8.69E+01 | |
| ZrO2:2H2O | 1.20E+03 | 1.20E+03 | 4.02E+00 | 1.19E+03 | | | | 8.47E-01 | 1.19E+03 | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 1 | 2 | 4 | 5 | 11 | 12 | 13 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rh2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZrO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | 7.98E+02 | 2.68E+00 | 7.95E+02 | | | | 5.66E-01 | 7.95E+02 | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 19 | 20 | 23 | 24 | 25 | 26 | 27 | 34 | 38 | 46 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 8.95E+04 | 9.03E+04 | 9.69E+04 | 3.45E+04 | 2.86E+04 | 6.98E+04 | 9.84E+04 | 1.34E+05 | 6.83E+01 | 1.05E+05 |
| Volume (L) | 8.95E+07 | 9.00E+07 | 9.02E+07 | 3.32E+07 | 1.86E+07 | 6.98E+07 | 8.84E+07 | 1.32E+08 | 1.80E+04 | 9.58E+07 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.07E+00 | 1.04E+00 | 1.54E+00 | 1.00E+00 | 1.11E+00 | 1.01E+00 | 3.80E+00 | 1.10E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 1.19E-04 | 1.19E-04 | 1.33E+02 | 5.64E+01 | | 9.28E-05 | 9.28E-05 | 5.15E+01 | | 7.98E+01 |
| C-14 | 4.99E-05 | 4.99E-05 | 5.58E+01 | 2.37E+01 | | 3.89E-05 | 3.89E-05 | 2.16E+01 | | 3.35E+01 |
| Cs-137 | 8.12E-02 | 8.12E-02 | 5.34E+04 | 2.26E+04 | | 6.33E-02 | 6.33E-02 | 2.06E+04 | | 3.20E+04 |
| Ba-137 | 7.71E-02 | 7.71E-02 | 5.07E+04 | 2.15E+04 | | 6.02E-02 | 6.02E-02 | 1.96E+04 | | 3.04E+04 |
| Np-237 | 1.05E-07 | 1.05E-07 | 1.17E-01 | 4.97E-02 | | 8.17E-08 | 8.17E-08 | 4.53E-02 | | 7.03E-02 |
| Pu-239 | 2.48E-05 | 2.48E-05 | 2.78E+01 | 1.18E+01 | | 1.94E-05 | 1.94E-05 | 1.07E+01 | | 1.67E+01 |
| Pu-240 | 6.49E-06 | 6.49E-06 | 7.26E+00 | 3.08E+00 | | 5.06E-06 | 5.06E-06 | 2.81E+00 | | 4.35E+00 |
| Pu-241 | 7.27E-05 | 7.27E-05 | 8.14E+01 | 3.45E+01 | | 5.67E-05 | 5.67E-05 | 3.15E+01 | | 4.88E+01 |
| Sr-90 | 2.79E-02 | 2.79E-02 | 3.12E+04 | 1.32E+04 | | 2.17E-02 | 2.17E-02 | 1.21E+04 | | 1.87E+04 |
| Y-90 | 2.79E-02 | 2.79E-02 | 3.12E+04 | 1.32E+04 | | 2.17E-02 | 2.17E-02 | 1.21E+04 | | 1.87E+04 |
| Tc-99 | 1.42E-03 | 1.42E-03 | 3.85E+02 | 1.63E+02 | | 1.11E-03 | 1.11E-03 | 1.49E+02 | | 2.31E+02 |
| Total Curies | 2.16E-01 | 2.16E-01 | 1.67E+05 | 7.08E+04 | | 1.68E-01 | 1.68E-01 | 6.46E+04 | | 1.00E+05 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 4.82E-09 | 4.82E-09 | 5.39E-03 | 2.28E-03 | | 3.76E-09 | 3.76E-09 | 2.08E-03 | | 3.23E-03 |
| Am+3 | 3.47E-11 | 3.47E-11 | 3.88E-05 | 1.65E-05 | | 2.71E-11 | 2.71E-11 | 1.50E-05 | | 2.33E-05 |
| As+5 | 6.09E-13 | 6.09E-13 | 6.82E-07 | 2.89E-07 | | 4.75E-13 | 4.75E-13 | 2.64E-07 | | 4.09E-07 |
| B+3 | 5.16E-10 | 5.16E-10 | 5.77E-04 | 2.45E-04 | | 4.02E-10 | 4.02E-10 | 2.23E-04 | | 3.46E-04 |
| Ba+2 | 1.19E-08 | 1.19E-08 | 1.33E-02 | 5.64E-03 | | 9.28E-09 | 9.28E-09 | 5.15E-03 | | 7.98E-03 |
| Be+2 | 3.63E-13 | 3.63E-13 | 4.08E-07 | 1.73E-07 | | 2.85E-13 | 2.85E-13 | 1.58E-07 | | 2.45E-07 |
| Bi+3 | 1.78E-07 | 1.78E-07 | 1.99E-01 | 8.43E-02 | | 1.39E-07 | 1.39E-07 | 7.69E-02 | | 1.19E-01 |
| Ca+2 | 3.64E-05 | 3.64E-05 | 2.77E-01 | 1.18E-01 | | 2.84E-05 | 2.84E-05 | 1.07E-01 | | 1.66E-01 |
| Cd+2 | 1.72E-07 | 1.72E-07 | 1.28E-01 | 5.44E-02 | | 1.34E-07 | 1.34E-07 | 4.97E-02 | | 7.70E-02 |
| Ce+3 | 3.56E-08 | 3.56E-08 | 3.98E-02 | 1.69E-02 | | 2.77E-08 | 2.77E-08 | 1.54E-02 | | 2.39E-02 |
| Cm+3 | 1.42E-15 | 1.42E-15 | 1.60E-09 | 6.78E-10 | | 1.11E-15 | 1.11E-15 | 6.19E-10 | | 9.60E-10 |
| Co+3 | 2.20E-11 | 2.20E-11 | 2.46E-05 | 1.04E-05 | | 1.71E-11 | 1.71E-11 | 9.51E-06 | | 1.47E-05 |
| Cs+ | 4.68E-09 | 4.68E-09 | 3.08E-03 | 1.30E-03 | | 3.65E-09 | 3.65E-09 | 1.19E-03 | | 1.85E-03 |
| Cr+2 | 1.49E-09 | 1.49E-09 | 1.66E-03 | 7.06E-04 | | 1.16E-09 | 1.16E-09 | 6.44E-04 | | 9.99E-04 |
| Fe+2 | 1.79E-11 | 1.79E-11 | 2.01E-05 | 8.50E-06 | | 1.40E-11 | 1.40E-11 | 7.76E-06 | | 1.20E-05 |
| Fe+3 | 5.17E-07 | 5.17E-07 | 5.79E-01 | 2.45E-01 | | 4.04E-07 | 4.04E-07 | 2.24E-01 | | 3.47E-01 |
| H+ | | | | | | | | | | |
| Hg+2 | 8.78E-10 | 8.78E-10 | 9.82E-04 | 4.16E-04 | | 6.85E-10 | 6.85E-10 | 3.80E-04 | | 5.89E-04 |
| K+ | 1.07E-05 | 1.07E-05 | 1.19E+01 | 5.04E+00 | | 8.38E-06 | 8.38E-06 | 4.60E+00 | | 7.14E+00 |
| La+3 | 3.59E-09 | 3.59E-09 | 4.02E-03 | 1.70E-03 | | 2.80E-09 | 2.80E-09 | 1.55E-03 | | 2.41E-03 |
| Mg+2 | 2.20E-12 | 2.20E-12 | 2.46E-06 | 1.04E-06 | | 1.71E-12 | 1.71E-12 | 9.50E-07 | | 1.47E-06 |
| Mn+2 | 7.29E-13 | 7.29E-13 | 8.15E-07 | 3.46E-07 | | 5.69E-13 | 5.69E-13 | 3.16E-07 | | 4.89E-07 |
| Mn+4 | 1.63E-07 | 1.63E-07 | 1.82E-01 | 7.71E-02 | | 1.27E-07 | 1.27E-07 | 7.03E-02 | | 1.09E-01 |
| Mo+6 | 1.15E-10 | 1.15E-10 | 1.22E-04 | 5.16E-05 | | 8.95E-11 | 8.95E-11 | 4.71E-05 | | 7.30E-05 |
| Na+ | 3.55E-03 | 2.06E+02 | 3.80E+03 | 2.74E+02 | 8.21E+03 | 2.77E-03 | 8.21E+03 | 5.40E+02 | 2.29E+01 | 6.79E+03 |
| Ni+3 | 1.23E-07 | 1.23E-07 | 1.38E-01 | 5.85E-02 | | 9.63E-08 | 9.63E-08 | 5.34E-02 | | 8.28E-02 |
| Np+4 | 1.49E-10 | 1.49E-10 | 1.66E-04 | 7.05E-05 | | 1.16E-10 | 1.16E-10 | 6.43E-05 | | 9.97E-05 |
| Pb+4 | 2.17E-07 | 2.17E-07 | 1.62E-01 | 6.85E-02 | | 1.70E-07 | 1.70E-07 | 6.25E-02 | | 9.69E-02 |
| Pu+4 | 4.29E-10 | 4.29E-10 | 4.80E-04 | 2.04E-04 | | 3.35E-10 | 3.35E-10 | 1.86E-04 | | 2.88E-04 |
| Ra+ | 3.61E-12 | 3.61E-12 | 4.04E-06 | 1.71E-06 | | 2.82E-12 | 2.82E-12 | 1.56E-06 | | 2.42E-06 |
| Ra+7 | 1.63E-12 | 1.63E-12 | 1.82E-06 | 7.71E-07 | | 1.27E-12 | 1.27E-12 | 7.04E-07 | | 1.09E-06 |
| Rh+3 | 1.28E-11 | 1.28E-11 | 1.43E-05 | 6.06E-06 | | 9.97E-12 | 9.97E-12 | 5.53E-06 | | 8.58E-06 |
| Ru+3 | 2.66E-11 | 2.66E-11 | 1.99E-05 | 8.45E-06 | | 2.08E-11 | 2.08E-11 | 7.71E-06 | | 1.20E-05 |
| Se+6 | 1.48E-10 | 1.48E-10 | 2.27E-06 | 9.62E-07 | | 1.16E-10 | 1.16E-10 | 8.78E-07 | | 1.36E-06 |
| Si+4 | 2.40E-07 | 2.40E-07 | 2.68E-01 | 1.14E-01 | | 1.87E-07 | 1.87E-07 | 1.04E-01 | | 1.61E-01 |
| Sr+2 | 5.72E-09 | 5.72E-09 | 6.40E-03 | 2.71E-03 | | 4.46E-09 | 4.46E-09 | 2.48E-03 | | 3.84E-03 |
| Ter+6 | 1.86E-11 | 1.86E-11 | 1.39E-05 | 5.90E-06 | | 1.45E-11 | 1.45E-11 | 5.38E-06 | | 8.35E-06 |
| UO2+2 | 1.59E-06 | 1.59E-06 | 1.78E+00 | 7.56E-01 | | 1.24E-06 | 1.24E-06 | 6.90E-01 | | 1.07E+00 |
| Zn+2 | 1.17E-11 | 1.17E-11 | 1.31E-05 | 5.55E-06 | | 9.12E-12 | 9.12E-12 | 5.06E-06 | | 7.85E-06 |
| Zr+4 | 3.65E-13 | 3.65E-13 | 4.08E-07 | 1.73E-07 | | 2.85E-13 | 2.85E-13 | 1.58E-07 | | 2.45E-07 |
| Al(OH)4- | 1.88E-04 | 1.88E-04 | 1.42E+03 | 1.51E+02 | | 1.47E-04 | 1.47E-04 | 8.25E+01 | | 1.73E+02 |
| BO2- | 6.79E-10 | 6.79E-10 | 9.27E-11 | 6.94E-10 | | 5.30E-10 | 5.30E-10 | 1.42E-09 | | 9.29E-10 |
| Cl- | 8.08E-05 | 8.08E-05 | 1.14E+01 | 4.84E+00 | | 6.30E-05 | 6.30E-05 | 4.42E+00 | | 6.85E+00 |
| CO3-2 | 2.45E-07 | 2.45E-07 | 5.22E+01 | 2.21E+01 | | 1.91E-07 | 1.91E-07 | 2.02E+01 | | 3.13E+01 |
| Cr(OH)4- | 1.03E-05 | 1.03E-05 | 6.32E+01 | 7.50E+00 | | 8.00E-06 | 8.00E-06 | 4.48E+00 | | 8.87E+00 |
| F- | 4.57E-05 | 4.57E-05 | 1.91E+01 | 8.11E+00 | | 3.56E-05 | 3.56E-05 | 7.40E+00 | | 1.15E+01 |
| I- | 3.41E-08 | 3.41E-08 | 1.52E-03 | 6.44E-04 | | 2.66E-08 | 2.66E-08 | 5.88E-04 | | 9.11E-04 |
| NO2- | 1.43E-04 | 1.43E-04 | 1.59E+02 | 6.75E+01 | | 1.12E-04 | 1.12E-04 | 1.07E+02 | 4.54E+01 | 9.56E+01 |
| NO3- | 3.99E-03 | 3.99E-03 | 1.79E+03 | 7.59E+02 | | 3.11E-03 | 3.11E-03 | 6.93E+02 | | 1.08E+03 |
| OH- | 2.95E-04 | 1.53E+02 | 1.57E+03 | 1.37E+02 | 6.07E+03 | 2.30E-04 | 6.07E+03 | 3.54E+02 | | 4.79E+03 |
| PO4-3 | 8.58E-05 | 8.58E-05 | 3.76E+02 | 4.78E+01 | | 6.69E-05 | 6.69E-05 | 3.00E+01 | | 5.76E+01 |
| SO4-2 | 3.05E-05 | 3.05E-05 | 3.40E+01 | 1.44E+01 | | 2.38E-05 | 2.38E-05 | 1.32E+01 | | 2.04E+01 |
| TcO4- | 1.37E-07 | 1.37E-07 | 3.72E-02 | 1.58E-02 | | 1.07E-07 | 1.07E-07 | 1.44E-02 | | 2.23E-02 |
| H2O | 8.95E+04 | 8.99E+04 | 8.76E+04 | 3.30E+04 | 1.43E+04 | 6.98E+04 | 8.41E+04 | 1.32E+05 | | 9.20E+04 |
| Organic Carbon | 4.54E-05 | 4.54E-05 | 1.78E+01 | 7.54E+00 | | 3.54E-05 | 3.54E-05 | 6.88E+00 | | 1.07E+01 |
| ZrO2;2H2O | 1.13E-07 | 1.13E-07 | 1.27E-01 | 5.37E-02 | | 8.84E-08 | 8.84E-08 | 4.90E-02 | | 7.60E-02 |
| Hg | 1.35E-09 | 1.35E-09 | 1.84E-10 | 1.38E-09 | | 1.05E-09 | 1.05E-09 | 2.82E-09 | | 1.85E-09 |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | 3.84E-05 | 3.84E-05 | 5.24E-06 | 3.92E-05 | | 2.99E-05 | 2.99E-05 | 8.00E-05 | | 5.24E-05 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 1.76E-08 | 1.76E-08 | 2.40E-09 | 1.80E-08 | | 1.37E-08 | 1.37E-08 | 3.67E-08 | | 2.41E-08 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 19 | 20 | 23 | 24 | 25 | 26 | 27 | 34 | 38 | 46 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 9.69E+00 | 1.48E+04 | | | | 1.48E+04 | | 1.05E+01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 6.30E+01 | 9.60E+04 | | | | 9.59E+04 | | 6.83E+01 |
| C-14 | | | 1.43E+00 | 2.17E+03 | | | | 2.17E+03 | | 1.55E+00 |
| Cs-137 | | | 2.07E+04 | 3.15E+07 | | | | 3.14E+07 | | 2.24E+04 |
| Ba-137 | | | 1.96E+04 | 2.99E+07 | | | | 2.99E+07 | | 2.13E+04 |
| Np-237 | | | 4.09E-02 | 6.24E+01 | | | | 6.23E+01 | | 4.44E-02 |
| Pu-239 | | | 1.65E+01 | 2.52E+04 | | | | 2.52E+04 | | 1.79E+01 |
| Pu-240 | | | 4.10E+00 | 6.25E+03 | | | | 6.25E+03 | | 4.45E+00 |
| Pu-241 | | | 4.62E+01 | 7.04E+04 | | | | 7.03E+04 | | 5.01E+01 |
| Sr-90 | | | 3.33E+04 | 5.07E+07 | | | | 5.07E+07 | | 3.61E+04 |
| Y-90 | | | 3.33E+04 | 5.07E+07 | | | | 5.07E+07 | | 3.61E+04 |
| Tc-99 | | | 6.12E+00 | 9.33E+03 | | | | 9.32E+03 | | 6.63E+00 |
| Total Curies | | | 1.07E+05 | 1.63E+08 | | | | 1.63E+08 | | 1.16E+05 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | 9.67E-04 | 1.47E+00 | | | | 1.47E+00 | | 1.05E-03 |
| Al+3 | | | 4.83E-01 | 7.37E+02 | | | | 7.36E+02 | | 5.24E-01 |
| Am+3 | | | 1.84E-05 | 2.80E-02 | | | | 2.80E-02 | | 1.99E-05 |
| As+5 | | | 1.48E-06 | 2.25E-03 | | | | 2.25E-03 | | 1.60E-06 |
| Ba+2 | | | 2.44E-03 | 3.72E+00 | | | | 3.72E+00 | | 2.65E-03 |
| Be+2 | | | 2.01E-06 | 3.06E-03 | | | | 3.05E-03 | | 2.18E-06 |
| Bi+3 | | | 1.64E-01 | 2.50E+02 | | | | 2.50E+02 | | 1.78E-01 |
| Ca+2 | | | 9.46E-02 | 1.44E+02 | | | | 1.44E+02 | | 1.03E-01 |
| Cd+2 | | | 4.28E-03 | 6.52E+00 | | | | 6.51E+00 | | 4.64E-03 |
| Ce+3 | | | 1.54E-01 | 2.34E+02 | | | | 2.34E+02 | | 1.67E-01 |
| Cm+3 | | | 1.15E-08 | 1.75E-05 | | | | 1.75E-05 | | 1.24E-08 |
| Co+3 | | | 9.71E-10 | 1.48E-06 | | | | 1.48E-06 | | 1.05E-09 |
| Cr+3 | | | 3.76E-02 | 5.73E+01 | | | | 5.72E+01 | | 4.07E-02 |
| Cs+ | | | 1.21E-03 | 1.84E+00 | | | | 1.84E+00 | | 1.31E-03 |
| Cu+2 | | | 1.23E-04 | 1.88E-01 | | | | 1.87E-01 | | 1.33E-04 |
| Fe+3 | | | 4.98E-01 | 7.59E+02 | | | | 7.58E+02 | | 5.40E-01 |
| Hg+2 | | | 5.76E-05 | 8.77E-02 | | | | 8.76E-02 | | 6.24E-05 |
| K+ | | | 1.93E-02 | 2.95E+01 | | | | 2.94E+01 | | 2.10E-02 |
| La+3 | | | 1.50E-02 | 2.28E+01 | | | | 2.28E+01 | | 1.63E-02 |
| Mg+2 | | | 5.39E-03 | 8.21E+00 | | | | 8.20E+00 | | 5.84E-03 |
| Mn+4 | | | 1.18E-01 | 1.79E+02 | | | | 1.79E+02 | | 1.27E-01 |
| Mo+6 | | | 2.10E-05 | 3.20E-02 | | | | 3.20E-02 | | 2.28E-05 |
| Na+ | | | 4.33E-01 | 6.60E+02 | | | | 6.59E+02 | | 4.69E-01 |
| Ni+3 | | | 1.35E-01 | 2.05E+02 | | | | 2.05E+02 | | 1.46E-01 |
| Np+4 | | | 5.81E-05 | 8.85E-02 | | | | 8.84E-02 | | 6.29E-05 |
| Pb+4 | | | 1.91E-02 | 2.92E+01 | | | | 2.91E+01 | | 2.07E-02 |
| Pu+4 | | | 2.85E-04 | 4.34E-01 | | | | 4.34E-01 | | 3.09E-04 |
| Rh+3 | | | 1.26E-04 | 1.92E-01 | | | | 1.92E-01 | | 1.36E-04 |
| Se+6 | | | 2.16E-03 | 3.30E+00 | | | | 3.29E+00 | | 2.35E-03 |
| Si+4 | | | 1.51E-01 | 2.31E+02 | | | | 2.30E+02 | | 1.64E-01 |
| Sr+2 | | | 2.39E-02 | 3.64E+01 | | | | 3.63E+01 | | 2.59E-02 |
| Th+4 | | | 1.82E-03 | 2.78E+00 | | | | 2.77E+00 | | 1.98E-03 |
| Ti+4 | | | 1.01E-04 | 1.54E-01 | | | | 1.54E-01 | | 1.10E-04 |
| UO2+2 | | | 1.01E+00 | 1.54E+03 | | | | 1.54E+03 | | 1.09E+00 |
| Zn+2 | | | 3.31E-04 | 5.04E-01 | | | | 5.03E-01 | | 3.59E-04 |
| Cl- | | | 5.88E-03 | 8.96E+00 | | | | 8.95E+00 | | 6.37E-03 |
| CO3-2 | | | 7.12E-02 | 1.08E+02 | | | | 1.08E+02 | | 7.71E-02 |
| F- | | | 4.45E-02 | 6.79E+01 | | | | 6.78E+01 | | 4.83E-02 |
| I- | | | 9.11E-07 | 1.39E-03 | | | | 1.39E-03 | | 9.88E-07 |
| NO2- | | | 4.03E-02 | 6.15E+01 | | | | 6.14E+01 | | 4.37E-02 |
| NO3- | | | 6.44E-01 | 9.81E+02 | | | | 9.80E+02 | | 6.98E-01 |
| OH- | | | 2.06E+00 | 3.14E+03 | | | | 3.13E+03 | | 2.23E+00 |
| PO4-3 | | | 3.14E-01 | 4.78E+02 | | | | 4.78E+02 | | 3.40E-01 |
| SO4-2 | | | 1.67E-02 | 2.53E+01 | | | | 2.54E+01 | | 1.81E-02 |
| TcO4- | | | 5.93E-04 | 9.03E-01 | | | | 9.02E-01 | | 6.43E-04 |
| Cancrinite | | | 1.77E+00 | 2.69E+03 | | | | 2.69E+03 | | 1.92E+00 |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | 5.70E-02 | 8.69E+01 | | | | 8.68E+01 | | 6.18E-02 |
| ZrO2;2H2O | | | 7.81E-01 | 1.19E+03 | | | | 1.19E+03 | | 8.46E-01 |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 19 | 20 | 23 | 24 | 25 | 26 | 27 | 34 | 38 | 46 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | 5.21E-01 | 7.94E+02 | | | | 7.93E+02 | | 5.65E-01 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 47 | 48 | 49 | 50 | 53 | 54 | 55 | 56 | 57 | 59 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.44E+04 | 6.76E+02 | 8.42E+04 | 8.49E+04 | 9.16E+04 | 3.44E+04 | 7.90E+02 | 9.82E+04 | 9.91E+04 | 9.25E+03 |
| Volume (L) | 3.14E+07 | 4.39E+05 | 8.42E+07 | 8.47E+07 | 8.84E+07 | 3.33E+07 | 5.13E+05 | 9.82E+07 | 9.88E+07 | 7.78E+06 |
| Specific Gravity | 1.10E+00 | 1.54E+00 | 1.00E+00 | 1.00E+00 | 1.04E+00 | 1.03E+00 | 1.54E+00 | 1.00E+00 | 1.00E+00 | 1.19E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 2.62E+01 | | 1.12E-04 | 1.12E-04 | 2.43E+01 | 5.15E+01 | | 1.31E-04 | 1.31E-04 | 6.90E+01 |
| C-14 | 1.10E+01 | | 4.69E-05 | 4.69E-05 | 1.02E+01 | 2.16E+01 | | 5.47E-05 | 5.47E-05 | 2.89E+01 |
| Cs-137 | 1.05E+04 | | 7.63E-02 | 7.63E-02 | 9.72E+03 | 2.06E+04 | | 8.91E-02 | 8.91E-02 | 2.77E+04 |
| Ba-137 | 9.97E+03 | | 7.25E-02 | 7.25E-02 | 9.24E+03 | 1.96E+04 | | 8.46E-02 | 8.46E-02 | 2.63E+04 |
| Np-237 | 2.31E-02 | | 9.85E-08 | 9.85E-08 | 2.14E-02 | 4.53E-02 | | 1.15E-07 | 1.15E-07 | 6.08E-02 |
| Pu-239 | 5.46E+00 | | 2.33E-05 | 2.33E-05 | 5.06E+00 | 1.07E+01 | | 2.72E-05 | 2.72E-05 | 1.44E+01 |
| Pu-240 | 1.43E+00 | | 6.10E-06 | 6.10E-06 | 1.32E+00 | 2.81E+00 | | 7.12E-06 | 7.12E-06 | 3.76E+00 |
| Pu-241 | 1.60E+01 | | 6.84E-05 | 6.84E-05 | 1.48E+01 | 3.15E+01 | | 7.98E-05 | 7.98E-05 | 4.22E+01 |
| Sr-90 | 6.13E+03 | | 2.62E-02 | 2.62E-02 | 5.68E+03 | 1.21E+04 | | 3.06E-02 | 3.06E-02 | 1.62E+04 |
| Y-90 | 6.13E+03 | | 2.62E-02 | 2.62E-02 | 5.68E+03 | 1.21E+04 | | 3.06E-02 | 3.06E-02 | 1.62E+04 |
| Tc-99 | 7.56E+01 | | 1.34E-03 | 1.34E-03 | 7.01E+01 | 1.49E+02 | | 1.56E-03 | 1.56E-03 | 1.99E+02 |
| Total Curies | 3.29E+04 | | 2.03E-01 | 2.03E-01 | 3.04E+04 | 6.46E+04 | | 2.37E-01 | 2.37E-01 | 8.67E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.06E-03 | | 4.53E-09 | 4.53E-09 | 9.82E-04 | 2.08E-03 | | 5.28E-09 | 5.28E-09 | 2.79E-03 |
| Am+3 | 7.63E-06 | | 3.26E-11 | 3.26E-11 | 7.07E-06 | 1.50E-05 | | 3.81E-11 | 3.81E-11 | 2.01E-05 |
| As+5 | 1.34E-07 | | 5.73E-13 | 5.73E-13 | 1.24E-07 | 2.64E-07 | | 6.69E-13 | 6.69E-13 | 3.54E-07 |
| B+3 | 1.14E-04 | | 4.85E-10 | 4.85E-10 | 1.05E-04 | 2.23E-04 | | 5.66E-10 | 5.66E-10 | 2.99E-04 |
| Ba+2 | 2.62E-03 | | 1.12E-08 | 1.12E-08 | 2.42E-03 | 5.15E-03 | | 1.30E-08 | 1.30E-08 | 6.90E-03 |
| Be+2 | 8.03E-08 | | 3.43E-13 | 3.43E-13 | 7.44E-08 | 1.58E-07 | | 4.01E-13 | 4.01E-13 | 2.12E-07 |
| Bi+3 | 3.91E-02 | | 1.67E-07 | 1.67E-07 | 3.62E-02 | 7.69E-02 | | 1.95E-07 | 1.95E-07 | 1.03E-01 |
| Ca+2 | 5.46E-02 | | 3.42E-05 | 3.42E-05 | 5.06E-02 | 1.07E-01 | | 3.99E-05 | 3.99E-05 | 1.44E-01 |
| Cd+2 | 2.53E-02 | | 1.62E-07 | 1.62E-07 | 2.34E-02 | 4.97E-02 | | 1.89E-07 | 1.89E-07 | 6.66E-02 |
| Ce+3 | 7.82E-03 | | 3.34E-08 | 3.34E-08 | 7.25E-03 | 1.54E-02 | | 3.90E-08 | 3.90E-08 | 2.06E-02 |
| Cm+3 | 3.13E-10 | | 1.34E-15 | 1.34E-15 | 2.92E-10 | 6.19E-10 | | 1.56E-15 | 1.56E-15 | 8.30E-10 |
| Co+3 | 4.83E-06 | | 2.07E-11 | 2.07E-11 | 4.48E-06 | 9.51E-06 | | 2.41E-11 | 2.41E-11 | 1.27E-05 |
| Cs+ | 6.05E-04 | | 4.40E-09 | 4.40E-09 | 5.61E-04 | 1.19E-03 | | 5.14E-09 | 5.14E-09 | 1.60E-03 |
| Cr+2 | 3.27E-04 | | 1.40E-09 | 1.40E-09 | 3.03E-04 | 6.44E-04 | | 1.63E-09 | 1.63E-09 | 8.63E-04 |
| Fe+2 | 3.95E-06 | | 1.69E-11 | 1.69E-11 | 3.66E-06 | 7.76E-06 | | 1.97E-11 | 1.97E-11 | 1.04E-05 |
| Fe+3 | 1.14E-01 | | 4.87E-07 | 4.87E-07 | 1.06E-01 | 2.24E-01 | | 5.68E-07 | 5.68E-07 | 3.00E-01 |
| H+ | | | | | | | | | | |
| Hg+2 | 1.93E-04 | | 8.26E-10 | 8.26E-10 | 1.79E-04 | 3.80E-04 | | 9.63E-10 | 9.63E-10 | 5.09E-04 |
| K+ | 2.34E+00 | | 1.01E-05 | 1.01E-05 | 2.17E+00 | 4.60E+00 | | 1.18E-05 | 1.18E-05 | 6.17E+00 |
| La+3 | 7.90E-04 | | 3.38E-09 | 3.38E-09 | 7.32E-04 | 1.55E-03 | | 3.94E-09 | 3.94E-09 | 2.08E-03 |
| Mg+2 | 4.83E-07 | | 2.07E-12 | 2.07E-12 | 4.48E-07 | 9.50E-07 | | 2.41E-12 | 2.41E-12 | 1.27E-06 |
| Mn+2 | 1.60E-07 | | 6.86E-13 | 6.86E-13 | 1.49E-07 | 3.16E-07 | | 8.00E-13 | 8.00E-13 | 4.23E-07 |
| Mn+4 | 3.58E-02 | | 1.53E-07 | 1.53E-07 | 3.31E-02 | 7.03E-02 | | 1.78E-07 | 1.78E-07 | 9.43E-02 |
| Mo+6 | 2.39E-05 | | 1.08E-10 | 1.08E-10 | 2.22E-05 | 4.71E-05 | | 1.26E-10 | 1.26E-10 | 6.31E-05 |
| Na+ | 2.23E+03 | 1.94E+02 | 3.33E-03 | 1.94E+02 | 2.66E+03 | 2.90E+02 | 2.27E+02 | 3.89E-03 | 2.50E+02 | 7.44E+02 |
| Ni+3 | 2.72E-02 | | 1.16E-07 | 1.16E-07 | 2.52E-02 | 5.34E-02 | | 1.35E-07 | 1.35E-07 | 7.16E-02 |
| Np+4 | 3.27E-05 | | 1.40E-10 | 1.40E-10 | 3.03E-05 | 6.43E-05 | | 1.63E-10 | 1.63E-10 | 8.62E-05 |
| Pb+4 | 3.18E-02 | | 2.04E-07 | 2.04E-07 | 2.94E-02 | 6.25E-02 | | 2.38E-07 | 2.38E-07 | 8.38E-02 |
| Pu+4 | 9.45E-05 | | 4.04E-10 | 4.04E-10 | 8.75E-05 | 1.86E-04 | | 4.71E-10 | 4.71E-10 | 2.49E-04 |
| Ru+ | 7.94E-07 | | 3.40E-12 | 3.40E-12 | 7.36E-07 | 1.56E-06 | | 3.96E-12 | 3.96E-12 | 2.09E-06 |
| Re+7 | 3.58E-07 | | 1.53E-12 | 1.53E-12 | 3.32E-07 | 7.04E-07 | | 1.78E-12 | 1.78E-12 | 9.44E-07 |
| Rh+3 | 2.81E-06 | | 1.20E-11 | 1.20E-11 | 2.61E-06 | 5.53E-06 | | 1.40E-11 | 1.40E-11 | 7.42E-06 |
| Ru+3 | 3.92E-06 | | 2.51E-11 | 2.51E-11 | 3.63E-06 | 7.71E-06 | | 2.92E-11 | 2.92E-11 | 1.03E-05 |
| Se+6 | 4.46E-07 | | 1.39E-10 | 1.39E-10 | 4.13E-07 | 8.77E-07 | | 1.63E-10 | 1.63E-10 | 1.18E-06 |
| Si+4 | 5.27E-02 | | 2.25E-07 | 2.25E-07 | 4.89E-02 | 1.04E-01 | | 2.63E-07 | 2.63E-07 | 1.39E-01 |
| Sr+2 | 1.26E-03 | | 5.38E-09 | 5.38E-09 | 1.17E-03 | 2.48E-03 | | 6.28E-09 | 6.28E-09 | 3.32E-03 |
| Te+6 | 2.74E-06 | | 1.75E-11 | 1.75E-11 | 2.54E-06 | 5.38E-06 | | 2.04E-11 | 2.04E-11 | 7.22E-06 |
| UO2+2 | 3.51E-01 | | 1.50E-06 | 1.50E-06 | 3.25E-01 | 6.90E-01 | | 1.75E-06 | 1.75E-06 | 9.25E-01 |
| Zn+2 | 2.57E-06 | | 1.10E-11 | 1.10E-11 | 2.38E-06 | 5.06E-06 | | 1.28E-11 | 1.28E-11 | 6.79E-06 |
| Zr+4 | 8.03E-08 | | 3.43E-13 | 3.43E-13 | 7.44E-08 | 1.58E-07 | | 4.01E-13 | 4.01E-13 | 2.12E-07 |
| Al(OH)4- | 5.67E+01 | | 1.77E-04 | 1.77E-04 | 5.25E+01 | 8.25E+01 | | 2.06E-04 | 2.06E-04 | 1.09E+02 |
| BO2- | 3.04E-10 | | 6.39E-10 | 6.39E-10 | 2.82E-10 | 6.71E-10 | | 7.45E-10 | 7.45E-10 | 1.37E-11 |
| Cl- | 2.24E+00 | | 7.60E-05 | 7.60E-05 | 2.08E+00 | 4.42E+00 | | 8.87E-05 | 8.87E-05 | 5.92E+00 |
| CO3-2 | 1.03E+01 | | 2.30E-07 | 2.30E-07 | 9.52E+00 | 2.02E+01 | | 2.68E-07 | 2.68E-07 | 2.71E+01 |
| Cr(OH)4- | 2.91E+00 | | 9.64E-06 | 9.64E-06 | 2.69E+00 | 4.48E+00 | | 1.13E-05 | 1.13E-05 | 5.95E+00 |
| F- | 3.76E+00 | | 4.30E-05 | 4.30E-05 | 3.49E+00 | 7.40E+00 | | 5.01E-05 | 5.01E-05 | 9.92E+00 |
| I- | 2.99E-04 | | 3.21E-08 | 3.21E-08 | 2.77E-04 | 5.88E-04 | | 3.74E-08 | 3.74E-08 | 7.88E-04 |
| NO2- | 3.13E+01 | | 1.35E-04 | 1.35E-04 | 2.90E+01 | 6.16E+01 | | 1.57E-04 | 4.54E+01 | 8.26E+01 |
| NO3- | 3.52E+02 | | 3.75E-03 | 3.75E-03 | 3.26E+02 | 6.93E+02 | | 4.38E-03 | 4.38E-03 | 9.29E+02 |
| OH- | 1.57E+03 | 1.44E+02 | 2.77E-04 | 1.44E+02 | 1.69E+03 | 1.86E+02 | 1.68E+02 | 3.24E-04 | 1.68E+02 | 2.20E+02 |
| PO4-3 | 1.89E+01 | | 8.07E-05 | 8.07E-05 | 1.75E+01 | 3.00E+01 | | 9.41E-05 | 9.41E-05 | 3.98E+01 |
| SO4-2 | 6.69E+00 | | 2.87E-05 | 2.87E-05 | 6.20E+00 | 1.32E+01 | | 3.34E-05 | 3.34E-05 | 1.76E+01 |
| TcO4- | 7.33E-03 | | 1.29E-07 | 1.29E-07 | 6.79E-03 | 1.44E-02 | | 1.51E-07 | 1.51E-07 | 1.93E-02 |
| H2O | 3.02E+04 | 3.38E+02 | 8.42E+04 | 8.46E+04 | 8.67E+04 | 3.30E+04 | 3.95E+02 | 9.82E+04 | 9.86E+04 | 7.04E+03 |
| Organic Carbon | 3.50E+00 | | 4.27E-05 | 4.27E-05 | 3.24E+00 | 6.88E+00 | | 4.98E-05 | 4.98E-05 | 9.22E+00 |
| ZrO2:2H2O | 2.49E-02 | | 1.07E-07 | 1.07E-07 | 2.31E-02 | 4.90E-02 | | 1.24E-07 | 1.24E-07 | 6.57E-02 |
| Hg | 6.06E-10 | | 1.27E-09 | 1.27E-09 | 5.61E-10 | 1.33E-09 | | 1.48E-09 | 1.48E-09 | 2.73E-11 |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | 1.72E-05 | | 3.61E-05 | 3.61E-05 | 1.59E-05 | 3.79E-05 | | 4.21E-05 | 4.21E-05 | 7.74E-07 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| D2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 7.89E-09 | | 1.66E-08 | 1.66E-08 | 7.31E-09 | 1.74E-08 | | 1.93E-08 | 1.93E-08 | 3.55E-10 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 47 | 48 | 49 | 50 | 53 | 54 | 55 | 56 | 57 | 59 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.48E+04 | | | | 9.15E+00 | 1.48E+04 | | | | 9.25E-01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 9.59E+04 | | | | 5.95E+01 | 9.59E+04 | | | | 4.95E+00 |
| C-14 | 2.17E+03 | | | | 1.35E+00 | 2.17E+03 | | | | 1.12E-01 |
| Cs-137 | 3.14E+07 | | | | 1.95E+04 | 3.14E+07 | | | | 1.62E+03 |
| Ba-137 | 2.99E+07 | | | | 1.85E+04 | 2.99E+07 | | | | 1.54E+03 |
| Np-237 | 6.23E+01 | | | | 3.87E-02 | 6.23E+01 | | | | 3.22E-03 |
| Pu-239 | 2.52E+04 | | | | 1.56E+01 | 2.52E+04 | | | | 1.30E+00 |
| Pu-240 | 6.25E+03 | | | | 3.88E+00 | 6.25E+03 | | | | 3.23E-01 |
| Pu-241 | 7.03E+04 | | | | 4.36E+01 | 7.03E+04 | | | | 3.63E+00 |
| Sr-90 | 5.07E+07 | | | | 3.14E+04 | 5.07E+07 | | | | 2.62E+03 |
| Y-90 | 5.07E+07 | | | | 3.14E+04 | 5.07E+07 | | | | 2.62E+03 |
| Tc-99 | 9.32E+03 | | | | 5.78E+00 | 9.32E+03 | | | | 4.81E-01 |
| Total Curies | 1.63E+08 | | | | 1.01E+05 | 1.63E+08 | | | | 8.41E+03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.47E+00 | | | | 9.13E-04 | 1.47E+00 | | | | 7.60E-05 |
| Al+3 | 7.36E+02 | | | | 4.56E-01 | 7.36E+02 | | | | 8.28E-02 |
| Am+3 | 2.80E-02 | | | | 1.73E-05 | 2.80E-02 | | | | 1.44E-06 |
| As+5 | 2.25E-03 | | | | 1.40E-06 | 2.25E-03 | | | | 1.16E-07 |
| Ba+2 | 3.72E+00 | | | | 2.31E-03 | 3.72E+00 | | | | 1.92E-04 |
| Be+2 | 3.06E-03 | | | | 1.90E-06 | 3.06E-03 | | | | 1.58E-07 |
| Bi+3 | 2.50E+02 | | | | 1.55E-01 | 2.50E+02 | | | | 1.29E-02 |
| Ce+2 | 1.44E+02 | | | | 8.93E-02 | 1.44E+02 | | | | 7.43E-03 |
| Cd+2 | 6.52E+00 | | | | 4.04E-03 | 6.51E+00 | | | | 3.37E-04 |
| Ca+3 | 2.34E+02 | | | | 1.45E-01 | 2.34E+02 | | | | 1.21E-02 |
| Cm+3 | 1.75E-05 | | | | 1.08E-08 | 1.75E-05 | | | | 9.01E-10 |
| Co+3 | 1.48E-06 | | | | 9.17E-10 | 1.48E-06 | | | | 7.63E-11 |
| Cr+3 | 5.72E+01 | | | | 3.55E-02 | 5.72E+01 | | | | 5.87E-03 |
| Cs+ | 1.84E+00 | | | | 1.14E-03 | 1.84E+00 | | | | 9.50E-05 |
| Cu+2 | 1.87E-01 | | | | 1.16E-04 | 1.87E-01 | | | | 9.67E-06 |
| Fe+3 | 7.58E+02 | | | | 4.70E-01 | 7.58E+02 | | | | 3.91E-02 |
| Hg+2 | 8.77E-02 | | | | 5.44E-05 | 8.76E-02 | | | | 4.53E-06 |
| K+ | 2.95E+01 | | | | 1.83E-02 | 2.94E+01 | | | | 1.52E-03 |
| La+3 | 2.28E+01 | | | | 1.42E-02 | 2.28E+01 | | | | 1.18E-03 |
| Mg+2 | 8.21E+00 | | | | 5.09E-03 | 8.20E+00 | | | | 4.24E-04 |
| Mn+4 | 1.79E+02 | | | | 1.11E-01 | 1.79E+02 | | | | 9.24E-03 |
| Mo+6 | 3.20E-02 | | | | 1.98E-05 | 3.20E-02 | | | | 1.65E-06 |
| Na+ | 6.59E+02 | | | | 4.09E-01 | 6.59E+02 | | | | 3.96E-02 |
| Ni+3 | 2.05E+02 | | | | 1.27E-01 | 2.05E+02 | | | | 1.06E-02 |
| Np+4 | 8.84E-02 | | | | 5.48E-05 | 8.84E-02 | | | | 4.56E-06 |
| Pb+4 | 2.91E+01 | | | | 1.81E-02 | 2.91E+01 | | | | 1.50E-03 |
| Pu+4 | 4.34E-01 | | | | 2.69E-04 | 4.34E-01 | | | | 2.24E-05 |
| Ru+3 | 1.92E-01 | | | | 1.19E-04 | 1.92E-01 | | | | 9.89E-06 |
| Se+6 | 3.29E+00 | | | | 2.04E-03 | 3.29E+00 | | | | 1.70E-04 |
| Si+4 | 2.31E+02 | | | | 1.43E-01 | 2.30E+02 | | | | 1.19E-02 |
| Sr+2 | 3.64E+01 | | | | 2.25E-02 | 3.63E+01 | | | | 1.88E-03 |
| Th+4 | 2.78E+00 | | | | 1.72E-03 | 2.77E+00 | | | | 1.43E-04 |
| Ti+4 | 1.54E-01 | | | | 9.54E-05 | 1.54E-01 | | | | 7.94E-06 |
| UO2+2 | 1.54E+03 | | | | 9.52E-01 | 1.54E+03 | | | | 7.93E-02 |
| Zn+2 | 5.04E-01 | | | | 3.12E-04 | 5.03E-01 | | | | 2.60E-05 |
| Cl- | 8.95E+00 | | | | 5.55E-03 | 8.95E+00 | | | | 4.62E-04 |
| CO3-2 | 1.08E+02 | | | | 6.72E-02 | 1.08E+02 | | | | 5.59E-03 |
| F- | 6.78E+01 | | | | 4.21E-02 | 6.78E+01 | | | | 3.50E-03 |
| I- | 1.39E-03 | | | | 8.61E-07 | 1.39E-03 | | | | 7.17E-08 |
| NO2- | 6.14E+01 | | | | 3.81E-02 | 6.14E+01 | | | | 3.17E-03 |
| NO3- | 9.80E+02 | | | | 6.08E-01 | 9.80E+02 | | | | 5.06E-02 |
| OH- | 3.13E+03 | | | | 1.94E+00 | 3.13E+03 | | | | 2.33E-01 |
| PO4-3 | 4.78E+02 | | | | 2.96E-01 | 4.78E+02 | | | | 6.37E-02 |
| SO4-2 | 2.54E+01 | | | | 1.58E-02 | 2.54E+01 | | | | 1.31E-03 |
| TcO4- | 9.03E-01 | | | | 5.60E-04 | 9.02E-01 | | | | 4.66E-05 |
| Cancrinite | 2.69E+03 | | | | 1.67E+00 | 2.69E+03 | | | | 1.39E-01 |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | 8.68E+01 | | | | 5.38E-02 | 8.68E+01 | | | | 4.48E-03 |
| ZrO2:2H2O | 1.19E+03 | | | | 7.37E-01 | 1.19E+03 | | | | 6.14E-02 |
| Ag2O | | | | | | | | | | |
| AlFO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 47 | 48 | 49 | 50 | 53 | 54 | 55 | 56 | 57 | 59 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZrO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | 7.94E+02 | | | | 4.92E-01 | 7.93E+02 | | | | 4.10E-02 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 200 | 300 | 301 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 6.66E+03 | 6.65E+03 | 6.65E+03 | 6.64E+03 | | 3.19E+03 | 3.19E+03 | 1.05E+06 | 1.48E+05 | 1.48E+05 |
| Volume (L) | 5.60E+06 | 5.60E+06 | 5.59E+06 | 5.59E+06 | | 3.19E+06 | 3.19E+06 | 8.86E+08 | 1.47E+08 | 1.47E+08 |
| Specific Gravity | 1.19E+00 | 1.19E+00 | 1.19E+00 | 1.19E+00 | | 1.00E+00 | 1.00E+00 | 1.19E+00 | 1.01E+00 | 1.01E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.97E+01 | 4.96E+01 | 4.96E+01 | 4.96E+01 | | | | 7.86E+03 | 5.15E+01 | 5.15E+01 |
| C-14 | 2.08E+01 | 2.08E+01 | 2.08E+01 | 2.08E+01 | | | | 3.29E+03 | 2.16E+01 | 2.16E+01 |
| Cs-137 | 1.99E+04 | 1.99E+04 | 1.99E+04 | 1.99E+04 | | | | 3.15E+06 | 2.14E+04 | 2.14E+04 |
| Ba-137 | 1.89E+04 | 1.89E+04 | 1.89E+04 | 1.89E+04 | | | | 2.99E+06 | 2.03E+04 | 2.03E+04 |
| Np-237 | 4.37E-02 | 4.37E-02 | 4.37E-02 | 4.36E-02 | | | | 6.92E+00 | 4.53E-02 | 4.53E-02 |
| Pu-239 | 1.04E+01 | 1.04E+01 | 1.03E+01 | 1.03E+01 | | | | 1.64E+03 | 1.07E+01 | 1.07E+01 |
| Pu-240 | 2.71E+00 | 2.71E+00 | 2.70E+00 | 2.70E+00 | | | | 4.29E+02 | 2.81E+00 | 2.81E+00 |
| Pu-241 | 3.04E+01 | 3.03E+01 | 3.03E+01 | 3.03E+01 | | | | 4.81E+03 | 3.15E+01 | 3.15E+01 |
| Sr-90 | 1.16E+04 | 1.16E+04 | 1.16E+04 | 1.16E+04 | | | | 1.84E+06 | 1.21E+04 | 1.21E+04 |
| Y-90 | 1.16E+04 | 1.16E+04 | 1.16E+04 | 1.16E+04 | | | | 1.84E+06 | 1.21E+04 | 1.21E+04 |
| Tc-99 | 1.44E+02 | 1.43E+02 | 1.43E+02 | 1.43E+02 | | | | 2.27E+04 | 1.54E+02 | 1.54E+02 |
| Total Curies | 6.23E+04 | 6.23E+04 | 6.23E+04 | 6.22E+04 | | | | 9.87E+06 | 6.61E+04 | 6.61E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 2.01E-03 | 2.01E-03 | 2.01E-03 | 2.01E-03 | | | | 3.18E-01 | 2.08E-03 | 2.08E-03 |
| Am+3 | 1.45E-05 | 1.45E-05 | 1.45E-05 | 1.45E-05 | | | | 2.29E-03 | 1.50E-05 | 1.50E-05 |
| As+5 | 2.54E-07 | 2.54E-07 | 2.54E-07 | 2.54E-07 | | | | 4.03E-05 | 2.64E-07 | 2.64E-07 |
| B+3 | 2.15E-04 | 2.15E-04 | 2.15E-04 | 2.15E-04 | | | | 3.41E-02 | 2.23E-04 | 2.23E-04 |
| Ba+2 | 4.96E-03 | 4.96E-03 | 4.96E-03 | 4.95E-03 | | | | 7.85E-01 | 5.15E-03 | 5.15E-03 |
| Be+2 | 1.52E-07 | 1.52E-07 | 1.52E-07 | 1.52E-07 | | | | 2.41E-05 | 1.58E-07 | 1.58E-07 |
| Bi+3 | 7.42E-02 | 7.41E-02 | 7.41E-02 | 7.40E-02 | | | | 1.17E+01 | 7.69E-02 | 7.69E-02 |
| Ca+2 | 1.04E-01 | 1.03E-01 | 1.03E-01 | 1.03E-01 | | | | 1.64E+01 | 1.07E-01 | 1.07E-01 |
| Cd+2 | 4.79E-02 | 4.79E-02 | 4.79E-02 | 4.78E-02 | | | | 7.58E+00 | 5.49E-02 | 5.49E-02 |
| Ce+3 | 1.48E-02 | 1.48E-02 | 1.48E-02 | 1.48E-02 | | | | 2.35E+00 | 1.54E-02 | 1.54E-02 |
| Cm+3 | 5.97E-10 | 5.97E-10 | 5.96E-10 | 5.96E-10 | | | | 9.43E-08 | 6.19E-10 | 6.19E-10 |
| Co+3 | 9.17E-06 | 9.16E-06 | 9.16E-06 | 9.15E-06 | | | | 1.45E-03 | 9.51E-06 | 9.51E-06 |
| Cs+ | 1.15E-03 | 1.15E-03 | 1.15E-03 | 1.15E-03 | | | | 1.82E-01 | 1.23E-03 | 1.23E-03 |
| Cu+2 | 6.21E-04 | 6.21E-04 | 6.20E-04 | 6.20E-04 | | | | 9.83E-02 | 6.44E-04 | 6.44E-04 |
| Fe+2 | 7.49E-06 | 7.48E-06 | 7.48E-06 | 7.47E-06 | | | | 1.19E-03 | 7.76E-06 | 7.76E-06 |
| Fe+3 | 2.16E-01 | 2.16E-01 | 2.16E-01 | 2.16E-01 | | | | 3.42E+01 | 2.24E-01 | 2.24E-01 |
| H+ | | | | | | | | | | |
| Hg+2 | 3.67E-04 | 3.66E-04 | 3.66E-04 | 3.66E-04 | | | | 5.80E-02 | 3.80E-04 | 3.80E-04 |
| K+ | 4.44E+00 | 4.44E+00 | 4.43E+00 | 4.43E+00 | | | | 7.03E+02 | 4.61E+00 | 4.61E+00 |
| La+3 | 1.50E-03 | 1.50E-03 | 1.50E-03 | 1.50E-03 | | | | 2.37E-01 | 1.55E-03 | 1.55E-03 |
| Mg+2 | 9.17E-07 | 9.16E-07 | 9.16E-07 | 9.15E-07 | | | | 1.45E-04 | 9.51E-07 | 9.51E-07 |
| Mn+2 | 3.04E-07 | 3.04E-07 | 3.04E-07 | 3.04E-07 | | | | 4.82E-05 | 3.16E-07 | 3.16E-07 |
| Mn+4 | 6.78E-02 | 6.78E-02 | 6.78E-02 | 6.77E-02 | | | | 1.07E+01 | 7.03E-02 | 7.03E-02 |
| Mo+6 | 4.54E-05 | 4.54E-05 | 4.53E-05 | 4.53E-05 | | | | 7.19E-03 | 4.76E-05 | 4.76E-05 |
| Na+ | 5.35E+02 | 5.35E+02 | 5.35E+02 | 5.34E+02 | | | | 8.47E+04 | 5.43E+02 | 5.43E+02 |
| Ni+3 | 5.15E-02 | 5.15E-02 | 5.15E-02 | 5.14E-02 | | | | 8.15E+00 | 5.34E-02 | 5.34E-02 |
| Np+4 | 6.20E-05 | 6.20E-05 | 6.20E-05 | 6.19E-05 | | | | 9.82E-03 | 6.43E-05 | 6.43E-05 |
| Pb+4 | 6.03E-02 | 6.03E-02 | 6.02E-02 | 6.02E-02 | | | | 9.54E+00 | 6.92E-02 | 6.92E-02 |
| Pu+4 | 1.79E-04 | 1.79E-04 | 1.79E-04 | 1.79E-04 | | | | 2.84E-02 | 1.86E-04 | 1.86E-04 |
| Rb+ | 1.51E-06 | 1.51E-06 | 1.51E-06 | 1.50E-06 | | | | 2.38E-04 | 1.56E-06 | 1.56E-06 |
| Re+7 | 6.79E-07 | 6.78E-07 | 6.78E-07 | 6.78E-07 | | | | 1.07E-04 | 7.04E-07 | 7.04E-07 |
| Ru+3 | 5.34E-06 | 5.33E-06 | 5.33E-06 | 5.33E-06 | | | | 8.45E-04 | 5.53E-06 | 5.53E-06 |
| Ru+3 | 7.44E-06 | 7.43E-06 | 7.43E-06 | 7.42E-06 | | | | 1.18E-03 | 8.52E-06 | 8.52E-06 |
| Se+6 | 8.46E-07 | 8.46E-07 | 8.45E-07 | 8.45E-07 | | | | 1.34E-04 | 1.42E-05 | 1.42E-05 |
| Si+4 | 1.00E-01 | 1.00E-01 | 9.99E-02 | 9.98E-02 | | | | 1.58E+01 | 1.04E-01 | 1.04E-01 |
| Sr+2 | 2.39E-03 | 2.39E-03 | 2.39E-03 | 2.38E-03 | | | | 3.78E-01 | 2.48E-03 | 2.48E-03 |
| Te+6 | 5.19E-06 | 5.19E-06 | 5.18E-06 | 5.18E-06 | | | | 8.22E-04 | 5.95E-06 | 5.95E-06 |
| UO2+2 | 6.65E-01 | 6.65E-01 | 6.65E-01 | 6.64E-01 | | | | 1.05E+02 | 6.90E-01 | 6.90E-01 |
| Zn+2 | 4.88E-06 | 4.88E-06 | 4.88E-06 | 4.87E-06 | | | | 7.73E-04 | 5.06E-06 | 5.06E-06 |
| Zr+4 | 1.52E-07 | 1.52E-07 | 1.52E-07 | 1.52E-07 | | | | 2.41E-05 | 1.58E-07 | 1.58E-07 |
| Al(OH)4- | 7.85E+01 | 7.85E+01 | 7.84E+01 | 7.84E+01 | | | | 1.24E+04 | 8.26E+01 | 8.26E+01 |
| BO2- | 9.86E-12 | 9.85E-12 | 9.84E-12 | 9.84E-12 | | | | 1.56E-09 | 6.20E-05 | 6.20E-05 |
| Cl- | 4.26E+00 | 4.26E+00 | 4.25E+00 | 4.25E+00 | | | | 6.74E+02 | 4.47E+00 | 4.47E+00 |
| CO3-2 | 1.95E+01 | 1.95E+01 | 1.95E+01 | 1.95E+01 | | | | 3.08E+03 | 2.02E+01 | 2.02E+01 |
| Cr(OH)4- | 4.28E+00 | 4.28E+00 | 4.27E+00 | 4.27E+00 | | | | 6.77E+02 | 4.48E+00 | 4.48E+00 |
| F- | 7.14E+00 | 7.13E+00 | 7.13E+00 | 7.12E+00 | | | | 1.13E+03 | 7.40E+00 | 7.40E+00 |
| I- | 5.67E-04 | 5.66E-04 | 5.66E-04 | 5.66E-04 | | | | 8.97E-02 | 3.58E-03 | 3.58E-03 |
| NO2- | 5.94E+01 | 5.94E+01 | 5.94E+01 | 5.93E+01 | | | | 9.41E+03 | 1.07E+02 | 1.07E+02 |
| NO3- | 6.68E+02 | 6.68E+02 | 6.68E+02 | 6.67E+02 | | | | 1.06E+05 | 6.98E+02 | 6.98E+02 |
| OH- | 1.58E+02 | 1.58E+02 | 1.58E+02 | 1.58E+02 | | | | 2.50E+04 | 3.54E+02 | 3.54E+02 |
| PO4-3 | 2.86E+01 | 2.86E+01 | 2.86E+01 | 2.86E+01 | | | | 4.53E+03 | 3.16E+01 | 3.16E+01 |
| SO4-2 | 1.27E+01 | 1.27E+01 | 1.27E+01 | 1.27E+01 | | | | 2.01E+03 | 1.32E+01 | 1.32E+01 |
| TcO4- | 1.39E-02 | 1.39E-02 | 1.39E-02 | 1.39E-02 | | | | 2.20E+00 | 1.50E-02 | 1.50E-02 |
| H2O | 5.07E+03 | 5.06E+03 | 5.06E+03 | 5.06E+03 | | 3.19E+03 | 3.19E+03 | 8.02E+05 | 1.46E+05 | 1.46E+05 |
| Organic Carbon | 6.64E+00 | 6.63E+00 | 6.63E+00 | 6.62E+00 | | | | 1.05E+03 | 6.88E+00 | 6.88E+00 |
| ZrO2:2H2O | 4.73E-02 | 4.73E-02 | 4.72E-02 | 4.72E-02 | | | | 7.48E+00 | 4.90E-02 | 4.90E-02 |
| He | 1.96E-11 | 1.96E-11 | 1.96E-11 | 1.96E-11 | | | | 3.10E-09 | 2.82E-09 | 2.82E-09 |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | 5.57E-07 | 5.56E-07 | 5.56E-07 | 5.56E-07 | | | | 8.81E-05 | 8.00E-05 | 8.00E-05 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 2.56E-10 | 2.55E-10 | 2.55E-10 | 2.55E-10 | | | | 4.04E-08 | 1.45E+00 | 1.45E+00 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 200 | 300 | 301 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 6.66E-01 | 6.65E-01 | 6.65E-01 | 6.64E-01 | 7.98E+02 | | 7.98E+02 | 1.05E+02 | 1.48E+04 | 1.48E+04 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 3.56E+00 | 3.56E+00 | 3.56E+00 | 3.56E+00 | | | | 5.64E+02 | 9.59E+04 | 9.59E+04 |
| C-14 | 8.06E-02 | 8.06E-02 | 8.05E-02 | 8.05E-02 | | | | 1.28E+01 | 2.17E+03 | 2.17E+03 |
| Cs-137 | 1.17E+03 | 1.17E+03 | 1.17E+03 | 1.17E+03 | | | | 1.85E+05 | 3.20E+07 | 3.20E+07 |
| Ba-137 | 1.11E+03 | 1.11E+03 | 1.11E+03 | 1.11E+03 | | | | 1.76E+05 | 3.04E+07 | 3.04E+07 |
| Np-237 | 2.32E-03 | 2.31E-03 | 2.31E-03 | 2.31E-03 | | | | 3.66E-01 | 6.23E+01 | 6.23E+01 |
| Pu-239 | 9.35E-01 | 9.34E-01 | 9.34E-01 | 9.33E-01 | | | | 1.48E+02 | 2.52E+04 | 2.52E+04 |
| Pu-240 | 2.32E-01 | 2.32E-01 | 2.32E-01 | 2.32E-01 | | | | 3.67E+01 | 6.25E+03 | 6.25E+03 |
| Pu-241 | 2.61E+00 | 2.61E+00 | 2.61E+00 | 2.61E+00 | | | | 4.13E+02 | 7.03E+04 | 7.03E+04 |
| Sr-90 | 1.88E+03 | 1.88E+03 | 1.88E+03 | 1.88E+03 | | | | 2.98E+05 | 5.07E+07 | 5.07E+07 |
| Y-90 | 1.88E+03 | 1.88E+03 | 1.88E+03 | 1.88E+03 | | | | 2.98E+05 | 5.07E+07 | 5.07E+07 |
| Tc-99 | 3.46E-01 | 3.46E-01 | 3.46E-01 | 3.46E-01 | | | | 5.48E+01 | 2.33E+04 | 2.33E+04 |
| Total Curies | 6.05E+03 | 6.05E+03 | 6.04E+03 | 6.04E+03 | | | | 9.58E+05 | 1.64E+08 | 1.64E+08 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 5.47E-05 | 5.47E-05 | 5.46E-05 | 5.46E-05 | | | | 8.66E-03 | 1.47E+00 | 1.47E+00 |
| Al+3 | 5.96E-02 | 5.96E-02 | 5.95E-02 | 5.95E-02 | | | | 9.43E+00 | 7.36E+02 | 7.36E+02 |
| Am+3 | 1.04E-06 | 1.04E-06 | 1.04E-06 | 1.04E-06 | | | | 1.64E-04 | 2.80E-02 | 2.80E-02 |
| As+5 | 8.36E-08 | 8.36E-08 | 8.35E-08 | 8.35E-08 | | | | 1.32E-05 | 2.25E-03 | 2.25E-03 |
| Ba+2 | 1.38E-04 | 1.38E-04 | 1.38E-04 | 1.38E-04 | | | | 2.19E-02 | 3.72E+00 | 3.72E+00 |
| Be+2 | 1.14E-07 | 1.14E-07 | 1.14E-07 | 1.13E-07 | | | | 1.80E-05 | 3.06E-03 | 3.06E-03 |
| Bi+3 | 9.29E-03 | 9.29E-03 | 9.28E-03 | 9.28E-03 | | | | 1.47E+00 | 2.50E+02 | 2.50E+02 |
| Ca+2 | 5.35E-03 | 5.35E-03 | 5.34E-03 | 5.34E-03 | | | | 8.46E-01 | 1.44E+02 | 1.44E+02 |
| Cd+2 | 2.42E-04 | 2.42E-04 | 2.42E-04 | 2.42E-04 | | | | 3.83E-02 | 6.52E+00 | 6.52E+00 |
| Ce+3 | 8.69E-03 | 8.68E-03 | 8.68E-03 | 8.67E-03 | | | | 1.38E+00 | 2.34E+02 | 2.34E+02 |
| Cm+3 | 6.48E-10 | 6.48E-10 | 6.48E-10 | 6.47E-10 | | | | 1.03E-07 | 1.75E-05 | 1.75E-05 |
| Co+3 | 5.49E-11 | 5.49E-11 | 5.48E-11 | 5.48E-11 | | | | 8.69E-09 | 1.48E-06 | 1.48E-06 |
| Cr+3 | 4.23E-03 | 4.22E-03 | 4.22E-03 | 4.22E-03 | | | | 6.69E-01 | 5.72E+01 | 5.72E+01 |
| Cs+ | 6.83E-05 | 6.83E-05 | 6.83E-05 | 6.82E-05 | | | | 1.08E-02 | 1.87E+00 | 1.87E+00 |
| Cu+2 | 6.96E-06 | 6.95E-06 | 6.95E-06 | 6.95E-06 | | | | 1.10E-03 | 1.87E-01 | 1.87E-01 |
| Fe+3 | 2.82E-02 | 2.81E-02 | 2.81E-02 | 2.81E-02 | | | | 4.46E+00 | 7.58E+02 | 7.58E+02 |
| Hg+2 | 3.26E-06 | 3.25E-06 | 3.25E-06 | 3.25E-06 | | | | 5.15E-04 | 8.76E-02 | 8.76E-02 |
| K+ | 1.09E-03 | 1.09E-03 | 1.09E-03 | 1.09E-03 | | | | 1.73E-01 | 2.94E+01 | 2.94E+01 |
| La+3 | 8.48E-04 | 8.47E-04 | 8.47E-04 | 8.46E-04 | | | | 1.34E-01 | 2.28E+01 | 2.28E+01 |
| Mg+2 | 3.05E-04 | 3.05E-04 | 3.04E-04 | 3.04E-04 | | | | 4.82E-02 | 8.20E+00 | 8.20E+00 |
| Mn+4 | 6.65E-03 | 6.64E-03 | 6.64E-03 | 6.64E-03 | | | | 1.05E+00 | 1.79E+02 | 1.79E+02 |
| Mo+6 | 1.19E-06 | 1.19E-06 | 1.19E-06 | 1.19E-06 | | | | 1.88E-04 | 3.20E-02 | 3.20E-02 |
| Na+ | 2.85E-02 | 2.85E-02 | 2.84E-02 | 2.84E-02 | | | | 4.51E+00 | 6.60E+02 | 6.60E+02 |
| Ni+3 | 7.62E-03 | 7.61E-03 | 7.61E-03 | 7.60E-03 | | | | 1.21E+00 | 2.05E+02 | 2.05E+02 |
| Np+4 | 3.28E-06 | 3.28E-06 | 3.28E-06 | 3.28E-06 | | | | 5.20E-04 | 8.84E-02 | 8.84E-02 |
| Pb+4 | 1.08E-03 | 1.08E-03 | 1.08E-03 | 1.08E-03 | | | | 1.71E-01 | 2.91E+01 | 2.91E+01 |
| Pu+4 | 1.61E-05 | 1.61E-05 | 1.61E-05 | 1.61E-05 | | | | 2.55E-03 | 4.34E-01 | 4.34E-01 |
| Rh+3 | 7.12E-06 | 7.11E-06 | 7.11E-06 | 7.10E-06 | | | | 1.13E-03 | 1.92E-01 | 1.92E-01 |
| Se+6 | 1.22E-04 | 1.22E-04 | 1.22E-04 | 1.22E-04 | | | | 1.94E-02 | 3.29E+00 | 3.29E+00 |
| Si+4 | 8.56E-03 | 8.56E-03 | 8.55E-03 | 8.54E-03 | | | | 1.36E+00 | 2.30E+02 | 2.30E+02 |
| Sr+2 | 1.35E-03 | 1.35E-03 | 1.35E-03 | 1.35E-03 | | | | 2.14E-01 | 3.63E+01 | 3.63E+01 |
| Th+4 | 1.03E-04 | 1.03E-04 | 1.03E-04 | 1.03E-04 | | | | 1.63E-02 | 2.78E+00 | 2.78E+00 |
| Ti+4 | 5.71E-06 | 5.71E-06 | 5.71E-06 | 5.70E-06 | | | | 9.04E-04 | 1.54E-01 | 1.54E-01 |
| UO2+2 | 5.70E-02 | 5.70E-02 | 5.70E-02 | 5.69E-02 | | | | 9.03E+00 | 1.54E+03 | 1.54E+03 |
| Zn+2 | 1.87E-05 | 1.87E-05 | 1.87E-05 | 1.87E-05 | | | | 2.96E-03 | 5.03E-01 | 5.03E-01 |
| Cl- | 3.33E-04 | 3.32E-04 | 3.32E-04 | 3.32E-04 | | | | 5.26E-02 | 8.95E+00 | 8.95E+00 |
| CO3-2 | 4.03E-03 | 4.02E-03 | 4.02E-03 | 4.02E-03 | | | | 6.37E-01 | 1.08E+02 | 1.08E+02 |
| F- | 2.52E-03 | 2.52E-03 | 2.52E-03 | 2.51E-03 | | | | 3.99E-01 | 6.78E+01 | 6.78E+01 |
| I- | 5.16E-08 | 5.15E-08 | 5.15E-08 | 5.15E-08 | | | | 8.16E-06 | 1.39E-03 | 1.39E-03 |
| NO2- | 2.28E-03 | 2.28E-03 | 2.28E-03 | 2.28E-03 | | | | 3.61E-01 | 6.14E+01 | 6.14E+01 |
| NO3- | 3.64E-02 | 3.64E-02 | 3.64E-02 | 3.63E-02 | | | | 5.76E+00 | 9.80E+02 | 9.80E+02 |
| OH- | 1.67E-01 | 1.67E-01 | 1.67E-01 | 1.67E-01 | | | | 2.65E+01 | 3.13E+03 | 3.13E+03 |
| PO4-3 | 4.58E-02 | 4.58E-02 | 4.58E-02 | 4.57E-02 | | | | 7.23E+00 | 4.78E+02 | 4.78E+02 |
| SO4-2 | 9.45E-04 | 9.44E-04 | 9.44E-04 | 9.43E-04 | | | | 1.50E-01 | 2.54E+01 | 2.54E+01 |
| TcO4- | 3.35E-05 | 3.35E-05 | 3.35E-05 | 3.35E-05 | | | | 5.31E-03 | 9.02E-01 | 9.02E-01 |
| Cancrinite | 9.99E-02 | 9.99E-02 | 9.98E-02 | 9.97E-02 | | | | 1.58E+01 | 2.69E+03 | 2.69E+03 |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | 3.22E-03 | 3.22E-03 | 3.22E-03 | 3.22E-03 | | | | 5.10E-01 | 3.75E-05 | 3.75E-05 |
| ZrO2·2H2O | 4.42E-02 | 4.41E-02 | 4.41E-02 | 4.41E-02 | | | | 6.99E+00 | 8.68E+01 | 8.68E+01 |
| Ag2O | | | | | | | | | 1.19E+03 | 1.19E+03 |
| AlFO4 | | | | | | | | | 3.33E-07 | 3.33E-07 |
| Al2O3 | | | | | | | | | 2.97E-03 | 2.97E-03 |
| Am2O3 | | | | | | | | | 1.05E-02 | 1.05E-02 |
| As2O5 | | | | | | | | | 4.41E-09 | 4.41E-09 |
| B2O3 | | | | | | | | | 3.84E-10 | 3.84E-10 |
| BaO | | | | | | | | | 8.05E-02 | 8.05E-02 |
| BeO | | | | | | | | | 8.65E-07 | 8.65E-07 |
| Bi2O3 | | | | | | | | | 9.01E-10 | 9.01E-10 |
| CaO | | | | | | | | | 3.51E-05 | 3.51E-05 |
| CdO | | | | | | | | | 2.30E-02 | 2.30E-02 |
| Ce2O3 | | | | | | | | | 5.04E-06 | 5.04E-06 |
| Cm2O3 | | | | | | | | | 2.94E-05 | 2.94E-05 |
| Co2O3 | | | | | | | | | 2.01E-12 | 2.01E-12 |
| Cr2O3 | | | | | | | | | 1.03E-09 | 1.03E-09 |
| Cs2O | | | | | | | | | 2.24E-04 | 2.24E-04 |
| CuO | | | | | | | | | 2.80E-07 | 2.80E-07 |
| Fe2O3 | | | | | | | | | 8.57E-08 | 8.57E-08 |
| FeO | | | | | | | | | 1.35E-04 | 1.35E-04 |
| Hg | | | | | | | | | 7.65E-10 | 7.65E-10 |
| HgO | | | | | | | | | 1.40E-06 | 1.40E-06 |
| K2O | | | | | | | | | 3.04E-10 | 3.04E-10 |
| La2O3 | | | | | | | | | 4.28E-04 | 4.28E-04 |
| Li2O | | | | | | | | | 2.87E-06 | 2.87E-06 |
| MgO | | | | | | | | | 2.30E-02 | 2.30E-02 |
| MnO | | | | | | | | | 1.39E-06 | 1.39E-06 |
| MoO3 | | | | | | | | | 3.12E-11 | 3.12E-11 |
| Na2O | | | | | | | | | 1.03E-08 | 1.03E-08 |
| Ni2O3 | | | | | | | | | 5.77E-02 | 5.77E-02 |
| NpO2 | | | | | | | | | 3.53E-05 | 3.53E-05 |
| PbO2 | | | | | | | | | 1.58E-08 | 1.58E-08 |
| RuO2 | | | | | | | | | 8.88E-06 | 8.88E-06 |
| | | | | | | | | | 6.64E-08 | 6.64E-08 |

| STREAM NAME | 60 | 61 | 62 | 63 | 65 | 66 | 67 | 200 | 300 | 301 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | | | | | | | | 1.31E-10 | 1.31E-10 |
| $Re_2O_7$ | | | | | | | | | 7.02E-11 | 7.02E-11 |
| $Rh_2O_3$ | | | | | | | | | 2.47E-08 | 2.47E-08 |
| $Ru_2O_3$ | | | | | | | | | 7.20E-10 | 7.20E-10 |
| $SeO_3$ | | | | | | | | | 5.41E-07 | 5.41E-07 |
| $SiO_2$ | | | | | | | | | 5.64E-01 | 5.64E-01 |
| $SO_3$ | | | | | | | | | 8.34E-05 | 8.34E-05 |
| SrO | | | | | | | | | 4.60E-06 | 4.60E-06 |
| $Tc_2O_7$ | | | | | | | | | 5.33E-07 | 5.33E-07 |
| $Tc_2S_7$ | | | | | | | | | 1.75E+00 | 1.75E+00 |
| $TeO_3$ | | | | | | | | | 5.59E-10 | 5.59E-10 |
| $ThO_2$ | | | | | | | | | 3.23E-07 | 3.23E-07 |
| $TiO_2$ | | | | | | | | | 2.37E-05 | 2.37E-05 |
| $UO_3$ | | | | | | | | | 2.22E-04 | 2.22E-04 |
| ZnO | | | | | | | | | 6.45E-08 | 6.45E-08 |
| $ZrO_2$ | | | | | | | | | 9.68E-05 | 9.68E-05 |
| Cement | | | | | | | | | | |
| $Cu$ | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | 4.91E+00 | 4.91E+00 |
| Silico-Titanate | 2.95E-02 | 2.95E-02 | 2.94E-02 | 2.94E-02 | 7.98E+02 | | 7.98E+02 | 4.67E+00 | 8.04E+02 | 8.04E+02 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.76E+03 | 1.46E+05 | 1.46E+05 | 1.46E+05 | 1.01E+05 | 1.11E+03 | 1.00E+05 | 4.49E+04 | 4.49E+04 | 4.67E+04 |
| Volume (L) | 1.74E+06 | 1.45E+08 | 1.45E+08 | 1.45E+08 | 1.01E+08 | 1.11E+06 | 1.00E+08 | 4.35E+07 | 4.35E+07 | 4.52E+07 |
| Specific Gravity | 1.01E+00 | 1.01E+00 | 1.01E+00 | 1.01E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.03E+00 | 1.03E+00 | 1.03E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 6.11E-01 | 5.09E+01 | 5.09E+01 | 5.09E+01 | 1.15E-05 | 1.15E-08 | 1.15E-05 | 5.09E+01 | 5.09E+01 | 5.15E+01 |
| C-14 | 2.56E-01 | 2.13E+01 | 2.13E+01 | 2.13E+01 | 4.81E-06 | 4.81E-09 | 4.80E-06 | 2.13E+01 | 2.13E+01 | 2.16E+01 |
| Cs-137 | 2.54E+02 | 2.12E+04 | 2.12E+04 | 2.12E+04 | 4.77E-03 | 4.77E-06 | 4.76E-03 | 2.12E+04 | 2.12E+04 | 2.14E+04 |
| Ba-137 | 2.41E+02 | 2.01E+04 | 2.01E+04 | 2.01E+04 | 4.53E-03 | 4.53E-06 | 4.53E-03 | 2.01E+04 | 2.01E+04 | 2.03E+04 |
| Np-237 | 5.38E-04 | 4.48E-02 | 4.48E-02 | 4.48E-02 | 1.01E-08 | 1.01E-11 | 1.01E-08 | 4.48E-02 | 4.48E-02 | 4.53E-02 |
| Pu-239 | 1.27E-01 | 1.06E+01 | 1.06E+01 | 1.06E+01 | 2.39E-06 | 2.39E-09 | 2.39E-06 | 1.06E+01 | 1.06E+01 | 1.07E+01 |
| Pu-240 | 3.33E-02 | 2.77E+00 | 2.77E+00 | 2.77E+00 | 6.26E-07 | 6.26E-10 | 6.25E-07 | 2.77E+00 | 2.77E+00 | 2.81E+00 |
| Pu-241 | 3.73E-01 | 3.11E+01 | 3.11E+01 | 3.11E+01 | 7.02E-06 | 7.02E-09 | 7.01E-06 | 3.11E+01 | 3.11E+01 | 3.15E+01 |
| Sr-90 | 1.43E+02 | 1.19E+04 | 1.19E+04 | 1.19E+04 | 2.69E-03 | 2.69E-06 | 2.68E-03 | 1.19E+04 | 1.19E+04 | 1.21E+04 |
| Y-90 | 1.43E+02 | 1.19E+04 | 1.19E+04 | 1.19E+04 | 2.69E-03 | 2.69E-06 | 2.68E-03 | 1.19E+04 | 1.19E+04 | 1.21E+04 |
| Tc-99 | 1.83E+00 | 1.53E+02 | 1.53E+02 | 1.53E+02 | 3.44E-05 | 3.44E-08 | 3.44E-05 | 1.53E+02 | 1.53E+02 | 1.54E+02 |
| Total Curies | 7.84E+02 | 6.53E+04 | 6.53E+04 | 6.53E+04 | 1.47E-02 | 1.47E-05 | 1.47E-02 | 6.53E+04 | 6.53E+04 | 6.61E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 2.47E-05 | 2.06E-03 | 2.06E-03 | 2.06E-03 | 4.64E-10 | 4.64E-13 | 4.64E-10 | 2.06E-03 | 2.06E-03 | 2.08E-03 |
| Am+3 | 1.78E-07 | 1.48E-05 | 1.48E-05 | 1.48E-05 | 3.35E-12 | 3.35E-15 | 3.34E-12 | 1.48E-05 | 1.48E-05 | 1.50E-05 |
| As+5 | 3.13E-09 | 2.61E-07 | 2.61E-07 | 2.61E-07 | 5.88E-14 | 5.88E-17 | 5.87E-14 | 2.61E-07 | 2.61E-07 | 2.64E-07 |
| B+3 | 2.65E-06 | 2.21E-04 | 2.21E-04 | 2.21E-04 | 4.97E-11 | 4.97E-14 | 4.97E-11 | 2.21E-04 | 2.21E-04 | 2.23E-04 |
| Ba+2 | 6.10E-05 | 5.09E-03 | 5.09E-03 | 5.09E-03 | 1.15E-09 | 1.15E-12 | 1.15E-09 | 5.09E-03 | 5.09E-03 | 5.15E-03 |
| Be+2 | 1.87E-09 | 1.56E-07 | 1.56E-07 | 1.56E-07 | 3.52E-14 | 3.52E-17 | 3.52E-14 | 1.56E-07 | 1.56E-07 | 1.58E-07 |
| Bi+3 | 9.12E-04 | 7.60E-02 | 7.60E-02 | 7.60E-02 | 1.71E-08 | 1.71E-11 | 1.71E-08 | 7.60E-02 | 7.60E-02 | 7.69E-02 |
| Ca+2 | 1.27E-03 | 1.06E-01 | 1.06E-01 | 1.06E-01 | 2.39E-08 | 2.39E-11 | 2.39E-08 | 1.06E-01 | 1.06E-01 | 1.07E-01 |
| Cd+2 | 6.51E-04 | 5.43E-02 | 5.43E-02 | 5.43E-02 | 1.22E-08 | 1.22E-11 | 1.22E-08 | 5.43E-02 | 5.43E-02 | 5.49E-02 |
| Ce+3 | 1.83E-04 | 1.52E-02 | 1.52E-02 | 1.52E-02 | 3.43E-09 | 3.43E-12 | 3.43E-09 | 1.52E-02 | 1.52E-02 | 1.54E-02 |
| Cm+3 | 7.34E-12 | 6.12E-10 | 6.12E-10 | 6.12E-10 | 1.38E-16 | 1.38E-19 | | 6.12E-10 | 6.12E-10 | 6.19E-10 |
| Co+3 | 1.13E-07 | 9.39E-06 | 9.39E-06 | 9.39E-06 | 2.12E-12 | 2.12E-15 | 2.12E-12 | 9.39E-06 | 9.39E-06 | 9.51E-06 |
| Cs+ | 1.46E-03 | 1.22E-03 | 1.22E-03 | 1.22E-03 | 2.75E-10 | 2.75E-13 | 2.75E-10 | 1.22E-03 | 1.22E-03 | 1.23E-03 |
| Cu+2 | 7.64E-06 | 6.36E-04 | 6.36E-04 | 6.36E-04 | 1.44E-10 | 1.44E-13 | 1.43E-10 | 6.36E-04 | 6.36E-04 | 6.44E-04 |
| Fe+2 | 9.21E-08 | 7.67E-06 | 7.67E-06 | 7.67E-06 | 1.73E-12 | 1.73E-15 | 1.73E-12 | 7.67E-06 | 7.67E-06 | 7.76E-06 |
| Fe+3 | 2.66E-03 | 2.21E-01 | 2.21E-01 | 2.21E-01 | 4.99E-08 | 4.99E-11 | 4.98E-08 | 2.21E-01 | 2.21E-01 | 2.24E-01 |
| H+ | | | | | | | | | | |
| Hg+2 | 4.51E-06 | 3.76E-04 | 3.76E-04 | 3.76E-04 | 8.47E-11 | 8.47E-14 | 8.46E-11 | 3.76E-04 | 3.76E-04 | 3.80E-04 |
| K+ | 5.47E-02 | 4.56E+00 | 4.56E+00 | 4.56E+00 | 1.03E-06 | 1.03E-09 | 1.03E-06 | 4.56E+00 | 4.56E+00 | 4.61E+00 |
| La+3 | 1.84E-05 | 1.54E-03 | 1.54E-03 | 1.54E-03 | 3.46E-10 | 3.46E-13 | 3.46E-10 | 1.54E-03 | 1.54E-03 | 1.55E-03 |
| Mg+2 | 1.13E-08 | 9.39E-07 | 9.39E-07 | 9.39E-07 | 2.12E-13 | 2.12E-16 | 2.12E-13 | 9.39E-07 | 9.39E-07 | 9.51E-07 |
| Mn+2 | 3.74E-09 | 3.12E-07 | 3.12E-07 | 3.12E-07 | 7.03E-14 | 7.03E-17 | 7.02E-14 | 3.12E-07 | 3.12E-07 | 3.16E-07 |
| Mn+4 | 8.34E-04 | 6.95E-02 | 6.95E-02 | 6.95E-02 | 1.57E-08 | 1.57E-11 | 1.57E-08 | 6.95E-02 | 6.95E-02 | 7.03E-02 |
| Mo+6 | 5.65E-07 | 4.71E-05 | 4.71E-05 | 4.71E-05 | 1.06E-11 | 1.06E-14 | 1.06E-11 | 4.71E-05 | 4.71E-05 | 4.76E-05 |
| Na+ | 6.44E+00 | 5.36E+02 | 5.36E+02 | 5.36E+02 | 2.95E-04 | 2.95E-07 | 2.94E-04 | 5.36E+02 | 5.36E+02 | 5.43E+02 |
| Ni+3 | 6.34E-04 | 5.28E-02 | 5.28E-02 | 5.28E-02 | 1.19E-08 | 1.19E-11 | 1.19E-08 | 5.28E-02 | 5.28E-02 | 5.34E-02 |
| Np+4 | 7.63E-07 | 6.36E-05 | 6.36E-05 | 6.36E-05 | 1.43E-11 | 1.43E-14 | 1.43E-11 | 6.36E-05 | 6.36E-05 | 6.43E-05 |
| Pb+4 | 8.20E-04 | 6.83E-02 | 6.83E-02 | 6.83E-02 | 1.54E-08 | 1.54E-11 | 1.54E-08 | 6.83E-02 | 6.83E-02 | 6.92E-02 |
| Pu+4 | 2.20E-06 | 1.84E-04 | 1.84E-04 | 1.84E-04 | 4.14E-11 | 4.14E-14 | 4.14E-11 | 1.84E-04 | 1.84E-04 | 1.86E-04 |
| Ra+ | 1.85E-08 | 1.54E-06 | 1.54E-06 | 1.54E-06 | 3.48E-13 | 3.48E-16 | 3.48E-13 | 1.54E-06 | 1.54E-06 | 1.56E-06 |
| Re+7 | 8.35E-09 | 6.96E-07 | 6.96E-07 | 6.96E-07 | 1.57E-13 | 1.57E-16 | 1.57E-13 | 6.96E-07 | 6.96E-07 | 7.04E-07 |
| Rh+3 | 6.56E-08 | 5.47E-06 | 5.47E-06 | 5.47E-06 | 1.23E-12 | 1.23E-15 | 1.23E-12 | 5.47E-06 | 5.47E-06 | 5.53E-06 |
| Ru+3 | 1.01E-07 | 8.41E-06 | 8.41E-06 | 8.41E-06 | 1.90E-12 | 1.90E-15 | 1.90E-12 | 8.41E-06 | 8.41E-06 | 8.52E-06 |
| Se+6 | 1.69E-07 | 1.41E-05 | 1.41E-05 | 1.41E-05 | 3.17E-12 | 3.17E-15 | 3.17E-12 | 1.41E-05 | 1.41E-05 | 1.42E-05 |
| Si+4 | 1.23E-03 | 1.03E-01 | 1.03E-01 | 1.03E-01 | 2.31E-08 | 2.31E-11 | 2.31E-08 | 1.03E-01 | 1.03E-01 | 1.04E-01 |
| Sr+2 | 2.94E-05 | 2.45E-03 | 2.45E-03 | 2.45E-03 | 5.52E-10 | 5.52E-13 | 5.51E-10 | 2.45E-03 | 2.45E-03 | 2.48E-03 |
| Te+6 | 7.05E-08 | 5.87E-06 | 5.87E-06 | 5.87E-06 | 1.32E-12 | 1.32E-15 | 1.32E-12 | 5.87E-06 | 5.87E-06 | 5.95E-06 |
| UO2+2 | 8.18E-03 | 6.82E-01 | 6.82E-01 | 6.82E-01 | 1.54E-07 | 1.54E-10 | 1.54E-07 | 6.82E-01 | 6.82E-01 | 6.90E-01 |
| Zn+2 | 6.00E-08 | 5.00E-06 | 5.00E-06 | 5.00E-06 | 1.13E-12 | 1.13E-15 | 1.13E-12 | 5.00E-06 | 5.00E-06 | 5.06E-06 |
| Zr+4 | 1.87E-09 | 1.56E-07 | 1.56E-07 | 1.56E-07 | 3.52E-14 | 3.52E-17 | 3.52E-14 | 1.56E-07 | 1.56E-07 | 1.58E-07 |
| Al(OH)4- | 9.79E-01 | 8.16E+01 | 8.16E+01 | 8.16E+01 | 1.84E-05 | 1.84E-08 | 1.84E-05 | 8.16E+01 | 8.16E+01 | 8.26E+01 |
| BO2- | 7.36E-07 | 6.13E-05 | 6.13E-05 | 6.13E-05 | 1.38E-11 | 1.38E-14 | 1.38E-11 | 6.13E-05 | 6.13E-05 | 6.20E-05 |
| Cl- | 5.31E-02 | 4.42E+00 | 4.42E+00 | 4.42E+00 | 1.99E-06 | 1.99E-09 | 1.99E-06 | 4.42E+00 | 4.42E+00 | 4.47E+00 |
| CO3-2 | 2.40E-01 | 2.00E+01 | 2.00E+01 | 2.00E+01 | 4.50E-06 | 4.50E-09 | 4.50E-06 | 2.00E+01 | 2.00E+01 | 2.02E+01 |
| Cr(OH)4- | 5.32E-02 | 4.43E+00 | 4.43E+00 | 4.43E+00 | 9.99E-07 | 9.99E-10 | 9.98E-07 | 4.43E+00 | 4.43E+00 | 4.48E+00 |
| F- | 8.78E-02 | 7.31E+00 | 7.31E+00 | 7.31E+00 | 1.65E-06 | 1.65E-09 | 1.65E-06 | 7.31E+00 | 7.31E+00 | 7.40E+00 |
| I- | 4.24E-05 | 3.53E-03 | 3.53E-03 | 3.53E-03 | 7.97E-10 | 7.97E-13 | 7.96E-10 | 3.53E-03 | 3.53E-03 | 3.58E-03 |
| NO2- | 1.27E+00 | 1.06E+02 | 1.06E+02 | 1.06E+02 | 2.39E-05 | 2.39E-08 | 2.38E-05 | 1.06E+02 | 1.06E+02 | 1.07E+02 |
| NO3- | 8.28E+00 | 6.90E+02 | 6.90E+02 | 6.90E+02 | 3.11E-04 | 3.11E-07 | 3.11E-04 | 6.90E+02 | 6.90E+02 | 6.98E+02 |
| OH- | 4.20E+00 | 3.50E+02 | 3.50E+02 | 3.50E+02 | 7.88E-05 | 7.88E-08 | 7.87E-05 | 3.50E+02 | 3.50E+02 | 3.54E+02 |
| PO4-3 | 3.74E-01 | 3.12E+01 | 3.12E+01 | 3.12E+01 | 7.03E-06 | 7.03E-09 | 7.02E-06 | 3.12E+01 | 3.12E+01 | 3.16E+01 |
| SO4-2 | 1.56E-01 | 1.30E+01 | 1.30E+01 | 1.30E+01 | 2.93E-06 | 2.93E-09 | 2.93E-06 | 1.30E+01 | 1.30E+01 | 1.32E+01 |
| TcO4- | 1.77E-04 | 1.48E-02 | 1.48E-02 | 1.48E-02 | 3.33E-09 | 3.33E-12 | 3.33E-09 | 1.48E-02 | 1.48E-02 | 1.50E-02 |
| H2O | 1.73E+03 | 1.44E+05 | 1.44E+05 | 1.44E+05 | 1.01E+05 | 1.11E+03 | 1.00E+05 | 4.31E+04 | 4.31E+04 | 4.48E+04 |
| Organic Carbon | 8.16E-02 | 6.80E+00 | 6.80E+00 | 6.80E+00 | 4.38E-06 | 4.38E-09 | 4.38E-06 | 6.80E+00 | 6.80E+00 | 6.88E+00 |
| ZrO2:2H2O | 5.82E-04 | 4.84E-02 | 4.84E-02 | 4.84E-02 | 1.09E-08 | 1.09E-11 | 1.09E-08 | 4.84E-02 | 4.84E-02 | 4.90E-02 |
| H2 | 3.34E-11 | 2.78E-09 | 2.78E-09 | 2.78E-09 | 6.27E-16 | 6.27E-19 | 6.27E-16 | 2.78E-09 | 2.78E-09 | 2.82E-09 |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | 9.48E-07 | 7.90E-05 | 7.90E-05 | 7.90E-05 | 7.90E-05 | 7.90E-08 | 7.89E-05 | | | 9.48E-07 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 1.72E-02 | 1.44E+00 | 1.44E+00 | 1.44E+00 | 3.24E-07 | 3.24E-10 | 3.23E-07 | 1.44E+00 | 1.44E+00 | 1.45E+00 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NBG | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.46E+04 | 1.46E+02 | 1.46E+02 | 1.46E+02 | | | | 1.46E+02 | 1.46E+02 | 1.48E+04 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 9.49E+04 | 9.50E+02 | 9.50E+02 | 9.50E+02 | | | | 9.50E+02 | 9.50E+02 | 9.59E+04 |
| C-14 | 2.15E+03 | 2.15E+01 | 2.15E+01 | 2.15E+01 | | | | 2.15E+01 | 2.15E+01 | 2.17E+03 |
| Cs-137 | 3.16E+07 | 3.17E+05 | 3.17E+05 | 3.17E+05 | | | | 3.17E+05 | 3.17E+05 | 3.20E+07 |
| Ba-137 | 3.01E+07 | 3.01E+05 | 3.01E+05 | 3.01E+05 | | | | 3.01E+05 | 3.01E+05 | 3.04E+07 |
| Np-237 | 6.17E+01 | 6.17E-01 | 6.17E-01 | 6.17E-01 | | | | 6.17E-01 | 6.17E-01 | 6.23E+01 |
| Pu-239 | 2.49E+04 | 2.49E+02 | 2.49E+02 | 2.49E+02 | | | | 2.49E+02 | 2.49E+02 | 2.52E+04 |
| Pu-240 | 6.18E+03 | 6.19E+01 | 6.19E+01 | 6.19E+01 | | | | 6.19E+01 | 6.19E+01 | 6.25E+03 |
| Pu-241 | 6.96E+04 | 6.97E+02 | 6.97E+02 | 6.97E+02 | | | | 6.97E+02 | 6.97E+02 | 7.03E+04 |
| Sr-90 | 5.02E+07 | 5.02E+05 | 5.02E+05 | 5.02E+05 | | | | 5.02E+05 | 5.02E+05 | 5.07E+07 |
| Y-90 | 5.02E+07 | 5.02E+05 | 5.02E+05 | 5.02E+05 | | | | 5.02E+05 | 5.02E+05 | 5.07E+07 |
| Tc-99 | 2.31E+04 | 2.31E+02 | 2.31E+02 | 2.31E+02 | | | | 2.31E+02 | 2.31E+02 | 2.33E+04 |
| Total Curies | 1.62E+08 | 1.62E+06 | 1.62E+06 | 1.62E+06 | | | | 1.62E+06 | 1.62E+06 | 1.64E+08 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.46E+00 | 1.46E-02 | 1.46E-02 | 1.46E-02 | | | | 1.46E-02 | 1.46E-02 | 1.47E+00 |
| Al+3 | 7.28E+02 | 7.29E+00 | 7.29E+00 | 7.29E+00 | | | | 7.29E+00 | 7.29E+00 | 7.36E+02 |
| Am+3 | 2.77E-02 | 2.77E-04 | 2.77E-04 | 2.77E-04 | | | | 2.77E-04 | 2.77E-04 | 2.80E-02 |
| As+5 | 2.23E-03 | 2.23E-05 | 2.23E-05 | 2.23E-05 | | | | 2.23E-05 | 2.23E-05 | 2.25E-03 |
| Ba+2 | 3.68E+00 | 3.69E-02 | 3.69E-02 | 3.69E-02 | | | | 3.69E-02 | 3.69E-02 | 3.72E+00 |
| Be+2 | 3.03E-03 | 3.03E-05 | 3.03E-05 | 3.03E-05 | | | | 3.03E-05 | 3.03E-05 | 3.06E-03 |
| Bi+3 | 2.48E+02 | 2.48E+00 | 2.48E+00 | 2.48E+00 | | | | 2.48E+00 | 2.48E+00 | 2.50E+02 |
| Ca+2 | 1.43E+02 | 1.43E+00 | 1.43E+00 | 1.43E+00 | | | | 1.43E+00 | 1.43E+00 | 1.44E+02 |
| Cd+2 | 6.45E+00 | 6.46E-02 | 6.46E-02 | 6.46E-02 | | | | 6.46E-02 | 6.46E-02 | 6.52E+00 |
| Ce+3 | 2.32E+02 | 2.32E+00 | 2.32E+00 | 2.32E+00 | | | | 2.32E+00 | 2.32E+00 | 2.34E+02 |
| Cm+3 | 1.73E-05 | 1.73E-07 | 1.73E-07 | 1.73E-07 | | | | 1.73E-07 | 1.73E-07 | 1.75E-05 |
| Co+3 | 1.46E-06 | 1.46E-08 | 1.46E-08 | 1.46E-08 | | | | 1.46E-08 | 1.46E-08 | 1.48E-06 |
| Cr+3 | 5.67E+01 | 5.67E-01 | 5.67E-01 | 5.67E-01 | | | | 5.67E-01 | 5.67E-01 | 5.72E+01 |
| Cs+ | 1.85E+00 | 1.85E-02 | 1.85E-02 | 1.85E-02 | | | | 1.85E-02 | 1.85E-02 | 1.87E+00 |
| Cu+2 | 1.85E-01 | 1.86E-03 | 1.86E-03 | 1.86E-03 | | | | 1.86E-03 | 1.86E-03 | 1.87E-01 |
| Fe+3 | 7.50E+02 | 7.51E+00 | 7.51E+00 | 7.51E+00 | | | | 7.51E+00 | 7.51E+00 | 7.58E+02 |
| Hg+2 | 8.68E-02 | 8.68E-04 | 8.68E-04 | 8.68E-04 | | | | 8.68E-04 | 8.68E-04 | 8.76E-02 |
| K+ | 2.92E+01 | 2.92E-01 | 2.92E-01 | 2.92E-01 | | | | 2.92E-01 | 2.92E-01 | 2.94E+01 |
| La+3 | 2.26E+01 | 2.26E-01 | 2.26E-01 | 2.26E-01 | | | | 2.26E-01 | 2.26E-01 | 2.28E+01 |
| Mg+2 | 8.12E+00 | 8.13E-02 | 8.13E-02 | 8.13E-02 | | | | 8.13E-02 | 8.13E-02 | 8.20E+00 |
| Mn+4 | 1.77E+02 | 1.77E+00 | 1.77E+00 | 1.77E+00 | | | | 1.77E+00 | 1.77E+00 | 1.79E+02 |
| Mo+6 | 3.16E-02 | 3.17E-04 | 3.17E-04 | 3.17E-04 | | | | 3.17E-04 | 3.17E-04 | 3.20E-02 |
| Na+ | 6.54E+02 | 6.54E+00 | 6.54E+00 | 6.54E+00 | | | | 6.54E+00 | 6.54E+00 | 6.60E+02 |
| Ni+3 | 2.03E+02 | 2.03E+00 | 2.03E+00 | 2.03E+00 | | | | 2.03E+00 | 2.03E+00 | 2.05E+02 |
| Np+4 | 8.75E-02 | 8.76E-04 | 8.76E-04 | 8.76E-04 | | | | 8.76E-04 | 8.76E-04 | 8.84E-02 |
| Pb+4 | 2.88E+01 | 2.89E-01 | 2.89E-01 | 2.89E-01 | | | | 2.89E-01 | 2.89E-01 | 2.91E+01 |
| Pd+4 | 4.30E-01 | 4.30E-03 | 4.30E-03 | 4.30E-03 | | | | 4.30E-03 | 4.30E-03 | 4.34E-01 |
| Rh+3 | 1.90E-01 | 1.90E-03 | 1.90E-03 | 1.90E-03 | | | | 1.90E-03 | 1.90E-03 | 1.92E-01 |
| Se+6 | 3.25E+00 | 3.26E-02 | 3.26E-02 | 3.26E-02 | | | | 3.26E-02 | 3.26E-02 | 3.29E+00 |
| Si+4 | 2.28E+02 | 2.28E+00 | 2.28E+00 | 2.28E+00 | | | | 2.28E+00 | 2.28E+00 | 2.30E+02 |
| Sr+2 | 3.60E+01 | 3.60E-01 | 3.60E-01 | 3.60E-01 | | | | 3.60E-01 | 3.60E-01 | 3.63E+01 |
| Th+4 | 2.75E+00 | 2.75E-02 | 2.75E-02 | 2.75E-02 | | | | 2.75E-02 | 2.75E-02 | 2.78E+00 |
| Ti+4 | 1.52E-01 | 1.52E-03 | 1.52E-03 | 1.52E-03 | | | | 1.52E-03 | 1.52E-03 | 1.54E-01 |
| UO2+2 | 1.52E+03 | 1.52E+01 | 1.52E+01 | 1.52E+01 | | | | 1.52E+01 | 1.52E+01 | 1.54E+03 |
| Zn+2 | 4.99E-01 | 4.99E-03 | 4.99E-03 | 4.99E-03 | | | | 4.99E-03 | 4.99E-03 | 5.03E-01 |
| Cl- | 8.86E+00 | 8.87E-02 | 8.87E-02 | 8.87E-02 | | | | 8.87E-02 | 8.87E-02 | 8.95E+00 |
| CO3-2 | 1.07E+02 | 1.07E+00 | 1.07E+00 | 1.07E+00 | | | | 1.07E+00 | 1.07E+00 | 1.08E+02 |
| F- | 6.71E+01 | 6.72E-01 | 6.72E-01 | 6.72E-01 | | | | 6.72E-01 | 6.72E-01 | 6.78E+01 |
| I- | 1.37E-03 | 1.38E-05 | 1.38E-05 | 1.38E-05 | | | | 1.38E-05 | 1.38E-05 | 1.39E-03 |
| NO2- | 6.08E+01 | 6.09E-01 | 6.09E-01 | 6.09E-01 | | | | 6.09E-01 | 6.09E-01 | 6.14E+01 |
| NO3- | 9.70E+02 | 9.71E+00 | 9.71E+00 | 9.71E+00 | | | | 9.71E+00 | 9.71E+00 | 9.80E+02 |
| OH- | 3.10E+03 | 3.10E+01 | 3.10E+01 | 3.10E+01 | | | | 3.10E+01 | 3.10E+01 | 3.13E+03 |
| PO4-3 | 4.73E+02 | 4.74E+00 | 4.74E+00 | 4.74E+00 | | | | 4.74E+00 | 4.74E+00 | 4.78E+02 |
| SO4-2 | 2.52E+01 | 2.52E-01 | 2.52E-01 | 2.52E-01 | | | | 2.52E-01 | 2.52E-01 | 2.54E+01 |
| TcO4- | 8.93E-01 | 8.94E-03 | 8.94E-03 | 8.94E-03 | | | | 8.94E-03 | 8.94E-03 | 9.02E-01 |
| Cancrinite | 2.66E+03 | 2.67E+01 | 2.67E+01 | 2.67E+01 | | | | 2.67E+01 | 2.67E+01 | 2.69E+03 |
| H2O | | | | | | | | | | |
| MnO2 | 3.71E-05 | 3.71E-07 | 3.71E-07 | 3.71E-07 | | | | 3.71E-07 | 3.71E-07 | 3.75E-05 |
| Organic Carbon | 8.59E+01 | 8.60E-01 | 8.60E-01 | 8.60E-01 | | | | 8.60E-01 | 8.60E-01 | 8.68E+01 |
| ZrO2:2H2O | 1.18E+03 | 1.18E+01 | 1.18E+01 | 1.18E+01 | | | | 1.18E+01 | 1.18E+01 | 1.19E+03 |
| Ag2O | 3.30E-07 | 3.30E-09 | 3.30E-09 | 3.30E-09 | | | | 3.30E-09 | 3.30E-09 | 3.33E-07 |
| AlPO4 | 2.94E-03 | 2.94E-05 | 2.94E-05 | 2.94E-05 | | | | 2.94E-05 | 2.94E-05 | 2.97E-03 |
| Al2O3 | 1.04E-02 | 1.04E-04 | 1.04E-04 | 1.04E-04 | | | | 1.04E-04 | 1.04E-04 | 1.05E-02 |
| Am2O3 | 4.36E-09 | 4.37E-11 | 4.37E-11 | 4.37E-11 | | | | 4.37E-11 | 4.37E-11 | 4.41E-09 |
| As2O5 | 3.80E-10 | 3.80E-12 | 3.80E-12 | 3.80E-12 | | | | 3.80E-12 | 3.80E-12 | 3.84E-10 |
| B2O3 | 7.97E-02 | 7.98E-04 | 7.98E-04 | 7.98E-04 | | | | 7.98E-04 | 7.98E-04 | 8.05E-02 |
| BaO | 8.56E-07 | 8.57E-09 | 8.57E-09 | 8.57E-09 | | | | 8.57E-09 | 8.57E-09 | 8.65E-07 |
| BeO | 8.92E-10 | 8.92E-12 | 8.92E-12 | 8.92E-12 | | | | 8.92E-12 | 8.92E-12 | 9.01E-10 |
| Bi2O3 | 3.47E-05 | 3.47E-07 | 3.47E-07 | 3.47E-07 | | | | 3.47E-07 | 3.47E-07 | 3.51E-05 |
| CaO | 2.28E-02 | 2.28E-04 | 2.28E-04 | 2.28E-04 | | | | 2.28E-04 | 2.28E-04 | 2.30E-02 |
| CdO | 4.99E-06 | 5.00E-08 | 5.00E-08 | 5.00E-08 | | | | 5.00E-08 | 5.00E-08 | 5.04E-06 |
| Ce2O3 | 2.91E-05 | 2.91E-07 | 2.91E-07 | 2.91E-07 | | | | 2.91E-07 | 2.91E-07 | 2.94E-05 |
| Cm2O3 | 1.99E-12 | 1.99E-14 | 1.99E-14 | 1.99E-14 | | | | 1.99E-14 | 1.99E-14 | 2.01E-12 |
| Co2O3 | 1.02E-09 | 1.02E-11 | 1.02E-11 | 1.02E-11 | | | | 1.02E-11 | 1.02E-11 | 1.03E-09 |
| Cr2O3 | 2.22E-04 | 2.22E-06 | 2.22E-06 | 2.22E-06 | | | | 2.22E-06 | 2.22E-06 | 2.24E-04 |
| Cs2O | 2.77E-07 | 2.78E-09 | 2.78E-09 | 2.78E-09 | | | | 2.78E-09 | 2.78E-09 | 2.80E-07 |
| CuO | 8.49E-08 | 8.50E-10 | 8.50E-10 | 8.50E-10 | | | | 8.50E-10 | 8.50E-10 | 8.57E-08 |
| Fe2O3 | 1.34E-04 | 1.34E-06 | 1.34E-06 | 1.34E-06 | | | | 1.34E-06 | 1.34E-06 | 1.35E-04 |
| FeO | 7.58E-10 | 7.58E-12 | 7.58E-12 | 7.58E-12 | | | | 7.58E-12 | 7.58E-12 | 7.65E-10 |
| HgO | 1.38E-06 | 1.38E-08 | 1.38E-08 | 1.38E-08 | | | | 1.38E-08 | 1.38E-08 | 1.40E-06 |
| K2O | 3.01E-10 | 3.01E-12 | 3.01E-12 | 3.01E-12 | | | | 3.01E-12 | 3.01E-12 | 3.04E-10 |
| La2O3 | 4.24E-04 | 4.25E-06 | 4.25E-06 | 4.25E-06 | | | | 4.25E-06 | 4.25E-06 | 4.28E-04 |
| Li2O | 2.84E-06 | 2.85E-08 | 2.85E-08 | 2.85E-08 | | | | 2.85E-08 | 2.85E-08 | 2.87E-06 |
| MgO | 2.28E-02 | 2.28E-04 | 2.28E-04 | 2.28E-04 | | | | 2.28E-04 | 2.28E-04 | 2.30E-02 |
| MnO | 1.38E-06 | 1.38E-08 | 1.38E-08 | 1.38E-08 | | | | 1.38E-08 | 1.38E-08 | 1.39E-06 |
| MoO3 | 3.09E-11 | 3.09E-13 | 3.09E-13 | 3.09E-13 | | | | 3.09E-13 | 3.09E-13 | 3.12E-11 |
| Na2O | 1.02E-08 | 1.02E-10 | 1.02E-10 | 1.02E-10 | | | | 1.02E-10 | 1.02E-10 | 1.03E-08 |
| Nd2O3 | 5.71E-02 | 5.72E-04 | 5.72E-04 | 5.72E-04 | | | | 5.72E-04 | 5.72E-04 | 5.77E-02 |
| NiO | 3.49E-05 | 3.50E-07 | 3.50E-07 | 3.50E-07 | | | | 3.50E-07 | 3.50E-07 | 3.53E-05 |
| NpO2 | 1.57E-08 | 1.57E-10 | 1.57E-10 | 1.57E-10 | | | | 1.57E-10 | 1.57E-10 | 1.58E-08 |
| PbO2 | 8.79E-06 | 8.80E-08 | 8.80E-08 | 8.80E-08 | | | | 8.80E-08 | 8.80E-08 | 8.88E-06 |
| PuO2 | 6.58E-08 | 6.58E-10 | 6.58E-10 | 6.58E-10 | | | | 6.58E-10 | 6.58E-10 | 6.64E-08 |

| STREAM NAME | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | 1.30E-10 | 1.30E-12 | 1.30E-12 | 1.30E-12 | | | | 1.30E-12 | 1.30E-12 | 1.31E-10 |
| $Re_2O_7$ | 6.95E-11 | 6.95E-13 | 6.95E-13 | 6.95E-13 | | | | 6.95E-13 | 6.95E-13 | 7.02E-11 |
| $Rh_2O_3$ | 2.44E-08 | 2.44E-10 | 2.44E-10 | 2.44E-10 | | | | 2.44E-10 | 2.44E-10 | 2.47E-08 |
| $Ru_2O_3$ | 7.13E-10 | 7.14E-12 | 7.14E-12 | 7.14E-12 | | | | 7.14E-12 | 7.14E-12 | 7.20E-10 |
| $SeO_3$ | 5.35E-07 | 5.36E-09 | 5.36E-09 | 5.36E-09 | | | | 5.36E-09 | 5.36E-09 | 5.41E-07 |
| $SiO_2$ | 5.59E-01 | 5.59E-03 | 5.59E-03 | 5.59E-03 | | | | 5.59E-03 | 5.59E-03 | 5.64E-01 |
| $SO_3$ | 8.25E-05 | 8.26E-07 | 8.26E-07 | 8.26E-07 | | | | 8.26E-07 | 8.26E-07 | 8.34E-05 |
| SrO | 4.55E-06 | 4.55E-08 | 4.55E-08 | 4.55E-08 | | | | 4.55E-08 | 4.55E-08 | 4.60E-06 |
| $Tc_2O_7$ | 5.28E-07 | 5.28E-09 | 5.28E-09 | 5.28E-09 | | | | 5.28E-09 | 5.28E-09 | 5.33E-07 |
| $Tc_2S_7$ | 1.74E+00 | 1.74E-02 | 1.74E-02 | 1.74E-02 | | | | 1.74E-02 | 1.74E-02 | 1.75E+00 |
| $TeO_3$ | 5.54E-10 | 5.54E-12 | 5.54E-12 | 5.54E-12 | | | | 5.54E-12 | 5.54E-12 | 5.59E-10 |
| $ThO_2$ | 3.19E-07 | 3.20E-09 | 3.20E-09 | 3.20E-09 | | | | 3.20E-09 | 3.20E-09 | 3.23E-07 |
| $TiO_2$ | 2.35E-05 | 2.35E-07 | 2.35E-07 | 2.35E-07 | | | | 2.35E-07 | 2.35E-07 | 2.37E-05 |
| $UO_3$ | 2.20E-04 | 2.20E-06 | 2.20E-06 | 2.20E-06 | | | | 2.20E-06 | 2.20E-06 | 2.22E-04 |
| ZnO | 6.38E-08 | 6.39E-10 | 6.39E-10 | 6.39E-10 | | | | 6.39E-10 | 6.39E-10 | 6.45E-08 |
| $ZrO_2$ | 9.59E-05 | 9.60E-07 | 9.60E-07 | 9.60E-07 | | | | 9.60E-07 | 9.60E-07 | 9.68E-05 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | 4.86E+00 | 4.87E-02 | 4.87E-02 | 4.87E-02 | | | | 4.87E-02 | 4.87E-02 | 4.91E+00 |
| Silico-Titanate | 7.96E+02 | 7.97E+00 | 7.97E+00 | 7.97E+00 | | | | 7.97E+00 | 7.97E+00 | 8.04E+02 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 5.93E+04 | 5.28E+04 | | 6.05E+03 | | 5.70E+04 | 5.93E+04 | 5.28E+04 | 1.36E+03 | 1.17E+04 |
| Volume (L) | 5.78E+07 | 5.20E+07 | | 6.05E+06 | | 5.70E+07 | 5.78E+07 | 5.20E+07 | 1.36E+06 | 1.17E+07 |
| Specific Gravity | 1.03E+00 | 1.02E+00 | | 1.00E+00 | | 1.00E+00 | 1.03E+00 | 1.02E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 5.15E+01 | 5.15E+01 | | | | | 5.15E+01 | 5.15E+01 | 2.58E-04 | 2.32E-03 |
| C-14 | 2.16E+01 | 2.16E+01 | | | | 2.56E+03 | 2.16E+01 | 2.16E+01 | 1.08E-04 | 9.71E-04 |
| Cs-137 | 2.14E+04 | 2.14E+04 | | | | | 2.14E+04 | 2.14E+04 | 1.07E-01 | 9.63E-01 |
| Ba-137 | 2.03E+04 | 2.03E+04 | | | | | 2.03E+04 | 2.03E+04 | 1.02E-01 | 9.15E-01 |
| Np-237 | 4.53E-02 | 4.53E-02 | | | | | 4.53E-02 | 4.53E-02 | 2.27E-07 | 2.04E-06 |
| Pu-239 | 1.07E+01 | 1.07E+01 | | | | | 1.07E+01 | 1.07E+01 | 5.37E-05 | 4.83E-04 |
| Pu-240 | 2.81E+00 | 2.81E+00 | | | | | 2.81E+00 | 2.81E+00 | 1.40E-05 | 1.26E-04 |
| Pu-241 | 3.15E+01 | 3.15E+01 | | | | | 3.15E+01 | 3.15E+01 | 1.57E-04 | 1.42E-03 |
| Sr-90 | 1.21E+04 | 1.21E+04 | | | | | 1.21E+04 | 1.21E+04 | 6.03E-02 | 5.43E-01 |
| Y-90 | 1.21E+04 | 1.21E+04 | | | | | 1.21E+04 | 1.21E+04 | 6.03E-02 | 5.43E-01 |
| Tc-99 | 2.25E+04 | 2.25E+04 | | | | 2.29E+04 | 2.25E+04 | 2.25E+04 | 1.12E-01 | 1.01E+00 |
| Total Curies | 8.85E+04 | 8.85E+04 | | | | 2.54E+04 | 8.85E+04 | 8.85E+04 | 4.42E-01 | 3.98E+00 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 2.08E-03 | 2.08E-03 | | | | | 2.08E-03 | 2.08E-03 | 1.04E-08 | 9.38E-08 |
| Am+3 | 1.50E-05 | 1.50E-05 | | | | | 1.50E-05 | 1.50E-05 | 7.51E-11 | 6.76E-10 |
| As+5 | 2.64E-07 | 2.64E-07 | | | | | 2.64E-07 | 2.64E-07 | 1.32E-12 | 1.19E-11 |
| Br3 | 2.23E-04 | 2.23E-04 | | | | | 2.23E-04 | 2.23E-04 | 1.12E-09 | 1.01E-08 |
| Ba+2 | 5.15E-03 | 5.15E-03 | | | | | 5.15E-03 | 5.15E-03 | 2.57E-08 | 2.32E-07 |
| Be+2 | 1.58E-07 | 1.58E-07 | | | | | 1.58E-07 | 1.58E-07 | 7.90E-13 | 7.11E-12 |
| Bi+3 | 7.69E-02 | 7.69E-02 | | | | | 7.69E-02 | 7.69E-02 | 3.85E-07 | 3.46E-06 |
| Ca+2 | 1.07E-01 | 1.07E-01 | | | | | 1.07E-01 | 1.07E-01 | 5.37E-07 | 4.83E-06 |
| Cd+2 | 5.49E-02 | 5.49E-02 | | | | | 5.49E-02 | 5.49E-02 | 2.75E-07 | 2.47E-06 |
| Ce+3 | 1.54E-02 | 1.54E-02 | | | | | 1.54E-02 | 1.54E-02 | 7.69E-08 | 6.93E-07 |
| Cm+3 | 6.19E-10 | 6.19E-10 | | | | | 6.19E-10 | 6.19E-10 | 3.10E-15 | 2.79E-14 |
| Co+3 | 9.51E-06 | 9.51E-06 | | | | | 9.51E-06 | 9.51E-06 | 4.75E-11 | 4.28E-10 |
| Cs+ | 1.23E-03 | 1.23E-03 | | | | | 1.23E-03 | 1.23E-03 | 6.17E-09 | 5.55E-08 |
| Cu+2 | 6.44E-04 | 6.44E-04 | | | | | 6.44E-04 | 6.44E-04 | 3.22E-09 | 2.90E-08 |
| Fe+2 | 7.76E-06 | 7.76E-06 | | | | | 7.76E-06 | 7.76E-06 | 3.88E-11 | 3.49E-10 |
| Fe+3 | 2.24E-01 | 2.24E-01 | | | | | 2.24E-01 | 2.24E-01 | 1.12E-06 | 1.01E-05 |
| H+ | 3.70E-01 | 3.70E-01 | | | | | 3.70E-01 | 3.70E-01 | 1.85E-06 | 1.66E-05 |
| Hg+2 | 3.80E-04 | 3.80E-04 | | | | | 3.80E-04 | 3.80E-04 | 1.90E-09 | 1.71E-08 |
| K+ | 4.61E+00 | 4.61E+00 | | | | | 4.61E+00 | 4.61E+00 | 2.31E-05 | 2.08E-04 |
| La+3 | 1.55E-03 | 1.55E-03 | | | | | 1.55E-03 | 1.55E-03 | 7.77E-09 | 6.99E-08 |
| Mg+2 | 9.51E-07 | 9.50E-07 | | | | | 9.51E-07 | 9.50E-07 | 4.75E-12 | 4.28E-11 |
| Mn+2 | 3.16E-07 | 3.16E-07 | | | | | 3.16E-07 | 3.16E-07 | 1.58E-12 | 1.42E-11 |
| Mn+4 | 7.03E-02 | 7.03E-02 | | | | | 7.03E-02 | 7.03E-02 | 3.52E-07 | 3.17E-06 |
| Mo+6 | 4.76E-05 | 4.76E-05 | | | | | 4.76E-05 | 4.76E-05 | 2.38E-10 | 2.14E-09 |
| Na+ | 5.43E+02 | 5.43E+02 | | | | | 5.43E+02 | 5.43E+02 | 2.71E-03 | 2.44E-02 |
| Ni+3 | 5.34E-02 | 5.34E-02 | | | | | 5.34E-02 | 5.34E-02 | 2.67E-07 | 2.40E-06 |
| Np+4 | 6.43E-05 | 6.43E-05 | | | | | 6.43E-05 | 6.43E-05 | 3.22E-10 | 2.89E-09 |
| Pb+4 | 6.92E-02 | 6.92E-02 | | | | | 6.92E-02 | 6.92E-02 | 3.46E-07 | 3.11E-06 |
| Pu+4 | 1.86E-04 | 1.86E-04 | | | | | 1.86E-04 | 1.86E-04 | 9.29E-10 | 8.36E-09 |
| Rb+ | 1.56E-06 | 1.56E-06 | | | | | 1.56E-06 | 1.56E-06 | 7.81E-12 | 7.03E-11 |
| Re+7 | 7.04E-07 | 7.04E-07 | | | | | 7.04E-07 | 7.04E-07 | 3.52E-12 | 3.17E-11 |
| Rh+3 | 5.53E-06 | 5.53E-06 | | | | | 5.53E-06 | 5.53E-06 | 2.77E-11 | 2.49E-10 |
| Ru+3 | 8.52E-06 | 8.51E-06 | | | | | 8.52E-06 | 8.51E-06 | 4.26E-11 | 3.83E-10 |
| Se+6 | 1.42E-05 | 1.42E-05 | | | | | 1.42E-05 | 1.42E-05 | 7.12E-11 | 6.40E-10 |
| Si+4 | 1.04E-01 | 1.04E-01 | | | | | 1.04E-01 | 1.04E-01 | 5.19E-07 | 4.67E-06 |
| Sr+2 | 2.48E-03 | 2.48E-03 | | | | | 2.48E-03 | 2.48E-03 | 1.24E-08 | 1.11E-07 |
| Te+6 | 5.95E-06 | 5.94E-06 | | | | | 5.95E-06 | 5.94E-06 | 2.97E-11 | 2.68E-10 |
| UO2+2 | 6.90E-01 | 6.90E-01 | | | | | 6.90E-01 | 6.90E-01 | 3.45E-06 | 3.10E-05 |
| Zn+2 | 5.06E-06 | 5.06E-06 | | | | | 5.06E-06 | 5.06E-06 | 2.53E-11 | 2.28E-10 |
| Zr+4 | 1.58E-07 | 1.58E-07 | | | | | 1.58E-07 | 1.58E-07 | 7.90E-13 | 7.11E-12 |
| Al(OH)4- | 8.25E+01 | 8.25E+01 | | | | | 8.25E+01 | 8.25E+01 | 4.13E-04 | 3.72E-03 |
| BO2- | 6.20E-05 | 6.20E-05 | | | | | 6.20E-05 | 6.20E-05 | 3.10E-10 | 2.79E-09 |
| Cl- | 4.47E+00 | 4.47E+00 | | | | | 4.47E+00 | 4.47E+00 | 2.24E-05 | 2.01E-04 |
| CO3-2 | 2.02E+01 | | | | | | 2.02E+01 | | | |
| Cr(OH)4- | 4.48E+00 | 4.48E+00 | | | | | 4.48E+00 | 4.48E+00 | 2.24E-05 | 2.02E-04 |
| F- | 7.40E+00 | 7.40E+00 | | | | | 7.40E+00 | 7.40E+00 | 3.70E-05 | 3.33E-04 |
| I- | 3.58E-03 | 3.58E-03 | | | | | 3.58E-03 | 3.58E-03 | 1.79E-08 | 1.61E-07 |
| NO2- | 1.07E+02 | 5.35E+01 | | | | | 1.07E+02 | 5.35E+01 | 2.68E-04 | 2.41E-03 |
| NO3- | 7.12E+02 | 7.12E+02 | | | | | 7.12E+02 | 7.12E+02 | 3.56E-03 | 3.20E-02 |
| OH- | 3.54E+02 | | | | | | 3.54E+02 | | | |
| PO4-3 | 3.16E+01 | 3.16E+01 | | | | | 3.16E+01 | 3.16E+01 | 1.58E-04 | 1.42E-03 |
| SO4-2 | 1.73E+01 | 1.73E+01 | | | | | 1.73E+01 | 1.73E+01 | 8.67E-05 | 7.80E-04 |
| TcO4- | 2.18E+00 | 2.18E+00 | | | | | 2.18E+00 | 2.18E+00 | 1.09E-05 | 9.80E-05 |
| H2O | 5.74E+04 | 4.71E+04 | | 1.78E+03 | | 5.04E+04 | 5.74E+04 | 4.71E+04 | 1.30E+03 | 1.17E+04 |
| Organic Carbon | 6.88E+00 | 6.88E+00 | | | | | 6.88E+00 | 6.88E+00 | 2.41E-04 | 2.17E-03 |
| ZrO2:2H2O | 4.90E-02 | 4.90E-02 | | | | | 4.90E-02 | 4.90E-02 | 2.45E-07 | 2.21E-06 |
| He | 8.28E-02 | 8.28E-03 | | | | 9.63E-02 | 8.28E-02 | 8.28E-03 | 3.73E-02 | 3.73E-02 |
| TiO2 | | | | | | 1.78E+00 | | | | |
| Cl2 | | | | | | 1.35E-02 | | | | |
| CO | | | | | | | | | | |
| CO2 | 9.48E-07 | | | | | 5.34E+03 | 9.48E-07 | | 4.33E+01 | |
| F2 | | | | | | 7.53E-02 | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | 4.96E-03 | | | | |
| N2 | | | | | | 1.03E+02 | | | | |
| N2O | | 1.71E+01 | | | | 1.71E+01 | | 1.71E+01 | 8.54E-04 | |
| NO | | | | | | 6.97E+02 | | | 1.16E+01 | |
| NO2 | | | | | | 1.46E+02 | | | | |
| O2 | | | | | | 2.37E+02 | | | | |
| SO2 | | | | | | 1.43E+01 | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 1.45E+00 | 4.19E+03 | | | | | 1.45E+00 | 4.19E+03 | 1.47E-01 | 1.32E+00 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | 4.27E+03 | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | 2.03E+00 | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.48E+04 | 2.50E+04 | 1.07E+04 | | | 4.65E+01 | 1.48E+04 | 2.50E+04 | 1.25E-01 | 1.13E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 9.61E+04 | 9.61E+04 | | | | 1.92E+02 | 9.61E+04 | 9.61E+04 | 4.80E-01 | 4.32E+00 |
| C-14 | 2.17E+03 | 2.17E+03 | | | | | 2.17E+03 | 2.17E+03 | 1.09E-02 | 9.77E-02 |
| Cs-137 | 3.20E+07 | 3.20E+07 | | | | 6.41E+04 | 3.20E+07 | 3.20E+07 | 1.60E+02 | 1.44E+03 |
| Ba-137 | 3.04E+07 | 3.04E+07 | | | | 6.09E+04 | 3.04E+07 | 3.04E+07 | 1.52E+02 | 1.37E+03 |
| Np-237 | 6.24E+01 | 6.24E+01 | | | | 1.25E-01 | 6.24E+01 | 6.24E+01 | 3.12E-04 | 2.81E-03 |
| Pu-239 | 2.52E+04 | 2.52E+04 | | | | 5.04E+01 | 2.52E+04 | 2.52E+04 | 1.26E-01 | 1.13E+00 |
| Pu-240 | 6.26E+03 | 6.26E+03 | | | | 1.25E+01 | 6.26E+03 | 6.26E+03 | 3.13E-02 | 2.82E-01 |
| Pu-241 | 7.04E+04 | 7.04E+04 | | | | 1.41E+02 | 7.04E+04 | 7.04E+04 | 3.52E-01 | 3.17E+00 |
| Sr-90 | 5.08E+07 | 5.08E+07 | | | | 1.02E+05 | 5.08E+07 | 5.08E+07 | 2.54E+02 | 2.29E+03 |
| Y-90 | 5.08E+07 | 5.08E+07 | | | | 1.02E+05 | 5.08E+07 | 5.08E+07 | 2.54E+02 | 2.29E+03 |
| Tc-99 | 2.33E+04 | 2.33E+04 | | | | 4.59E+01 | 2.33E+04 | 2.33E+04 | 1.17E-01 | 1.05E+00 |
| Total Curies | 1.64E+08 | 1.64E+08 | | | | 3.29E+05 | 1.64E+08 | 1.64E+08 | 8.21E+02 | 7.39E+03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.47E+00 | 1.47E+00 | | | | | 1.47E+00 | 1.47E+00 | 7.36E-06 | 6.62E-05 |
| Al+3 | 7.36E+02 | 7.36E+02 | | | | | 7.36E+02 | 7.36E+02 | 3.68E-03 | 3.31E-02 |
| Am+3 | 2.80E-02 | 2.80E-02 | | | | | 2.80E-02 | 2.80E-02 | 1.40E-07 | 1.26E-06 |
| As+5 | 2.25E-03 | 2.25E-03 | | | | | 2.25E-03 | 2.25E-03 | 1.13E-08 | 1.01E-07 |
| Ba+2 | 3.72E+00 | 3.72E+00 | | | | | 3.72E+00 | 3.72E+00 | 1.86E-05 | 1.67E-04 |
| Be+2 | 3.06E-03 | 3.06E-03 | | | | | 3.06E-03 | 3.06E-03 | 1.53E-08 | 1.38E-07 |
| Bi+3 | 2.50E+02 | 2.50E+02 | | | | | 2.50E+02 | 2.50E+02 | 1.25E-03 | 1.13E-02 |
| Ca+2 | 1.44E+02 | 1.44E+02 | | | | | 1.44E+02 | 1.44E+02 | 7.20E-04 | 6.48E-03 |
| Cd+2 | 6.52E+00 | 6.51E+00 | | | | | 6.52E+00 | 6.51E+00 | 3.26E-05 | 2.93E-04 |
| Ce+3 | 2.34E+02 | 2.34E+02 | | | | | 2.34E+02 | 2.34E+02 | 1.17E-03 | 1.05E-02 |
| Cm+3 | 1.75E-05 | 1.75E-05 | | | | | 1.75E-05 | 1.75E-05 | 8.73E-11 | 7.85E-10 |
| Co+3 | 1.48E-06 | 1.48E-06 | | | | | 1.48E-06 | 1.48E-06 | 7.39E-12 | 6.65E-11 |
| Cr+3 | 5.72E+01 | 5.72E+01 | | | | | 5.72E+01 | 5.72E+01 | 2.86E-04 | 2.58E-03 |
| Cs+ | 1.87E+00 | 1.87E+00 | | | | | 1.87E+00 | 1.87E+00 | 9.35E-06 | 8.41E-05 |
| Cu+2 | 1.87E-01 | 1.87E-01 | | | | | 1.87E-01 | 1.87E-01 | 9.36E-07 | 8.43E-06 |
| Fe+3 | 7.58E+02 | 7.58E+02 | | | | | 7.58E+02 | 7.58E+02 | 3.79E-03 | 3.41E-02 |
| Hg+2 | 8.76E-02 | 8.76E-02 | | | | | 8.76E-02 | 8.76E-02 | 4.38E-07 | 3.94E-06 |
| K+ | 2.94E+01 | 2.94E+01 | | | | | 2.94E+01 | 2.94E+01 | 1.47E-04 | 1.33E-03 |
| La+3 | 2.28E+01 | 2.28E+01 | | | | | 2.28E+01 | 2.28E+01 | 1.14E-04 | 1.03E-03 |
| Mg+2 | 8.20E+00 | 8.20E+00 | | | | | 8.20E+00 | 8.20E+00 | 4.10E-05 | 3.69E-04 |
| Mn+4 | 1.79E+02 | 1.79E+02 | | | | | 1.79E+02 | 1.79E+02 | 8.95E-04 | 8.05E-03 |
| Mo+6 | 3.20E-02 | 3.20E-02 | | | | | 3.20E-02 | 3.20E-02 | 1.60E-07 | 1.44E-06 |
| Na+ | 6.60E+02 | 6.60E+02 | | | | | 6.60E+02 | 6.60E+02 | 3.30E-03 | 2.97E-02 |
| Ni+3 | 2.05E+02 | 2.05E+02 | | | | | 2.05E+02 | 2.05E+02 | 1.03E-03 | 9.23E-03 |
| Np+4 | 8.84E-02 | 8.84E-02 | | | | | 8.84E-02 | 8.84E-02 | 4.42E-07 | 3.98E-06 |
| Pb+4 | 2.91E+01 | 2.91E+01 | | | | | 2.91E+01 | 2.91E+01 | 1.46E-04 | 1.31E-03 |
| Pu+4 | 4.34E-01 | 4.34E-01 | | | | | 4.34E-01 | 4.34E-01 | 2.17E-06 | 1.95E-05 |
| Rn+3 | 1.92E-01 | 1.92E-01 | | | | | 1.92E-01 | 1.92E-01 | 9.58E-07 | 8.62E-06 |
| Se+6 | 3.29E+00 | 3.29E+00 | | | | | 3.29E+00 | 3.29E+00 | 1.65E-05 | 1.48E-04 |
| Si+4 | 2.30E+02 | 2.30E+02 | | | | | 2.30E+02 | 2.30E+02 | 1.15E-03 | 1.04E-02 |
| Sr+2 | 3.63E+01 | 3.63E+01 | | | | | 3.63E+01 | 3.63E+01 | 1.82E-04 | 1.64E-03 |
| Th+4 | 2.78E+00 | 2.77E+00 | | | | | 2.78E+00 | 2.77E+00 | 1.39E-05 | 1.25E-04 |
| Ti+4 | 1.54E-01 | 1.54E-01 | | | | | 1.54E-01 | 1.54E-01 | 7.69E-07 | 6.92E-06 |
| UO2+2 | 1.54E+03 | 1.54E+03 | | | | | 1.54E+03 | 1.54E+03 | 7.67E-03 | 6.91E-02 |
| Zn+2 | 5.03E-01 | 5.03E-01 | | | | | 5.03E-01 | 5.03E-01 | 2.52E-06 | 2.27E-05 |
| Cl- | 8.97E+00 | 8.97E+00 | | | | 2.69E-02 | 8.97E+00 | 8.97E+00 | 4.49E-05 | 4.04E-04 |
| CO3-2 | 1.08E+02 | 1.08E+02 | | | | | 1.08E+02 | 1.08E+02 | 5.42E-04 | 4.87E-03 |
| F- | 6.79E+01 | 6.79E+01 | | | | 1.51E-01 | 6.79E+01 | 6.79E+01 | 3.40E-04 | 3.06E-03 |
| I- | 1.39E-03 | 1.39E-03 | | | | | 1.39E-03 | 1.39E-03 | 6.94E-09 | 6.24E-08 |
| NO2- | 6.14E+01 | 6.14E+01 | | | | | 6.14E+01 | 6.14E+01 | 3.07E-04 | 2.76E-03 |
| NO3- | 9.80E+02 | 9.80E+02 | | | | | 9.80E+02 | 9.80E+02 | 4.90E-03 | 4.41E-02 |
| OH- | 3.13E+03 | 2.57E+03 | | | | | 3.13E+03 | 2.57E+03 | 1.28E-02 | 1.16E-01 |
| PO4-3 | 4.78E+02 | 4.78E+02 | | | | | 4.78E+02 | 4.78E+02 | 2.39E-03 | 2.15E-02 |
| SO4-2 | 2.54E+01 | 2.54E+01 | | | | | 2.54E+01 | 2.54E+01 | 1.27E-04 | 1.14E-03 |
| TcO4- | 9.02E-01 | 9.02E-01 | | | | | 9.02E-01 | 9.02E-01 | 4.51E-06 | 4.06E-05 |
| Cancrinite | 2.69E+03 | 2.69E+03 | | | | | 2.69E+03 | 2.69E+03 | 1.35E-02 | 1.21E-01 |
| H2O | | | | | | | | | | |
| MnO2 | 5.68E-01 | 5.68E-01 | | | | 5.68E-01 | 5.68E-01 | 5.68E-01 | 2.84E-06 | 2.56E-05 |
| Organic Carbon | 8.68E+01 | 8.68E+01 | | | | | 8.68E+01 | 8.68E+01 | 4.34E-04 | 3.90E-03 |
| ZnO2:2H2O | 1.19E+03 | 1.19E+03 | | | | | 1.19E+03 | 1.19E+03 | 5.94E-03 | 5.35E-02 |
| Ag2O | 3.17E-03 | 3.17E-03 | | | | 3.17E-03 | 3.17E-03 | 3.17E-03 | 1.59E-08 | 1.43E-07 |
| AlPO4 | 1.31E+00 | 1.31E+00 | | | | 1.31E+00 | 1.31E+00 | 1.31E+00 | 6.57E-06 | 5.91E-05 |
| Al2O3 | 3.95E+00 | 3.95E+00 | | | | 3.94E+00 | 3.95E+00 | 3.95E+00 | 1.98E-05 | 1.78E-04 |
| Am2O3 | 6.16E-05 | 6.16E-05 | | | | 6.16E-05 | 6.16E-05 | 6.16E-05 | 3.08E-10 | 2.77E-09 |
| As2O5 | 6.92E-06 | 6.92E-06 | | | | 6.92E-06 | 6.92E-06 | 6.92E-06 | 3.46E-11 | 3.11E-10 |
| B2O3 | 3.33E+00 | 1.63E+03 | 1.62E+03 | | | 3.25E+00 | 3.33E+00 | 1.63E+03 | 8.13E-03 | 7.32E-02 |
| BaO | 8.34E-03 | 8.34E-03 | | | | 8.33E-03 | 8.34E-03 | 8.34E-03 | 4.17E-08 | 3.75E-07 |
| BeO | 1.70E-05 | 1.70E-05 | | | | 1.70E-05 | 1.70E-05 | 1.70E-05 | 8.50E-11 | 7.65E-10 |
| Bi2O3 | 5.59E-01 | 5.59E-01 | | | | 5.59E-01 | 5.59E-01 | 5.59E-01 | 2.80E-06 | 2.52E-05 |
| CaO | 4.27E-01 | 4.27E-01 | | | | 4.04E-01 | 4.27E-01 | 4.27E-01 | 2.14E-06 | 1.92E-05 |
| CdO | 1.50E-02 | 1.50E-02 | | | | 1.50E-02 | 1.50E-02 | 1.50E-02 | 7.52E-08 | 6.77E-07 |
| Ce2O3 | 5.49E-01 | 5.49E-01 | | | | 5.49E-01 | 5.49E-01 | 5.49E-01 | 2.74E-06 | 2.47E-05 |
| Cm2O3 | 3.84E-08 | 3.84E-08 | | | | 3.84E-08 | 3.84E-08 | 3.84E-08 | 1.92E-13 | 1.73E-12 |
| Co2O3 | 3.20E-08 | 3.20E-08 | | | | 3.10E-08 | 3.20E-08 | 3.20E-08 | 1.60E-13 | 1.44E-12 |
| Cr2O3 | 1.74E-01 | 1.74E-01 | | | | 1.73E-01 | 1.74E-01 | 1.74E-01 | 8.67E-07 | 7.81E-06 |
| Cs2O | 3.97E-03 | 3.97E-03 | | | | 3.97E-03 | 3.97E-03 | 3.97E-03 | 1.99E-08 | 1.79E-07 |
| CuO | 4.71E-04 | 4.71E-04 | | | | 4.71E-04 | 4.71E-04 | 4.71E-04 | 2.36E-09 | 2.12E-08 |
| Fe2O3 | 2.17E+00 | 2.17E+00 | | | | 2.17E+00 | 2.17E+00 | 2.17E+00 | 1.09E-05 | 9.77E-05 |
| FeO | 2.08E-08 | 2.08E-08 | | | | 2.00E-08 | 2.08E-08 | 2.08E-08 | 1.04E-13 | 9.35E-13 |
| Hg | 1.40E-06 | 1.40E-06 | | | | 2.80E-09 | 1.40E-06 | 1.40E-06 | 7.00E-12 | 6.30E-11 |
| HgO | 3.05E-10 | 3.05E-10 | | | | 6.10E-13 | 3.05E-10 | 3.05E-10 | 1.52E-15 | 1.37E-14 |
| K2O | 8.26E-02 | 8.26E-02 | | | | 8.22E-02 | 8.26E-02 | 8.26E-02 | 4.13E-07 | 3.72E-06 |
| La2O3 | 5.36E-02 | 5.36E-02 | | | | 5.36E-02 | 5.36E-02 | 5.36E-02 | 2.68E-07 | 2.41E-06 |
| Li2O | 9.53E-01 | 4.65E+02 | 4.64E+02 | | | 9.30E-01 | 9.53E-01 | 4.65E+02 | 2.32E-03 | 2.09E-02 |
| MgO | 2.73E-02 | 2.73E-02 | | | | 2.73E-02 | 2.73E-02 | 2.73E-02 | 1.36E-07 | 1.23E-06 |
| MnO | 8.48E-10 | 8.48E-10 | | | | 8.16E-10 | 8.48E-10 | 8.48E-10 | 4.24E-15 | 3.81E-14 |
| MoO3 | 9.62E-05 | 9.62E-05 | | | | 9.62E-05 | 9.62E-05 | 9.62E-05 | 4.81E-10 | 4.33E-09 |
| Na2O | 4.55E+00 | 4.55E+00 | | | | 4.49E+00 | 4.55E+00 | 4.55E+00 | 2.28E-05 | 2.05E-04 |
| Ni2O3 | 5.79E-01 | 5.79E-01 | | | | 5.79E-01 | 5.79E-01 | 5.79E-01 | 2.90E-06 | 2.61E-05 |
| NpO2 | 2.01E-04 | 2.01E-04 | | | | 2.01E-04 | 2.01E-04 | 2.01E-04 | 1.01E-09 | 9.05E-09 |
| PbO2 | 6.76E-02 | 6.76E-02 | | | | 6.75E-02 | 6.76E-02 | 6.76E-02 | 3.38E-07 | 3.04E-06 |
| RuO2 | 9.86E-04 | 9.86E-04 | | | | 9.86E-04 | 9.86E-04 | 9.86E-04 | 4.93E-09 | 4.44E-08 |

| STREAM NAME | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 3.56E-09 | 3.55E-09 | | | | 3.42E-09 | 3.56E-09 | 3.55E-09 | 1.76E-14 | 1.60E-13 |
| Re2O7 | 1.91E-09 | 1.91E-09 | | | | 1.84E-09 | 1.91E-09 | 1.91E-09 | 9.53E-15 | 8.57E-14 |
| Rh2O3 | 4.73E-04 | 4.73E-04 | | | | 4.73E-04 | 4.73E-04 | 4.73E-04 | 2.37E-09 | 2.13E-08 |
| Ru2O3 | 2.18E-08 | 2.18E-08 | | | | 2.11E-08 | 2.18E-08 | 2.18E-08 | 1.09E-13 | 9.83E-13 |
| SeO3 | 1.06E-02 | 1.06E-02 | | | | 1.06E-02 | 1.06E-02 | 1.06E-02 | 5.31E-08 | 4.77E-07 |
| SiO2 | 2.20E+01 | 8.67E+03 | 8.65E+03 | | | 2.14E+01 | 2.20E+01 | 8.67E+03 | 4.34E-02 | 3.90E-01 |
| SO3 | 5.05E-02 | 5.05E-02 | | | | 5.04E-02 | 5.05E-02 | 5.05E-02 | 2.53E-07 | 2.27E-06 |
| SrO | 8.58E-02 | 8.58E-02 | | | | 8.58E-02 | 8.58E-02 | 8.58E-02 | 4.29E-07 | 3.86E-06 |
| Tc2O7 | 4.22E-03 | 4.22E-03 | | | | 4.22E-03 | 4.22E-03 | 4.22E-03 | 2.11E-08 | 1.90E-07 |
| Tc2S7 | 1.75E+00 | 1.75E+00 | | | | | 1.75E+00 | 1.75E+00 | 8.76E-06 | 7.89E-05 |
| TeO3 | 1.70E-08 | 1.70E-08 | | | | 1.64E-08 | 1.70E-08 | 1.70E-08 | 8.48E-14 | 7.63E-13 |
| ThO2 | 6.33E-03 | 6.33E-03 | | | | 6.33E-03 | 6.33E-03 | 6.33E-03 | 3.16E-08 | 2.85E-07 |
| TiO2 | 4.65E-01 | 4.65E-01 | | | | 4.65E-01 | 4.65E-01 | 4.65E-01 | 2.32E-06 | 2.09E-05 |
| UO3 | 3.26E+00 | 3.26E+00 | | | | 3.26E+00 | 3.26E+00 | 3.26E+00 | 1.63E-05 | 1.47E-04 |
| ZrO | 1.26E-03 | 1.26E-03 | | | | 1.26E-03 | 1.26E-03 | 1.26E-03 | 6.28E-09 | 5.65E-08 |
| ZrO2 | 1.84E+00 | 1.84E+00 | | | | 1.84E+00 | 1.84E+00 | 1.84E+00 | 9.22E-06 | 8.29E-05 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | 4.91E+00 | 4.91E+00 | | | | | 4.91E+00 | 4.91E+00 | 2.46E-05 | 2.21E-04 |
| Silico-Titanate | 8.04E+02 | 8.04E+02 | | | | | 8.04E+02 | 8.04E+02 | 4.02E-03 | 3.62E-02 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.36E+03 | 1.17E+04 | 5.03E+04 | 3.78E+04 | 1.26E+04 | | | 4.15E+02 | 1.17E+04 | |
| Volume (L) | 1.36E+06 | 1.17E+07 | 5.02E+07 | 3.78E+07 | 1.26E+07 | | | 4.15E+05 | 1.17E+07 | |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | | | 1.00E+00 | 1.00E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 2.58E-04 | 2.32E-03 | | | | | | | 2.32E-03 | |
| C-14 | 1.08E-04 | 9.71E-04 | | | | | | | 9.71E-04 | |
| Cs-137 | 1.07E-01 | 9.63E-01 | | | | | | | 9.63E-01 | |
| Ba-137 | 1.02E-01 | 9.15E-01 | | | | | | | 9.15E-01 | |
| Np-237 | 2.27E-07 | 2.04E-06 | | | | | | | 2.04E-06 | |
| Pu-239 | 5.37E-05 | 4.83E-04 | | | | | | | 4.83E-04 | |
| Pu-240 | 1.40E-05 | 1.26E-04 | | | | | | | 1.26E-04 | |
| Pu-241 | 1.57E-04 | 1.42E-03 | | | | | | | 1.42E-03 | |
| Sr-90 | 6.03E-02 | 5.43E-01 | | | | | | | 5.43E-01 | |
| Y-90 | 6.03E-02 | 5.43E-01 | | | | | | | 5.43E-01 | |
| Tc-99 | 1.12E-01 | 1.01E+00 | 2.23E+04 | 6.70E-03 | 2.23E+04 | | | 6.70E-06 | 1.01E+00 | |
| Total Curies | 4.42E-01 | 3.98E+00 | 2.23E+04 | 6.70E-03 | 2.23E+04 | | | 6.70E-06 | 3.98E+00 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 1.04E-08 | 9.38E-08 | | | | | | | 9.38E-08 | |
| Am+3 | 7.51E-11 | 6.76E-10 | | | | | | | 6.76E-10 | |
| As+5 | 1.32E-12 | 1.19E-11 | | | | | | | 1.19E-11 | |
| B+3 | 1.12E-09 | 1.01E-08 | | | | | | | 1.01E-08 | |
| Ba+2 | 2.57E-08 | 2.32E-07 | | | | | | | 2.32E-07 | |
| Be+2 | 7.90E-13 | 7.11E-12 | | | | | | | 7.11E-12 | |
| Bi+3 | 3.85E-07 | 3.46E-06 | | | | | | | 3.46E-06 | |
| Ca+2 | 5.37E-07 | 4.83E-06 | | | | | | | 4.83E-06 | |
| Cd+2 | 2.73E-07 | 2.47E-06 | | | | | | | 2.47E-06 | |
| Ce+3 | 7.69E-08 | 6.93E-07 | | | | | | | 6.93E-07 | |
| Cm+3 | 3.10E-15 | 2.79E-14 | | | | | | | 2.79E-14 | |
| Co+3 | 4.73E-11 | 4.28E-10 | | | | | | | 4.28E-10 | |
| Cs+ | 6.17E-09 | 5.55E-08 | | | | | | | 5.55E-08 | |
| Cu+2 | 3.22E-09 | 2.90E-08 | | | | | | | 2.90E-08 | |
| Fe+2 | 3.88E-11 | 3.49E-10 | | | | | | | 3.49E-10 | |
| Fe+3 | 1.12E-06 | 1.01E-05 | | | | | | | 1.01E-05 | |
| H+ | 1.85E-06 | 1.66E-05 | 3.70E-01 | 1.11E-07 | 3.70E-01 | | | 1.11E-10 | 1.66E-05 | |
| Hg+2 | 1.90E-09 | 1.71E-08 | | | | | | | 1.71E-08 | |
| K+ | 2.31E-05 | 2.08E-04 | | | | | | | 2.08E-04 | |
| La+3 | 7.77E-09 | 6.99E-08 | | | | | | | 6.99E-08 | |
| Mg+2 | 4.73E-12 | 4.28E-11 | | | | | | | 4.28E-11 | |
| Mn+2 | 1.58E-12 | 1.42E-11 | | | | | | | 1.42E-11 | |
| Mn+4 | 3.52E-07 | 3.17E-06 | | | | | | | 3.17E-06 | |
| Mo+6 | 2.38E-10 | 2.14E-09 | | | | | | | 2.14E-09 | |
| Na+ | 2.71E-03 | 2.44E-02 | | | | | | | 2.44E-02 | |
| Ni+3 | 2.67E-07 | 2.40E-06 | | | | | | | 2.40E-06 | |
| Np+4 | 3.22E-10 | 2.89E-09 | | | | | | | 2.89E-09 | |
| Pb+4 | 3.46E-07 | 3.11E-06 | | | | | | | 3.11E-06 | |
| Pu+4 | 9.29E-10 | 8.36E-09 | | | | | | | 8.36E-09 | |
| Rb+ | 7.81E-12 | 7.03E-11 | | | | | | | 7.03E-11 | |
| Re+7 | 3.52E-12 | 3.17E-11 | | | | | | | 3.17E-11 | |
| Rh+3 | 2.77E-11 | 2.49E-10 | | | | | | | 2.49E-10 | |
| Ru+3 | 4.26E-11 | 3.83E-10 | | | | | | | 3.83E-10 | |
| Se+6 | 7.12E-11 | 6.40E-10 | | | | | | | 6.40E-10 | |
| Si+4 | 5.19E-07 | 4.67E-06 | | | | | | | 4.67E-06 | |
| Sr+2 | 1.24E-08 | 1.11E-07 | | | | | | | 1.11E-07 | |
| Te+6 | 2.97E-11 | 2.68E-10 | | | | | | | 2.68E-10 | |
| UO2+2 | 3.45E-06 | 3.10E-05 | | | | | | | 3.10E-05 | |
| Zn+2 | 2.53E-11 | 2.28E-10 | | | | | | | 2.28E-10 | |
| Zr+4 | 7.90E-13 | 7.11E-12 | | | | | | | 7.11E-12 | |
| Al(OH)4- | 4.13E-04 | 3.72E-03 | | | | | | | 3.72E-03 | |
| BO2- | 3.10E-10 | 2.79E-09 | | | | | | | 2.79E-09 | |
| Cl- | 2.24E-05 | 2.01E-04 | | | | | | | 2.01E-04 | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | 2.24E-05 | 2.02E-04 | | | | | | | 2.02E-04 | |
| F- | 3.70E-05 | 3.33E-04 | | | | | | | 3.33E-04 | |
| I- | 1.79E-08 | 1.61E-07 | | | | | | | 1.61E-07 | |
| NO2- | 2.68E-04 | 2.41E-03 | | | | | | | 2.41E-03 | |
| NO3- | 3.56E-03 | 3.20E-02 | 1.41E+01 | 8.44E-06 | 1.41E+01 | | | 8.44E-09 | 3.20E-02 | |
| OH- | | | | | | | | | | |
| PO4-3 | 1.58E-04 | 1.42E-03 | | | | | | | 1.42E-03 | |
| SO4-2 | 8.67E-05 | 7.80E-04 | 4.18E+00 | 1.25E-06 | 4.18E+00 | | | 1.25E-09 | 7.80E-04 | |
| TcO4- | 1.09E-05 | 9.80E-05 | 2.16E+00 | 6.49E-07 | 2.16E+00 | | | 6.49E-10 | 9.80E-05 | |
| H2O | 1.30E+03 | 1.17E+04 | 5.02E+04 | 3.78E+04 | 1.25E+04 | | | 4.15E+02 | 1.17E+04 | |
| Organic Carbon | 2.41E-04 | 2.17E-03 | | | | | | | 2.17E-03 | |
| ZrO2:2H2O | 2.45E-07 | 2.21E-06 | | | | | | | 2.21E-06 | |
| Hg | 3.73E-03 | | 8.28E-02 | 2.48E-08 | 8.28E-02 | | | 2.48E-11 | | |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | 4.33E+01 | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | 8.54E-04 | | | | | | | | | |
| NO | 1.16E+01 | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 1.47E-01 | 1.32E+00 | | | | | | | 1.32E+00 | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.25E-01 | 1.13E+00 | 4.54E+01 | | 4.65E+01 | | | | 1.13E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.80E-01 | 4.32E+00 | 1.88E+02 | | 1.92E+02 | | | | 4.32E+00 | |
| C-14 | 1.09E-02 | 9.77E-02 | | | 1.09E-03 | | | | 9.77E-02 | |
| Cs-137 | 1.60E+02 | 1.44E+03 | 6.25E+04 | | 6.41E+04 | | | | 1.44E+03 | |
| Ba-137 | 1.52E+02 | 1.37E+03 | 5.94E+04 | | 6.09E+04 | | | | 1.37E+03 | |
| Np-237 | 3.12E-04 | 2.81E-03 | 1.22E-01 | | 1.25E-01 | | | | 2.81E-03 | |
| Pu-239 | 1.26E-01 | 1.13E+00 | 4.92E+01 | | 5.04E+01 | | | | 1.13E+00 | |
| Pu-240 | 3.13E-02 | 2.82E-01 | 1.22E+01 | | 1.25E+01 | | | | 2.82E-01 | |
| Pu-241 | 3.52E-01 | 3.17E+00 | 1.38E+02 | | 1.41E+02 | | | | 3.17E+00 | |
| Sr-90 | 2.54E+02 | 2.29E+03 | 9.91E+04 | | 1.02E+05 | | | | 2.29E+03 | |
| Y-90 | 2.54E+02 | 2.29E+03 | 9.91E+04 | | 1.02E+05 | | | | 2.29E+03 | |
| Tc-99 | 1.17E-01 | 1.05E+00 | 4.48E+01 | | 4.59E+01 | | | | 1.05E+00 | |
| Total Curies | 8.21E+02 | 7.39E+03 | 3.21E+05 | | 3.29E+05 | | | | 7.39E+03 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 7.36E-06 | 6.62E-05 | | | 7.36E-07 | | | | 6.62E-05 | |
| Al+3 | 3.68E-03 | 3.31E-02 | | | 3.68E-04 | | | | 3.31E-02 | |
| Am+3 | 1.40E-07 | 1.26E-06 | | | 1.40E-08 | | | | 1.26E-06 | |
| As+5 | 1.13E-08 | 1.01E-07 | | | 1.13E-09 | | | | 1.01E-07 | |
| Ba+2 | 1.86E-05 | 1.67E-04 | | | 1.86E-06 | | | | 1.67E-04 | |
| Be+2 | 1.53E-06 | 1.38E-07 | | | 1.53E-09 | | | | 1.38E-07 | |
| Bi+3 | 1.25E-03 | 1.13E-02 | | | 1.25E-04 | | | | 1.13E-02 | |
| Ca+2 | 7.20E-04 | 6.48E-03 | | | 7.20E-05 | | | | 6.48E-03 | |
| Cd+2 | 3.26E-05 | 2.93E-04 | | | 3.26E-06 | | | | 2.93E-04 | |
| Ce+3 | 1.17E-03 | 1.05E-02 | | | 1.17E-04 | | | | 1.05E-02 | |
| Cm+3 | 8.73E-11 | 7.85E-10 | | | 8.73E-12 | | | | 7.85E-10 | |
| Co+3 | 7.39E-12 | 6.65E-11 | | | 7.39E-13 | | | | 6.65E-11 | |
| Cr+3 | 2.86E-04 | 2.58E-03 | | | 2.86E-05 | | | | 2.58E-03 | |
| Cs+ | 9.35E-06 | 8.41E-05 | | | 9.35E-07 | | | | 8.41E-05 | |
| Cu+2 | 9.36E-07 | 8.43E-06 | | | 9.36E-08 | | | | 8.43E-06 | |
| Fe+3 | 3.79E-03 | 3.41E-02 | | | 3.79E-04 | | | | 3.41E-02 | |
| Hg+2 | 4.38E-07 | 3.94E-06 | | | 4.38E-08 | | | | 3.94E-06 | |
| K+ | 1.47E-04 | 1.33E-03 | | | 1.47E-05 | | | | 1.33E-03 | |
| La+3 | 1.14E-04 | 1.03E-03 | | | 1.14E-05 | | | | 1.03E-03 | |
| Mg+2 | 4.10E-05 | 3.69E-04 | | | 4.10E-06 | | | | 3.69E-04 | |
| Mn+4 | 8.95E-04 | 8.05E-03 | | | 8.95E-05 | | | | 8.05E-03 | |
| Mo+6 | 1.60E-07 | 1.44E-06 | | | 1.60E-08 | | | | 1.44E-06 | |
| Na+ | 3.30E-03 | 2.97E-02 | | | 3.30E-04 | | | | 2.97E-02 | |
| Ni+3 | 1.03E-03 | 9.23E-03 | | | 1.03E-04 | | | | 9.23E-03 | |
| Np+4 | 4.42E-07 | 3.98E-06 | | | 4.42E-08 | | | | 3.98E-06 | |
| Pb+4 | 1.46E-04 | 1.31E-03 | | | 1.46E-05 | | | | 1.31E-03 | |
| Pu+4 | 2.17E-06 | 1.95E-05 | | | 2.17E-07 | | | | 1.95E-05 | |
| Rh+3 | 9.58E-07 | 8.62E-06 | | | 9.58E-08 | | | | 8.62E-06 | |
| Se+6 | 1.65E-05 | 1.48E-04 | | | 1.65E-06 | | | | 1.48E-04 | |
| Si+4 | 1.15E-03 | 1.04E-02 | | | 1.15E-04 | | | | 1.04E-02 | |
| Sr+2 | 1.82E-04 | 1.64E-03 | | | 1.82E-05 | | | | 1.64E-03 | |
| Th+4 | 1.39E-05 | 1.25E-04 | | | 1.39E-06 | | | | 1.25E-04 | |
| Ti+4 | 7.69E-07 | 6.92E-06 | | | 7.69E-08 | | | | 6.92E-06 | |
| UO2+2 | 7.67E-03 | 6.91E-02 | | | 7.67E-04 | | | | 6.91E-02 | |
| Zr+2 | 2.52E-06 | 2.27E-05 | | | 2.52E-07 | | | | 2.27E-05 | |
| Cl- | 4.49E-05 | 4.04E-04 | 2.62E-02 | | 2.69E-02 | | | | 4.04E-04 | |
| CO3-2 | 5.42E-04 | 4.87E-03 | | | 5.42E-05 | | | | 4.87E-03 | |
| F- | 3.40E-04 | 3.06E-03 | 1.47E-01 | | 1.51E-01 | | | | 3.06E-03 | |
| I- | 6.94E-09 | 6.24E-08 | | | 6.94E-10 | | | | 6.24E-08 | |
| NO2- | 3.07E-04 | 2.76E-03 | | | 3.07E-05 | | | | 2.76E-03 | |
| NO3- | 4.90E-03 | 4.41E-02 | | | 4.90E-04 | | | | 4.41E-02 | |
| OH- | 1.28E-02 | 1.16E-01 | | | 1.28E-03 | | | | 1.16E-01 | |
| PO4-3 | 2.39E-03 | 2.15E-02 | | | 2.39E-04 | | | | 2.15E-02 | |
| SO4-2 | 1.27E-04 | 1.14E-03 | | | 1.27E-05 | | | | 1.14E-03 | |
| TcO4- | 4.51E-06 | 4.06E-05 | | | 4.51E-07 | | | | 4.06E-05 | |
| Cancrinite | 1.35E-02 | 1.21E-01 | | | 1.35E-03 | | | | 1.21E-01 | |
| H2O | | | | | | | | | | |
| MnO2 | 2.84E-06 | 2.56E-05 | 5.54E-01 | | 5.68E-01 | | | | 2.56E-05 | |
| Organic Carbon | 4.34E-04 | 3.90E-03 | | | 4.34E-05 | | | | 3.90E-03 | |
| ZrO2.2H2O | 5.94E-03 | 5.35E-02 | | | 5.94E-04 | | | | 5.35E-02 | |
| Ag2O | 1.59E-08 | 1.43E-07 | 3.10E-03 | | 3.17E-03 | | | | 1.43E-07 | |
| AlPO4 | 6.57E-06 | 5.91E-05 | 1.28E+00 | | 1.31E+00 | | | | 5.91E-05 | |
| Al2O3 | 1.98E-05 | 1.78E-04 | 3.85E+00 | | 3.94E+00 | | | | 1.78E-04 | |
| Am2O3 | 3.08E-10 | 2.77E-09 | 6.02E-05 | | 6.16E-05 | | | | 2.77E-09 | |
| As2O5 | 3.46E-11 | 3.11E-10 | 6.75E-06 | | 6.92E-06 | | | | 3.11E-10 | |
| B2O3 | 8.13E-03 | 7.32E-02 | 3.18E+00 | | 3.25E+00 | | | | 7.32E-02 | |
| BaO | 4.17E-08 | 3.75E-07 | 8.13E-03 | | 8.33E-03 | | | | 3.75E-07 | |
| BeO | 8.50E-11 | 7.65E-10 | 1.66E-05 | | 1.70E-05 | | | | 7.65E-10 | |
| Bi2O3 | 2.80E-06 | 2.52E-05 | 5.46E-01 | | 5.59E-01 | | | | 2.52E-05 | |
| CaO | 2.14E-06 | 1.92E-05 | 3.94E-01 | | 4.04E-01 | | | | 1.92E-05 | |
| CdO | 7.52E-08 | 6.77E-07 | 1.47E-02 | | 1.50E-02 | | | | 6.77E-07 | |
| Ce2O3 | 2.74E-06 | 2.47E-05 | 5.36E-01 | | 5.49E-01 | | | | 2.47E-05 | |
| Cm2O3 | 1.92E-13 | 1.73E-12 | 3.74E-08 | | 3.84E-08 | | | | 1.73E-12 | |
| Co2O3 | 1.60E-13 | 1.44E-12 | 3.02E-08 | | 3.10E-08 | | | | 1.44E-12 | |
| Cr2O3 | 8.67E-07 | 7.81E-06 | 1.69E-01 | | 1.73E-01 | | | | 7.81E-06 | |
| Cs2O | 1.99E-08 | 1.79E-07 | 3.88E-03 | | 3.97E-03 | | | | 1.79E-07 | |
| CuO | 2.36E-09 | 2.12E-08 | 4.60E-04 | | 4.71E-04 | | | | 2.12E-08 | |
| Fe2O3 | 1.09E-05 | 9.77E-05 | 2.12E+00 | | 2.17E+00 | | | | 9.77E-05 | |
| FeO | 1.04E-13 | 9.35E-13 | 1.95E-08 | | 2.00E-08 | | | | 9.35E-13 | |
| Hg | 7.00E-12 | 6.30E-11 | 2.73E-09 | | 2.80E-09 | | | | 6.30E-11 | |
| HgO | 1.52E-15 | 1.37E-14 | 5.95E-13 | | 6.10E-13 | | | | 1.37E-14 | |
| K2O | 4.13E-07 | 3.72E-06 | 8.02E-02 | | 8.22E-02 | | | | 3.72E-06 | |
| La2O3 | 2.68E-07 | 2.41E-06 | 5.23E-02 | | 5.36E-02 | | | | 2.41E-06 | |
| Li2O | 2.32E-03 | 2.09E-02 | 9.07E-01 | | 9.30E-01 | | | | 2.09E-02 | |
| MgO | 1.36E-07 | 1.23E-06 | 2.66E-02 | | 2.73E-02 | | | | 1.23E-06 | |
| MnO | 4.24E-15 | 3.81E-14 | 7.97E-10 | | 8.16E-10 | | | | 3.81E-14 | |
| MoO3 | 4.81E-10 | 4.33E-09 | 9.39E-05 | | 9.62E-05 | | | | 4.33E-09 | |
| Na2O | 2.28E-05 | 2.05E-04 | 4.39E+00 | | 4.49E+00 | | | | 2.05E-04 | |
| Nb2O5 | 2.90E-06 | 2.61E-05 | 5.65E-01 | | 5.79E-01 | | | | 2.61E-05 | |
| NpO2 | 1.01E-09 | 9.05E-09 | 1.96E-04 | | 2.01E-04 | | | | 9.05E-09 | |
| PbO2 | 3.38E-07 | 3.04E-06 | 6.59E-02 | | 6.75E-02 | | | | 3.04E-06 | |
| PuO2 | 4.93E-09 | 4.44E-08 | 9.63E-04 | | 9.86E-04 | | | | 4.44E-08 | |

| STREAM NAME | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 1.78E-14 | 1.60E-13 | 3.34E-09 | | 3.42E-09 | | | | 1.60E-13 | |
| Re2O7 | 9.53E-15 | 8.57E-14 | 1.79E-09 | | 1.84E-09 | | | | 8.57E-14 | |
| Rh2O3 | 2.37E-09 | 2.13E-08 | 4.62E-04 | | 4.73E-04 | | | | 2.13E-08 | |
| Ru2O3 | 1.09E-13 | 9.83E-13 | 2.06E-08 | | 2.11E-08 | | | | 9.83E-13 | |
| SeO3 | 5.31E-08 | 4.77E-07 | 1.04E-02 | | 1.06E-02 | | | | 4.77E-07 | |
| SiO2 | 4.34E-02 | 3.90E-01 | 2.09E+01 | | 2.14E+01 | | | | 3.90E-01 | |
| SO3 | 2.53E-07 | 2.27E-06 | 4.92E-02 | | 5.04E-02 | | | | 2.27E-06 | |
| SrO | 4.29E-07 | 3.86E-06 | 8.37E-02 | | 8.58E-02 | | | | 3.86E-06 | |
| Tc2O7 | 2.11E-08 | 1.90E-07 | 4.12E-03 | | 4.22E-03 | | | | 1.90E-07 | |
| Tc2S7 | 8.76E-06 | 7.89E-05 | | | 8.76E-07 | | | | 7.89E-05 | |
| TeO3 | 8.48E-14 | 7.63E-13 | 1.60E-08 | | 1.64E-08 | | | | 7.63E-13 | |
| ThO2 | 3.16E-08 | 2.85E-07 | 6.18E-03 | | 6.33E-03 | | | | 2.85E-07 | |
| TiO2 | 2.32E-06 | 2.09E-05 | 4.54E-01 | | 4.65E-01 | | | | 2.09E-05 | |
| UO3 | 1.63E-05 | 1.47E-04 | 3.18E+00 | | 3.26E+00 | | | | 1.47E-04 | |
| ZrO | 6.28E-09 | 5.65E-08 | 1.23E-03 | | 1.26E-03 | | | | 5.65E-08 | |
| ZrO2 | 9.22E-06 | 8.29E-05 | 1.80E+00 | | 1.84E+00 | | | | 8.29E-05 | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| oligomer | | | | | | | | | | |
| Sodium Sulfide | 2.46E-05 | 2.21E-04 | | | 2.46E-06 | | | | 2.21E-04 | |
| Silico-Titanate | 4.02E-03 | 3.62E-02 | | | 4.02E-04 | | | | 3.62E-02 | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 340 | 344 | 346 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 2.55E+03 | 1.43E+04 | 1.43E+04 | 3.73E+04 | | 3.38E+02 | | |
| Volume (L) | | | 2.55E+06 | 1.43E+07 | 1.43E+07 | 3.73E+07 | | 3.38E+05 | | |
| Specific Gravity | | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | | 1.00E+00 | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 2.32E-04 | 2.55E-03 | 2.55E-03 | | | 2.58E-05 | | |
| C-14 | | | 9.71E-05 | 1.07E-03 | 1.07E-03 | | | 1.08E-05 | | |
| Cs-137 | | | 9.63E-02 | 1.06E+00 | 1.06E+00 | | | 1.07E-02 | | |
| Ba-137 | | | 9.15E-02 | 1.01E+00 | 1.01E+00 | | | 1.02E-02 | | |
| Np-237 | | | 2.04E-07 | 2.24E-06 | 2.24E-06 | | | 2.27E-08 | | |
| Pu-239 | | | 4.83E-05 | 5.32E-04 | 5.32E-04 | | | 5.37E-06 | | |
| Pu-240 | | | 1.26E-05 | 1.39E-04 | 1.39E-04 | | | 1.40E-06 | | |
| Pu-241 | | | 1.42E-04 | 1.56E-03 | 1.56E-03 | | | 1.57E-05 | | |
| Sr-90 | | | 5.43E-02 | 5.97E-01 | 5.97E-01 | | | 6.03E-03 | | |
| Y-90 | | | 5.43E-02 | 5.97E-01 | 5.97E-01 | | | 6.03E-03 | | |
| Tc-99 | | | 1.01E-01 | 1.11E+00 | 1.11E+00 | 6.69E-03 | | 1.12E-02 | | |
| Total Curies | | | 3.98E-01 | 4.38E+00 | 4.38E+00 | 6.69E-03 | | 4.42E-02 | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | 9.38E-09 | 1.03E-07 | 1.03E-07 | | | 1.04E-09 | | |
| Am+3 | | | 6.76E-11 | 7.43E-10 | 7.43E-10 | | | 7.51E-12 | | |
| As+5 | | | 1.19E-12 | 1.31E-11 | 1.31E-11 | | | 1.32E-13 | | |
| B+3 | | | 1.01E-09 | 1.11E-08 | 1.11E-08 | | | 1.12E-10 | | |
| Ba+2 | | | 2.32E-08 | 2.55E-07 | 2.55E-07 | | | 2.57E-09 | | |
| Be+2 | | | 7.11E-13 | 7.82E-12 | 7.82E-12 | | | 7.90E-14 | | |
| Bi+3 | | | 3.46E-07 | 3.81E-06 | 3.81E-06 | | | 3.85E-08 | | |
| Ca+2 | | | 4.83E-07 | 5.32E-06 | 5.32E-06 | | | 5.37E-08 | | |
| Cd+2 | | | 2.47E-07 | 2.72E-06 | 2.72E-06 | | | 2.75E-08 | | |
| Ce+3 | | | 6.93E-08 | 7.62E-07 | 7.62E-07 | | | 7.70E-09 | | |
| Cm+3 | | | 2.79E-15 | 3.06E-14 | 3.06E-14 | | | 3.10E-16 | | |
| Cr+3 | | | 4.28E-11 | 4.71E-10 | 4.71E-10 | | | 4.75E-12 | | |
| Cs+ | | | 5.55E-09 | 6.11E-08 | 6.11E-08 | | | 6.17E-10 | | |
| Cu+2 | | | 2.90E-09 | 3.19E-08 | 3.19E-08 | | | 3.22E-10 | | |
| Fe+2 | | | 3.49E-11 | 3.84E-10 | 3.84E-10 | | | 3.88E-12 | | |
| Fe+3 | | | 1.01E-06 | 1.11E-05 | 1.11E-05 | | | 1.12E-07 | | |
| H+ | | | 1.66E-06 | 1.83E-05 | 1.83E-05 | 1.11E-07 | | 1.85E-07 | | |
| Hg+2 | | | 1.71E-09 | 1.88E-08 | 1.88E-08 | | | 1.90E-10 | | |
| K+ | | | 2.08E-05 | 2.28E-04 | 2.28E-04 | | | 2.31E-06 | | |
| La+3 | | | 6.99E-09 | 7.69E-08 | 7.69E-08 | | | 7.77E-10 | | |
| Mg+2 | | | 4.28E-12 | 4.71E-11 | 4.71E-11 | | | 4.75E-13 | | |
| Mn+2 | | | 1.42E-12 | 1.56E-11 | 1.56E-11 | | | 1.58E-13 | | |
| Mn+4 | | | 3.17E-07 | 3.48E-06 | 3.48E-06 | | | 3.52E-08 | | |
| Mo+6 | | | 2.14E-10 | 2.36E-09 | 2.36E-09 | | | 2.38E-11 | | |
| Na+ | | | 2.44E-03 | 2.69E-02 | 2.69E-02 | | | 2.71E-04 | | |
| Ni+3 | | | 2.40E-07 | 2.64E-06 | 2.64E-06 | | | 2.67E-08 | | |
| Np+4 | | | 2.89E-10 | 3.18E-09 | 3.18E-09 | | | 3.22E-11 | | |
| Pb+4 | | | 3.11E-07 | 3.42E-06 | 3.42E-06 | | | 3.46E-08 | | |
| Pu+4 | | | 8.37E-10 | 9.20E-09 | 9.20E-09 | | | 9.29E-11 | | |
| Rb+ | | | 7.03E-12 | 7.73E-11 | 7.73E-11 | | | 7.81E-13 | | |
| Re+7 | | | 3.17E-12 | 3.48E-11 | 3.48E-11 | | | 3.52E-13 | | |
| Rh+3 | | | 2.49E-11 | 2.74E-10 | 2.74E-10 | | | 2.77E-12 | | |
| Ru+3 | | | 3.83E-11 | 4.22E-10 | 4.22E-10 | | | 4.26E-12 | | |
| Se+6 | | | 6.40E-11 | 7.04E-10 | 7.04E-10 | | | 7.12E-12 | | |
| Si+4 | | | 4.67E-07 | 5.13E-06 | 5.13E-06 | | | 5.19E-08 | | |
| Sr+2 | | | 1.11E-08 | 1.23E-07 | 1.23E-07 | | | 1.24E-09 | | |
| Te+6 | | | 2.68E-11 | 2.94E-10 | 2.94E-10 | | | 2.97E-12 | | |
| UO2+2 | | | 3.11E-06 | 3.42E-05 | 3.42E-05 | | | 3.45E-07 | | |
| Zn+2 | | | 2.28E-11 | 2.51E-10 | 2.51E-10 | | | 2.53E-12 | | |
| Zr+4 | | | 7.11E-13 | 7.82E-12 | 7.82E-12 | | | 7.90E-14 | | |
| Al(OH)4- | | | 3.72E-04 | 4.09E-03 | 4.09E-03 | | | 4.13E-05 | | |
| BO2- | | | 2.79E-10 | 3.07E-09 | 3.07E-09 | | | 3.10E-11 | | |
| Cl- | | | 2.01E-05 | 2.21E-04 | 2.21E-04 | | | 2.24E-06 | | |
| CO3-2 | | | 4.05E-09 | 4.05E-09 | 4.05E-09 | | | 4.50E-10 | | |
| Cr(OH)4- | | | 2.02E-05 | 2.22E-04 | 2.22E-04 | | | 2.24E-06 | | |
| F- | | | 3.33E-05 | 3.66E-04 | 3.66E-04 | | | 3.70E-06 | | |
| I- | | | 1.61E-08 | 1.77E-07 | 1.77E-07 | | | 1.79E-09 | | |
| NO2- | | | 2.41E-04 | 2.65E-03 | 2.65E-03 | | | 2.68E-05 | | |
| NO3- | | | 3.20E-03 | 3.52E-02 | 3.52E-02 | 8.43E-06 | | 3.56E-04 | | |
| OH- | | | 7.09E-08 | 7.09E-08 | 7.09E-08 | | | 7.88E-09 | | |
| PO4-3 | | | 1.42E-04 | 1.56E-03 | 1.56E-03 | | | 1.58E-05 | | |
| SO4-2 | | | 7.80E-05 | 8.58E-04 | 8.58E-04 | 1.25E-06 | | 8.67E-06 | | |
| TcO4- | | | 9.80E-06 | 1.08E-04 | 1.08E-04 | 6.48E-07 | | 1.09E-06 | | |
| H2O | | | 2.55E+03 | 1.43E+04 | 1.43E+04 | 3.73E+04 | | 2.83E+02 | | |
| Organic Carbon | | | 2.17E-04 | 2.39E-03 | 2.39E-03 | | | 2.41E-05 | | |
| ZrO2:2H2O | | | 2.21E-07 | 2.43E-06 | 2.43E-06 | | | 2.45E-08 | | |
| H2 | | | | | | 2.48E-08 | | 7.08E-04 | | |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | 4.33E+01 | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | 8.54E-04 | | |
| NO | | | | | | | | 1.16E+01 | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | 1.32E-01 | 1.45E+00 | 1.45E+00 | | | 1.47E-02 | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 340 | 344 | 346 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 1.13E-01 | 1.24E+00 | 1.24E+00 | | | 6.25E-06 | 2.32E+04 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 4.32E-01 | 4.76E+00 | 4.76E+00 | | | 2.40E-05 | 9.60E+04 | |
| C-14 | | | 9.77E-03 | 1.07E-01 | 1.07E-01 | | | 5.43E-07 | | |
| Cs-137 | | | 1.44E+02 | 1.59E+03 | 1.59E+03 | | | 8.01E-03 | 3.20E+07 | |
| Ba-137 | | | 1.37E+02 | 1.51E+03 | 1.51E+03 | | | 7.61E-03 | 3.04E+07 | |
| Np-237 | | | 2.81E-04 | 3.09E-03 | 3.09E-03 | | | 1.56E-08 | 6.23E+01 | |
| Pu-239 | | | 1.13E-01 | 1.25E+00 | 1.25E+00 | | | 6.30E-06 | 2.52E+04 | |
| Pu-240 | | | 2.82E-02 | 3.10E-01 | 3.10E-01 | | | 1.57E-06 | 6.25E+03 | |
| Pu-241 | | | 3.17E-01 | 3.49E+00 | 3.49E+00 | | | 1.76E-05 | 7.03E+04 | |
| Sr-90 | | | 2.29E+02 | 2.51E+03 | 2.51E+03 | | | 1.27E-02 | 5.07E+07 | |
| Y-90 | | | 2.29E+02 | 2.51E+03 | 2.51E+03 | | | 1.27E-02 | 5.07E+07 | |
| Tc-99 | | | 1.05E-01 | 1.15E+00 | 1.15E+00 | | | 5.83E-06 | 2.29E+04 | |
| Total Curies | | | 7.39E+02 | 8.13E+03 | 8.13E+03 | | | 4.11E-02 | 1.64E+08 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | 6.62E-06 | 7.29E-05 | 7.29E-05 | | | 3.68E-10 | | |
| Al+3 | | | 3.31E-03 | 3.64E-02 | 3.64E-02 | | | 1.84E-07 | | |
| Am+3 | | | 1.26E-07 | 1.38E-06 | 1.38E-06 | | | 6.99E-12 | | |
| As+5 | | | 1.01E-08 | 1.11E-07 | 1.11E-07 | | | 5.63E-13 | | |
| Ba+2 | | | 1.67E-05 | 1.84E-04 | 1.84E-04 | | | 9.30E-10 | | |
| Be+2 | | | 1.38E-08 | 1.51E-07 | 1.51E-07 | | | 7.63E-13 | | |
| Bi+3 | | | 1.13E-03 | 1.24E-02 | 1.24E-02 | | | 6.25E-08 | | |
| Ca+2 | | | 6.48E-04 | 7.13E-03 | 7.13E-03 | | | 3.60E-08 | | |
| Cd+2 | | | 2.93E-05 | 3.23E-04 | 3.23E-04 | | | 1.63E-09 | | |
| Ce+3 | | | 1.05E-03 | 1.16E-02 | 1.16E-02 | | | 5.84E-08 | | |
| Cm+3 | | | 7.85E-11 | 8.64E-10 | 8.64E-10 | | | 4.36E-15 | | |
| Co+3 | | | 6.65E-12 | 7.31E-11 | 7.31E-11 | | | 3.69E-16 | | |
| Cr+3 | | | 2.58E-04 | 2.83E-03 | 2.83E-03 | | | 1.43E-08 | | |
| Cs+ | | | 8.41E-06 | 9.26E-05 | 9.26E-05 | | | 4.67E-10 | | |
| Cu+2 | | | 8.43E-07 | 9.27E-06 | 9.27E-06 | | | 4.68E-11 | | |
| Fe+3 | | | 3.41E-03 | 3.75E-02 | 3.75E-02 | | | 1.90E-07 | | |
| Hg+2 | | | 3.94E-07 | 4.34E-06 | 4.34E-06 | | | 2.19E-11 | | |
| K+ | | | 1.33E-04 | 1.46E-03 | 1.46E-03 | | | 7.36E-09 | | |
| La+3 | | | 1.03E-04 | 1.13E-03 | 1.13E-03 | | | 5.70E-09 | | |
| Mg+2 | | | 3.69E-05 | 4.06E-04 | 4.06E-04 | | | 2.05E-09 | | |
| Mn+4 | | | 8.05E-04 | 8.86E-03 | 8.86E-03 | | | 4.47E-08 | | |
| Mo+6 | | | 1.44E-07 | 1.58E-06 | 1.58E-06 | | | 7.99E-12 | | |
| Na+ | | | 2.97E-03 | 3.27E-02 | 3.27E-02 | | | 1.65E-07 | | |
| Ni+3 | | | 9.23E-04 | 1.02E-02 | 1.02E-02 | | | 5.13E-08 | | |
| Np+4 | | | 3.98E-07 | 4.37E-06 | 4.37E-06 | | | 2.21E-11 | | |
| Pb+4 | | | 1.31E-04 | 1.44E-03 | 1.44E-03 | | | 7.28E-09 | | |
| Pu+4 | | | 1.95E-06 | 2.15E-05 | 2.15E-05 | | | 1.09E-10 | | |
| Rh+3 | | | 8.62E-07 | 9.48E-06 | 9.48E-06 | | | 4.79E-11 | | |
| Se+6 | | | 1.48E-05 | 1.63E-04 | 1.63E-04 | | | 8.23E-10 | | |
| Si+4 | | | 1.04E-03 | 1.14E-02 | 1.14E-02 | | | 5.76E-08 | | |
| Sr+2 | | | 1.64E-04 | 1.80E-03 | 1.80E-03 | | | 9.08E-09 | | |
| Th+4 | | | 1.25E-05 | 1.37E-04 | 1.37E-04 | | | 6.94E-10 | | |
| Ti+4 | | | 6.92E-07 | 7.61E-06 | 7.61E-06 | | | 3.84E-11 | | |
| UO2+2 | | | 6.91E-03 | 7.60E-02 | 7.60E-02 | | | 3.84E-07 | | |
| Zn+2 | | | 2.27E-06 | 2.49E-05 | 2.49E-05 | | | 1.26E-10 | | |
| Cl- | | | 4.04E-05 | 4.44E-04 | 4.44E-04 | | | 2.24E-09 | 1.34E+01 | |
| CO3-2 | | | 4.87E-04 | 5.36E-03 | 5.36E-03 | | | 2.71E-08 | | |
| F- | | | 3.06E-04 | 3.36E-03 | 3.36E-03 | | | 1.70E-08 | 7.51E+01 | |
| I- | | | 6.24E-09 | 6.87E-08 | 6.87E-08 | | | 3.47E-13 | | |
| NO2- | | | 2.76E-04 | 3.04E-03 | 3.04E-03 | | | 1.54E-08 | | |
| NO3- | | | 4.41E-03 | 4.85E-02 | 4.85E-02 | | | 2.45E-07 | | |
| OH- | | | 1.16E-02 | 1.27E-01 | 1.27E-01 | | | 6.42E-07 | | |
| PO4-3 | | | 2.13E-03 | 2.37E-02 | 2.37E-02 | | | 1.20E-07 | | |
| SO4-2 | | | 1.14E-04 | 1.26E-03 | 1.26E-03 | | | 6.36E-09 | | |
| TcO4- | | | 4.06E-06 | 4.47E-05 | 4.47E-05 | | | 2.26E-10 | | |
| Cancrinite | | | 1.21E-02 | 1.33E-01 | 1.33E-01 | | | 6.72E-07 | | |
| H2O | | | | | | | | | | |
| MnO2 | | | 2.56E-06 | 2.81E-05 | 2.81E-05 | | | 1.42E-10 | 2.83E+02 | |
| Organic Carbon | | | 3.90E-04 | 4.30E-03 | 4.30E-03 | | | 2.17E-08 | | |
| ZrO2:2H2O | | | 5.35E-03 | 5.88E-02 | 5.88E-02 | | | 2.97E-07 | | |
| Ag2O | | | 1.43E-08 | 1.57E-07 | 1.57E-07 | | | 7.93E-13 | 1.58E+00 | |
| AlPO4 | | | 5.91E-06 | 6.50E-05 | 6.50E-05 | | | 3.29E-10 | 6.54E+02 | |
| Al2O3 | | | 1.78E-05 | 1.96E-04 | 1.96E-04 | | | 9.88E-10 | 1.97E+03 | |
| Am2O3 | | | 2.77E-10 | 3.05E-09 | 3.05E-09 | | | 1.54E-14 | 3.08E-02 | |
| As2O5 | | | 3.11E-11 | 3.43E-10 | 3.43E-10 | | | 1.73E-15 | 3.45E-03 | |
| B2O3 | | | 7.32E-03 | 8.05E-02 | 8.05E-02 | | | 4.07E-07 | 1.62E+03 | |
| BaO | | | 3.75E-08 | 4.13E-07 | 4.13E-07 | | | 2.08E-12 | 4.16E+00 | |
| BeO | | | 7.65E-11 | 8.42E-10 | 8.42E-10 | | | 4.25E-15 | 8.49E-03 | |
| Bi2O3 | | | 2.52E-06 | 2.77E-05 | 2.77E-05 | | | 1.40E-10 | 2.79E+02 | |
| CaO | | | 1.92E-06 | 2.11E-05 | 2.11E-05 | | | 1.07E-10 | 2.02E+02 | |
| CdO | | | 6.77E-08 | 7.45E-07 | 7.45E-07 | | | 3.76E-12 | 7.50E+00 | |
| Ce2O3 | | | 2.47E-06 | 2.72E-05 | 2.72E-05 | | | 1.37E-10 | 2.74E+02 | |
| Cm2O3 | | | 1.73E-13 | 1.90E-12 | 1.90E-12 | | | 9.59E-18 | 1.91E-05 | |
| Co2O3 | | | 1.44E-13 | 1.58E-12 | 1.58E-12 | | | 8.00E-18 | 1.55E-05 | |
| Cr2O3 | | | 7.81E-07 | 8.59E-06 | 8.59E-06 | | | 4.34E-11 | 8.65E+01 | |
| Cs2O | | | 1.79E-08 | 1.97E-07 | 1.97E-07 | | | 9.94E-13 | 1.98E+00 | |
| CuO | | | 2.12E-09 | 2.33E-08 | 2.33E-08 | | | 1.18E-13 | 2.35E-01 | |
| Fe2O3 | | | 9.77E-06 | 1.08E-04 | 1.08E-04 | | | 5.43E-10 | 1.08E+03 | |
| FeO | | | 9.35E-14 | 1.03E-12 | 1.03E-12 | | | 5.19E-18 | 9.99E-06 | |
| Hg | | | 6.30E-12 | 6.93E-11 | 6.93E-11 | | | 3.50E-16 | 1.40E-06 | |
| HgO | | | 1.37E-15 | 1.51E-14 | 1.51E-14 | | | 7.62E-20 | 3.04E-10 | |
| K2O | | | 3.72E-07 | 4.09E-06 | 4.09E-06 | | | 2.07E-11 | 4.10E+01 | |
| La2O3 | | | 2.41E-07 | 2.65E-06 | 2.65E-06 | | | 1.34E-11 | 2.68E+01 | |
| Li2O | | | 2.09E-03 | 2.30E-02 | 2.30E-02 | | | 1.16E-07 | 4.64E+02 | |
| MgO | | | 1.23E-07 | 1.35E-06 | 1.35E-06 | | | 6.82E-12 | 1.36E+01 | |
| MnO | | | 3.81E-15 | 4.20E-14 | 4.20E-14 | | | 2.12E-19 | 4.07E-07 | |
| MoO3 | | | 4.33E-10 | 4.76E-09 | 4.76E-09 | | | 2.41E-14 | 4.80E-02 | |
| Na2O | | | 2.05E-05 | 2.25E-04 | 2.25E-04 | | | 1.14E-09 | 2.24E+03 | |
| Nd2O3 | | | 2.61E-06 | 2.87E-05 | 2.87E-05 | | | 1.45E-10 | 2.89E+02 | |
| NiO2 | | | 9.05E-10 | 9.96E-09 | 9.96E-09 | | | 5.03E-14 | 1.00E-01 | |
| PbO2 | | | 3.04E-07 | 3.34E-06 | 3.34E-06 | | | 1.69E-11 | 3.37E+01 | |
| PuO2 | | | 4.44E-09 | 4.88E-08 | 4.88E-08 | | | 2.47E-13 | 4.92E-01 | |

| STREAM NAME | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 340 | 344 | 346 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | 1.60E-14 | 1.76E-13 | 1.76E-13 | | | 8.89E-19 | 1.71E-06 | |
| Re2O7 | | | 8.57E-15 | 9.43E-14 | 9.43E-14 | | | 4.76E-19 | 9.16E-07 | |
| Rh2O3 | | | 2.13E-09 | 2.34E-08 | 2.34E-08 | | | 1.18E-13 | 2.36E-01 | |
| Ru2O3 | | | 9.83E-14 | 1.08E-12 | 1.08E-12 | | | 5.46E-18 | 1.05E-05 | |
| SeO3 | | | 4.77E-08 | 5.25E-07 | 5.25E-07 | | | 2.65E-12 | 5.29E+00 | |
| SiO2 | | | 3.90E-02 | 4.29E-01 | 4.29E-01 | | | 2.17E-06 | 1.07E+04 | |
| SO3 | | | 2.27E-07 | 2.50E-06 | 2.50E-06 | | | 1.26E-11 | 2.52E+01 | |
| SrO | | | 3.86E-07 | 4.25E-06 | 4.25E-06 | | | 2.14E-11 | 4.28E+01 | |
| Tc2O7 | | | 1.90E-08 | 2.09E-07 | 2.09E-07 | | | 1.06E-12 | 2.11E+00 | |
| Tc2S7 | | | 7.89E-06 | 8.67E-05 | 8.67E-05 | | | 4.38E-10 | | |
| TeO3 | | | 7.63E-14 | 8.39E-13 | 8.39E-13 | | | 4.24E-18 | 8.18E-06 | |
| ThO2 | | | 2.85E-08 | 3.13E-07 | 3.13E-07 | | | 1.58E-12 | 3.16E+00 | |
| TiO2 | | | 2.09E-06 | 2.30E-05 | 2.30E-05 | | | 1.16E-10 | 2.32E+02 | |
| UO3 | | | 1.47E-05 | 1.61E-04 | 1.61E-04 | | | 8.15E-10 | 1.63E+03 | |
| ZnO | | | 5.65E-09 | 6.22E-08 | 6.22E-08 | | | 3.14E-13 | 6.27E-01 | |
| ZrO2 | | | 8.29E-06 | 9.12E-05 | 9.12E-05 | | | 4.61E-10 | 9.20E+02 | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | 2.21E-05 | 2.43E-04 | 2.43E-04 | | | 1.23E-09 | | |
| Silico-Titanate | | | 3.62E-03 | 3.98E-02 | 3.98E-02 | | | 2.01E-07 | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 347 | 348 | 349 | 351 | 352 | 353 | 400 | 401 | 402 | 403 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 1.31E+04 | 7.08E-02 | 1.53E+03 | | 3.35E-02 | 2.08E+06 | 1.53E+06 | 1.68E+04 | 1.51E+06 |
| Volume (L) | | 1.31E+07 | 7.08E+01 | 1.53E+06 | | 3.35E+01 | 1.90E+09 | 1.53E+09 | 1.68E+07 | 1.51E+09 |
| Specific Gravity | | 1.00E+00 | 1.00E+00 | 1.00E+00 | | 1.00E+00 | 1.09E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 2.58E-03 | | 1.15E-08 | | | 7.86E+03 | 2.18E-03 | 2.18E-06 | 2.18E-03 |
| C-14 | | 1.08E-03 | | 4.81E-09 | | | 3.29E+03 | 9.13E-04 | 9.13E-07 | 9.12E-04 |
| Cs-137 | | 1.07E+00 | | 4.77E-06 | | | 5.37E+06 | 1.49E+00 | 1.49E-03 | 1.49E+00 |
| Ba-137 | | 1.02E+00 | | 4.53E-06 | | | 5.10E+06 | 1.41E+00 | 1.41E-03 | 1.41E+00 |
| Np-237 | | 2.27E-06 | | 1.01E-11 | | | 6.92E+00 | 1.92E-06 | 1.92E-09 | 1.92E-06 |
| Pu-239 | | 5.37E-04 | | 2.39E-09 | | | 1.64E+03 | 4.54E-04 | 4.54E-07 | 4.54E-04 |
| Pu-240 | | 1.40E-04 | | 6.26E-10 | | | 4.29E+02 | 1.19E-04 | 1.19E-07 | 1.19E-04 |
| Pu-241 | | 1.57E-03 | | 7.02E-09 | | | 4.81E+03 | 1.33E-03 | 1.33E-06 | 1.33E-03 |
| Sr-90 | | 6.03E-01 | | 2.69E-06 | | | 1.84E+06 | 5.10E-01 | 5.10E-04 | 5.09E-01 |
| Y-90 | | 6.03E-01 | | 2.69E-06 | | | 1.84E+06 | 5.10E-01 | 5.10E-04 | 5.09E-01 |
| Tc-99 | | 1.12E+00 | | 6.73E-06 | | | 6.99E+04 | 1.94E-02 | 1.94E-05 | 1.94E-02 |
| Total Curies | | 4.42E+00 | | 2.14E-05 | | | 1.43E+07 | 3.95E+00 | 3.95E-03 | 3.94E+00 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | 1.04E-07 | | 4.64E-13 | | | 3.18E-01 | 8.81E-08 | 8.81E-11 | 8.80E-08 |
| Am+3 | | 7.51E-10 | | 3.35E-15 | | | 2.29E-03 | 6.35E-10 | 6.35E-13 | 6.34E-10 |
| As+5 | | 1.32E-11 | | 5.88E-17 | | | 4.03E-05 | 1.12E-11 | 1.12E-14 | 1.11E-11 |
| B+3 | | 1.12E-08 | | 4.97E-14 | | | 3.41E-02 | 9.44E-09 | 9.44E-12 | 9.43E-09 |
| Ba+2 | | 2.57E-07 | | 1.15E-12 | | | 7.85E-01 | 2.18E-07 | 2.18E-10 | 2.17E-07 |
| Be+2 | | 7.90E-12 | | 3.52E-17 | | | 2.41E-05 | 6.68E-12 | 6.68E-15 | 6.68E-12 |
| Bi+3 | | 3.85E-06 | | 1.71E-11 | | | 1.17E+01 | 3.25E-06 | 3.25E-09 | 3.25E-06 |
| Ca+2 | | 5.37E-06 | | 2.39E-11 | | | 2.42E+03 | 6.69E-04 | 6.69E-07 | 6.69E-04 |
| Cd+2 | | 2.75E-06 | | 1.22E-11 | | | 1.14E+01 | 3.15E-06 | 3.15E-09 | 3.15E-06 |
| Ce+3 | | 7.69E-07 | | 3.43E-12 | | | 2.35E+00 | 6.51E-07 | 6.51E-10 | 6.50E-07 |
| Cm+3 | | 3.10E-14 | | 1.38E-19 | | | 9.43E-08 | 2.62E-14 | 2.62E-17 | 2.62E-14 |
| Co+3 | | 4.75E-10 | | 2.12E-15 | | | 1.45E-03 | 4.02E-10 | 4.02E-13 | 4.02E-10 |
| Cs+ | | 6.17E-08 | | 2.75E-13 | | | 3.10E-01 | 8.58E-08 | 8.58E-11 | 8.56E-08 |
| Cu+2 | | 3.22E-08 | | 1.44E-13 | | | 9.83E-02 | 2.72E-08 | 2.72E-11 | 2.72E-08 |
| Fe+2 | | 3.88E-10 | | 1.73E-15 | | | 1.19E-03 | 3.28E-10 | 3.28E-13 | 3.28E-10 |
| Fe+3 | | 1.12E-05 | | 4.99E-11 | | | 3.42E+01 | 9.47E-06 | 9.47E-09 | 9.46E-06 |
| H+ | | 1.85E-05 | | 1.11E-10 | | | | | | |
| Hg+2 | | 1.90E-08 | | 8.47E-14 | | | 5.80E-02 | 1.61E-08 | 1.61E-11 | 1.61E-08 |
| K+ | | 2.31E-04 | | 1.03E-09 | | | 7.10E+02 | 1.97E-04 | 1.97E-07 | 1.96E-04 |
| La+3 | | 7.77E-08 | | 3.46E-13 | | | 2.37E-01 | 6.57E-08 | 6.57E-11 | 6.56E-08 |
| Mg+2 | | 4.75E-11 | | 2.12E-16 | | | 1.45E-04 | 4.02E-11 | 4.02E-14 | 4.02E-11 |
| Mn+2 | | 1.38E-11 | | 7.03E-17 | | | 4.82E-05 | 1.33E-11 | 1.33E-14 | 1.33E-11 |
| Mn+4 | | 3.52E-06 | | 1.57E-11 | | | 1.07E+01 | 2.97E-06 | 2.97E-09 | 2.97E-06 |
| Mo+6 | | 2.38E-09 | | 1.06E-14 | | | 7.58E-03 | 2.10E-09 | 2.10E-12 | 2.10E-09 |
| Na+ | | 2.71E-02 | | 2.95E-07 | | | 8.59E+04 | 6.49E-02 | 6.49E-05 | 6.49E-02 |
| Ni+3 | | 2.67E-06 | | 1.19E-11 | | | 8.15E+00 | 2.26E-06 | 2.26E-09 | 2.26E-06 |
| Np+4 | | 3.22E-09 | | 1.43E-14 | | | 9.82E-03 | 2.72E-09 | 2.72E-12 | 2.72E-09 |
| Pb+4 | | 3.46E-06 | | 1.54E-11 | | | 1.44E+01 | 3.98E-06 | 3.98E-09 | 3.98E-06 |
| Pu+4 | | 9.29E-09 | | 4.14E-14 | | | 2.84E-02 | 7.86E-09 | 7.86E-12 | 7.85E-09 |
| Rb+ | | 7.81E-11 | | 3.48E-16 | | | 2.38E-04 | 6.61E-11 | 6.61E-14 | 6.60E-11 |
| Re+7 | | 3.52E-11 | | 1.57E-16 | | | 1.07E-04 | 2.98E-11 | 2.98E-14 | 2.97E-11 |
| Rh+3 | | 2.77E-10 | | 1.23E-15 | | | 8.45E-04 | 2.34E-10 | 2.34E-13 | 2.34E-10 |
| Ru+3 | | 4.26E-10 | | 1.90E-15 | | | 1.76E-03 | 4.88E-10 | 4.88E-13 | 4.88E-10 |
| Se+6 | | 7.12E-10 | | 3.17E-15 | | | 9.83E-03 | 2.72E-09 | 2.72E-12 | 2.72E-09 |
| Si+4 | | 5.19E-06 | | 2.31E-11 | | | 1.58E+01 | 4.39E-06 | 4.39E-09 | 4.38E-06 |
| Sr+2 | | 1.24E-07 | | 5.52E-13 | | | 3.78E-01 | 1.05E-07 | 1.05E-10 | 1.05E-07 |
| Te+6 | | 2.97E-10 | | 1.32E-15 | | | 1.23E-03 | 3.41E-10 | 3.41E-13 | 3.40E-10 |
| UO2+2 | | 3.45E-05 | | 1.54E-10 | | | 1.05E+02 | 2.92E-05 | 2.92E-08 | 2.91E-05 |
| Zn+2 | | 2.53E-10 | | 1.13E-15 | | | 7.73E-04 | 2.14E-10 | 2.14E-13 | 2.14E-10 |
| Zr+4 | | 7.90E-12 | | 3.52E-17 | | | 2.41E-05 | 6.68E-12 | 6.68E-15 | 6.68E-12 |
| Al(OH)4- | | 4.13E-03 | | 1.84E-08 | | | 1.24E+04 | 3.44E-03 | 3.44E-06 | 3.44E-03 |
| BO2- | | 3.10E-09 | | 1.38E-14 | | | 4.50E-02 | 1.25E-08 | 1.25E-11 | 1.25E-08 |
| Cl- | | 2.24E-04 | | 1.99E-09 | | | 2.67E+03 | 1.48E-03 | 1.48E-06 | 1.48E-03 |
| CO3-2 | | | | 4.50E-09 | | | | | | |
| Cr(OH)4- | | 2.24E-04 | | 9.99E-10 | | | 6.77E+02 | 1.88E-04 | 1.88E-07 | 1.87E-04 |
| F- | | 3.70E-04 | | 1.65E-09 | | | 3.03E+03 | 8.38E-04 | 8.38E-07 | 8.38E-04 |
| I- | | 1.79E-07 | | 7.97E-13 | | | 2.26E+00 | 6.26E-07 | 6.26E-10 | 6.26E-07 |
| NO2- | | 2.63E-03 | | 2.39E-08 | | | 9.41E+03 | 2.61E-03 | 2.61E-06 | 2.60E-03 |
| NO3- | | 3.56E-02 | | 3.19E-07 | | | 1.32E+05 | 7.31E-02 | 7.31E-05 | 7.30E-02 |
| OH- | | | | 7.88E-08 | | | 1.93E+04 | 5.35E-03 | 5.35E-06 | 5.34E-03 |
| PO4-3 | | 1.58E-03 | | 7.03E-09 | | | 5.67E+03 | 1.57E-03 | 1.57E-06 | 1.57E-03 |
| SO4-2 | | 8.67E-04 | | 4.19E-09 | | | 2.01E+03 | 5.56E-04 | 5.56E-07 | 5.56E-04 |
| TcO4- | | 1.09E-04 | | 6.52E-10 | | | 6.77E+00 | 1.88E-06 | 1.88E-09 | 1.87E-06 |
| H2O | | 1.30E+04 | | 1.53E+03 | | | 1.80E+06 | 1.53E+06 | 1.68E+04 | 1.51E+06 |
| Organic Carbon | | 2.41E-03 | | 4.38E-09 | | | 1.05E+03 | 8.31E-04 | 8.31E-07 | 8.30E-04 |
| ZrO2:2H2O | | 2.45E-06 | | 1.09E-11 | | | 7.48E+00 | 2.07E-06 | 2.07E-09 | 2.07E-06 |
| He | | 7.45E-02 | 7.08E-02 | 2.48E-11 | | 3.35E-02 | 3.10E-09 | 8.60E-16 | 8.60E-19 | 8.59E-16 |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | 4.33E+01 | | 7.90E-08 | | | 2.26E+03 | 6.26E-04 | 6.26E-07 | 6.26E-04 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | 8.54E-04 | | | | | | | | |
| NO | | 1.16E+01 | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | 1.47E+00 | | 3.24E-10 | | | 4.04E-08 | 1.12E-14 | 1.12E-17 | 1.12E-14 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 347 | 348 | 349 | 351 | 352 | 353 | 400 | 401 | 402 | 403 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 1.25E+00 | | | | | 1.55E+04 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 4.80E+00 | | | | | 8.34E+02 | | | |
| C-14 | | 1.09E-01 | | | | | 1.28E+01 | | | |
| Cs-137 | | 1.60E+03 | | | | | 2.78E+05 | | | |
| Ba-137 | | 1.52E+03 | | | | | 2.64E+05 | | | |
| Np-237 | | 3.12E-03 | | | | | 6.00E-01 | | | |
| Pu-239 | | 1.26E+00 | | | | | 2.05E+02 | | | |
| Pu-240 | | 3.13E-01 | | | | | 5.17E+01 | | | |
| Pu-241 | | 3.52E+00 | | | | | 5.81E+02 | | | |
| Sr-90 | | 2.54E+03 | | | | | 3.67E+05 | | | |
| Y-90 | | 2.54E+03 | | | | | 3.67E+05 | | | |
| Tc-99 | | 1.17E+00 | | | | | 4.21E+02 | | | |
| Total Curies | | 8.21E+03 | | | | | 1.28E+06 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | 7.36E-05 | | | | | 8.66E-03 | | | |
| Al+3 | | 3.68E-02 | | | | | 9.43E+00 | | | |
| Am+3 | | 1.40E-06 | | | | | 1.6AE-04 | | | |
| As+5 | | 1.13E-07 | | | | | 1.32E-05 | | | |
| Ba+2 | | 1.86E-04 | | | | | 2.19E-02 | | | |
| Be+2 | | 1.53E-07 | | | | | 1.80E-05 | | | |
| Bi+3 | | 1.25E-02 | | | | | 1.47E+00 | | | |
| Ca+2 | | 7.20E-03 | | | | | 4.83E+02 | | | |
| Cd+2 | | 3.26E-04 | | | | | 3.83E-02 | | | |
| Ce+3 | | 1.17E-02 | | | | | 1.38E+00 | | | |
| Cm+3 | | 8.73E-10 | | | | | 1.03E-07 | | | |
| Co+3 | | 7.39E-11 | | | | | 8.69E-09 | | | |
| Cr+3 | | 2.86E-03 | | | | | 6.69E-01 | | | |
| Cs+ | | 9.35E-05 | | | | | 1.11E-02 | | | |
| Cu+2 | | 9.36E-06 | | | | | 1.10E-03 | | | |
| Fe+3 | | 3.79E-02 | | | | | 4.46E+00 | | | |
| Hg+2 | | 4.38E-06 | | | | | 5.15E-04 | | | |
| K+ | | 1.47E-03 | | | | | 1.73E-01 | | | |
| La+3 | | 1.14E-03 | | | | | 1.34E-01 | | | |
| Mg+2 | | 4.10E-04 | | | | | 4.82E-02 | | | |
| Mn+4 | | 8.95E-03 | | | | | 1.05E+00 | | | |
| Mo+6 | | 1.60E-06 | | | | | 1.88E-04 | | | |
| Na+ | | 3.30E-02 | | | | | 4.52E+00 | | | |
| Ni+3 | | 1.03E-02 | | | | | 1.21E+00 | | | |
| Np+4 | | 4.42E-06 | | | | | 5.20E-04 | | | |
| Pb+4 | | 1.46E-03 | | | | | 1.71E-01 | | | |
| Pu+4 | | 2.17E-05 | | | | | 2.55E-03 | | | |
| Rh+3 | | 9.58E-06 | | | | | 1.13E-03 | | | |
| Se+6 | | 1.65E-04 | | | | | 1.94E-02 | | | |
| Si+4 | | 1.15E-02 | | | | | 1.36E+00 | | | |
| Sr+2 | | 1.82E-03 | | | | | 2.14E-01 | | | |
| Th+4 | | 1.39E-04 | | | | | 1.63E-02 | | | |
| Ti+4 | | 7.69E-06 | | | | | 9.04E-04 | | | |
| UO2+2 | | 7.67E-02 | | | | | 9.03E+00 | | | |
| Zn+2 | | 2.52E-05 | | | | | 2.96E-03 | | | |
| Cl- | | 4.49E-04 | | | | | 4.17E+00 | | | |
| CO3-2 | | 5.42E-03 | | | | | 6.37E-01 | | | |
| F- | | 3.40E-03 | | | | | 2.62E+02 | | | |
| I- | | 6.94E-08 | | | | | 7.04E-04 | | | |
| NO2- | | 3.07E-03 | | | | | 3.61E-01 | | | |
| NO3- | | 4.90E-02 | | | | | 5.76E+00 | | | |
| OH- | | 1.28E-01 | | | | | 2.65E+01 | | | |
| PO4-3 | | 2.39E-02 | | | | | 7.25E+00 | | | |
| SO4-2 | | 1.27E-03 | | | | | 1.50E-01 | | | |
| TcO4- | | 4.51E-05 | | | | | 5.31E-03 | | | |
| Cancrinite | | 1.35E-01 | | | | | 1.58E+01 | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 2.84E-05 | | | | | 5.98E-01 | | | |
| Organic Carbon | | 4.34E-03 | | | | | 5.10E-01 | | | |
| ZrO2:2H2O | | 5.94E-02 | | | | | 6.99E+00 | | | |
| Ag2O | | 1.59E-07 | | | | | 1.13E-02 | | | |
| AlPO4 | | 6.57E-05 | | | | | 1.86E+02 | | | |
| Al2O3 | | 1.98E-04 | | | | | 6.57E+02 | | | |
| Am2O3 | | 3.08E-09 | | | | | 8.66E-05 | | | |
| As2O5 | | 3.46E-10 | | | | | 2.63E-06 | | | |
| B2O3 | | 8.13E-02 | | | | | 3.48E-03 | | | |
| BaO | | 4.17E-07 | | | | | 2.89E-02 | | | |
| BeO | | 8.50E-10 | | | | | 3.75E-06 | | | |
| Bi2O3 | | 2.80E-05 | | | | | 4.72E-01 | | | |
| CaO | | 2.14E-05 | | | | | 1.47E+03 | | | |
| CdO | | 7.52E-07 | | | | | 2.75E-01 | | | |
| Ce2O3 | | 2.74E-05 | | | | | 1.40E-01 | | | |
| Cm2O3 | | 1.92E-12 | | | | | 6.94E-09 | | | |
| Co2O3 | | 1.60E-12 | | | | | 6.55E-05 | | | |
| Cr2O3 | | 8.67E-06 | | | | | 1.38E+01 | | | |
| Cs2O | | 1.99E-07 | | | | | 5.34E-03 | | | |
| CuO | | 2.36E-08 | | | | | 3.99E-03 | | | |
| Fe2O3 | | 1.09E-04 | | | | | 1.77E+00 | | | |
| FeO | | 1.04E-12 | | | | | 4.89E-05 | | | |
| Hg | | 7.00E-11 | | | | | 2.33E-03 | | | |
| HgO | | 1.52E-14 | | | | | 1.95E-05 | | | |
| K2O | | 4.13E-06 | | | | | 2.71E+01 | | | |
| La2O3 | | 2.68E-06 | | | | | 1.40E-02 | | | |
| Li2O | | 2.32E-02 | | | | | | | | |
| MgO | | 1.36E-06 | | | | | 2.57E-03 | | | |
| MnO | | 4.24E-14 | | | | | 1.99E-06 | | | |
| MoO3 | | 4.81E-09 | | | | | 3.54E-04 | | | |
| Na2O | | 2.28E-04 | | | | | 3.67E+03 | | | |
| Nb2O3 | | 2.90E-05 | | | | | 4.23E-01 | | | |
| NpO2 | | 1.01E-08 | | | | | 3.78E-04 | | | |
| PbO2 | | 3.38E-06 | | | | | 3.54E-01 | | | |
| PuO2 | | 4.93E-08 | | | | | 1.13E-03 | | | |

| STREAM NAME | 347 | 348 | 349 | 351 | 352 | 353 | 400 | 401 | 402 | 403 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | 1.78E-13 | | | | | 8.36E-06 | | | |
| Re2O7 | | 9.53E-14 | | | | | 4.48E-06 | | | |
| Rh2O3 | | 2.37E-08 | | | | | 7.80E-05 | | | |
| Ru2O3 | | 1.09E-12 | | | | | 4.60E-05 | | | |
| SeO3 | | 5.31E-07 | | | | | 9.90E-04 | | | |
| SiO2 | | 4.34E-01 | | | | | 8.62E+03 | | | |
| SO3 | | 2.53E-06 | | | | | 5.17E+00 | | | |
| SrO | | 4.29E-06 | | | | | 2.24E-02 | | | |
| Tc2O7 | | 2.11E-07 | | | | | 2.07E-02 | | | |
| Tc2S7 | | 8.76E-05 | | | | | 1.77E-03 | | | |
| TeO3 | | 8.48E-13 | | | | | [illegible] | | | |
| ThO2 | | 3.16E-07 | | | | | [illegible] | | | |
| TiO2 | | 2.32E-05 | | | | | [illegible] | | | |
| UO3 | | 1.63E-04 | | | | | [illegible] | | | |
| ZnO | | 6.28E-08 | | | | | [illegible] | | | |
| ZrO2 | | 9.22E-05 | | | | | [illegible] | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | 2.46E-04 | | | | | [illegible] | | | |
| Silico-Titanate | | 4.02E-02 | | | | | [illegible] | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 5.50E+05 | 5.73E+05 | 5.73E+05 | | 5.88E+04 | 1.27E+05 | 6.29E+05 | | 9.36E+04 | 9.36E+04 |
| Volume (L) | 3.74E+08 | 3.97E+08 | 3.97E+08 | | 5.88E+07 | 1.27E+08 | 6.18E+08 | | 9.36E+07 | 9.36E+07 |
| Specific Gravity | 1.47E+00 | 1.45E+00 | 1.45E+00 | | 1.00E+00 | 1.00E+00 | 1.02E+00 | | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 7.86E+03 | 7.86E+03 | 7.86E+03 | | | | | | | |
| C-14 | 3.29E+03 | 3.29E+03 | 3.29E+03 | | | | 3.86E+03 | | | |
| Cs-137 | 5.37E+06 | 5.37E+06 | 5.37E+06 | | | | 2.84E+06 | | | |
| Ba-137 | 5.10E+06 | 5.10E+06 | 5.10E+06 | | | | 2.70E+06 | | | |
| Np-237 | 6.92E+00 | 6.92E+00 | 6.92E+00 | | | | | | | |
| Pu-239 | 1.64E+03 | 1.64E+03 | 1.64E+03 | | | | | | | |
| Pu-240 | 4.29E+02 | 4.29E+02 | 4.29E+02 | | | | | | | |
| Pu-241 | 4.81E+03 | 4.81E+03 | 4.81E+03 | | | | | | | |
| Sr-90 | 1.84E+06 | 1.84E+06 | 1.84E+06 | | | | | | | |
| Y-90 | 1.84E+06 | 1.84E+06 | 1.84E+06 | | | | | | | |
| Tc-99 | 6.99E+04 | 6.99E+04 | 6.99E+04 | | | | 6.31E+04 | | | |
| Total Curies | 1.43E+07 | 1.43E+07 | 1.43E+07 | | | | 5.60E+06 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 3.18E-01 | 3.18E-01 | 3.18E-01 | | | | | | | |
| Am+3 | 2.29E-03 | 2.29E-03 | 2.29E-03 | | | | | | | |
| As+5 | 4.03E-05 | 4.03E-05 | 4.03E-05 | | | | | | | |
| B+3 | 3.41E-02 | 3.41E-02 | 3.41E-02 | | | | | | | |
| Ba+2 | 7.85E-01 | 7.85E-01 | 7.85E-01 | | | | | | | |
| Be+2 | 2.41E-05 | 2.41E-05 | 2.41E-05 | | | | | | | |
| Bi+3 | 1.17E+01 | 1.17E+01 | 1.17E+01 | | | | | | | |
| Ca+2 | 2.42E+03 | 2.42E+03 | 2.42E+03 | | | | | | | |
| Cd+2 | 1.14E+01 | 1.14E+01 | 1.14E+01 | | | | 3.91E+00 | | | |
| Ce+3 | 2.35E+00 | 2.35E+00 | 2.35E+00 | | | | | | | |
| Cm+3 | 9.45E-08 | 9.45E-08 | 9.45E-08 | | | | | | | |
| Co+3 | 1.45E-03 | 1.45E-03 | 1.45E-03 | | | | | | | |
| Cs+ | 3.10E-01 | 3.10E-01 | 3.10E-01 | | | | 1.64E-01 | | | |
| Cu+2 | 9.83E-02 | 9.83E-02 | 9.83E-02 | | | | | | | |
| Fe+2 | 1.19E-03 | 1.19E-03 | 1.19E-03 | | | | | | | |
| Fe+3 | 3.42E+01 | 3.42E+01 | 3.42E+01 | | | | | | | |
| H+ | | | | | | | 2.26E+02 | | | |
| Hg+2 | 5.80E-02 | 5.80E-02 | 5.80E-02 | | | | | | | |
| K+ | 7.10E+02 | 7.10E+02 | 7.10E+02 | | | | 7.40E+00 | | | |
| La+3 | 2.37E-01 | 2.37E-01 | 2.37E-01 | | | | | | | |
| Mg+2 | 1.45E-04 | 1.45E-04 | 1.45E-04 | | | | | | | |
| Mn+2 | 4.82E-05 | 4.82E-05 | 4.82E-05 | | | | | | | |
| Mn+4 | 1.07E+01 | 1.07E+01 | 1.07E+01 | | | | | | | |
| Mo+6 | 7.58E-03 | 7.58E-03 | 7.58E-03 | | | | 4.04E-04 | | | |
| Na+ | 8.59E+04 | 8.59E+04 | 8.59E+04 | | | | 8.95E+02 | | | |
| Ni+3 | 8.15E+00 | 8.15E+00 | 8.15E+00 | | | | | | | |
| Np+4 | 9.82E-03 | 9.82E-03 | 9.82E-03 | | | | | | | |
| Pb+4 | 1.44E+01 | 1.44E+01 | 1.44E+01 | | | | 4.98E+00 | | | |
| Pu+4 | 2.84E-02 | 2.84E-02 | 2.84E-02 | | | | | | | |
| Rb+ | 2.38E-04 | 2.38E-04 | 2.38E-04 | | | | | | | |
| Re+7 | 1.07E-04 | 1.07E-04 | 1.07E-04 | | | | | | | |
| Rh+3 | 8.43E-04 | 8.43E-04 | 8.43E-04 | | | | | | | |
| Ru+3 | 1.76E-03 | 1.76E-03 | 1.76E-03 | | | | 6.03E-04 | | | |
| Se+6 | 9.83E-03 | 9.83E-03 | 9.83E-03 | | | | 9.99E-03 | | | |
| Si+4 | 1.58E+01 | 1.58E+01 | 1.58E+01 | | | | | | | |
| Sr+2 | 3.78E-01 | 3.78E-01 | 3.78E-01 | | | | | | | |
| Te+6 | 1.23E-03 | 1.23E-03 | 1.23E-03 | | | | 4.21E-04 | | | |
| UO2+2 | 1.05E+02 | 1.05E+02 | 1.05E+02 | | | | | | | |
| Zn+2 | 7.73E-04 | 7.73E-04 | 7.73E-04 | | | | | | | |
| Zr+4 | 2.41E-05 | 2.41E-05 | 2.41E-05 | | | | | | | |
| Al(OH)4- | 1.24E+04 | 1.24E+04 | 1.24E+04 | | | | | | | |
| BO2- | 4.50E-02 | 4.50E-02 | 4.50E-02 | | | | 4.64E-02 | | | |
| Cl- | 2.67E+03 | 2.67E+03 | 2.67E+03 | | | | 2.54E+03 | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | 6.77E+02 | 6.77E+02 | 6.77E+02 | | | | | | | |
| F- | 3.03E+03 | 3.03E+03 | 3.03E+03 | | | | 2.20E+03 | | | |
| I- | 2.26E+00 | 2.26E+00 | 2.26E+00 | | | | 2.24E+00 | | | |
| NO2- | 9.41E+03 | 9.41E+03 | 9.41E+03 | | | | | | | |
| NO3- | 1.32E+05 | 1.32E+05 | 1.32E+05 | | | | | | | |
| OH- | 1.93E+04 | 1.93E+04 | 1.93E+04 | | | | 6.68E+02 | | | |
| PO4-3 | 5.67E+03 | 5.67E+03 | 5.67E+03 | | | | 1.17E+03 | | | |
| SO4-2 | 2.01E+03 | 2.01E+03 | 2.01E+03 | | | | | | | |
| TcO4- | 6.77E+00 | 6.77E+00 | 6.77E+00 | | | | | | | |
| H2O | 2.71E+05 | 2.94E+05 | 2.94E+05 | | | | 3.73E+05 | | 9.36E+04 | 9.36E+04 |
| Organic Carbon | 1.05E+03 | 1.05E+03 | 1.05E+03 | | | | | | | |
| ZrO2:2H2O | 7.48E+00 | 7.48E+00 | 7.48E+00 | | | | | | | |
| Hg | 3.10E-09 | 3.10E-09 | 3.10E-09 | | | | 5.80E-02 | | | |
| TiO2 | | | | | | | 4.91E+00 | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | 2.39E+03 | | | |
| CO2 | 2.26E+03 | 2.26E+03 | 2.26E+03 | | | | 1.90E+05 | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | 9.27E+03 | 4.14E+04 | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | 2.46E+02 | | | |
| NO2 | | | | | | | 1.51E+03 | | | |
| O2 | | | | | | 1.18E+05 | 1.18E+04 | | | |
| SO2 | | | | | | | 1.21E+03 | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | 4.04E-08 | 4.04E-08 | 4.04E-08 | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | 5.88E+04 | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.55E+04 | 2.01E+04 | 2.01E+04 | 3.27E+05 | | | 9.55E+03 | 4.68E+05 | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 8.34E+02 | 9.19E+02 | 9.19E+02 | | | | 1.76E+02 | 8.61E+03 | | |
| C-14 | 1.28E+01 | 1.28E+01 | 1.28E+01 | | | | | | | |
| Cs-137 | 2.78E+05 | 3.05E+05 | 3.05E+05 | | | | 5.68E+04 | 2.78E+06 | | |
| Ba-137 | 2.64E+05 | 2.90E+05 | 2.90E+05 | | | | 5.39E+04 | 2.64E+06 | | |
| Np-237 | 6.00E-01 | 6.74E-01 | 6.74E-01 | | | | 1.52E-01 | 7.44E+00 | | |
| Pu-239 | 2.05E+02 | 2.23E+02 | 2.23E+02 | | | | 3.72E+01 | 1.83E+03 | | |
| Pu-240 | 5.17E+01 | 5.64E+01 | 5.64E+01 | | | | 9.70E+00 | 4.75E+02 | | |
| Pu-241 | 5.81E+02 | 6.34E+02 | 6.34E+02 | | | | 1.09E+02 | 5.33E+03 | | |
| Sr-90 | 3.67E+05 | 3.88E+05 | 3.88E+05 | | | | 4.46E+04 | 2.18E+06 | | |
| Y-90 | 3.67E+05 | 3.88E+05 | 3.88E+05 | | | | 4.46E+04 | 2.18E+06 | | |
| Tc-99 | 4.21E+02 | 4.92E+02 | 4.92E+02 | | | | 1.46E+02 | 7.16E+03 | | |
| Total Curies | 1.28E+06 | 1.37E+06 | 1.37E+06 | | | | 2.00E+05 | 9.82E+06 | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | 8.66E-03 | 8.66E-03 | 8.66E-03 | | | | | | | |
| Al+3 | 9.43E+00 | 9.43E+00 | 9.43E+00 | | | | | | | |
| Am+3 | 1.64E-04 | 1.64E-04 | 1.64E-04 | | | | | | | |
| As+5 | 1.32E-05 | 1.32E-05 | 1.32E-05 | | | | | | | |
| Ba+2 | 2.19E-02 | 2.19E-02 | 2.19E-02 | | | | | | | |
| Be+2 | 1.80E-05 | 1.80E-05 | 1.80E-05 | | | | | | | |
| Bi+3 | 1.47E+00 | 1.47E+00 | 1.47E+00 | | | | | | | |
| Ca+2 | 4.83E+02 | 4.83E+02 | 4.83E+02 | | | | | | | |
| Cd+2 | 3.83E-02 | 3.83E-02 | 3.83E-02 | | | | | | | |
| Ce+3 | 1.38E+00 | 1.38E+00 | 1.38E+00 | | | | | | | |
| Cm+3 | 1.03E-07 | 1.03E-07 | 1.03E-07 | | | | | | | |
| Co+3 | 8.69E-09 | 8.69E-09 | 8.69E-09 | | | | | | | |
| Cr+3 | 6.69E-01 | 6.69E-01 | 6.69E-01 | | | | | | | |
| Cs+ | 1.11E-02 | 1.11E-02 | 1.11E-02 | | | | | | | |
| Cu+2 | 1.10E-03 | 1.10E-03 | 1.10E-03 | | | | | | | |
| Fe+3 | 4.46E+00 | 4.46E+00 | 4.46E+00 | | | | | | | |
| Hg+2 | 5.15E-04 | 5.15E-04 | 5.15E-04 | | | | | | | |
| K+ | 1.73E-01 | 1.73E-01 | 1.73E-01 | | | | | | | |
| La+3 | 1.34E-01 | 1.34E-01 | 1.34E-01 | | | | | | | |
| Mg+2 | 4.82E-02 | 4.82E-02 | 4.82E-02 | | | | | | | |
| Mn+4 | 1.05E+00 | 1.05E+00 | 1.05E+00 | | | | | | | |
| Mo+6 | 1.88E-04 | 1.88E-04 | 1.88E-04 | | | | | | | |
| Na+ | 4.52E+00 | 4.52E+00 | 4.52E+00 | | | | | | | |
| Ni+3 | 1.21E+00 | 1.21E+00 | 1.21E+00 | | | | | | | |
| Np+4 | 5.20E-04 | 5.20E-04 | 5.20E-04 | | | | | | | |
| Pb+2 | 1.71E-01 | 1.71E-01 | 1.71E-01 | | | | | | | |
| Pu+3 | 2.55E-03 | 2.55E-03 | 2.55E-03 | | | | | | | |
| Rh+3 | 1.13E-03 | 1.13E-03 | 1.13E-03 | | | | | | | |
| Se+6 | 1.94E-02 | 1.94E-02 | 1.94E-02 | | | | | | | |
| Si+4 | 1.36E+00 | 1.36E+00 | 1.36E+00 | | | | | | | |
| Sr+2 | 2.14E-01 | 2.14E-01 | 2.14E-01 | | | | | | | |
| Th+4 | 1.63E-02 | 1.63E-02 | 1.63E-02 | | | | | | | |
| Ti+4 | 9.04E-04 | 9.04E-04 | 9.04E-04 | | | | | | | |
| UO2+2 | 9.03E+00 | 9.03E+00 | 9.03E+00 | | | | | | | |
| Zn+2 | 2.96E-03 | 2.96E-03 | 2.96E-03 | | | | | | | |
| Cl- | 4.17E+00 | 5.47E+00 | 5.47E+00 | | | | 2.68E+00 | 1.31E+02 | | |
| CO3-2 | 6.37E-01 | 6.37E-01 | 6.37E-01 | | | | | | | |
| F- | 2.62E+02 | 2.73E+02 | 2.73E+02 | | | | 2.20E+01 | 1.08E+03 | | |
| I- | 7.04E-04 | 9.23E-04 | 9.23E-04 | | | | 4.52E-04 | 2.22E-02 | | |
| NO2- | 3.61E-01 | 3.61E-01 | 3.61E-01 | | | | | | | |
| NO3- | 5.76E+00 | 5.76E+00 | 5.76E+00 | | | | | | | |
| OH- | 2.65E+01 | 2.65E+01 | 2.65E+01 | | | | | | | |
| PO4-3 | 7.25E+00 | 7.25E+00 | 7.25E+00 | | | | | | | |
| SO4-2 | 1.50E-01 | 1.50E-01 | 1.50E-01 | | | | | | | |
| TcO4- | 5.31E-03 | 5.31E-03 | 5.31E-03 | | | | | | | |
| Cancrinite | 1.58E+01 | 1.58E+01 | 1.58E+01 | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 5.98E-01 | 7.87E-01 | 7.87E-01 | | | | 3.89E-01 | 1.91E+01 | | |
| Organic Carbon | 5.10E-01 | 5.10E-01 | 5.10E-01 | | | | | | | |
| ZrO2;2H2O | 6.99E+00 | 6.99E+00 | 6.99E+00 | | | | | | | |
| Ag2O | 1.13E-02 | 1.48E-02 | 1.48E-02 | | | | 7.32E-03 | 3.59E-01 | | |
| AlPO4 | 1.86E+02 | 2.44E+02 | 2.44E+02 | | | | 1.21E+02 | 5.91E+03 | | |
| Al2O3 | 6.57E+02 | 8.64E+02 | 8.64E+02 | 1.62E+04 | | | 4.27E+02 | 2.09E+04 | | |
| Am2O3 | 8.65E-05 | 1.14E-04 | 1.14E-04 | | | | 5.63E-05 | 2.76E-03 | | |
| As2O5 | 2.63E-06 | 3.46E-06 | 3.46E-06 | | | | 1.71E-06 | 8.38E-05 | | |
| B2O3 | 3.48E-03 | 4.58E-03 | 4.58E-03 | | | | 2.26E-03 | 1.11E-01 | | |
| BaO | 2.89E-02 | 3.80E-02 | 3.80E-02 | | | | 1.88E-02 | 9.21E-01 | | |
| BeO | 3.75E-06 | 4.93E-06 | 4.93E-06 | | | | 2.44E-06 | 1.19E-04 | | |
| Bi2O3 | 4.72E-01 | 6.21E-01 | 6.21E-01 | | | | 3.07E-01 | 1.50E+01 | | |
| CaO | 1.47E+03 | 1.93E+03 | 1.93E+03 | 4.18E+04 | | | 9.55E+02 | 4.68E+04 | | |
| CdO | 2.75E-01 | 3.62E-01 | 3.62E-01 | | | | 1.79E-01 | 8.76E+00 | | |
| Ce2O3 | 1.40E-01 | 1.84E-01 | 1.84E-01 | | | | 9.09E-02 | 4.45E+00 | | |
| Cm2O3 | 6.94E-09 | 9.12E-09 | 9.12E-09 | | | | 4.51E-09 | 2.21E-07 | | |
| Co2O3 | 6.55E-05 | 8.61E-05 | 8.61E-05 | | | | 4.26E-05 | 2.09E-03 | | |
| Cr2O3 | 1.38E+01 | 1.81E+01 | 1.81E+01 | | | | 8.96E+00 | 4.39E+02 | | |
| Cs2O | 5.34E-03 | 7.03E-03 | 7.03E-03 | | | | 3.47E-03 | 1.70E-01 | | |
| CuO | 3.99E-03 | 5.25E-03 | 5.25E-03 | | | | 2.59E-03 | 1.27E-01 | | |
| Fe2O3 | 1.77E+00 | 2.33E+00 | 2.33E+00 | | | | 1.15E+00 | 5.64E+01 | | |
| FeO | 4.89E-05 | 6.43E-05 | 6.43E-05 | | | | 3.18E-05 | 1.56E-03 | | |
| Hg | 2.33E-03 | 2.35E-03 | 2.35E-03 | | | | 4.70E-05 | 2.30E-03 | | |
| HgO | 1.95E-05 | 2.56E-05 | 2.56E-05 | | | | 1.26E-05 | 6.19E-04 | | |
| K2O | 2.71E+01 | 3.57E+01 | 3.57E+01 | | | | 1.76E+01 | 8.64E+02 | | |
| La2O3 | 1.40E-02 | 1.84E-02 | 1.84E-02 | | | | 9.08E-03 | 4.45E-01 | | |
| Li2O | | | | | | | | | | |
| MgO | 2.57E-03 | 3.38E-03 | 3.38E-03 | | | | 1.67E-03 | 8.20E-02 | | |
| MnO | 1.99E-06 | 2.62E-06 | 2.62E-06 | | | | 1.30E-06 | 6.35E-05 | | |
| MoO3 | 3.54E-04 | 4.66E-04 | 4.66E-04 | | | | 2.30E-04 | 1.13E-02 | | |
| Na2O | 3.67E+03 | 4.83E+03 | 4.83E+03 | | | | 2.39E+03 | 1.17E+05 | | |
| Ni2O3 | 4.23E-01 | 5.56E-01 | 5.56E-01 | | | | 2.75E-01 | 1.35E+01 | | |
| NpO2 | 3.76E-04 | 4.95E-04 | 4.95E-04 | | | | 2.45E-04 | 1.20E-02 | | |
| PbO2 | 3.54E-01 | 4.66E-01 | 4.66E-01 | | | | 2.30E-01 | 1.13E+01 | | |
| PuO2 | 1.13E-03 | 1.48E-03 | 1.48E-03 | | | | 7.31E-04 | 3.56E-02 | | |

| STREAM NAME | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 8.36E-06 | 1.10E-05 | 1.10E-05 | | | | 5.44E-06 | 2.66E-04 | | |
| Re2O7 | 4.48E-06 | 5.89E-06 | 5.89E-06 | | | | 2.91E-06 | 1.43E-04 | | |
| Rh2O3 | 7.80E-05 | 1.03E-04 | 1.03E-04 | | | | 5.07E-05 | 2.48E-03 | | |
| Ru2O3 | 4.60E-05 | 6.05E-05 | 6.05E-05 | | | | 2.99E-05 | 1.47E-03 | | |
| SeO3 | 9.90E-04 | 1.30E-03 | 1.30E-03 | | | | 6.44E-04 | 3.15E-02 | | |
| SiO2 | 8.62E+03 | 1.13E+04 | 1.13E+04 | 2.69E+05 | | | 5.60E+03 | 2.74E+05 | | |
| SO3 | 5.17E+00 | 6.80E+00 | 6.80E+00 | | | | 3.36E+00 | 1.65E+02 | | |
| SrO | 2.24E-02 | 2.94E-02 | 2.94E-02 | | | | 1.45E-02 | 7.12E-01 | | |
| Tc2O7 | 2.07E-02 | 2.72E-02 | 2.72E-02 | | | | 1.35E-02 | 6.60E-01 | | |
| Tc2S7 | 1.77E-02 | 1.77E-02 | 1.77E-02 | | | | | | | |
| TeO3 | 3.57E-05 | 4.70E-05 | 4.70E-05 | | | | 2.32E-05 | 1.14E-03 | | |
| ThO2 | 5.96E-04 | 7.83E-04 | 7.83E-04 | | | | 3.87E-04 | 1.90E-02 | | |
| TiO2 | 4.42E-02 | 5.81E-02 | 5.81E-02 | | | | 2.87E-02 | 1.41E+00 | | |
| UO3 | 3.88E+00 | 5.11E+00 | 5.11E+00 | | | | 2.52E+00 | 1.24E+02 | | |
| ZnO | 1.49E-04 | 1.96E-04 | 1.96E-04 | | | | 9.68E-05 | 4.75E-03 | | |
| ZrO2 | 3.59E-01 | 4.72E-01 | 4.72E-01 | | | | 2.33E-01 | 1.14E+01 | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | 4.96E-02 | 4.96E-02 | 4.96E-02 | | | | | | | |
| Silico-Titanate | 4.77E+00 | 4.77E+00 | 4.77E+00 | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 9.27E+06 | 9.36E+06 | 4.68E+05 | 9.27E+03 | 9.82E+06 | 4.59E+05 | 9.36E+06 | 9.36E+06 | 9.36E+06 | 3.90E+06 |
| Volume (L) | 9.27E+09 | 9.36E+09 | 4.68E+08 | 9.27E+06 | 9.82E+09 | 4.59E+08 | 9.36E+09 | 9.36E+09 | 9.36E+09 | 3.90E+09 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Ro+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 9.27E+06 | 9.36E+06 | 4.68E+05 | 9.27E+03 | 9.82E+06 | 4.59E+05 | 9.36E+06 | 9.36E+06 | 9.36E+06 | 4.33E+04 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| He | | | | | | | | | | |
| TCO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| T2 | | | | | | | | | | |
| N2 | | | | | | | | | | 3.05E+06 |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | 8.10E+05 |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 4.68E+05 | 4.68E+05 | | 4.63E+05 | 4.68E+03 | 4.68E+03 | 4.68E+00 | 4.68E+00 | 4.68E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 8.61E+03 | 8.61E+03 | | 8.52E+03 | 8.61E+01 | 8.60E+01 | 8.61E-02 | 8.61E-02 | 8.61E-02 | |
| C-14 | | | | | | | | | | |
| Cs-137 | 2.78E+06 | 2.78E+06 | | 2.75E+06 | 2.78E+04 | 2.78E+04 | 2.78E+01 | 2.78E+01 | 2.78E+01 | |
| Ba-137 | 2.64E+06 | 2.64E+06 | | 2.62E+06 | 2.64E+04 | 2.64E+04 | 2.64E+01 | 2.64E+01 | 2.64E+01 | |
| Np-237 | 7.44E+00 | 7.44E+00 | | 7.37E+00 | 7.44E-02 | 7.44E-02 | 7.44E-05 | 7.44E-05 | 7.44E-05 | |
| Pu-239 | 1.83E+03 | 1.83E+03 | | 1.81E+03 | 1.83E+01 | 1.82E+01 | 1.83E-02 | 1.83E-02 | 1.83E-02 | |
| Pu-240 | 4.75E+02 | 4.75E+02 | | 4.70E+02 | 4.75E+00 | 4.75E+00 | 4.75E-03 | 4.75E-03 | 4.75E-03 | |
| Pu-241 | 5.33E+03 | 5.33E+03 | | 5.28E+03 | 5.33E+01 | 5.33E+01 | 5.33E-02 | 5.33E-02 | 5.33E-02 | |
| Sr-90 | 2.18E+06 | 2.18E+06 | | 2.16E+06 | 2.18E+04 | 2.18E+04 | 2.18E+01 | 2.18E+01 | 2.18E+01 | |
| Y-90 | 2.18E+06 | 2.18E+06 | | 2.16E+06 | 2.18E+04 | 2.18E+04 | 2.18E+01 | 2.18E+01 | 2.18E+01 | |
| Tc-99 | 7.16E+03 | 7.16E+03 | | 7.09E+03 | 7.16E+01 | 7.16E+01 | 7.16E-02 | 7.16E-02 | 7.16E-02 | |
| Total Curies | 9.82E+06 | 9.82E+06 | | 9.72E+06 | 9.82E+04 | 9.81E+04 | 9.82E+01 | 9.82E+01 | 9.82E+01 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | 1.31E+02 | 1.31E+02 | | 1.30E+02 | 1.31E+00 | 1.31E+00 | 1.31E-03 | 1.31E-03 | 1.31E-03 | |
| CO3-2 | | | | | | | | | | |
| F- | 1.08E+03 | 1.08E+03 | | 1.07E+03 | 1.08E+01 | 1.08E+01 | 1.08E-02 | 1.08E-02 | 1.08E-02 | |
| I- | 2.22E-02 | 2.22E-02 | | 2.19E-02 | 2.22E-04 | 2.21E-04 | 2.22E-07 | 2.22E-07 | 2.22E-07 | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 1.91E+01 | 1.91E+01 | | 1.89E+01 | 1.91E-01 | 1.90E-01 | 1.91E-04 | 1.91E-04 | 1.91E-04 | |
| Organic Carbon | | | | | | | | | | |
| ZrO2;2H2O | | | | | | | | | | |
| Ag2O | 3.59E-01 | 3.59E-01 | | 3.55E-01 | 3.59E-03 | 3.58E-03 | 3.59E-06 | 3.59E-06 | 3.59E-06 | |
| AlPO4 | 5.91E+03 | 5.91E+03 | | 5.85E+03 | 5.91E+01 | 5.90E+01 | 5.91E-02 | 5.91E-02 | 5.91E-02 | |
| Al2O3 | 2.09E+04 | 2.09E+04 | | 2.07E+04 | 2.09E+02 | 2.09E+02 | 2.09E-01 | 2.09E-01 | 2.09E-01 | |
| Am2O3 | 2.76E-03 | 2.76E-03 | | 2.73E-03 | 2.76E-05 | 2.76E-05 | 2.76E-08 | 2.76E-08 | 2.76E-08 | |
| As2O5 | 8.38E-05 | 8.38E-05 | | 8.30E-05 | 8.38E-07 | 8.37E-07 | 8.38E-10 | 8.38E-10 | 8.38E-10 | |
| B2O3 | 1.11E-01 | 1.11E-01 | | 1.10E-01 | 1.11E-03 | 1.11E-03 | 1.11E-06 | 1.11E-06 | 1.11E-06 | |
| BaO | 9.21E-01 | 9.21E-01 | | 9.11E-01 | 9.21E-03 | 9.20E-03 | 9.21E-06 | 9.21E-06 | 9.21E-06 | |
| BeO | 1.19E-04 | 1.19E-04 | | 1.18E-04 | 1.19E-06 | 1.19E-06 | 1.19E-09 | 1.19E-09 | 1.19E-09 | |
| Bi2O3 | 1.50E+01 | 1.50E+01 | | 1.49E+01 | 1.50E-01 | 1.50E-01 | 1.50E-04 | 1.50E-04 | 1.50E-04 | |
| CaO | 4.68E+04 | 4.68E+04 | | 4.63E+04 | 4.68E+02 | 4.68E+02 | 4.68E-01 | 4.68E-01 | 4.68E-01 | |
| CdO | 8.76E+00 | 8.76E+00 | | 8.67E+00 | 8.76E-02 | 8.75E-02 | 8.76E-05 | 8.76E-05 | 8.76E-05 | |
| Ce2O3 | 4.45E+00 | 4.45E+00 | | 4.41E+00 | 4.45E-02 | 4.45E-02 | 4.45E-05 | 4.45E-05 | 4.45E-05 | |
| Cm2O3 | 2.21E-07 | 2.21E-07 | | 2.19E-07 | 2.21E-09 | 2.21E-09 | 2.21E-12 | 2.21E-12 | 2.21E-12 | |
| Co2O3 | 2.09E-03 | 2.09E-03 | | 2.07E-03 | 2.09E-05 | 2.08E-05 | 2.09E-08 | 2.09E-08 | 2.09E-08 | |
| Cr2O3 | 4.39E+02 | 4.39E+02 | | 4.34E+02 | 4.39E+00 | 4.38E+00 | 4.39E-03 | 4.39E-03 | 4.39E-03 | |
| Cs2O | 1.70E-01 | 1.70E-01 | | 1.68E-01 | 1.70E-03 | 1.70E-03 | 1.70E-06 | 1.70E-06 | 1.70E-06 | |
| CuO | 1.27E-01 | 1.27E-01 | | 1.26E-01 | 1.27E-03 | 1.27E-03 | 1.27E-06 | 1.27E-06 | 1.27E-06 | |
| Fe2O3 | 5.64E+01 | 5.64E+01 | | 5.58E+01 | 5.64E-01 | 5.64E-01 | 5.64E-04 | 5.64E-04 | 5.64E-04 | |
| FeO | 1.56E-03 | 1.56E-03 | | 1.54E-03 | 1.56E-05 | 1.56E-05 | 1.56E-08 | 1.56E-08 | 1.56E-08 | |
| Hg | 2.30E-03 | 2.30E-03 | | 2.28E-03 | 2.30E-05 | 2.30E-05 | 2.30E-08 | 2.30E-08 | 2.30E-08 | |
| HgO | 6.20E-04 | 6.20E-04 | | 6.13E-04 | 6.20E-06 | 6.19E-06 | 6.20E-09 | 6.20E-09 | 6.20E-09 | |
| K2O | 8.64E+02 | 8.64E+02 | | 8.56E+02 | 8.64E+00 | 8.64E+00 | 8.64E-03 | 8.64E-03 | 8.64E-03 | |
| La2O3 | 4.45E-01 | 4.45E-01 | | 4.40E-01 | 4.45E-03 | 4.44E-03 | 4.45E-06 | 4.45E-06 | 4.45E-06 | |
| Li2O | | | | | | | | | | |
| MgO | 8.20E-02 | 8.20E-02 | | 8.11E-02 | 8.20E-04 | 8.19E-04 | 8.20E-07 | 8.20E-07 | 8.20E-07 | |
| MnO | 6.35E-05 | 6.35E-05 | | 6.29E-05 | 6.35E-07 | 6.34E-07 | 6.35E-10 | 6.35E-10 | 6.35E-10 | |
| MoO3 | 1.13E-02 | 1.13E-02 | | 1.12E-02 | 1.13E-04 | 1.13E-04 | 1.13E-07 | 1.13E-07 | 1.13E-07 | |
| Na2O | 1.17E+05 | 1.17E+05 | | 1.16E+05 | 1.17E+03 | 1.17E+03 | 1.17E+00 | 1.17E+00 | 1.17E+00 | |
| Ni2O3 | 1.35E+01 | 1.35E+01 | | 1.33E+01 | 1.35E-01 | 1.35E-01 | 1.35E-04 | 1.35E-04 | 1.35E-04 | |
| NpO2 | 1.20E-02 | 1.20E-02 | | 1.19E-02 | 1.20E-04 | 1.20E-04 | 1.20E-07 | 1.20E-07 | 1.20E-07 | |
| PbO2 | 1.13E+01 | 1.13E+01 | | 1.12E+01 | 1.13E-01 | 1.13E-01 | 1.13E-04 | 1.13E-04 | 1.13E-04 | |
| PuO2 | 3.58E-02 | 3.58E-02 | | 3.55E-02 | 3.58E-04 | 3.58E-04 | 3.58E-07 | 3.58E-07 | 3.58E-07 | |

| STREAM NAME | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 2.66E-04 | 2.66E-04 | | 2.64E-04 | 2.66E-06 | 2.66E-06 | 2.66E-09 | 2.66E-09 | 2.66E-09 | |
| Re2O7 | 1.43E-04 | 1.43E-04 | | 1.41E-04 | 1.43E-06 | 1.43E-06 | 1.43E-09 | 1.43E-09 | 1.43E-09 | |
| Rh2O3 | 2.48E-03 | 2.48E-03 | | 2.46E-03 | 2.48E-05 | 2.48E-05 | 2.48E-08 | 2.48E-08 | 2.48E-08 | |
| Ru2O3 | 1.47E-03 | 1.47E-03 | | 1.45E-03 | 1.47E-05 | 1.46E-05 | 1.47E-08 | 1.47E-08 | 1.47E-08 | |
| SeO3 | 3.15E-02 | 3.15E-02 | | 3.12E-02 | 3.15E-04 | 3.15E-04 | 3.15E-07 | 3.15E-07 | 3.15E-07 | |
| SiO2 | 2.74E+05 | 2.74E+05 | | 2.72E+05 | 2.74E+03 | 2.74E+03 | 2.74E+00 | 2.74E+00 | 2.74E+00 | |
| SO3 | 1.65E+02 | 1.65E+02 | | 1.63E+02 | 1.65E+00 | 1.65E+00 | 1.65E-03 | 1.65E-03 | 1.65E-03 | |
| SrO | 7.12E-01 | 7.12E-01 | | 7.05E-01 | 7.12E-03 | 7.11E-03 | 7.12E-06 | 7.12E-06 | 7.12E-06 | |
| Tc2O7 | 6.60E-01 | 6.60E-01 | | 6.53E-01 | 6.60E-03 | 6.59E-03 | 6.60E-06 | 6.60E-06 | 6.60E-06 | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | 1.14E-03 | 1.14E-03 | | 1.13E-03 | 1.14E-05 | 1.14E-05 | 1.14E-08 | 1.14E-08 | 1.14E-08 | |
| ThO2 | 1.90E-02 | 1.90E-02 | | 1.88E-02 | 1.90E-04 | 1.88E-04 | 1.90E-07 | 1.90E-07 | 1.90E-07 | |
| TiO2 | 1.41E+00 | 1.41E+00 | | 1.39E+00 | 1.41E-02 | 1.41E-02 | 1.41E-05 | 1.41E-05 | 1.41E-05 | |
| UO3 | 1.24E+02 | 1.24E+02 | | 1.22E+02 | 1.24E+00 | 1.24E+00 | 1.24E-03 | 1.24E-03 | 1.24E-03 | |
| ZrO | 4.75E-03 | 4.75E-03 | | 4.70E-03 | 4.75E-05 | 4.74E-05 | 4.75E-08 | 4.75E-08 | 4.75E-08 | |
| ZrO2 | 1.14E+01 | 1.14E+01 | | 1.13E+01 | 1.14E-01 | 1.14E-01 | 1.14E-04 | 1.14E-04 | 1.14E-04 | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.90E+06 | 5.92E+05 | 5.76E+05 | 1.56E+04 | 1.56E+04 | 3.32E+06 | 3.32E+04 | 3.28E+06 | 3.28E+06 | 4.53E+02 |
| Volume (L) | 3.90E+09 | 5.92E+08 | 5.76E+08 | 1.56E+07 | 1.56E+07 | 3.32E+09 | 3.32E+07 | 3.28E+09 | 3.28E+09 | 4.53E+05 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| HO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 4.33E+04 | 1.56E+04 | | 1.56E+04 | 1.56E+04 | 3.69E+04 | 3.69E+02 | 3.65E+04 | 3.65E+04 | 4.53E+02 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| H2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 3.05E+06 | 4.55E+05 | 4.55E+05 | | | 2.59E+06 | 2.59E+04 | 2.57E+06 | 2.57E+06 | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | 8.10E+05 | 1.21E+05 | 1.21E+05 | | | 6.89E+05 | 6.89E+03 | 6.82E+05 | 6.82E+05 | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 4.63E+02 | 4.63E+02 | | | 4.63E+05 | 4.63E+03 | 4.58E+05 | 4.58E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 8.52E+00 | 8.52E+00 | | | 8.51E+03 | 8.51E+01 | 8.43E+03 | 8.43E-02 | |
| C-14 | | | | | | | | | | |
| Cs-137 | | 2.75E+03 | 2.75E+03 | | | 2.75E+06 | 2.75E+04 | 2.72E+06 | 2.72E+01 | |
| Ba-137 | | 2.62E+03 | 2.62E+03 | | | 2.61E+06 | 2.61E+04 | 2.59E+06 | 2.59E+01 | |
| Np-237 | | 7.37E-03 | 7.37E-03 | | | 7.36E+00 | 7.36E-02 | 7.29E+00 | 7.29E-05 | |
| Pu-239 | | 1.81E+00 | 1.81E+00 | | | 1.81E+03 | 1.81E+01 | 1.79E+03 | 1.79E-02 | |
| Pu-240 | | 4.70E-01 | 4.70E-01 | | | 4.70E+02 | 4.70E+00 | 4.65E+02 | 4.65E-03 | |
| Pu-241 | | 5.28E+00 | 5.28E+00 | | | 5.27E+03 | 5.27E+01 | 5.22E+03 | 5.22E-02 | |
| Sr-90 | | 2.16E+03 | 2.16E+03 | | | 2.16E+06 | 2.16E+04 | 2.14E+06 | 2.14E+01 | |
| Y-90 | | 2.16E+03 | 2.16E+03 | | | 2.16E+06 | 2.16E+04 | 2.14E+06 | 2.14E+01 | |
| Tc-99 | | 7.09E+00 | 7.09E+00 | | | 7.08E+03 | 7.08E+01 | 7.01E+03 | 7.01E-02 | |
| Total Curies | | 9.72E+03 | 9.72E+03 | | | 9.71E+06 | 9.71E+04 | 9.61E+06 | 9.61E+01 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zr+2 | | | | | | | | | | |
| Cl- | | 1.30E-01 | 1.30E-01 | | | 1.30E+02 | 1.30E+00 | 1.28E+02 | 1.28E-03 | |
| CO3-2 | | | | | | | | | | |
| F- | | 1.07E+00 | 1.07E+00 | | | 1.07E+03 | 1.07E+01 | 1.06E+03 | 1.06E-02 | |
| I- | | 2.19E-05 | 2.19E-05 | | | 2.19E-02 | 2.19E-04 | 2.17E-02 | 2.17E-07 | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 1.89E-02 | 1.89E-02 | | | 1.88E+01 | 1.88E-01 | 1.87E+01 | 1.87E-04 | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | 3.55E-04 | 3.55E-04 | | | 3.55E-01 | 3.55E-03 | 3.51E-01 | 3.51E-06 | |
| AlPO4 | | 5.85E+00 | 5.85E+00 | | | 5.84E+03 | 5.84E+01 | 5.79E+03 | 5.79E-02 | |
| Al2O3 | | 2.07E+01 | 2.07E+01 | | | 2.07E+04 | 2.07E+02 | 2.05E+04 | 2.05E-01 | |
| Am2O3 | | 2.73E-06 | 2.73E-06 | | | 2.73E-03 | 2.73E-05 | 2.70E-03 | 2.70E-08 | |
| As2O5 | | 8.30E-08 | 8.30E-08 | | | 8.29E-05 | 8.29E-07 | 8.21E-05 | 8.21E-10 | |
| B2O3 | | 1.10E-04 | 1.10E-04 | | | 1.10E-01 | 1.10E-03 | 1.09E-01 | 1.09E-06 | |
| BaO | | 9.11E-04 | 9.11E-04 | | | 9.11E-01 | 9.11E-03 | 9.01E-01 | 9.01E-06 | |
| BeO | | 1.18E-07 | 1.18E-07 | | | 1.18E-04 | 1.18E-06 | 1.17E-04 | 1.17E-09 | |
| Bi2O3 | | 1.49E-02 | 1.49E-02 | | | 1.49E+01 | 1.49E-01 | 1.47E+01 | 1.47E-04 | |
| CaO | | 4.63E+01 | 4.63E+01 | | | 4.63E+04 | 4.63E+02 | 4.58E+04 | 4.58E-01 | |
| CdO | | 8.67E-03 | 8.67E-03 | | | 8.66E+00 | 8.66E-02 | 8.58E+00 | 8.58E-05 | |
| Ce2O3 | | 4.41E-03 | 4.41E-03 | | | 4.41E+00 | 4.41E-02 | 4.36E+00 | 4.36E-05 | |
| Cm2O3 | | 2.19E-10 | 2.19E-10 | | | 2.18E-07 | 2.18E-09 | 2.16E-07 | 2.16E-12 | |
| Co2O3 | | 2.07E-06 | 2.07E-06 | | | 2.06E-03 | 2.06E-05 | 2.04E-03 | 2.04E-08 | |
| Cr2O3 | | 4.34E-01 | 4.34E-01 | | | 4.34E+02 | 4.34E+00 | 4.30E+02 | 4.30E-03 | |
| Cs2O | | 1.68E-04 | 1.68E-04 | | | 1.68E-01 | 1.68E-03 | 1.67E-01 | 1.67E-06 | |
| CuO | | 1.26E-04 | 1.26E-04 | | | 1.26E-01 | 1.26E-03 | 1.24E-01 | 1.24E-06 | |
| Fe2O3 | | 5.58E-02 | 5.58E-02 | | | 5.58E+01 | 5.58E-01 | 5.52E+01 | 5.52E-04 | |
| FeO | | 1.54E-06 | 1.54E-06 | | | 1.54E-03 | 1.54E-05 | 1.52E-03 | 1.52E-08 | |
| Hg | | 2.28E-06 | 2.28E-06 | | | 2.28E-03 | 2.28E-05 | 2.25E-03 | 2.25E-08 | |
| HgO | | 6.13E-07 | 6.13E-07 | | | 6.13E-04 | 6.13E-06 | 6.07E-04 | 6.07E-09 | |
| K2O | | 8.56E-01 | 8.56E-01 | | | 8.55E+02 | 8.55E+00 | 8.46E+02 | 8.46E-03 | |
| La2O3 | | 4.40E-04 | 4.40E-04 | | | 4.40E-01 | 4.40E-03 | 4.35E-01 | 4.35E-06 | |
| Li2O | | | | | | | | | | |
| MgO | | 8.11E-05 | 8.11E-05 | | | 8.11E-02 | 8.11E-04 | 8.02E-02 | 8.02E-07 | |
| MnO | | 6.29E-08 | 6.29E-08 | | | 6.28E-05 | 6.28E-07 | 6.22E-05 | 6.22E-10 | |
| MoO3 | | 1.12E-05 | 1.12E-05 | | | 1.12E-02 | 1.12E-04 | 1.10E-02 | 1.10E-07 | |
| Na2O | | 1.16E+02 | 1.16E+02 | | | 1.16E+05 | 1.16E+03 | 1.15E+05 | 1.15E+00 | |
| Nd2O3 | | 1.33E-02 | 1.33E-02 | | | 1.33E+01 | 1.33E-01 | 1.32E+01 | 1.32E-04 | |
| NpO2 | | 1.19E-05 | 1.19E-05 | | | 1.19E-02 | 1.19E-04 | 1.17E-02 | 1.17E-07 | |
| PbO2 | | 1.12E-02 | 1.12E-02 | | | 1.12E+01 | 1.12E-01 | 1.10E+01 | 1.10E-04 | |
| PuO2 | | 3.55E-05 | 3.55E-05 | | | 3.54E-02 | 3.54E-04 | 3.51E-02 | 3.51E-07 | |

| STREAM NAME | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | 2.64E-07 | 2.64E-07 | | | 2.63E-04 | 2.63E-06 | 2.61E-04 | 2.61E-09 | |
| Re2O7 | | 1.41E-07 | 1.41E-07 | | | 1.41E-04 | 1.41E-06 | 1.40E-04 | 1.40E-09 | |
| Rh2O3 | | 2.46E-06 | 2.46E-06 | | | 2.46E-03 | 2.46E-05 | 2.43E-03 | 2.43E-08 | |
| Ru2O3 | | 1.45E-06 | 1.45E-06 | | | 1.45E-03 | 1.45E-05 | 1.43E-03 | 1.43E-08 | |
| SeO3 | | 3.12E-05 | 3.12E-05 | | | 3.12E-02 | 3.12E-04 | 3.09E-02 | 3.09E-07 | |
| SiO2 | | 2.72E+02 | 2.72E+02 | | | 2.71E+05 | 2.71E+03 | 2.69E+05 | 2.69E+00 | |
| SO3 | | 1.63E-01 | 1.63E-01 | | | 1.63E+02 | 1.63E+00 | 1.61E+02 | 1.61E-03 | |
| SrO | | 7.05E-04 | 7.05E-04 | | | 7.04E-01 | 7.04E-03 | 6.97E-01 | 6.97E-06 | |
| Tc2O7 | | 6.53E-04 | 6.53E-04 | | | 6.52E-01 | 6.52E-03 | 6.46E-01 | 6.46E-06 | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | 1.13E-06 | 1.13E-06 | | | 1.13E-03 | 1.13E-05 | 1.11E-03 | 1.11E-08 | |
| ThO2 | | 1.88E-05 | 1.88E-05 | | | 1.88E-02 | 1.88E-04 | 1.86E-02 | 1.86E-07 | |
| TiO2 | | 1.39E-03 | 1.39E-03 | | | 1.39E+00 | 1.39E-02 | 1.38E+00 | 1.38E-05 | |
| UO3 | | 1.22E-01 | 1.22E-01 | | | 1.22E+02 | 1.22E+00 | 1.21E+02 | 1.21E-03 | |
| ZnO | | 4.70E-06 | 4.70E-06 | | | 4.69E-03 | 4.69E-05 | 4.65E-03 | 4.65E-08 | |
| ZrO2 | | 1.13E-02 | 1.13E-02 | | | 1.13E+01 | 1.13E-01 | 1.12E+01 | 1.12E-04 | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 434 | 435 | 436 | 437 | 439 | 440 | 441 | 445 | 446 | 447 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.28E+06 | 4.53E+02 | 4.53E+02 | | 1.45E+05 | 1.45E+05 | 2.04E+01 | 1.45E+05 | 1.37E+05 | 5.39E+02 |
| Volume (L) | 3.28E+09 | 4.53E+05 | 4.53E+05 | | 1.45E+08 | 1.45E+08 | 2.04E+04 | 1.45E+08 | 1.37E+08 | 5.39E+05 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 3.65E+04 | 4.53E+02 | 4.53E+02 | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| He | | | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | 2.04E+01 | 2.04E+01 | 2.04E+01 | 2.04E+01 | | 2.04E+01 |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 2.57E+06 | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | 2.01E-02 | 2.01E-02 | 2.01E-02 | 2.01E-02 | | 2.01E-02 |
| O2 | 6.82E+05 | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | 3.61E+03 | 3.61E+03 | | 3.61E+03 | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | 3.61E+03 | 3.61E+03 | | 3.61E+03 | | |
| Sulfur | | | | | 1.37E+05 | 1.37E+05 | | 1.37E+05 | 1.37E+05 | 5.18E+02 |

| STREAM NAME | 434 | 435 | 436 | 437 | 439 | 440 | 441 | 445 | 446 | 447 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.29E-03 | 4.58E+00 | 4.58E+00 | 4.58E+05 | 4.58E+05 | 4.58E+05 | 6.03E+05 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.22E-05 | 8.43E-02 | 8.43E-02 | 8.43E+03 | 8.43E+03 | 8.43E+03 | 8.43E+03 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | 1.36E-02 | 2.72E+01 | 2.72E+01 | 2.72E+06 | 2.72E+06 | 2.72E+06 | 2.72E+06 | | | |
| Ba-137 | 1.29E-02 | 2.59E+01 | 2.59E+01 | 2.59E+06 | 2.59E+06 | 2.59E+06 | 2.59E+06 | | | |
| Np-237 | 3.64E-08 | 7.28E-05 | 7.28E-05 | 7.29E+00 | 7.29E+00 | 7.29E+00 | 7.29E+00 | | | |
| Pu-239 | 8.94E-06 | 1.79E-02 | 1.79E-02 | 1.79E+03 | 1.79E+03 | 1.79E+03 | 1.79E+03 | | | |
| Pu-240 | 2.33E-06 | 4.65E-03 | 4.65E-03 | 4.65E+02 | 4.65E+02 | 4.65E+02 | 4.65E+02 | | | |
| Pu-241 | 2.61E-05 | 5.22E-02 | 5.22E-02 | 5.22E+03 | 5.22E+03 | 5.22E+03 | 5.22E+03 | | | |
| Sr-90 | 1.07E-02 | 2.14E+01 | 2.14E+01 | 2.14E+06 | 2.14E+06 | 2.14E+06 | 2.14E+06 | | | |
| Y-90 | 1.07E-02 | 2.14E+01 | 2.14E+01 | 2.14E+06 | 2.14E+06 | 2.14E+06 | 2.14E+06 | | | |
| Tc-99 | 3.51E-05 | 7.01E-02 | 7.01E-02 | 7.01E+03 | 7.01E+03 | 7.01E+03 | 7.01E+03 | | | |
| Total Curies | 4.81E-02 | 9.61E+01 | 9.61E+01 | 9.61E+06 | 9.61E+06 | 9.61E+06 | 9.61E+06 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | 6.42E-07 | 1.28E-03 | 1.28E-03 | 1.28E+02 | 1.28E+02 | 1.28E+02 | 1.28E+02 | | | |
| CO3-2 | | | | | | | | | | |
| F- | 5.29E-06 | 1.06E-02 | 1.06E-02 | 1.06E+03 | 1.06E+03 | 1.06E+03 | 1.06E+03 | | | |
| I- | 1.09E-10 | 2.17E-07 | 2.17E-07 | 2.17E-02 | 2.17E-02 | 2.17E-02 | 2.17E-02 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 9.33E-08 | 1.86E-04 | 1.86E-04 | 1.87E+01 | 1.87E+01 | 1.87E+01 | 1.87E+01 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | 1.76E-09 | 3.51E-06 | 3.51E-06 | 3.51E-01 | 3.51E-01 | 3.51E-01 | 3.51E-01 | | | |
| AlPO4 | 2.89E-05 | 5.78E-02 | 5.78E-02 | 5.79E+03 | 5.79E+03 | 5.79E+03 | 5.79E+03 | | | |
| Al2O3 | 1.03E-04 | 2.05E-01 | 2.05E-01 | 2.05E+04 | 2.05E+04 | 2.05E+04 | 2.05E+04 | | | |
| As2O3 | 1.35E-11 | 2.70E-08 | 2.70E-08 | 2.70E-03 | 2.70E-03 | 2.70E-03 | 2.70E-03 | | | |
| As2O5 | 4.10E-13 | 8.20E-10 | 8.20E-10 | 8.21E-05 | 8.21E-05 | 8.21E-05 | 8.21E-05 | | | |
| B2O3 | 5.43E-10 | 1.09E-06 | 1.09E-06 | 1.09E-01 | 1.09E-01 | 1.09E-01 | 1.09E-01 | | | |
| BaO | 4.51E-09 | 9.01E-06 | 9.01E-06 | 9.01E+01 | 9.01E-01 | 9.01E-01 | 9.01E-01 | | | |
| BeO | 5.84E-13 | 1.17E-09 | 1.17E-09 | 1.17E-04 | 1.17E-04 | 1.17E-04 | 1.17E-04 | | | |
| Bi2O3 | 7.36E-08 | 1.47E-04 | 1.47E-04 | 1.47E+01 | 1.47E+01 | 1.47E+01 | 1.47E+01 | | | |
| CaO | 2.29E-04 | 4.58E-01 | 4.58E-01 | 4.58E+04 | 4.58E+04 | 4.58E+04 | 4.58E+04 | | | |
| CdO | 4.29E-08 | 8.57E-05 | 8.57E-05 | 8.58E+00 | 8.58E+00 | 8.58E+00 | 8.58E+00 | | | |
| Ce2O3 | 2.18E-08 | 4.36E-05 | 4.36E-05 | 4.36E+00 | 4.36E+00 | 4.36E+00 | 4.36E+00 | | | |
| Cm2O3 | 1.08E-15 | 2.16E-12 | 2.16E-12 | 2.16E-07 | 2.16E-07 | 2.16E-07 | 2.16E-07 | | | |
| Co2O3 | 1.02E-11 | 2.04E-08 | 2.04E-08 | 2.04E-03 | 2.04E-03 | 2.04E-03 | 2.04E-03 | | | |
| Cr2O3 | 2.15E-06 | 4.29E-03 | 4.29E-03 | 4.30E+02 | 4.30E+02 | 4.30E+02 | 4.30E+02 | | | |
| Cs2O | 8.33E-10 | 1.67E-06 | 1.67E-06 | 1.67E-01 | 1.67E-01 | 1.67E-01 | 1.67E-01 | | | |
| CuO | 6.22E-10 | 1.24E-06 | 1.24E-06 | 1.24E-01 | 1.24E-01 | 1.24E-01 | 1.24E-01 | | | |
| Fe2O3 | 2.76E-07 | 5.52E-04 | 5.52E-04 | 5.52E+01 | 5.52E+01 | 5.52E+01 | 5.52E+01 | | | |
| FeO | 7.62E-12 | 1.52E-08 | 1.52E-08 | 1.52E-03 | 1.52E-03 | 1.52E-03 | 1.52E-03 | | | |
| H2 | 1.13E-11 | 2.25E-08 | 2.25E-08 | 2.25E-03 | 2.25E-03 | 2.25E-03 | 2.25E-03 | | | |
| HgO | 3.03E-12 | 6.06E-09 | 6.06E-09 | 6.07E-04 | 6.07E-04 | 6.07E-04 | 6.07E-04 | | | |
| K2O | 4.23E-06 | 8.46E-03 | 8.46E-03 | 8.46E+02 | 8.46E+02 | 8.46E+02 | 8.46E+02 | | | |
| La2O3 | 2.18E-09 | 4.35E-06 | 4.35E-06 | 4.35E-01 | 4.35E-01 | 4.35E-01 | 4.35E-01 | | | |
| Li2O | | | | | | | | | | |
| MgO | 4.01E-10 | 8.02E-07 | 8.02E-07 | 8.02E-02 | 8.02E-02 | 8.02E-02 | 8.02E-02 | | | |
| MnO | 3.11E-13 | 6.22E-10 | 6.22E-10 | 6.22E-05 | 6.22E-05 | 6.22E-05 | 6.22E-05 | | | |
| MoO3 | 5.52E-11 | 1.10E-07 | 1.10E-07 | 1.10E-02 | 1.10E-02 | 1.10E-02 | 1.10E-02 | | | |
| Na2O | 5.73E-04 | 1.15E+00 | 1.15E+00 | 1.15E+05 | 1.15E+05 | 1.15E+05 | 1.15E+05 | | | |
| Nb2O5 | 6.59E-08 | 1.32E-04 | 1.32E-04 | 1.32E+01 | 1.32E+01 | 1.32E+01 | 1.32E+01 | | | |
| NpO2 | 5.87E-11 | 1.17E-07 | 1.17E-07 | 1.17E-02 | 1.17E-02 | 1.17E-02 | 1.17E-02 | | | |
| PbO2 | 5.52E-08 | 1.10E-04 | 1.10E-04 | 1.10E+01 | 1.10E+01 | 1.10E+01 | 1.10E+01 | | | |
| PuO2 | 1.75E-10 | 3.50E-07 | 3.50E-07 | 3.51E-02 | 3.51E-02 | 3.51E-02 | 3.51E-02 | | | |

| STREAM NAME | 434 | 435 | 436 | 437 | 439 | 440 | 441 | 445 | 446 | 447 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | 1.30E-12 | 2.61E-09 | 2.61E-09 | 2.61E-04 | 2.61E-04 | 2.61E-04 | 2.61E-04 | | | |
| $Re_2O_7$ | 6.99E-13 | 1.40E-09 | 1.40E-09 | 1.40E-04 | 1.40E-04 | 1.40E-04 | 1.40E-04 | | | |
| $Rh_2O_3$ | 1.22E-11 | 2.43E-08 | 2.43E-08 | 2.43E-03 | 2.43E-03 | 2.43E-03 | 2.43E-03 | | | |
| $Ru_2O_3$ | 7.17E-12 | 1.43E-08 | 1.43E-08 | 1.43E-03 | 1.43E-03 | 1.43E-03 | 1.43E-03 | | | |
| $SeO_3$ | 1.54E-10 | 3.09E-07 | 3.09E-07 | 3.09E-02 | 3.09E-02 | 3.09E-02 | 3.09E-02 | | | |
| $SiO_2$ | 1.34E-03 | 2.69E+00 | 2.69E+00 | 2.69E+05 | 2.69E+05 | 2.69E+05 | 2.69E+05 | | | |
| $SO_3$ | 8.06E-07 | 1.61E-03 | 1.61E-03 | 1.61E+02 | 1.61E+02 | 1.61E+02 | 1.61E+02 | | | |
| SrO | 3.48E-09 | 6.96E-06 | 6.96E-06 | 6.97E-01 | 6.97E-01 | 6.97E-01 | 6.97E-01 | | | |
| $Tc_2O_7$ | 3.23E-09 | 6.46E-06 | 6.46E-06 | 6.46E-01 | 6.46E-01 | 6.46E-01 | 6.46E-01 | | | |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | 5.57E-12 | 1.11E-08 | 1.11E-08 | 1.11E-03 | 1.11E-03 | 1.11E-03 | 1.11E-03 | | | |
| $ThO_2$ | 9.28E-11 | 1.86E-07 | 1.86E-07 | 1.86E-02 | 1.86E-02 | 1.86E-02 | 1.86E-02 | | | |
| $TiO_2$ | 6.88E-09 | 1.38E-05 | 1.38E-05 | 1.38E+00 | 1.38E+00 | 1.38E+00 | 1.38E+00 | | | |
| $UO_3$ | 6.06E-07 | 1.21E-03 | 1.21E-03 | 1.21E+02 | 1.21E+02 | 1.21E+02 | 1.21E+02 | | | |
| ZnO | 2.32E-11 | 4.64E-08 | 4.64E-08 | 4.65E-03 | 4.65E-03 | 4.65E-03 | 4.65E-03 | | | |
| $ZrO_2$ | 5.80E-08 | 1.12E-04 | 1.12E-04 | 1.12E+01 | 1.12E+01 | 1.12E+01 | 1.12E+01 | | | |
| Cement | | | | | | | | | | |
| Oil | | | | | | | | | | |
| $O_2SO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | 3.61E+03 | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | 3.61E+03 | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | 1.37E+05 | | | |

| STREAM NAME | 448 | 449 | 450 | 451 | 510 | 511 | 512 | 513 | 514 | 520 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.61E+03 | 3.61E+03 | 1.45E+05 | 1.19E-01 | 3.32E+04 | | | 2.30E+04 | 2.30E+04 | 3.32E+04 |
| Volume (L) | 3.61E+06 | 3.61E+06 | 1.45E+08 | 7.72E+01 | 3.32E+07 | | | 2.30E+07 | 2.30E+07 | 3.32E+07 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.54E+00 | 1.00E+00 | | | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Au+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | 3.42E-02 | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| HO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | 2.52E-02 | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | | | | 5.94E-02 | 3.69E+02 | | | 2.30E+04 | 2.30E+04 | 3.69E+02 |
| Organic Carbon | | | | | | | | | | |
| ZrO2.2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | 2.04E+01 | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | 2.59E+04 | | | | | 2.59E+04 |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | 2.01E-02 | | | | | | | |
| O2 | | | | | 6.89E+03 | | | | | 6.89E+03 |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | 3.61E+03 | | 3.61E+03 | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | 3.61E+03 | 3.61E+03 | | | | | | | |
| Sulfur | | | 1.37E+05 | | | | | | | |

| STREAM NAME | 448 | 449 | 450 | 451 | 510 | 511 | 512 | 513 | 514 | 520 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | 4.63E+03 | 4.63E+03 | 4.63E+03 | | 4.63E+03 | 4.63E-02 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | 8.51E+01 | 8.51E+01 | 8.51E+01 | | 8.51E+01 | 8.51E-04 |
| C-14 | | | | | 2.75E+04 | 2.75E+04 | 2.75E+04 | | 2.75E+04 | 2.75E-01 |
| Cs-137 | | | | | 2.61E+04 | 2.61E+04 | 2.61E+04 | | 2.61E+04 | 2.61E-01 |
| Ba-137 | | | | | 7.36E-02 | 7.36E-02 | 7.36E-02 | | 7.36E-02 | 7.36E-07 |
| Np-237 | | | | | 1.81E+01 | 1.81E+01 | 1.81E+01 | | 1.81E+01 | 1.81E-04 |
| Pu-239 | | | | | 4.70E+00 | 4.70E+00 | 4.70E+00 | | 4.70E+00 | 4.70E-05 |
| Pu-240 | | | | | 5.27E+01 | 5.27E+01 | 5.27E+01 | | 5.27E+01 | 5.27E-04 |
| Pu-241 | | | | | 2.16E+04 | 2.16E+04 | 2.16E+04 | | 2.16E+04 | 2.16E-01 |
| Sr-90 | | | | | 2.16E+04 | 2.16E+04 | 2.16E+04 | | 2.16E+04 | 2.16E-01 |
| Y-90 | | | | | 7.08E+01 | 7.08E+01 | 7.08E+01 | | 7.08E+01 | 7.08E-04 |
| Tc-99 | | | | | 9.71E+04 | 9.71E+04 | 9.71E+04 | | 9.71E+04 | 9.71E-01 |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | 1.30E+00 | 1.30E+00 | 1.30E+00 | | 1.30E+00 | 1.30E-05 |
| CO3-2 | | | | | | | | | | |
| F- | | | | | 1.07E+01 | 1.07E+01 | 1.07E+01 | | 1.07E+01 | 1.07E-04 |
| I- | | | | | 2.19E-04 | 2.19E-04 | 2.19E-04 | | 2.19E-04 | 2.19E-09 |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | 1.88E-01 | 1.88E-01 | 1.88E-01 | | 1.88E-01 | 1.88E-06 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | 3.55E-03 | 3.55E-03 | 3.55E-03 | | 3.55E-03 | 3.55E-08 |
| AlPO4 | | | | | 5.84E+01 | 5.84E+01 | 5.84E+01 | | 5.84E+01 | 5.84E-04 |
| Al2O3 | | | | | 2.07E+02 | 2.07E+02 | 2.07E+02 | | 2.07E+02 | 2.07E-03 |
| Am2O3 | | | | | 2.73E-05 | 2.73E-05 | 2.73E-05 | | 2.73E-05 | 2.73E-10 |
| As2O5 | | | | | 8.29E-07 | 8.29E-07 | 8.29E-07 | | 8.29E-07 | 8.29E-12 |
| B2O3 | | | | | 1.10E-03 | 1.10E-03 | 1.10E-03 | | 1.10E-03 | 1.10E-08 |
| BaO | | | | | 9.11E-03 | 9.11E-03 | 9.11E-03 | | 9.11E-03 | 9.11E-08 |
| BeO | | | | | 1.18E-06 | 1.18E-06 | 1.18E-06 | | 1.18E-06 | 1.18E-11 |
| Bi2O3 | | | | | 1.49E-01 | 1.49E-01 | 1.49E-01 | | 1.49E-01 | 1.49E-06 |
| CaO | | | | | 4.63E+02 | 4.63E+02 | 4.63E+02 | | 4.63E+02 | 4.63E-03 |
| CdO | | | | | 8.66E-02 | 8.66E-02 | 8.66E-02 | | 8.66E-02 | 8.66E-07 |
| Ce2O3 | | | | | 4.41E-02 | 4.41E-02 | 4.41E-02 | | 4.41E-02 | 4.41E-07 |
| Cm2O3 | | | | | 2.18E-09 | 2.18E-09 | 2.18E-09 | | 2.18E-09 | 2.18E-14 |
| Co2O3 | | | | | 2.06E-05 | 2.06E-05 | 2.06E-05 | | 2.06E-05 | 2.06E-10 |
| Cr2O3 | | | | | 4.34E+00 | 4.34E+00 | 4.34E+00 | | 4.34E+00 | 4.34E-05 |
| Cs2O | | | | | 1.68E-03 | 1.68E-03 | 1.68E-03 | | 1.68E-03 | 1.68E-08 |
| CuO | | | | | 1.26E-03 | 1.26E-03 | 1.26E-03 | | 1.26E-03 | 1.26E-08 |
| Fe2O3 | | | | | 5.58E-01 | 5.58E-01 | 5.58E-01 | | 5.58E-01 | 5.58E-06 |
| FeO | | | | | 1.54E-05 | 1.54E-05 | 1.54E-05 | | 1.54E-05 | 1.54E-10 |
| Hg | | | | | 2.28E-05 | 2.28E-05 | 2.28E-05 | | 2.28E-05 | 2.28E-10 |
| HgO | | | | | 6.13E-06 | 6.13E-06 | 6.13E-06 | | 6.13E-06 | 6.13E-11 |
| K2O | | | | | 8.55E+00 | 8.55E+00 | 8.55E+00 | | 8.55E+00 | 8.55E-05 |
| La2O3 | | | | | 4.40E-03 | 4.40E-03 | 4.40E-03 | | 4.40E-03 | 4.40E-08 |
| Li2O | | | | | | | | | | |
| MgO | | | | | 8.11E-04 | 8.11E-04 | 8.11E-04 | | 8.11E-04 | 8.11E-09 |
| MnO | | | | | 6.28E-07 | 6.28E-07 | 6.28E-07 | | 6.28E-07 | 6.28E-12 |
| MoO3 | | | | | 1.12E-04 | 1.12E-04 | 1.12E-04 | | 1.12E-04 | 1.12E-09 |
| Na2O | | | | | 1.16E+03 | 1.16E+03 | 1.16E+03 | | 1.16E+03 | 1.16E-02 |
| Nd2O3 | | | | | 1.33E-01 | 1.33E-01 | 1.33E-01 | | 1.33E-01 | 1.33E-06 |
| NiO2 | | | | | 1.19E-04 | 1.19E-04 | 1.19E-04 | | 1.19E-04 | 1.19E-09 |
| PbO2 | | | | | 1.12E-01 | 1.12E-01 | 1.12E-01 | | 1.12E-01 | 1.12E-06 |
| PuO2 | | | | | 3.54E-04 | 3.54E-04 | 3.54E-04 | | 3.54E-04 | 3.54E-09 |

| STREAM NAME | 448 | 449 | 450 | 451 | 510 | 511 | 512 | 513 | 514 | 520 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | | | | 2.63E-06 | 2.63E-06 | 2.63E-06 | | 2.63E-06 | 2.63E-11 |
| $Re_2O_7$ | | | | | 1.41E-06 | 1.41E-06 | 1.41E-06 | | 1.41E-06 | 1.41E-11 |
| $Rh_2O_3$ | | | | | 2.46E-05 | 2.46E-05 | 2.46E-05 | | 2.46E-05 | 2.46E-10 |
| $Ru_2O_3$ | | | | | 1.45E-05 | 1.45E-05 | 1.45E-05 | | 1.45E-05 | 1.45E-10 |
| $SeO_3$ | | | | | 3.12E-04 | 3.12E-04 | 3.12E-04 | | 3.12E-04 | 3.12E-09 |
| $SiO_2$ | | | | | 2.71E+03 | 2.71E+03 | 2.71E+03 | | 2.71E+03 | 2.71E-02 |
| $SO_3$ | | | | | 1.63E+00 | 1.63E+00 | 1.63E+00 | | 1.63E+00 | 1.63E-05 |
| SrO | | | | | 7.04E-03 | 7.04E-03 | 7.04E-03 | | 7.04E-03 | 7.04E-08 |
| $Tc_2O_7$ | | | | | 6.52E-03 | 6.52E-03 | 6.52E-03 | | 6.52E-03 | 6.52E-08 |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | | | | | 1.13E-05 | 1.13E-05 | 1.13E-05 | | 1.13E-05 | 1.13E-10 |
| $ThO_2$ | | | | | 1.88E-04 | 1.88E-04 | 1.88E-04 | | 1.88E-04 | 1.88E-09 |
| $TiO_2$ | | | | | 1.39E-02 | 1.39E-02 | 1.39E-02 | | 1.39E-02 | 1.39E-07 |
| $UO_3$ | | | | | 1.22E+00 | 1.22E+00 | 1.22E+00 | | 1.22E+00 | 1.22E-05 |
| ZnO | | | | | 4.69E-05 | 4.69E-05 | 4.69E-05 | | 4.69E-05 | 4.69E-10 |
| $ZrO_2$ | | | | | 1.13E-01 | 1.13E-01 | 1.13E-01 | | 1.13E-01 | 1.13E-06 |
| Cement | | | | | | | | | | |
| $C_1$ | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 521 | 522 | 523 | 524 | 600 | 601 | 602 | 603 | 604 | 605 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 4.58E+00 | 3.32E+04 | 4.58E+00 | 4.58E+00 | 1.35E+06 | 4.53E+03 | 1.38E+06 | 2.84E+04 | 3.29E+04 | 4.54E+03 |
| Volume (L) | 4.58E+03 | 3.32E+07 | 4.58E+03 | 4.58E+03 | 1.35E+09 | 4.53E+06 | 1.38E+09 | 2.84E+07 | 3.29E+07 | 4.53E+06 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | 2.56E+03 | 2.56E+03 | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | 6.01E+05 | 2.01E+03 | 5.93E+05 | 3.12E+04 | 3.32E+04 | 5.71E+03 |
| Total Curies | | | | | 6.01E+05 | 2.01E+03 | 5.93E+05 | 3.37E+04 | 3.58E+04 | 5.71E+03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | 9.95E+00 | 3.34E-02 | 9.76E+00 | 5.14E-01 | 5.47E-01 | 9.41E-02 |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | 3.78E+02 | 1.27E+00 | 3.73E+02 | 1.96E+01 | 2.09E+01 | 3.60E+00 |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | 1.12E+02 | 3.77E-01 | 1.11E+02 | 5.84E+00 | 6.21E+00 | 1.07E+00 |
| TcO4- | | | | | 5.82E+01 | 1.95E-01 | 5.53E+01 | 2.91E+00 | 3.10E+00 | 5.34E-01 |
| H2O | 4.58E+00 | 3.69E+02 | 4.58E+00 | 4.58E+00 | 1.35E+06 | 4.53E+03 | 1.38E+06 | 2.18E+04 | 2.63E+04 | 4.53E+03 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | 2.23E+00 | 7.47E-03 | 2.10E+00 | 2.27E-01 | 2.34E-01 | 3.82E-02 |
| TiO2 | | | | | | | 1.69E+00 | 8.91E-02 | 8.91E-02 | 1.53E-02 |
| Cl2 | | | | | | | | 1.35E-02 | 1.35E-02 | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | 5.34E+03 | 5.34E+03 | |
| F2 | | | | | | | | 7.53E-02 | 7.53E-02 | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | 4.96E-03 | 4.96E-03 | |
| N2 | | 2.59E+04 | | | | | | 1.03E+02 | 1.03E+02 | |
| N2O | | | | | | | | 1.71E+01 | 1.71E+01 | |
| NO | | | | | | | | 6.90E+02 | 6.90E+02 | |
| NO2 | | | | | | | | 1.46E+02 | 1.46E+02 | |
| O2 | | 6.89E+03 | | | | | | 2.30E+02 | 2.30E+02 | |
| SO2 | | | | | | | | 1.14E+01 | 1.14E+01 | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | 2.03E+00 | 2.03E+00 | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 521 | 522 | 523 | 524 | 600 | 601 | 602 | 603 | 604 | 605 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 2.31E-05 | 4.63E-02 | 4.63E-02 | 1.22E+03 | 4.09E+00 | 1.20E+03 | 6.33E+01 | 6.74E+01 | 1.16E+01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 4.26E-07 | 8.51E-04 | 8.51E-04 | 5.05E+03 | 1.69E+01 | 4.98E+03 | 2.62E+02 | 2.79E+02 | 4.80E+01 |
| C-14 | | | | | | | | | | |
| Cs-137 | | 1.38E-04 | 2.75E-01 | 2.75E-01 | 1.68E+06 | 5.64E+03 | 1.66E+06 | 8.73E+04 | 9.30E+04 | 1.60E+04 |
| Ba-137 | | 1.31E-04 | 2.61E-01 | 2.61E-01 | 1.60E+06 | 5.36E+03 | 1.58E+06 | 8.30E+04 | 8.83E+04 | 1.52E+04 |
| Np-237 | | 3.68E-10 | 7.36E-07 | 7.36E-07 | 3.28E+00 | 1.10E-02 | 3.24E+00 | 1.70E-01 | 1.81E-01 | 3.12E-02 |
| Pu-239 | | 9.03E-08 | 1.80E-04 | 1.80E-04 | 1.32E+03 | 4.44E+00 | 1.31E+03 | 6.87E+01 | 7.32E+01 | 1.26E+01 |
| Pu-240 | | 2.35E-08 | 4.70E-05 | 4.70E-05 | 3.29E+02 | 1.10E+00 | 3.24E+02 | 1.71E+01 | 1.82E+01 | 3.12E+00 |
| Pu-241 | | 2.64E-07 | 5.27E-04 | 5.27E-04 | 3.70E+03 | 1.24E+01 | 3.65E+03 | 1.92E+02 | 2.05E+02 | 3.52E+01 |
| Sr-90 | | 1.08E-04 | 2.16E-01 | 2.16E-01 | 2.67E+06 | 8.94E+03 | 2.63E+06 | 1.38E+05 | 1.47E+05 | 2.53E+04 |
| Y-90 | | 1.08E-04 | 2.16E-01 | 2.16E-01 | 2.67E+06 | 8.94E+03 | 2.63E+06 | 1.38E+05 | 1.47E+05 | 2.53E+04 |
| Tc-99 | | 3.54E-07 | 7.08E-04 | 7.08E-04 | 1.20E+03 | 4.04E+00 | 1.19E+03 | 6.25E+01 | 6.65E+01 | 1.14E+01 |
| Total Curies | | 4.86E-04 | 9.70E-01 | 9.71E-01 | 8.63E+06 | 2.89E+04 | 8.51E+06 | 4.48E+05 | 4.77E+05 | 8.20E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Hg+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | 6.48E-09 | 1.30E-05 | 1.30E-05 | 7.05E-01 | 2.36E-03 | 6.96E-01 | 3.66E-02 | 3.90E-02 | 6.70E-03 |
| CO3-2 | | | | | | | | | | |
| F- | | 5.34E-08 | 1.07E-04 | 1.07E-04 | 3.95E+00 | 1.33E-02 | 3.90E+00 | 2.05E-01 | 2.18E-01 | 3.76E-02 |
| I- | | 1.10E-12 | 2.19E-09 | 2.19E-09 | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 9.42E-10 | 1.88E-06 | 1.88E-06 | 1.49E+01 | 5.00E-02 | 1.47E+01 | 7.74E-01 | 8.24E-01 | 1.42E-01 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | 1.77E-11 | 3.54E-08 | 3.54E-08 | 8.33E-02 | 2.79E-04 | 8.22E-02 | 4.32E-03 | 4.60E-03 | 7.92E-04 |
| AlPO4 | | 2.92E-07 | 5.84E-04 | 5.84E-04 | 3.44E+01 | 1.15E-01 | 3.39E+01 | 1.79E+00 | 1.90E+00 | 3.27E-01 |
| Al2O3 | | 1.04E-06 | 2.07E-03 | 2.07E-03 | 1.03E+02 | 3.47E-01 | 1.02E+02 | 5.37E+00 | 5.72E+00 | 9.83E-01 |
| Am2O3 | | 1.36E-13 | 2.73E-10 | 2.73E-10 | 1.62E-03 | 5.42E-06 | 1.60E-03 | 8.40E-05 | 8.94E-05 | 1.54E-05 |
| As2O5 | | 4.14E-15 | 8.28E-12 | 8.28E-12 | 1.82E-04 | 6.09E-07 | 1.79E-04 | 9.43E-06 | 1.00E-05 | 1.73E-06 |
| B2O3 | | 5.49E-12 | 1.10E-08 | 1.10E-08 | 8.54E+01 | 2.86E-01 | 8.42E+01 | 4.43E+00 | 4.72E+00 | 8.12E-01 |
| BaO | | 4.55E-11 | 9.10E-08 | 9.10E-08 | 2.19E-01 | 7.34E-04 | 2.16E-01 | 1.14E-02 | 1.21E-02 | 2.08E-03 |
| BeO | | 5.90E-15 | 1.18E-11 | 1.18E-11 | 4.47E-04 | 1.50E-06 | 4.40E-04 | 2.32E-05 | 2.47E-05 | 4.24E-06 |
| Bi2O3 | | 7.44E-10 | 1.49E-06 | 1.49E-06 | 1.47E+01 | 4.92E-02 | 1.45E+01 | 7.62E-01 | 8.11E-01 | 1.39E-01 |
| CaO | | 2.31E-06 | 4.63E-03 | 4.63E-03 | 1.06E+01 | 3.56E-02 | 1.05E+01 | 5.50E-01 | 5.86E-01 | 1.01E-01 |
| CdO | | 4.33E-10 | 8.66E-07 | 8.66E-07 | 3.95E-01 | 1.32E-03 | 3.89E-01 | 2.05E-02 | 2.18E-02 | 3.75E-03 |
| Ce2O3 | | 2.20E-10 | 4.40E-07 | 4.40E-07 | 1.44E+01 | 4.83E-02 | 1.42E+01 | 7.48E-01 | 7.96E-01 | 1.37E-01 |
| Cm2O3 | | 1.09E-17 | 2.18E-14 | 2.18E-14 | 1.01E-06 | 3.38E-09 | 9.93E-07 | 5.23E-08 | 5.57E-08 | 9.57E-09 |
| Co2O3 | | 1.03E-13 | 2.06E-10 | 2.06E-10 | 8.13E-07 | 2.73E-09 | 8.02E-07 | 4.22E-08 | 4.49E-08 | 7.73E-09 |
| Cr2O3 | | 2.17E-08 | 4.34E-05 | 4.34E-05 | 4.55E+00 | 1.53E-02 | 4.49E+00 | 2.36E-01 | 2.51E-01 | 4.32E-02 |
| Cs2O | | 8.41E-12 | 1.68E-08 | 1.68E-08 | 1.04E-01 | 3.50E-04 | 1.03E-01 | 5.42E-03 | 5.77E-03 | 9.91E-04 |
| CuO | | 6.28E-12 | 1.26E-08 | 1.26E-08 | 1.24E-02 | 4.15E-05 | 1.22E-02 | 6.42E-04 | 6.84E-04 | 1.18E-04 |
| Fe2O3 | | 2.79E-09 | 5.58E-06 | 5.58E-06 | 5.70E+01 | 1.91E-01 | 5.62E+01 | 2.96E+00 | 3.15E+00 | 5.42E-01 |
| FeO | | 7.70E-14 | 1.54E-10 | 1.54E-10 | 5.25E-07 | 1.76E-09 | 5.18E-07 | 2.73E-08 | 2.90E-08 | 4.99E-09 |
| Hg | | 1.14E-13 | 2.27E-10 | 2.27E-10 | 7.35E-08 | 2.46E-10 | 7.25E-08 | 3.81E-09 | 4.06E-09 | 6.98E-10 |
| HgO | | 3.06E-14 | 6.12E-11 | 6.12E-11 | 1.60E-11 | 5.37E-14 | 1.58E-11 | 8.31E-13 | 8.84E-13 | 1.52E-13 |
| K2O | | 4.27E-08 | 8.54E-05 | 8.54E-05 | 2.16E+00 | 7.24E-03 | 2.13E+00 | 1.12E-01 | 1.19E-01 | 2.05E-02 |
| La2O3 | | 2.20E-11 | 4.40E-08 | 4.40E-08 | 1.41E+00 | 4.72E-03 | 1.39E+00 | 7.31E-02 | 7.78E-02 | 1.34E-02 |
| Li2O | | | | | 2.44E+01 | 8.18E-02 | 2.41E+01 | 1.27E+00 | 1.35E+00 | 2.32E-01 |
| MgO | | 4.05E-12 | 8.10E-09 | 8.10E-09 | 7.16E-01 | 2.40E-03 | 7.06E-01 | 3.72E-02 | 3.96E-02 | 6.80E-03 |
| MnO | | 3.14E-15 | 6.28E-12 | 6.28E-12 | 2.14E-08 | 7.19E-11 | 2.11E-08 | 1.11E-09 | 1.18E-09 | 2.04E-10 |
| MoO3 | | 5.58E-13 | 1.12E-09 | 1.12E-09 | 2.53E-03 | 8.47E-06 | 2.49E-03 | 1.31E-04 | 1.40E-04 | 2.40E-05 |
| Na2O | | 5.79E-06 | 1.16E-02 | 1.16E-02 | 1.18E+02 | 3.95E-01 | 1.16E+02 | 6.12E+00 | 6.52E+00 | 1.12E+00 |
| Ni2O3 | | 6.66E-10 | 1.33E-06 | 1.33E-06 | 1.52E+01 | 5.10E-02 | 1.50E+01 | 7.89E-01 | 8.40E-01 | 1.44E-01 |
| NpO2 | | 5.93E-13 | 1.18E-09 | 1.18E-09 | 5.28E-03 | 1.77E-05 | 5.21E-03 | 2.74E-04 | 2.92E-04 | 5.02E-05 |
| HgO2 | | 5.58E-10 | 1.12E-06 | 1.12E-06 | 1.77E+00 | 5.94E-03 | 1.75E+00 | 9.20E-02 | 9.80E-02 | 1.69E-02 |
| PuO2 | | 1.77E-12 | 3.54E-09 | 3.54E-09 | 2.59E-02 | 8.68E-05 | 2.55E-02 | 1.34E-03 | 1.43E-03 | 2.46E-04 |

| STREAM NAME | 521 | 522 | 523 | 524 | 600 | 601 | 602 | 603 | 604 | 605 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | 1.32E-14 | 2.63E-11 | 2.63E-11 | 8.99E-08 | 3.01E-10 | 8.87E-08 | 4.67E-09 | 4.97E-09 | 8.54E-10 |
| $Re_2O_7$ | | 7.06E-15 | 1.41E-11 | 1.41E-11 | 4.82E-08 | 1.62E-10 | 4.75E-08 | 2.50E-09 | 2.66E-09 | 4.58E-10 |
| $Rh_2O_3$ | | 1.23E-13 | 2.45E-10 | 2.45E-10 | 1.24E-02 | 4.17E-05 | 1.23E-02 | 6.45E-04 | 6.87E-04 | 1.18E-04 |
| $Ru_2O_3$ | | 7.24E-14 | 1.45E-10 | 1.45E-10 | 5.54E-07 | 1.86E-09 | 5.47E-07 | 2.88E-08 | 3.06E-08 | 5.27E-09 |
| $SeO_3$ | | 1.56E-12 | 3.12E-09 | 3.12E-09 | 2.79E-01 | 9.94E-04 | 2.75E-01 | 1.45E-02 | 1.54E-02 | 2.65E-03 |
| $SiO_2$ | | 1.36E-05 | 2.71E-02 | 2.71E-02 | 5.61E+02 | 1.88E+00 | 5.54E+02 | 2.91E+01 | 3.10E+01 | 5.33E+00 |
| $SO_3$ | | 8.14E-09 | 1.63E-05 | 1.63E-05 | 1.32E+00 | 4.44E-03 | 1.31E+00 | 6.87E-02 | 7.31E-02 | 1.26E-02 |
| SrO | | 3.52E-11 | 7.03E-08 | 7.03E-08 | 2.25E+00 | 7.55E-03 | 2.22E+00 | 1.17E-01 | 1.24E-01 | 2.14E-02 |
| $Tc_2O_7$ | | 3.26E-11 | 6.52E-08 | 6.52E-08 | 1.11E-01 | 3.72E-04 | 1.09E-01 | 5.76E-03 | 6.13E-03 | 1.05E-03 |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | | 5.62E-14 | 1.12E-10 | 1.12E-10 | 4.31E-07 | 1.44E-09 | 4.25E-07 | 2.23E-08 | 2.38E-08 | 4.09E-09 |
| $ThO_2$ | | 9.38E-13 | 1.87E-09 | 1.88E-09 | 1.66E-01 | 5.57E-04 | 1.64E-01 | 8.62E-03 | 9.18E-03 | 1.58E-03 |
| $TiO_2$ | | 6.95E-11 | 1.39E-07 | 1.39E-07 | 1.22E+01 | 4.09E-02 | 1.20E+01 | 6.33E-01 | 6.74E-01 | 1.16E-01 |
| $UO_3$ | | 6.12E-09 | 1.22E-05 | 1.22E-05 | 8.36E+01 | 2.87E-01 | 8.44E+01 | 4.44E+00 | 4.73E+00 | 8.13E-01 |
| ZnO | | 2.35E-13 | 4.69E-10 | 4.69E-10 | 3.30E-02 | 1.11E-04 | 3.25E-02 | 1.71E-03 | 1.82E-03 | 3.13E-04 |
| $ZrO_2$ | | 5.66E-10 | 1.13E-06 | 1.13E-06 | 4.84E+01 | 1.62E-01 | 4.77E+01 | 2.51E+00 | 2.67E+00 | 4.60E-01 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.84E+04 | 2.84E+04 | | 6.71E+03 | 2.17E+04 | 1.00E-03 | 1.00E-03 | 1.36E+06 | 1.11E+02 | 6.71E+03 |
| Volume (L) | 2.84E+07 | 2.84E+07 | | 6.71E+06 | 2.16E+07 | 7.18E-01 | 1.00E+00 | 1.36E+09 | 1.11E+05 | 6.71E+06 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | | 1.00E+00 | 1.00E+00 | 1.39E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | 2.56E+03 | 2.56E+03 | | 2.56E+03 | | | | | | 2.56E+03 |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | 2.75E+04 | 2.75E+04 | | 5.50E+02 | 2.69E+04 | | | 6.03E+05 | | 5.50E+02 |
| Total Curies | 3.00E+04 | 3.00E+04 | | 3.10E+03 | 2.69E+04 | | | 6.03E+05 | | 3.10E+03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Au+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | 4.53E-01 | 4.53E-01 | | 9.06E-03 | 4.44E-01 | 9.05E-06 | | 9.98E+00 | | 9.06E-03 |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | 1.73E+01 | 1.73E+01 | | 3.46E-01 | 1.70E+01 | 5.61E-04 | | 3.80E+02 | | 3.46E-01 |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | 5.14E+00 | 5.14E+00 | | 1.03E-01 | 5.04E+00 | | | 1.13E+02 | | 1.03E-01 |
| TcO4- | 2.57E+00 | 2.57E+00 | | 5.14E-02 | 2.52E+00 | | | 5.84E+01 | | 5.14E-02 |
| H2O | 2.18E+04 | 2.18E+04 | | 1.73E+02 | 2.16E+04 | 4.30E-04 | 1.00E-03 | 1.36E+06 | 1.11E+02 | 1.73E+02 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| H2 | 1.96E-01 | 1.96E-01 | | 1.35E-02 | 1.82E-01 | | | 2.24E+00 | | 1.35E-02 |
| TcO2 | 7.37E-02 | 7.37E-02 | | 1.48E-03 | 7.23E-02 | | | | | 1.48E-03 |
| Cl2 | 1.35E-02 | 1.35E-02 | | 1.35E-02 | | | | | | 1.35E-02 |
| CO | | | | | | | | | | |
| CO2 | 5.34E+03 | 5.34E+03 | | 5.34E+03 | | | | | | 5.34E+03 |
| F2 | 7.53E-02 | 7.53E-02 | | 7.53E-02 | | | | | | 7.53E-02 |
| H2 | | | | | | | | | | |
| I2 | 4.96E-03 | 4.96E-03 | | 4.96E-03 | | | | | | 4.96E-03 |
| N2 | 1.03E+02 | 1.03E+02 | | 1.03E+02 | | | | | | 1.03E+02 |
| N2O | 1.71E+01 | 1.71E+01 | | 1.71E+01 | | | | | | 1.71E+01 |
| NO | 6.90E+02 | 6.90E+02 | | 6.90E+02 | | | | | | 6.90E+02 |
| NO2 | 1.46E+02 | 1.46E+02 | | 1.46E+02 | | | | | | 1.46E+02 |
| O2 | 2.30E+02 | 2.30E+02 | | 2.30E+02 | | | | | | 2.30E+02 |
| SO2 | 1.14E+01 | 1.14E+01 | | 1.14E+01 | | | | | | 1.14E+01 |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | 2.03E+00 | 2.03E+00 | | 2.03E+00 | | | | | | 2.03E+00 |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 5.58E+01 | 5.58E+01 | | 1.12E+00 | 5.47E+01 | | | 1.22E+03 | | 5.58E-04 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 2.31E+02 | 2.31E+02 | | 4.62E+00 | 2.27E+02 | | | 5.07E+03 | | 2.31E-03 |
| C-14 | | | | | | | | | | |
| Cs-137 | 7.70E+04 | 7.70E+04 | | 1.54E+03 | 7.54E+04 | | | 1.69E+06 | | 7.70E-01 |
| Ba-137 | 7.31E+04 | 7.31E+04 | | 1.46E+03 | 7.17E+04 | | | 1.60E+06 | | 7.31E-01 |
| Np-237 | 1.50E-01 | 1.50E-01 | | 3.00E-03 | 1.47E-01 | | | 3.29E+00 | | 1.50E-06 |
| Pu-239 | 6.06E+01 | 6.06E+01 | | 1.21E+00 | 5.94E+01 | | | 1.33E+03 | | 6.06E-04 |
| Pu-240 | 1.50E+01 | 1.50E+01 | | 3.01E-01 | 1.47E+01 | | | 3.30E+02 | | 1.50E-04 |
| Pu-241 | 1.69E+02 | 1.69E+02 | | 3.39E+00 | 1.66E+02 | | | 3.71E+03 | | 1.69E-03 |
| Sr-90 | 1.22E+05 | 1.22E+05 | | 2.44E+03 | 1.20E+05 | | | 2.68E+06 | | 1.22E+00 |
| Y-90 | 1.22E+05 | 1.22E+05 | | 2.44E+03 | 1.20E+05 | | | 2.68E+06 | | 1.22E+00 |
| Tc-99 | 5.51E+01 | 5.51E+01 | | 1.10E+00 | 5.40E+01 | | | 1.21E+03 | | 5.51E-04 |
| Total Curies | 3.95E+05 | 3.95E+05 | | 7.89E+03 | 3.87E+05 | | | 8.66E+06 | | 3.95E+00 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | 3.23E-02 | 3.23E-02 | | 6.45E-04 | 3.16E-02 | | | 7.08E-01 | | 3.23E-07 |
| CO3-2 | | | | | | | | | | |
| F- | 1.81E-01 | 1.81E-01 | | 3.62E-03 | 1.77E-01 | | | 3.97E+00 | | 1.81E-06 |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 6.82E-01 | 6.82E-01 | | 1.36E-02 | 6.68E-01 | | | 1.50E+01 | | 6.82E-06 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | 3.81E-03 | 3.81E-03 | | 7.62E-05 | 3.74E-03 | | | 8.36E-02 | | 3.81E-08 |
| AlPO4 | 1.58E+00 | 1.58E+00 | | 3.15E-02 | 1.54E+00 | | | 3.45E+01 | | 1.58E-05 |
| Al2O3 | 4.73E+00 | 4.73E+00 | | 9.47E-02 | 4.64E+00 | | | 1.04E+02 | | 4.73E-05 |
| Am2O3 | 7.40E-05 | 7.40E-05 | | 1.48E-06 | 7.26E-05 | | | 1.62E-03 | | 7.40E-10 |
| As2O5 | 8.31E-06 | 8.31E-06 | | 1.66E-07 | 8.15E-06 | | | 1.82E-04 | | 8.31E-11 |
| B2O3 | 3.91E+00 | 3.91E+00 | | 7.82E-02 | 3.83E+00 | | | 8.57E+01 | | 3.91E-05 |
| BaO | 1.00E-02 | 1.00E-02 | | 2.00E-04 | 9.81E-03 | | | 2.20E-01 | | 1.00E-07 |
| BeO | 2.04E-05 | 2.04E-05 | | 4.09E-07 | 2.00E-05 | | | 4.48E-04 | | 2.04E-10 |
| Bi2O3 | 6.71E-01 | 6.71E-01 | | 1.34E-02 | 6.58E-01 | | | 1.47E+01 | | 6.71E-06 |
| CaO | 4.85E-01 | 4.85E-01 | | 9.70E-03 | 4.76E-01 | | | 1.06E+01 | | 4.85E-06 |
| CdO | 1.81E-02 | 1.81E-02 | | 3.61E-04 | 1.77E-02 | | | 3.96E-01 | | 1.81E-07 |
| Ce2O3 | 6.59E-01 | 6.59E-01 | | 1.32E-02 | 6.46E-01 | | | 1.45E+01 | | 6.59E-06 |
| Cm2O3 | 4.61E-08 | 4.61E-08 | | 9.22E-10 | 4.52E-08 | | | 1.01E-06 | | 4.61E-13 |
| Co2O3 | 3.72E-08 | 3.72E-08 | | 7.44E-10 | 3.65E-08 | | | 8.16E-07 | | 3.72E-13 |
| Cr2O3 | 2.08E-01 | 2.08E-01 | | 4.16E-03 | 2.04E-01 | | | 4.56E+00 | | 2.08E-06 |
| Cs2O | 4.77E-03 | 4.77E-03 | | 9.55E-05 | 4.68E-03 | | | 1.05E-01 | | 4.77E-08 |
| CuO | 5.66E-04 | 5.66E-04 | | 1.13E-05 | 5.55E-04 | | | 1.24E-02 | | 5.66E-09 |
| Fe2O3 | 2.61E+00 | 2.61E+00 | | 5.22E-02 | 2.56E+00 | | | 5.72E+01 | | 2.61E-05 |
| FeO | 2.40E-08 | 2.40E-08 | | 4.81E-10 | 2.36E-08 | | | 5.27E-07 | | 2.40E-13 |
| H3 | 3.36E-09 | 3.36E-09 | | 6.72E-11 | 3.30E-09 | | | 7.37E-08 | | 3.36E-14 |
| H2O | 7.32E-13 | 7.32E-13 | | 1.46E-14 | 7.18E-13 | | | 1.61E-11 | | 7.32E-18 |
| K2O | 9.88E-02 | 9.88E-02 | | 1.98E-03 | 9.68E-02 | | | 2.17E+00 | | 9.88E-07 |
| La2O3 | 6.44E-02 | 6.44E-02 | | 1.29E-03 | 6.31E-02 | | | 1.41E+00 | | 6.44E-07 |
| Li2O | 1.12E+00 | 1.12E+00 | | 2.23E-02 | 1.09E+00 | | | 2.45E+01 | | 1.12E-05 |
| MgO | 3.28E-02 | 3.28E-02 | | 6.55E-04 | 3.21E-02 | | | 7.18E-01 | | 3.28E-07 |
| MnO | 9.81E-10 | 9.81E-10 | | 1.96E-11 | 9.61E-10 | | | 2.15E-08 | | 9.81E-15 |
| MoO3 | 1.16E-04 | 1.16E-04 | | 2.31E-06 | 1.13E-04 | | | 2.54E-03 | | 1.16E-09 |
| Na2O | 5.40E+00 | 5.40E+00 | | 1.08E-01 | 5.29E+00 | | | 1.18E+02 | | 5.40E-05 |
| Ni2O3 | 6.96E-01 | 6.96E-01 | | 1.39E-02 | 6.82E-01 | | | 1.53E+01 | | 6.96E-06 |
| NpO2 | 2.42E-04 | 2.42E-04 | | 4.83E-06 | 2.37E-04 | | | 5.30E-03 | | 2.42E-09 |
| PbO2 | 8.11E-02 | 8.11E-02 | | 1.62E-03 | 7.95E-02 | | | 1.78E+00 | | 8.11E-07 |
| PuO2 | 1.19E-03 | 1.19E-03 | | 2.37E-05 | 1.16E-03 | | | 2.60E-02 | | 1.19E-08 |

| STREAM NAME | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Nb2O | 4.11E-09 | 4.11E-09 | | 8.23E-11 | 4.03E-09 | | | 9.02E-08 | | 4.11E-14 |
| Re2O7 | 2.20E-09 | 2.20E-09 | | 4.41E-11 | 2.16E-09 | | | 4.83E-08 | | 2.20E-14 |
| Rh2O3 | 5.69E-04 | 5.69E-04 | | 1.14E-05 | 5.57E-04 | | | 1.25E-02 | | 5.69E-09 |
| Ru2O3 | 2.54E-08 | 2.54E-08 | | 5.07E-10 | 2.49E-08 | | | 5.56E-07 | | 2.54E-13 |
| SeO3 | 1.27E-02 | 1.27E-02 | | 2.55E-04 | 1.25E-02 | | | 2.80E-01 | | 1.27E-07 |
| SiO2 | 2.57E+01 | 2.57E+01 | | 5.14E-01 | 2.52E+01 | | | 5.63E+02 | | 2.57E-04 |
| SO3 | 6.06E-02 | 6.06E-02 | | 1.21E-03 | 5.94E-02 | | | 1.33E+00 | | 6.06E-07 |
| SrO | 1.03E-01 | 1.03E-01 | | 2.06E-03 | 1.01E-01 | | | 2.26E+00 | | 1.03E-06 |
| Tc2O7 | 5.07E-03 | 5.07E-03 | | 1.02E-04 | 4.97E-03 | | | 1.11E-01 | | 5.07E-08 |
| Tc2S7 | | | | | | | | | | |
| TeO3 | 1.97E-08 | 1.97E-08 | | 3.94E-10 | 1.93E-08 | | | 4.32E-07 | | 1.97E-13 |
| ThO2 | 7.60E-03 | 7.60E-03 | | 1.52E-04 | 7.45E-03 | | | 1.67E-01 | | 7.60E-08 |
| TiO2 | 5.58E-01 | 5.58E-01 | | 1.12E-02 | 5.47E-01 | | | 1.22E+01 | | 5.58E-06 |
| UO3 | 3.92E+00 | 3.92E+00 | | 7.83E-02 | 3.84E+00 | | | 8.[illegible]E+01 | | 3.92E-05 |
| ZnO | 1.51E-03 | 1.51E-03 | | 3.02E-05 | 1.48E-03 | | | 3.[illegible]E-02 | | 1.51E-08 |
| ZrO2 | 2.21E+00 | 2.21E+00 | | 4.43E-02 | 2.17E+00 | | | 4.85E+01 | | 2.21E-05 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.11E+02 | 1.12E+02 | 1.06E+07 | 1.16E+06 | 1.01E+07 | 1.81E+05 | 1.34E+06 | 1.75E+05 | 1.16E+06 | 1.16E+06 |
| Volume (L) | 1.11E+05 | 1.12E+05 | 1.01E+10 | 1.13E+09 | 9.54E+09 | 1.71E+08 | 1.30E+09 | 1.69E+08 | 1.13E+09 | 1.13E+09 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.05E+00 | 1.03E+00 | 1.06E+00 | 1.05E+00 | 1.03E+00 | 1.04E+00 | 1.03E+00 | 1.03E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | 3.86E+03 | | | 3.86E+03 | | 3.86E+03 | 3.86E+03 |
| Cs-137 | | | 6.94E+07 | 3.61E+06 | 6.87E+07 | 1.18E+06 | 4.80E+06 | 7.74E+05 | 4.02E+06 | 4.02E+06 |
| Ba-137 | | | 6.60E+07 | 3.43E+06 | 6.52E+07 | 1.12E+06 | 4.56E+06 | 7.35E+05 | 3.82E+06 | 3.82E+06 |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | 1.54E+06 | 8.03E+04 | 1.53E+06 | 2.63E+04 | 1.07E+05 | 1.72E+04 | 8.94E+04 | 8.94E+04 |
| Total Curies | | | 1.37E+08 | 7.13E+06 | 1.35E+08 | 2.33E+06 | 9.47E+06 | 1.53E+06 | 7.94E+06 | 7.94E+06 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | 9.55E+01 | 4.97E+00 | 9.45E+01 | 1.63E+00 | 6.60E+00 | 1.06E+00 | 5.54E+00 | 5.54E+00 |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | 4.01E+00 | 2.09E-01 | 3.96E+00 | 6.83E-02 | 2.77E-01 | 4.46E-02 | 2.32E-01 | 2.32E-01 |
| Cr+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | 1.52E+04 | 7.69E+02 | 1.46E+04 | 2.59E+02 | 1.03E+03 | 1.66E+02 | 8.62E+02 | 8.62E+02 |
| Hg+2 | | | | | | | | | | |
| K+ | | | 1.81E+02 | 9.42E+00 | 1.79E+02 | 3.08E+00 | 1.25E+01 | 2.02E+00 | 1.05E+01 | 1.05E+01 |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | 9.88E-03 | 5.14E-04 | 9.77E-03 | 1.68E-04 | 6.82E-04 | 1.10E-04 | 5.72E-04 | 5.72E-04 |
| Na+ | | | 2.19E+04 | 1.14E+03 | 2.16E+04 | 3.73E+02 | 1.51E+03 | 2.44E+02 | 1.27E+03 | 1.27E+03 |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | 1.22E+02 | 6.34E+00 | 1.20E+02 | 2.07E+00 | 8.41E+00 | 1.36E+00 | 7.05E+00 | 7.05E+00 |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | 1.48E-02 | 7.68E-04 | 1.46E-02 | 2.51E-04 | 1.02E-03 | 1.64E-04 | 8.55E-04 | 8.55E-04 |
| Se+6 | | | 2.44E-01 | 1.27E-02 | 2.42E-01 | 4.16E-03 | 1.69E-02 | 2.72E-03 | 1.42E-02 | 1.42E-02 |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | 1.03E-02 | 5.36E-04 | 1.02E-02 | 1.75E-04 | 7.11E-04 | 1.15E-04 | 5.97E-04 | 5.97E-04 |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| HO2- | | | 1.14E+00 | 5.91E-02 | 1.12E+00 | 1.93E-02 | 7.84E-02 | 1.26E-02 | 6.58E-02 | 6.58E-02 |
| Cl- | | | 6.22E+04 | 3.24E+03 | 6.15E+04 | 1.06E+03 | 4.30E+03 | 6.92E+02 | 3.60E+03 | 3.60E+03 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | 5.37E+04 | 2.80E+03 | 5.31E+04 | 9.16E+02 | 3.71E+03 | 5.99E+02 | 3.11E+03 | 3.11E+03 |
| I- | | | 5.47E+01 | 2.85E+00 | 5.41E+01 | 9.32E-01 | 3.78E+00 | 6.09E-01 | 3.17E+00 | 3.17E+00 |
| NO2- | | | | | | | | | | |
| NO3- | | | 6.58E+05 | 3.29E+04 | 6.25E+05 | 1.12E+04 | 4.41E+04 | 7.11E+03 | 3.70E+04 | 3.70E+04 |
| OH- | | | | | | | | | | |
| PO4-3 | | | 2.87E+04 | 1.50E+03 | 2.84E+04 | 4.89E+02 | 1.98E+03 | 3.20E+02 | 1.66E+03 | 1.66E+03 |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | 1.50E+02 | 7.47E+00 | 1.42E+02 | 2.55E+00 | 1.00E+01 | 1.62E+00 | 8.41E+00 | 8.41E+00 |
| H2O | 1.11E+02 | 1.12E+02 | 9.75E+06 | 8.64E+05 | 9.26E+06 | 1.66E+05 | 1.03E+06 | 1.66E+05 | 8.64E+05 | 8.64E+05 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | 2.90E-03 | 5.51E-02 | | 2.90E-03 | 2.75E-03 | 1.45E-04 | 1.45E-04 |
| TeO2 | | | | 2.46E-01 | 4.67E+00 | | 2.46E-01 | 3.96E-02 | 2.06E-01 | 2.06E-01 |
| Cl2 | | | | | | | | | | |
| CO | | | | 2.39E+03 | | | 2.39E+03 | | 2.39E+03 | 2.39E+03 |
| CO2 | | | | 1.90E+05 | | | 1.90E+05 | | 1.90E+05 | 1.90E+05 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | 4.14E+04 | | | 4.14E+04 | | 4.14E+04 | 4.14E+04 |
| N2O | | | | | | | | | | |
| NO | | | | 2.46E+02 | | | 2.46E+02 | | 2.46E+02 | 2.46E+02 |
| NO2 | | | | 1.51E+03 | | | 1.51E+03 | | 1.51E+03 | 1.51E+03 |
| O2 | | | | 1.18E+04 | | | 1.18E+04 | | 1.18E+04 | 1.18E+04 |
| SO2 | | | | 1.21E+03 | | | 1.21E+03 | | 1.21E+03 | 1.21E+03 |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.12E+00 | 1.13E+00 | 2.34E+05 | 1.22E+04 | 2.31E+05 | 3.98E+03 | 1.61E+04 | 2.60E+03 | 1.35E+04 | 1.35E+04 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.62E+00 | 4.67E+00 | 4.30E+03 | 2.24E+02 | 4.25E+03 | 7.32E+01 | 2.97E+02 | 4.79E+01 | 2.49E+02 | 2.49E+02 |
| C-14 | | 1.09E-03 | | | | | | | | |
| Cs-137 | 1.54E+03 | 1.56E+03 | 1.39E+06 | 7.23E+04 | 1.37E+06 | 2.37E+04 | 9.59E+04 | 1.55E+04 | 8.05E+04 | 8.05E+04 |
| Ba-137 | 1.46E+03 | 1.48E+03 | 1.32E+06 | 6.87E+04 | 1.31E+06 | 2.25E+04 | 9.11E+04 | 1.47E+04 | 7.65E+04 | 7.65E+04 |
| Np-237 | 3.00E-03 | 3.03E-03 | 3.72E+00 | 1.93E-01 | 3.67E+00 | 6.33E-02 | 2.57E-01 | 4.14E-02 | 2.15E-01 | 2.15E-01 |
| Pu-239 | 1.21E+00 | 1.22E+00 | 9.11E+02 | 4.74E+01 | 9.01E+02 | 1.55E+01 | 6.30E+01 | 1.02E+01 | 5.28E+01 | 5.28E+01 |
| Pu-240 | 3.01E-01 | 3.04E-01 | 2.37E+02 | 1.24E+01 | 2.35E+02 | 4.04E+00 | 1.64E+01 | 2.64E+00 | 1.38E+01 | 1.38E+01 |
| Pu-241 | 3.39E+00 | 3.42E+00 | 2.66E+03 | 1.39E+02 | 2.63E+03 | 4.53E+01 | 1.84E+02 | 2.96E+01 | 1.54E+02 | 1.54E+02 |
| Sr-90 | 2.44E+03 | 2.47E+03 | 1.09E+06 | 5.68E+04 | 1.08E+06 | 1.86E+04 | 7.53E+04 | 1.22E+04 | 6.32E+04 | 6.32E+04 |
| Y-90 | 2.44E+03 | 2.47E+03 | 1.09E+06 | 5.68E+04 | 1.08E+06 | 1.86E+04 | 7.53E+04 | 1.22E+04 | 6.32E+04 | 6.32E+04 |
| Tc-99 | 1.10E+00 | 1.11E+00 | 3.58E+03 | 1.86E+02 | 3.54E+03 | 6.09E+01 | 2.47E+02 | 3.98E+01 | 2.07E+02 | 2.07E+02 |
| Total Curies | 7.89E+03 | 7.98E+03 | 4.90E+06 | 2.55E+05 | 4.85E+06 | 8.35E+04 | 3.39E+05 | 5.46E+04 | 2.84E+05 | 2.84E+05 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | 7.36E-07 | | | | | | | | |
| Al+3 | | 3.68E-04 | | | | | | | | |
| Am+3 | | 1.40E-08 | | | | | | | | |
| As+5 | | 1.13E-09 | | | | | | | | |
| Ba+2 | | 1.86E-06 | | | | | | | | |
| Be+2 | | 1.53E-09 | | | | | | | | |
| Bi+3 | | 1.25E-04 | | | | | | | | |
| Ca+2 | | 7.20E-05 | | | | | | | | |
| Cd+2 | | 3.26E-06 | | | | | | | | |
| Ce+3 | | 1.17E-04 | | | | | | | | |
| Cm+3 | | 8.73E-12 | | | | | | | | |
| Co+3 | | 7.39E-13 | | | | | | | | |
| Cr+3 | | 2.86E-05 | | | | | | | | |
| Cs+ | | 9.35E-07 | | | | | | | | |
| Cu+2 | | 9.36E-08 | | | | | | | | |
| Fe+3 | | 3.79E-04 | | | | | | | | |
| Hg+2 | | 4.38E-08 | | | | | | | | |
| K+ | | 1.47E-05 | | | | | | | | |
| La+3 | | 1.14E-05 | | | | | | | | |
| Mg+2 | | 4.10E-06 | | | | | | | | |
| Mn+4 | | 8.95E-05 | | | | | | | | |
| Mo+6 | | 1.60E-08 | | | | | | | | |
| Na+ | | 3.30E-04 | | | | | | | | |
| Ni+3 | | 1.03E-04 | | | | | | | | |
| Np+4 | | 4.42E-08 | | | | | | | | |
| Pb+4 | | 1.46E-05 | | | | | | | | |
| Pu+4 | | 2.17E-07 | | | | | | | | |
| Rh+3 | | 9.58E-08 | | | | | | | | |
| Se+6 | | 1.65E-06 | | | | | | | | |
| Si+4 | | 1.15E-04 | | | | | | | | |
| Sr+2 | | 1.82E-05 | | | | | | | | |
| Th+4 | | 1.39E-06 | | | | | | | | |
| Tl+4 | | 7.69E-08 | | | | | | | | |
| UO2+2 | | 7.67E-04 | | | | | | | | |
| Zn+2 | | 2.52E-07 | | | | | | | | |
| Cl- | 6.45E-04 | 6.50E-04 | 6.54E+01 | 3.41E+00 | 6.47E+01 | 1.12E+00 | 4.52E+00 | 7.29E-01 | 3.79E+00 | 3.79E+00 |
| CO3-2 | | 5.42E-05 | | | | | | | | |
| F- | 3.61E-03 | 3.65E-03 | 5.39E+02 | 2.81E+01 | 5.33E+02 | 9.18E+00 | 3.72E+01 | 6.00E+00 | 3.12E+01 | 3.12E+01 |
| I- | | 6.94E-10 | 1.11E-02 | 5.75E-04 | 1.09E-02 | 1.88E-04 | 7.63E-04 | 1.23E-04 | 6.40E-04 | 6.40E-04 |
| NO2- | | 3.07E-05 | | | | | | | | |
| NO3- | | 4.90E-04 | | | | | | | | |
| OH- | | 1.28E-03 | | | | | | | | |
| PO4-3 | | 2.39E-04 | | | | | | | | |
| SO4-2 | | 1.27E-05 | | | | | | | | |
| TcO4- | | 4.51E-07 | | | | | | | | |
| Cancrinite | | 1.35E-03 | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 1.36E-02 | 1.36E-02 | 9.51E+00 | 4.95E-01 | 9.41E+00 | 1.62E-01 | 6.57E-01 | 1.06E-01 | 5.51E-01 | 5.51E-01 |
| Organic Carbon | | 4.34E-05 | | | | | | | | |
| ZrO2:2H2O | | 5.94E-04 | | | | | | | | |
| Ag2O | 7.62E-05 | 7.62E-05 | 1.79E-01 | 9.32E-03 | 1.77E-01 | 3.05E-03 | 1.24E-02 | 1.99E-03 | 1.04E-02 | 1.04E-02 |
| AlPO4 | 3.15E-02 | 3.15E-02 | 2.95E+03 | 1.54E+02 | 2.92E+03 | 5.03E+01 | 2.04E+02 | 3.29E+01 | 1.71E+02 | 1.71E+02 |
| Al2O3 | 9.46E-02 | 9.47E-02 | 1.05E+04 | 5.44E+02 | 1.03E+04 | 1.78E+02 | 7.22E+02 | 1.16E+02 | 6.06E+02 | 6.06E+02 |
| Am2O3 | 1.48E-06 | 1.48E-06 | 1.38E-03 | 7.17E-05 | 1.36E-03 | 2.35E-05 | 9.51E-05 | 1.53E-05 | 7.98E-05 | 7.98E-05 |
| As2O5 | 1.66E-07 | 1.66E-07 | 4.18E-05 | 2.13E-06 | 4.14E-05 | 7.13E-07 | 2.89E-06 | 4.66E-07 | 2.42E-06 | 2.42E-06 |
| B2O3 | 7.81E-02 | 7.90E-02 | 5.54E-02 | 2.88E-03 | 5.48E-02 | 9.44E-04 | 3.83E-03 | 6.17E-04 | 3.21E-03 | 3.21E-03 |
| BaO | 2.00E-04 | 2.00E-04 | 4.60E-01 | 2.39E-02 | 4.55E-01 | 7.83E-03 | 3.18E-02 | 5.12E-03 | 2.66E-02 | 2.66E-02 |
| BeO | 4.08E-07 | 4.09E-07 | 5.96E-05 | 3.10E-06 | 5.89E-05 | 1.02E-06 | 4.12E-06 | 6.64E-07 | 3.45E-06 | 3.45E-06 |
| Bi2O3 | 1.34E-02 | 1.34E-02 | 7.51E+00 | 3.91E-01 | 7.43E+00 | 1.28E-01 | 5.19E-01 | 8.36E-02 | 4.35E-01 | 4.35E-01 |
| CaO | 9.70E-03 | 9.71E-03 | 2.34E+04 | 1.22E+03 | 2.31E+04 | 3.98E+02 | 1.61E+03 | 2.60E+02 | 1.35E+03 | 1.35E+03 |
| CdO | 3.61E-04 | 3.61E-04 | 4.37E+00 | 2.28E-01 | 4.32E+00 | 7.45E-02 | 3.02E-01 | 4.87E-02 | 2.53E-01 | 2.53E-01 |
| Ce2O3 | 1.32E-02 | 1.32E-02 | 2.22E+00 | 1.16E-01 | 2.20E+00 | 3.79E-02 | 1.54E-01 | 2.48E-02 | 1.29E-01 | 1.29E-01 |
| Cm2O3 | 9.21E-10 | 9.22E-10 | 1.10E-07 | 5.74E-09 | 1.09E-07 | 1.88E-09 | 7.62E-09 | 1.23E-09 | 6.39E-09 | 6.39E-09 |
| Co2O3 | 7.44E-10 | 7.44E-10 | 1.04E-03 | 5.42E-05 | 1.03E-03 | 1.77E-05 | 7.19E-05 | 1.16E-05 | 6.03E-05 | 6.03E-05 |
| Cr2O3 | 4.16E-03 | 4.16E-03 | 2.19E+02 | 1.14E+01 | 2.17E+02 | 3.73E+00 | 1.51E+01 | 2.44E+00 | 1.27E+01 | 1.27E+01 |
| Cs2O | 9.54E-05 | 9.55E-05 | 8.49E-02 | 4.42E-03 | 8.40E-02 | 1.45E-03 | 5.87E-03 | 9.46E-04 | 4.92E-03 | 4.92E-03 |
| CuO | 1.13E-05 | 1.13E-05 | 6.34E-02 | 3.30E-03 | 6.27E-02 | 1.08E-03 | 4.38E-03 | 7.07E-04 | 3.68E-03 | 3.68E-03 |
| Fe2O3 | 5.22E-02 | 5.22E-02 | 2.82E+01 | 1.47E+00 | 2.79E+01 | 4.80E-01 | 1.95E+00 | 3.14E-01 | 1.63E+00 | 1.63E+00 |
| FeO | 4.81E-10 | 4.81E-10 | 7.77E-04 | 4.04E-05 | 7.68E-04 | 1.32E-05 | 5.37E-05 | 8.66E-06 | 4.50E-05 | 4.50E-05 |
| Hg | 6.72E-11 | 6.79E-11 | 1.42E+00 | 7.10E-02 | 1.35E+00 | 2.42E-02 | 9.52E-02 | 1.54E-02 | 7.99E-02 | 7.99E-02 |
| HgO | 1.46E-14 | 1.48E-14 | 3.09E-04 | 1.61E-05 | 3.06E-04 | 5.27E-06 | 2.14E-05 | 3.45E-06 | 1.79E-05 | 1.79E-05 |
| K2O | 1.97E-03 | 1.98E-03 | 4.32E+02 | 2.25E+01 | 4.27E+02 | 7.35E+00 | 2.98E+01 | 4.81E+00 | 2.50E+01 | 2.50E+01 |
| La2O3 | 1.29E-03 | 1.29E-03 | 2.22E-01 | 1.16E-02 | 2.20E-01 | 3.78E-03 | 1.53E-02 | 2.47E-03 | 1.29E-02 | 1.29E-02 |
| Li2O | 2.23E-02 | 2.26E-02 | | | | | | | | |
| MgO | 6.53E-04 | 6.53E-04 | 4.09E-02 | 2.13E-03 | 4.05E-02 | 6.97E-04 | 2.83E-03 | 4.56E-04 | 2.37E-03 | 2.37E-03 |
| MnO | 1.96E-11 | 1.96E-11 | 3.17E-05 | 1.65E-06 | 3.14E-05 | 5.40E-07 | 2.19E-06 | 3.53E-07 | 1.84E-06 | 1.84E-06 |
| MoO3 | 2.31E-06 | 2.31E-06 | 5.63E-03 | 2.93E-04 | 5.57E-03 | 9.60E-05 | 3.89E-04 | 6.27E-05 | 3.26E-04 | 3.26E-04 |
| Na2O | 1.08E-01 | 1.08E-01 | 5.84E+04 | 3.04E+03 | 5.78E+04 | 9.95E+02 | 4.04E+03 | 6.51E+02 | 3.39E+03 | 3.39E+03 |
| Nd2O3 | 1.39E-02 | 1.39E-02 | 6.72E+00 | 3.50E-01 | 6.65E+00 | 1.15E-01 | 4.65E-01 | 7.49E-02 | 3.90E-01 | 3.90E-01 |
| NiO2 | 4.83E-06 | 4.83E-06 | 5.98E-03 | 3.11E-04 | 5.92E-03 | 1.02E-04 | 4.13E-04 | 6.66E-05 | 3.47E-04 | 3.47E-04 |
| PbO2 | 1.62E-03 | 1.62E-03 | 5.63E+00 | 2.93E-01 | 5.57E+00 | 9.59E-02 | 3.89E-01 | 6.27E-02 | 3.26E-01 | 3.26E-01 |
| PuO2 | 2.37E-05 | 2.37E-05 | 1.79E-02 | 9.30E-04 | 1.77E-02 | 3.05E-04 | 1.24E-03 | 1.99E-04 | 1.04E-03 | 1.04E-03 |

| STREAM NAME | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | 8.22E-11 | 8.23E-11 | 1.33E-04 | 6.92E-06 | 1.32E-04 | 2.27E-06 | 9.19E-06 | 1.48E-06 | 7.70E-06 | 7.70E-06 |
| $Re_2O_7$ | 4.41E-11 | 4.41E-11 | 7.13E-05 | 3.71E-06 | 7.05E-05 | 1.21E-06 | 4.92E-06 | 7.94E-07 | 4.13E-06 | 4.13E-06 |
| $Rh_2O_3$ | 1.14E-05 | 1.14E-05 | 1.24E-03 | 6.45E-05 | 1.23E-03 | 2.11E-05 | 8.56E-05 | 1.38E-05 | 7.18E-05 | 7.18E-05 |
| $Ru_2O_3$ | 5.07E-10 | 5.07E-10 | 7.31E-04 | 3.81E-05 | 7.23E-04 | 1.25E-05 | 5.05E-05 | 8.14E-06 | 4.24E-05 | 4.24E-05 |
| $SeO_3$ | 2.55E-04 | 2.55E-04 | 1.57E-02 | 8.19E-04 | 1.56E-02 | 2.68E-04 | 1.09E-03 | 1.75E-04 | 9.12E-04 | 9.12E-04 |
| $SiO_2$ | 5.13E-01 | 5.18E-01 | 1.37E+05 | 7.13E+03 | 1.36E+05 | 2.33E+03 | 9.46E+03 | 1.53E+03 | 7.94E+03 | 7.94E+03 |
| $SO_3$ | 1.21E-03 | 1.21E-03 | 8.22E+01 | 4.28E+00 | 8.13E+01 | 1.40E+00 | 5.68E+00 | 9.16E-01 | 4.77E+00 | 4.77E+00 |
| SrO | 2.06E-03 | 2.06E-03 | 3.55E-01 | 1.85E-02 | 3.51E-01 | 6.05E-03 | 2.45E-02 | 3.96E-03 | 2.06E-02 | 2.06E-02 |
| $Tc_2O_7$ | 1.01E-04 | 1.02E-04 | 3.29E-01 | 1.71E-02 | 3.26E-01 | 5.61E-03 | 2.27E-02 | 3.67E-03 | 1.91E-02 | 1.91E-02 |
| $Tc_2S_7$ | | 8.76E-07 | | | | | | | | |
| $TeO_3$ | 3.94E-10 | 3.94E-10 | 5.68E-04 | 2.95E-05 | 5.61E-04 | 9.67E-06 | 3.92E-05 | 6.32E-06 | 3.29E-05 | 3.29E-05 |
| $ThO_2$ | 1.52E-04 | 1.52E-04 | 9.47E-03 | 4.93E-04 | 9.36E-03 | 1.61E-04 | 6.54E-04 | 1.05E-04 | 5.49E-04 | 5.49E-04 |
| $TiO_2$ | 1.12E-02 | 1.12E-02 | 7.02E-01 | 3.65E-02 | 6.94E-01 | 1.20E-02 | 4.85E-02 | 7.82E-03 | 4.07E-02 | 4.07E-02 |
| $UO_3$ | 7.83E-02 | 7.83E-02 | 6.18E+01 | 3.21E+00 | 6.11E+01 | 1.05E+00 | 4.27E+00 | 6.88E-01 | 3.58E+00 | 3.58E+00 |
| ZnO | 3.02E-05 | 3.02E-05 | 2.37E-03 | 1.23E-04 | 2.34E-03 | 4.04E-05 | 1.64E-04 | 2.64E-05 | 1.37E-04 | 1.37E-04 |
| $ZrO_2$ | 4.43E-02 | 4.43E-02 | 5.71E+00 | 2.97E-01 | 5.65E+00 | 9.73E-02 | 3.94E-01 | 6.36E-02 | 3.31E-01 | 3.31E-01 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | 2.46E-06 | | | | | | | | |
| Silico-Titanate | | 4.02E-04 | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 2.56E+05 | 9.04E+05 | 4.79E+04 | 3.16E+05 | 1.08E+07 | 5.03E+04 | 2.68E+04 | 2.56E+05 | 2.68E+04 |
| Volume (L) | | 2.56E+08 | 8.74E+08 | 3.44E+07 | 2.99E+08 | 1.02E+10 | 5.02E+07 | 2.68E+07 | 2.56E+08 | 2.68E+07 |
| Specific Gravity | | 1.00E+00 | 1.04E+00 | 1.39E+00 | 1.05E+00 | 1.05E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | 3.86E+03 | | | | | | | 3.86E+03 | |
| Cs-137 | | 8.05E+04 | 3.94E+06 | | 2.07E+06 | 7.06E+07 | | | 8.05E+04 | |
| Ba-137 | | 7.65E+04 | 3.75E+06 | | 1.97E+06 | 6.71E+07 | | | 7.65E+04 | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | 1.79E+03 | 8.77E+04 | | 4.60E+04 | 1.57E+06 | 2.23E+04 | | 1.79E+03 | |
| Total Curies | | 1.63E+05 | 7.78E+06 | | 4.08E+06 | 1.39E+08 | 2.23E+04 | | 1.63E+05 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | 1.11E-01 | 5.43E+00 | | 2.85E+00 | 9.72E+01 | | | 1.11E-01 | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | 4.64E-03 | 2.28E-01 | | 1.19E-01 | 4.08E+00 | | | 4.64E-03 | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | 1.72E+01 | 8.44E+02 | 4.34E+02 | 4.53E+02 | 1.54E+04 | 3.70E-01 | | 1.72E+01 | |
| Hg+2 | | | | | | | | | | |
| K+ | | 2.10E-01 | 1.03E+01 | | 5.39E+00 | 1.84E+02 | | | 2.10E-01 | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | 1.15E-05 | 5.61E-04 | | 2.94E-04 | 1.01E-02 | | | 1.15E-05 | |
| Na+ | | 2.54E+01 | 1.24E+03 | | 6.52E+02 | 2.23E+04 | | | 2.54E+01 | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | 1.41E-01 | 6.91E+00 | | 3.63E+00 | 1.24E+02 | | | 1.41E-01 | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | 1.71E-05 | 8.38E-04 | | 4.40E-04 | 1.50E-02 | | | 1.71E-05 | |
| Se+6 | | 2.83E-04 | 1.39E-02 | | 7.28E-03 | 2.49E-01 | | | 2.83E-04 | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | 1.19E-05 | 5.85E-04 | | 3.07E-04 | 1.05E-02 | | | 1.19E-05 | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | 1.32E-03 | 6.45E-02 | | 3.38E-02 | 1.15E+00 | | | 1.32E-03 | |
| Cl- | | 7.20E+01 | 3.53E+03 | | 1.85E+03 | 6.32E+04 | | | 7.20E+01 | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | 6.23E+01 | 3.05E+03 | | 1.60E+03 | 5.47E+04 | | | 6.23E+01 | |
| I- | | 6.34E-02 | 3.11E+00 | | 1.63E+00 | 5.56E+01 | | | 6.34E-02 | |
| NO2- | | | | | | | | | | |
| NO3- | | 7.40E+02 | 3.63E+04 | 2.69E+04 | 1.96E+04 | 6.69E+05 | 1.41E+01 | | 7.40E+02 | |
| OH- | | | | | | | | | | |
| PO4-3 | | 3.33E+01 | 1.63E+03 | | 8.56E+02 | 2.92E+04 | | | 3.33E+01 | |
| SO4-2 | | | | | | | 4.18E+00 | | | |
| TcO4- | | 1.68E-01 | 8.24E+00 | | 4.45E+00 | 1.52E+02 | 2.16E+00 | | 1.68E-01 | |
| H2O | | 6.59E+03 | 8.58E+05 | 2.06E+04 | 2.91E+05 | 9.92E+06 | 5.02E+04 | 2.68E+04 | 6.59E+03 | 2.68E+04 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | 7.24E-06 | 1.38E-04 | | | | 8.28E-02 | | 7.24E-06 | |
| TeO2 | | 4.12E-03 | 2.02E-01 | | | | | | 4.12E-03 | |
| Cl2 | | | | | | | | | | |
| CO | | 2.39E+03 | | | | | | | 2.39E+03 | |
| CO2 | | 1.90E+05 | | | | | | | 1.90E+05 | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | 4.14E+04 | | | | | | | 4.14E+04 | |
| N2O | | | | | | | | | | |
| NO | | 2.46E+02 | | | | | | | 2.46E+02 | |
| NO2 | | 1.51E+03 | | | | | | | 1.51E+03 | |
| O2 | | 1.18E+04 | | | | | | | 1.18E+04 | |
| SO2 | | 1.21E+03 | | | | | | | 1.21E+03 | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 2.71E+02 | 1.33E+04 | | 6.96E+03 | 2.38E+05 | 4.54E+01 | | 1.35E-01 | 2.71E+02 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 4.98E+00 | 2.44E+02 | | 1.28E+02 | 4.37E+03 | 1.88E+02 | | 2.49E-03 | 4.98E+00 |
| C-14 | | | | | | | | | | |
| Cs-137 | | 1.61E+03 | 7.89E+04 | | 4.14E+04 | 1.41E+06 | 6.25E+04 | | 8.05E-01 | 1.61E+03 |
| Ba-137 | | 1.53E+03 | 7.49E+04 | | 3.93E+04 | 1.34E+06 | 5.94E+04 | | 7.65E-01 | 1.53E+03 |
| Np-237 | | 4.31E-03 | 2.11E-01 | | 1.11E-01 | 3.78E+00 | 1.22E-01 | | 2.15E-06 | 4.30E-03 |
| Pu-239 | | 1.06E+00 | 5.17E+01 | | 2.72E+01 | 9.27E+02 | 4.92E+01 | | 5.28E-04 | 1.06E+00 |
| Pu-240 | | 2.75E-01 | 1.35E+01 | | 7.07E+00 | 2.41E+02 | 1.22E+01 | | 1.38E-04 | 2.75E-01 |
| Pu-241 | | 3.08E+00 | 1.51E+02 | | 7.93E+01 | 2.71E+03 | 1.38E+02 | | 1.54E-03 | 3.08E+00 |
| Sr-90 | | 1.26E+03 | 6.19E+04 | | 3.25E+04 | 1.11E+06 | 9.91E+04 | | 6.32E-01 | 1.26E+03 |
| Y-90 | | 1.26E+03 | 6.19E+04 | | 3.25E+04 | 1.11E+06 | 9.91E+04 | | 6.32E-01 | 1.26E+03 |
| Tc-99 | | 4.14E+00 | 2.03E+02 | | 1.07E+02 | 3.64E+03 | 4.48E+01 | | 2.07E-03 | 4.14E+00 |
| Total Curies | | 5.68E+03 | 2.78E+05 | | 1.46E+05 | 4.98E+06 | 3.21E+05 | | 2.84E+00 | 5.68E+03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pd+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | 7.58E-02 | 3.72E+00 | | 1.95E+00 | 6.66E+01 | 2.62E-02 | | 3.79E-05 | 7.58E-02 |
| CO3-2 | | | | | | | | | | |
| F- | | 6.25E-01 | 3.06E+01 | | 1.61E+01 | 5.48E+02 | 1.47E-01 | | 3.12E-04 | 6.24E-01 |
| I- | | 1.28E-05 | 6.28E-04 | | 3.29E-04 | 1.12E-02 | | | 6.40E-09 | 1.28E-05 |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 1.10E-02 | 5.40E-01 | | 2.83E-01 | 9.67E+00 | 5.54E-01 | | 5.51E-06 | 1.10E-02 |
| Organic Carbon | | | | | | | | | | |
| ZrO2;2H2O | | | | | | | | | | |
| Ag2O | | 2.07E-04 | 1.02E-02 | | 5.33E-03 | 1.82E-01 | 3.10E-03 | | 1.04E-07 | 2.07E-04 |
| AlPO4 | | 3.42E+00 | 1.68E+02 | | 8.79E+01 | 3.00E+03 | 1.28E+00 | | 1.71E-03 | 3.42E+00 |
| Al2O3 | | 1.21E+01 | 5.93E+02 | | 3.11E+02 | 1.06E+04 | 3.85E+00 | | 6.06E-03 | 1.21E+01 |
| Am2O3 | | 1.60E-06 | 7.82E-05 | | 4.10E-05 | 1.40E-03 | 6.02E-05 | | 7.98E-10 | 1.60E-06 |
| As2O5 | | 4.85E-08 | 2.38E-06 | | 1.25E-06 | 4.26E-05 | 6.75E-06 | | 2.42E-11 | 4.85E-08 |
| B2O3 | | 6.42E-05 | 3.15E-03 | | 1.65E-03 | 5.63E-02 | 3.18E+00 | | 3.21E-08 | 6.42E-05 |
| BaO | | 5.33E-04 | 2.61E-02 | | 1.37E-02 | 4.68E-01 | 8.13E-03 | | 2.66E-07 | 5.32E-04 |
| BeO | | 6.91E-08 | 3.38E-06 | | 1.78E-06 | 6.06E-05 | 1.66E-05 | | 3.45E-11 | 6.90E-08 |
| Bi2O3 | | 8.70E-03 | 4.26E-01 | | 2.24E-01 | 7.64E+00 | 5.46E-01 | | 4.35E-06 | 8.70E-03 |
| CaO | | 2.71E+01 | 1.33E+03 | | 6.96E+02 | 2.38E+04 | 3.94E-01 | | 1.35E-02 | 2.71E+01 |
| CdO | | 5.07E-03 | 2.48E-01 | | 1.30E-01 | 4.45E+00 | 1.47E-02 | | 2.53E-06 | 5.06E-03 |
| Ce2O3 | | 2.58E-03 | 1.26E-01 | | 6.63E-02 | 2.26E+00 | 5.36E-01 | | 1.29E-06 | 2.58E-03 |
| Cm2O3 | | 1.28E-10 | 6.26E-09 | | 3.29E-09 | 1.12E-07 | 3.74E-08 | | 6.39E-14 | 1.28E-10 |
| Co2O3 | | 1.21E-06 | 5.91E-05 | | 3.10E-05 | 1.06E-03 | 3.02E-08 | | 6.03E-10 | 1.21E-06 |
| Cr2O3 | | 2.54E-01 | 1.24E+01 | | 6.53E+00 | 2.23E+02 | 1.69E-01 | | 1.27E-04 | 2.54E-01 |
| Cs2O | | 9.84E-05 | 4.82E-03 | | 2.53E-03 | 8.64E-02 | 3.88E-03 | | 4.92E-08 | 9.84E-05 |
| CuO | | 7.35E-05 | 3.60E-03 | | 1.89E-03 | 6.45E-02 | 4.60E-04 | | 3.68E-08 | 7.35E-05 |
| Fe2O3 | | 3.26E-02 | 1.60E+00 | | 8.39E-01 | 2.86E+01 | 2.12E+00 | | 1.63E-05 | 3.26E-02 |
| FeO | | 9.01E-07 | 4.41E-05 | | 2.32E-05 | 7.90E-04 | 1.95E-08 | | 4.50E-10 | 9.00E-07 |
| Hg | | 1.60E-03 | 7.83E-02 | | 4.23E-02 | 1.44E+00 | 2.73E-09 | | 7.99E-07 | 1.60E-03 |
| HgO | | 3.58E-07 | 1.76E-05 | | 9.22E-06 | 3.15E-04 | 5.93E-13 | | 1.79E-10 | 3.58E-07 |
| K2O | | 5.00E-01 | 2.45E+01 | | 1.29E+01 | 4.39E+02 | 8.02E-02 | | 2.50E-04 | 5.00E-01 |
| La2O3 | | 2.57E-04 | 1.26E-02 | | 6.62E-03 | 2.26E-01 | 5.23E-02 | | 1.29E-07 | 2.57E-04 |
| Li2O | | | | | | | 9.07E-01 | | | |
| MgO | | 4.74E-05 | 2.32E-03 | | 1.22E-03 | 4.16E-02 | 2.66E-02 | | 2.37E-08 | 4.74E-05 |
| MnO | | 3.67E-08 | 1.80E-06 | | 9.45E-07 | 3.23E-05 | 7.97E-10 | | 1.84E-11 | 3.67E-08 |
| MoO3 | | 6.53E-06 | 3.20E-04 | | 1.68E-04 | 5.73E-03 | 9.39E-05 | | 3.26E-09 | 6.52E-06 |
| Na2O | | 6.77E+01 | 3.32E+03 | | 1.74E+03 | 5.94E+04 | 4.39E+00 | | 3.39E-02 | 6.77E+01 |
| Ni2O3 | | 7.79E-03 | 3.82E-01 | | 2.00E-01 | 6.84E+00 | 5.65E-01 | | 3.90E-06 | 7.79E-03 |
| NpO2 | | 6.93E-06 | 3.40E-04 | | 1.78E-04 | 6.08E-03 | 1.96E-04 | | 3.47E-09 | 6.93E-06 |
| PbO2 | | 6.52E-03 | 3.20E-01 | | 1.68E-01 | 5.73E+00 | 6.59E-02 | | 3.26E-06 | 6.52E-03 |
| PuO2 | | 2.07E-05 | 1.02E-03 | | 5.33E-04 | 1.82E-02 | 9.63E-04 | | 1.04E-08 | 2.07E-05 |

| STREAM NAME | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | 1.54E-07 | 7.55E-06 | | 3.96E-06 | 1.35E-04 | 3.34E-09 | | 7.70E-11 | 1.54E-07 |
| Re2O7 | | 8.26E-08 | 4.05E-06 | | 2.12E-06 | 7.25E-05 | 1.79E-09 | | 4.13E-11 | 8.25E-08 |
| Rh2O3 | | 1.44E-06 | 7.04E-05 | | 3.69E-05 | 1.26E-03 | 4.62E-04 | | 7.18E-10 | 1.44E-06 |
| Ru2O3 | | 8.47E-07 | 4.15E-05 | | 2.18E-05 | 7.44E-04 | 2.06E-08 | | 4.24E-10 | 8.47E-07 |
| SeO3 | | 1.82E-05 | 8.94E-04 | | 4.69E-04 | 1.60E-02 | 1.04E-02 | | 9.12E-09 | 1.82E-05 |
| SiO2 | | 1.59E+02 | 7.78E+03 | | 4.08E+03 | 1.39E+05 | 2.09E+01 | | 7.94E-02 | 1.59E+02 |
| SO3 | | 9.53E-02 | 4.67E+00 | | 2.45E+00 | 8.36E+01 | 4.92E-02 | | 4.77E-05 | 9.52E-02 |
| SrO | | 4.12E-04 | 2.02E-02 | | 1.06E-02 | 3.61E-01 | 8.37E-02 | | 2.06E-07 | 4.12E-04 |
| Tc2O7 | | 3.82E-04 | 1.87E-02 | | 9.81E-03 | 3.35E-01 | 4.12E-03 | | 1.91E-07 | 3.81E-04 |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | 6.58E-07 | 3.22E-05 | | 1.69E-05 | 5.77E-04 | 1.60E-08 | | 3.29E-10 | 6.58E-07 |
| ThO2 | | 1.10E-05 | 5.38E-04 | | 2.82E-04 | 9.63E-03 | 6.18E-03 | | 5.49E-09 | 1.10E-05 |
| TiO2 | | 8.14E-04 | 3.99E-02 | | 2.09E-02 | 7.14E-01 | 4.54E-01 | | 4.07E-07 | 8.13E-04 |
| UO3 | | 7.16E-02 | 3.51E+00 | | 1.84E+00 | 6.28E+01 | 3.18E+00 | | 3.58E-05 | 7.15E-02 |
| ZnO | | 2.75E-06 | 1.35E-04 | | 7.06E-05 | 2.41E-03 | 1.23E-03 | | 1.37E-09 | 2.74E-06 |
| ZrO2 | | 6.62E-03 | 3.24E-01 | | 1.70E-01 | 5.81E+00 | 1.80E+00 | | 3.31E-06 | 6.61E-03 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.68E+04 | 3.50E-03 | 2.59E+05 | 2.59E+05 | 2.59E+05 | 2.58E+05 | 2.58E+05 | 9.29E+02 | 2.58E+05 | 2.58E+05 |
| Volume (L) | 2.68E+07 | 3.50E+00 | 2.58E+08 | 2.58E+08 | 2.58E+08 | 2.57E+08 | 2.57E+08 | 9.29E+05 | 2.58E+08 | 2.58E+08 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | 3.86E+03 | 3.86E+03 | 3.86E+03 | 3.86E+03 | 3.86E+03 | | 3.86E+03 | 3.86E+03 |
| Ba-137 | | | 8.05E+04 | 8.05E+04 | 8.05E+04 | 8.05E+04 | 8.05E+04 | | 8.05E+04 | 8.05E+04 |
| Np-237 | | | 7.65E+04 | 7.65E+04 | 7.65E+04 | 7.65E+04 | 7.65E+04 | | 7.65E+04 | 7.65E+04 |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | 1.79E+03 | 1.79E+03 | 1.79E+03 | 1.79E+03 | [illegible] | | 1.79E+03 | 1.79E+03 |
| Total Curies | | | 1.63E+05 | 1.63E+05 | 1.63E+05 | 1.63E+05 | [illegible] | | 1.63E+05 | 1.63E+05 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | 1.11E-01 | 1.11E-01 | 1.11E-01 | 1.11E-01 | 1.11E-01 | | 1.11E-01 | 1.11E-01 |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | 4.64E-03 | 4.64E-03 | 4.64E-03 | 4.64E-03 | 4.64E-03 | | 4.64E-03 | 4.64E-03 |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | 1.72E+01 | 1.72E+01 | 1.72E+01 | 1.72E+01 | 1.72E+01 | | 1.72E+01 | 1.72E+01 |
| Hg+2 | | | | | | | | | | |
| K+ | | | 2.10E-01 | 2.10E-01 | 2.10E-01 | 2.10E-01 | 2.10E-01 | | 2.10E-01 | 2.10E-01 |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | 1.15E-05 | 1.15E-05 | 1.15E-05 | 1.15E-05 | 1.15E-05 | | 1.15E-05 | 1.15E-05 |
| Na+ | | | 2.54E+01 | 2.54E+01 | 2.54E+01 | 2.54E+01 | 2.54E+01 | | 2.54E+01 | 2.54E+01 |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | 1.41E-01 | 1.41E-01 | 1.41E-01 | 1.41E-01 | 1.41E-01 | | 1.41E-01 | 1.41E-01 |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | 1.71E-05 | 1.71E-05 | 1.71E-05 | 1.71E-05 | 1.71E-05 | | 1.71E-05 | 1.71E-05 |
| Se+6 | | | 2.83E-04 | 2.83E-04 | 2.83E-04 | 2.83E-04 | 2.83E-04 | | 2.83E-04 | 2.83E-04 |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | 1.19E-05 | 1.19E-05 | 1.19E-05 | 1.19E-05 | 1.19E-05 | | 1.19E-05 | 1.19E-05 |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | 1.32E-03 | 1.32E-03 | 1.32E-03 | 1.32E-03 | 1.32E-03 | | 1.32E-03 | 1.32E-03 |
| Cl- | | | 7.20E+01 | 7.20E+01 | 7.20E+01 | 7.20E+01 | 7.20E+01 | | 7.20E+01 | 7.20E+01 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | 6.23E+01 | 6.23E+01 | 6.23E+01 | 6.23E+01 | 6.23E+01 | | 6.23E+01 | 6.23E+01 |
| I- | | | 6.34E-02 | 6.34E-02 | 6.34E-02 | 6.34E-02 | 6.34E-02 | | 6.34E-02 | 6.34E-02 |
| NO2- | | | | | | | | | | |
| NO3- | | | 7.40E+02 | 7.40E+02 | 7.40E+02 | 7.40E+02 | 7.40E+02 | | 7.40E+02 | 7.40E+02 |
| OH- | | | | | 6.67E-17 | 6.67E-17 | 6.67E-17 | | 6.67E-17 | 6.67E-17 |
| PO4-3 | | | 3.33E+01 | 3.33E+01 | 3.33E+01 | 3.33E+01 | 3.33E+01 | | 3.33E+01 | 3.33E+01 |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | 1.68E-01 | 1.68E-01 | 1.68E-01 | 1.68E-01 | 1.68E-01 | | 1.68E-01 | 1.68E-01 |
| H2O | 2.68E+04 | | 8.12E+03 | 8.12E+03 | 8.12E+03 | 8.12E+03 | 8.12E+03 | | 9.58E+03 | 9.58E+03 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | 7.24E-06 | 7.24E-06 | 7.24E-06 | 7.24E-06 | 7.24E-06 | | 7.24E-06 | 7.24E-06 |
| TiO2 | | | 4.12E-03 | 4.12E-03 | 4.12E-03 | 4.12E-03 | 4.12E-03 | | 4.12E-03 | 4.12E-03 |
| Cl2 | | | | | | | | | | |
| CO | | | 2.39E+03 | 2.39E+03 | 2.39E+03 | 2.39E+03 | 2.39E+03 | | 2.39E+03 | 2.39E+03 |
| CO2 | | | 1.90E+05 | 1.90E+05 | 1.90E+05 | 1.90E+05 | 1.90E+05 | | 1.90E+05 | 1.90E+05 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | 3.10E-04 | 4.23E+04 | 4.23E+04 | 4.23E+04 | 4.23E+04 | 4.23E+04 | | 4.37E+04 | 4.37E+04 |
| N2O | | | | | | | | | | |
| NO | | | 2.46E+02 | 2.46E+02 | 2.46E+02 | 2.46E+02 | 2.46E+02 | | 2.46E+00 | 2.46E+00 |
| NO2 | | | 1.51E+03 | 1.51E+03 | 1.51E+03 | 1.51E+03 | 1.51E+03 | | 1.88E+01 | 1.88E+01 |
| O2 | | 3.19E-03 | 1.18E+04 | 1.18E+04 | 1.18E+04 | 1.15E+04 | 1.15E+04 | | 1.14E+04 | 1.14E+04 |
| SO2 | | | 1.21E+03 | 1.21E+03 | 1.21E+03 | 1.21E+02 | 1.21E+02 | | 1.21E+02 | 1.21E+02 |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | 2.86E+01 | 2.86E+01 | 2.86E+01 | 2.86E+01 | 2.86E+01 | | 2.86E+01 | 2.86E+01 |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | 9.29E+02 | 1.10E+01 | 1.10E+01 |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.71E+02 | | 1.35E-01 | 1.35E-01 | 1.35E-01 | 1.35E-01 | 1.35E-01 | | 1.35E-01 | 1.35E-01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.98E+00 | | 2.49E-03 | 2.49E-03 | 2.49E-03 | 2.49E-03 | 2.49E-03 | | 2.49E-03 | 2.49E-03 |
| C-14 | | | | | | | | | | |
| Cs-137 | 1.61E+03 | | 8.05E-01 | 8.05E-01 | 8.05E-01 | 8.05E-01 | 8.05E-01 | | 8.05E-01 | 8.05E-01 |
| Ba-137 | 1.53E+03 | | 7.63E-01 | 7.63E-01 | 7.63E-01 | 7.63E-01 | 7.63E-01 | | 7.63E-01 | 7.63E-01 |
| Np-237 | 4.30E-03 | | 2.15E-06 | 2.15E-06 | 2.15E-06 | 2.15E-06 | 2.15E-06 | | 2.15E-06 | 2.15E-06 |
| Pu-239 | 1.06E+00 | | 5.28E-04 | 5.28E-04 | 5.28E-04 | 5.28E-04 | 5.28E-04 | | 5.28E-04 | 5.28E-04 |
| Pu-240 | 2.75E-01 | | 1.38E-04 | 1.38E-04 | 1.38E-04 | 1.38E-04 | 1.38E-04 | | 1.38E-04 | 1.38E-04 |
| Pu-241 | 3.08E+00 | | 1.54E-03 | 1.54E-03 | 1.54E-03 | 1.54E-03 | 1.54E-03 | | 1.54E-03 | 1.54E-03 |
| Sr-90 | 1.26E+03 | | 6.32E-01 | 6.32E-01 | 6.32E-01 | 6.32E-01 | 6.32E-01 | | 6.32E-01 | 6.32E-01 |
| Y-90 | 1.26E+03 | | 6.32E-01 | 6.32E-01 | 6.32E-01 | 6.32E-01 | 6.32E-01 | | 6.32E-01 | 6.32E-01 |
| Tc-99 | 4.14E+00 | | 2.07E-03 | 2.07E-03 | 2.07E-03 | 2.07E-03 | 2.07E-03 | | 2.07E-03 | 2.07E-03 |
| Total Curies | 5.68E+03 | | 2.84E+00 | 2.84E+00 | 2.84E+00 | 2.84E+00 | 2.84E+00 | | 2.84E+00 | 2.84E+00 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | 7.58E-02 | | 3.79E-05 | 3.79E-05 | 3.79E-05 | 3.79E-05 | 3.79E-05 | | 3.79E-05 | 3.79E-05 |
| CO3-2 | | | | | | | | | | |
| F- | 6.24E-01 | | 3.12E-04 | 3.12E-04 | 3.12E-04 | 3.12E-04 | 3.12E-04 | | 3.12E-04 | 3.12E-04 |
| I- | 1.28E-05 | | 6.40E-09 | 6.40E-09 | 6.40E-09 | 6.40E-09 | 6.40E-09 | | 6.40E-09 | 6.40E-09 |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 1.10E-02 | | 5.51E-06 | 5.51E-06 | 5.51E-06 | 5.51E-06 | 5.51E-06 | | 5.51E-06 | 5.51E-06 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | 2.07E-04 | | 1.04E-07 | 1.04E-07 | 1.04E-07 | 1.04E-07 | 1.04E-07 | | 1.04E-07 | 1.04E-07 |
| AlPO4 | 3.42E+00 | | 1.71E-03 | 1.71E-03 | 1.71E-03 | 1.71E-03 | 1.71E-03 | | 1.71E-03 | 1.71E-03 |
| Al2O3 | 1.21E+01 | | 6.06E-03 | 6.06E-03 | 6.06E-03 | 6.06E-03 | 6.06E-03 | | 6.06E-03 | 6.06E-03 |
| Am2O3 | 1.60E-06 | | 7.98E-10 | 7.98E-10 | 7.98E-10 | 7.98E-10 | 7.98E-10 | | 7.98E-10 | 7.98E-10 |
| As2O5 | 4.85E-08 | | 2.42E-11 | 2.42E-11 | 2.42E-11 | 2.42E-11 | 2.42E-11 | | 2.42E-11 | 2.42E-11 |
| B2O3 | 6.42E-05 | | 3.21E-08 | 3.21E-08 | 3.21E-08 | 3.21E-08 | 3.21E-08 | | 3.21E-08 | 3.21E-08 |
| BaO | 5.32E-04 | | 2.66E-07 | 2.66E-07 | 2.66E-07 | 2.66E-07 | 2.66E-07 | | 2.66E-07 | 2.66E-07 |
| BeO | 6.90E-08 | | 3.45E-11 | 3.45E-11 | 3.45E-11 | 3.45E-11 | 3.45E-11 | | 3.45E-11 | 3.45E-11 |
| Bi2O3 | 8.70E-03 | | 4.35E-06 | 4.35E-06 | 4.35E-06 | 4.35E-06 | 4.35E-06 | | 4.35E-06 | 4.35E-06 |
| CaO | 2.71E+01 | | 1.35E-02 | 1.35E-02 | 1.35E-02 | 1.35E-02 | 1.35E-02 | | 1.35E-02 | 1.35E-02 |
| CdO | 5.06E-03 | | 2.53E-06 | 2.53E-06 | 2.53E-06 | 2.53E-06 | 2.53E-06 | | 2.53E-06 | 2.53E-06 |
| Ce2O3 | 2.58E-03 | | 1.29E-06 | 1.29E-06 | 1.29E-06 | 1.29E-06 | 1.29E-06 | | 1.29E-06 | 1.29E-06 |
| Cm2O3 | 1.28E-10 | | 6.39E-14 | 6.39E-14 | 6.36E-14 | 6.36E-14 | 6.36E-14 | | 6.36E-14 | 6.36E-14 |
| Co2O3 | 1.21E-06 | | 6.03E-10 | 6.03E-10 | 6.03E-10 | 6.03E-10 | 6.03E-10 | | 6.03E-10 | 6.03E-10 |
| Cr2O3 | 2.54E-01 | | 1.27E-04 | 1.27E-04 | 1.27E-04 | 1.27E-04 | 1.27E-04 | | 1.27E-04 | 1.27E-04 |
| Cs2O | 9.84E-05 | | 4.92E-08 | 4.92E-08 | 4.92E-08 | 4.92E-08 | 4.92E-08 | | 4.92E-08 | 4.92E-08 |
| CuO | 7.35E-05 | | 3.68E-08 | 3.68E-08 | 3.68E-08 | | | | | |
| Fe2O3 | 3.24E-02 | | 1.63E-05 | 1.63E-05 | 1.63E-05 | 1.63E-05 | 1.63E-05 | | 1.63E-05 | 1.63E-05 |
| FeO | 9.00E-07 | | 4.50E-10 | 4.50E-10 | 4.50E-10 | 4.50E-10 | 4.50E-10 | | 4.50E-10 | 4.50E-10 |
| Hg | 1.60E-03 | | 7.99E-07 | 7.99E-07 | 7.99E-07 | 7.99E-07 | 7.99E-07 | | 7.99E-07 | 7.99E-07 |
| HgO | 3.58E-07 | | 1.79E-10 | 1.79E-10 | 1.79E-10 | 1.79E-10 | 1.79E-10 | | 1.79E-10 | 1.79E-10 |
| K2O | 5.00E-01 | | 2.50E-04 | 2.50E-04 | 2.50E-04 | 2.50E-04 | 2.50E-04 | | 2.50E-04 | 2.50E-04 |
| La2O3 | 2.57E-04 | | 1.29E-07 | 1.29E-07 | 1.29E-07 | 1.29E-07 | 1.29E-07 | | 1.29E-07 | 1.29E-07 |
| Li2O | | | | | | | | | | |
| MgO | 4.74E-05 | | 2.37E-08 | 2.37E-08 | 2.37E-08 | 2.37E-08 | 2.37E-08 | | 2.37E-08 | 2.37E-08 |
| MnO | 3.67E-08 | | 1.84E-11 | 1.84E-11 | 1.84E-11 | 1.84E-11 | 1.84E-11 | | 1.84E-11 | 1.84E-11 |
| MoO3 | 6.52E-06 | | 3.26E-09 | 3.26E-09 | 3.26E-09 | 3.26E-09 | 3.26E-09 | | 3.26E-09 | 3.26E-09 |
| Na2O | 6.77E+01 | | 3.39E-02 | 3.39E-02 | 3.39E-02 | 3.39E-02 | 3.39E-02 | | 3.39E-02 | 3.39E-02 |
| Nd2O3 | 7.79E-03 | | 3.90E-06 | 3.90E-06 | 3.90E-06 | 3.90E-06 | 3.90E-06 | | 3.90E-06 | 3.90E-06 |
| NiO2 | 6.93E-06 | | 3.47E-09 | 3.47E-09 | 3.47E-09 | 3.47E-09 | 3.47E-09 | | 3.47E-09 | 3.47E-09 |
| PbO2 | 6.52E-03 | | 3.26E-06 | 3.26E-06 | 3.26E-06 | 3.26E-06 | 3.26E-06 | | 3.26E-06 | 3.26E-06 |
| PuO2 | 2.07E-05 | | 1.04E-08 | 1.04E-08 | 1.04E-08 | 1.04E-08 | 1.04E-08 | | 1.04E-08 | 1.04E-08 |

| STREAM NAME | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | 1.54E-07 | | 7.70E-11 | 7.70E-11 | 7.70E-11 | 7.70E-11 | 7.70E-11 | | 7.70E-11 | 7.70E-11 |
| $Re_2O_7$ | 8.25E-08 | | 4.13E-11 | 4.13E-11 | 4.13E-11 | 4.13E-11 | 4.13E-11 | | 4.13E-11 | 4.13E-11 |
| $Rh_2O_3$ | 1.44E-06 | | 7.18E-10 | 7.18E-10 | 7.18E-10 | 7.18E-10 | 7.18E-10 | | 7.18E-10 | 7.18E-10 |
| $Ru_2O_3$ | 8.47E-07 | | 4.24E-10 | 4.24E-10 | 4.24E-10 | 4.24E-10 | 4.24E-10 | | 4.24E-10 | 4.24E-10 |
| $SeO_3$ | 1.82E-05 | | 9.12E-09 | 9.12E-09 | 9.12E-09 | 9.12E-09 | 9.12E-09 | | 9.12E-09 | 9.12E-09 |
| $SiO_2$ | 1.59E+02 | | 7.94E-02 | 7.94E-02 | 7.94E-02 | 7.94E-02 | 7.94E-02 | | 7.94E-02 | 7.94E-02 |
| $SO_3$ | 9.52E-02 | | 4.77E-05 | 4.77E-05 | 4.77E-05 | 4.77E-05 | 4.77E-05 | | 4.77E-05 | 4.77E-05 |
| SrO | 4.12E-04 | | 2.06E-07 | 2.06E-07 | 2.06E-07 | 2.06E-07 | 2.06E-07 | | 2.06E-07 | 2.06E-07 |
| $Tc_2O_7$ | 3.81E-04 | | 1.91E-07 | 1.91E-07 | 1.91E-07 | 1.91E-07 | 1.91E-07 | | 1.91E-07 | 1.91E-07 |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | 6.58E-07 | | 3.29E-10 | 3.29E-10 | 3.29E-10 | 3.29E-10 | 3.29E-10 | | 3.29E-10 | 3.29E-10 |
| $ThO_2$ | 1.10E-05 | | 5.49E-09 | 5.49E-09 | 5.49E-09 | 5.49E-09 | 5.49E-09 | | 5.49E-09 | 5.49E-09 |
| $TiO_2$ | 8.13E-04 | | 4.07E-07 | 4.07E-07 | 4.07E-07 | 4.07E-07 | 4.07E-07 | | 4.07E-07 | 4.07E-07 |
| $UO_3$ | 7.15E-02 | | 3.58E-05 | 3.58E-05 | 3.58E-05 | 3.58E-05 | 3.58E-05 | | 3.58E-05 | 3.58E-05 |
| ZnO | 2.74E-06 | | 1.37E-09 | 1.37E-09 | 1.37E-09 | 1.37E-09 | 1.37E-09 | | 1.37E-09 | 1.37E-09 |
| $ZrO_2$ | 6.61E-03 | | 3.31E-06 | 3.31E-06 | 3.31E-06 | 3.31E-06 | 3.31E-06 | | 3.31E-06 | 3.31E-06 |
| Cement | | | | | | | | | | |
| Oil | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 1.48E+03 | 1.81E+03 | 1.00E+01 | 1.31E+03 | 8.23E+04 | 8.34E+04 | 1.48E+03 | 2.41E+03 | 4.79E+04 |
| Volume (L) | | 1.48E+06 | 1.81E+06 | 1.00E+04 | 1.31E+06 | 8.23E+07 | 8.34E+07 | 1.48E+06 | 2.41E+06 | 3.44E+07 |
| Specific Gravity | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.39E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | 4.34E+02 |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | 2.69E+04 |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | | | 1.23E+03 | | | | | | | 2.06E+04 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | 2.60E+02 | | | 8.83E+01 | | 8.83E+01 | | | |
| I2 | | | | | | | | | | |
| N2 | | 1.20E+03 | | | 1.20E+03 | 6.50E+04 | 6.62E+04 | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | 1.73E+04 | 1.70E+04 | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | 5.79E+02 | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | 1.00E+01 | | | | | | |
| NH3 | | 1.48E+01 | | | 1.48E+01 | | 1.48E+01 | 1.48E+03 | 2.41E+03 | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.50E+08 | | | | 1.50E+08 | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | 1.50E+08 | | | | 1.50E+08 | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| HgS | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | 1.08E+03 | | | | | |
| CuSO4 | 2.71E+03 | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 656 | 657 | 661 | 662 | 670 | 671 | 672 | 673 | 674 | 675 |
|---|---|---|---|---|---|---|---|---|---|---|
| **LIQUID COMPONENTS** | | | | | | | | | | |
| Total Mass Flow (MT) | | 3.38E+02 | 1.24E+00 | 1.24E+00 | 1.20E+03 | 3.02E+03 | 3.02E+03 | 3.02E+03 | 2.04E+01 | 3.00E+03 |
| Volume (L) | | 3.38E+05 | 1.24E+03 | 1.24E+03 | 1.20E+06 | 3.02E+06 | 3.02E+06 | 3.02E+06 | 2.04E+04 | 3.00E+06 |
| Specific Gravity | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| **Radionuclides (Ci)** | | | | | | | | | | |
| Am-241 | | 2.58E-05 | | | | | | | | |
| C-14 | | 1.08E-05 | | | | | | | | |
| Cs-137 | | 1.07E-02 | | | | | | | | |
| Ba-137 | | 1.02E-02 | | | | | | | | |
| Np-237 | | 2.27E-08 | | | | | | | | |
| Pu-239 | | 5.37E-06 | | | | | | | | |
| Pu-240 | | 1.40E-06 | | | | | | | | |
| Pu-241 | | 1.57E-05 | | | | | | | | |
| Sr-90 | | 6.03E-03 | | | | | | | | |
| Y-90 | | 6.03E-03 | | | | | | | | |
| Tc-99 | | 1.12E-02 | | | | | | | | |
| Total Curies | | 4.42E-02 | | | | | | | | |
| **Chemicals (MT)** | | | | | | | | | | |
| Ag+ | | 1.04E-09 | | | | | | | | |
| Am+3 | | 7.51E-12 | | | | | | | | |
| As+5 | | 1.32E-13 | | | | | | | | |
| B+3 | | 1.12E-10 | | | | | | | | |
| Ba+2 | | 2.57E-09 | | | | | | | | |
| Be+2 | | 7.90E-14 | | | | | | | | |
| Bi+3 | | 3.85E-08 | | | | | | | | |
| Ca+2 | | 5.37E-08 | | | | | | | | |
| Cd+2 | | 2.75E-08 | | | | | | | | |
| Ce+3 | | 7.70E-09 | | | | | | | | |
| Cm+3 | | 3.10E-16 | | | | | | | | |
| Co+3 | | 4.75E-12 | | | | | | | | |
| Cs+ | | 6.17E-10 | | | | | | | | |
| Cu+2 | | 3.22E-10 | | | | | | | | |
| Fe+2 | | 3.88E-12 | | | | | | | | |
| Fe+3 | | 1.12E-07 | | | | | | | | |
| H+ | | 1.85E-07 | | | | | | | | |
| Hg+2 | | 1.90E-10 | | | | | | | | |
| K+ | | 2.31E-06 | | | | | | | | |
| La+3 | | 7.77E-10 | | | | | | | | |
| Mg+2 | | 4.75E-13 | | | | | | | | |
| Mn+2 | | 1.58E-13 | | | | | | | | |
| Mn+4 | | 3.52E-08 | | | | | | | | |
| Mo+6 | | 2.38E-11 | | | | | | | | |
| Na+ | | 2.71E-04 | | | | | | | | |
| Ni+3 | | 2.67E-08 | | | | | | | | |
| Np+4 | | 3.22E-11 | | | | | | | | |
| Pb+4 | | 3.46E-08 | | | | | | | | |
| Pu+4 | | 9.29E-11 | | | | | | | | |
| Ra+ | | 7.81E-13 | | | | | | | | |
| Re+7 | | 3.52E-13 | | | | | | | | |
| Rh+3 | | 2.77E-12 | | | | | | | | |
| Ru+3 | | 4.26E-12 | | | | | | | | |
| Se+6 | | 7.12E-12 | | | | | | | | |
| Si+4 | | 5.19E-08 | | | | | | | | |
| Sr+2 | | 1.24E-09 | | | | | | | | |
| Te+6 | | 2.97E-12 | | | | | | | | |
| UO2+2 | | 3.45E-07 | | | | | | | | |
| Zn+2 | | 2.53E-12 | | | | | | | | |
| Zr+4 | | 7.90E-14 | | | | | | | | |
| Al(OH)4- | | 4.13E-05 | | | | | | | | |
| BO2- | | 3.10E-11 | | | | | | | | |
| Cl- | | 2.24E-06 | | | | | | | | |
| CO3-2 | | 4.50E-10 | | | | | | | | |
| Cr(OH)4- | | 2.24E-06 | | | | | | | | |
| F- | | 3.70E-06 | | | | | | | | |
| I- | | 1.79E-09 | | | | | | | | |
| NO2- | | 2.68E-05 | | | | | | | | |
| NO3- | | 3.56E-04 | | | | | | | | |
| OH- | | 7.88E-09 | | | | | | | | |
| PO4-3 | | 1.58E-05 | | | | | | | | |
| SO4-2 | | 8.67E-06 | | | | | | | | |
| TcO4- | | 1.09E-06 | | | | | | | | |
| H2O | | 2.83E+02 | 1.24E+00 | 1.24E+00 | | 1.33E+03 | 1.33E+03 | 1.33E+03 | | 1.33E+03 |
| Organic Carbon | | 2.41E-05 | | | | | | | | |
| ZrO2:2H2O | | 2.45E-08 | | | | | | | | |
| Hg | | 7.08E-04 | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | 2.04E+01 | 2.04E+01 | 2.04E+01 | 2.04E+01 | |
| CO2 | | 4.33E+01 | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | 9.23E+02 | 9.23E+02 | 9.23E+02 | 9.23E+02 | | 9.23E+02 |
| N2O | | 8.54E-04 | | | | | | | | |
| NO | | 1.16E+01 | | | | | | | | |
| NO2 | | | | | | 2.01E-02 | 2.01E-02 | 2.01E-02 | 2.01E-02 | |
| O2 | | | | | 2.80E+02 | 3.84E-14 | 3.84E-14 | 3.84E-14 | | 3.84E-14 |
| SO2 | | | | | | 3.45E+02 | 3.45E+02 | 3.45E+02 | | 3.45E+02 |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | 1.47E-02 | | | | | | | | |
| H2S | | | | | | 3.96E+02 | 3.96E+02 | 3.96E+02 | | 3.96E+02 |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 656 | 657 | 661 | 662 | 670 | 671 | 672 | 673 | 674 | 675 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 1.25E-02 | | 1.25E-02 | | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 4.80E-02 | | 4.80E-02 | | | | | | |
| C-14 | | 1.09E-03 | | 1.09E-03 | | | | | | |
| Cs-137 | | 1.60E+01 | | 1.60E+01 | | | | | | |
| Ba-137 | | 1.52E+01 | | 1.52E+01 | | | | | | |
| Np-237 | | 3.12E-05 | | 3.12E-05 | | | | | | |
| Pu-239 | | 1.26E-02 | | 1.26E-02 | | | | | | |
| Pu-240 | | 3.13E-03 | | 3.13E-03 | | | | | | |
| Pu-241 | | 3.52E-02 | | 3.52E-02 | | | | | | |
| Sr-90 | | 2.54E+01 | | 2.54E+01 | | | | | | |
| Y-90 | | 2.54E+01 | | 2.54E+01 | | | | | | |
| Tc-99 | | 1.17E-02 | | 1.17E-02 | | | | | | |
| Total Curies | | 8.21E+01 | | 8.21E+01 | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | 7.36E-07 | | 7.36E-07 | | | | | | |
| Al+3 | | 3.68E-04 | | 3.68E-04 | | | | | | |
| Am+3 | | 1.40E-08 | | 1.40E-08 | | | | | | |
| As+5 | | 1.13E-09 | | 1.13E-09 | | | | | | |
| Ba+2 | | 1.86E-06 | | 1.86E-06 | | | | | | |
| Be+2 | | 1.53E-09 | | 1.53E-09 | | | | | | |
| Bi+3 | | 1.25E-04 | | 1.25E-04 | | | | | | |
| Ca+2 | | 7.20E-05 | | 7.19E-05 | | | | | | |
| Cd+2 | | 3.26E-06 | | 3.26E-06 | | | | | | |
| Ce+3 | | 1.17E-04 | | 1.17E-04 | | | | | | |
| Cm+3 | | 8.73E-12 | | 8.72E-12 | | | | | | |
| Co+3 | | 7.39E-13 | | 7.38E-13 | | | | | | |
| Cr+3 | | 2.86E-05 | | 2.86E-05 | | | | | | |
| Cs+ | | 9.35E-07 | | 9.34E-07 | | | | | | |
| Cu+2 | | 9.36E-08 | | 9.36E-08 | | | | | | |
| Fe+3 | | 3.79E-04 | | 3.79E-04 | | | | | | |
| Hg+2 | | 4.38E-08 | | 4.38E-08 | | | | | | |
| K+ | | 1.47E-05 | | 1.47E-05 | | | | | | |
| La+3 | | 1.14E-05 | | 1.14E-05 | | | | | | |
| Mg+2 | | 4.10E-06 | | 4.10E-06 | | | | | | |
| Mn+4 | | 8.95E-05 | | 8.94E-05 | | | | | | |
| Mo+6 | | 1.60E-08 | | 1.60E-08 | | | | | | |
| Na+ | | 3.30E-04 | | 3.30E-04 | | | | | | |
| Ni+3 | | 1.03E-04 | | 1.03E-04 | | | | | | |
| Np+4 | | 4.42E-08 | | 4.42E-08 | | | | | | |
| Hg+4 | | 1.46E-05 | | 1.46E-05 | | | | | | |
| Pu+4 | | 2.17E-07 | | 2.17E-07 | | | | | | |
| Rh+3 | | 9.58E-08 | | 9.57E-08 | | | | | | |
| Se+6 | | 1.65E-06 | | 1.65E-06 | | | | | | |
| Si+4 | | 1.15E-04 | | 1.15E-04 | | | | | | |
| Sr+2 | | 1.82E-05 | | 1.82E-05 | | | | | | |
| Th+4 | | 1.39E-06 | | 1.39E-06 | | | | | | |
| Ti+4 | | 7.69E-08 | | 7.68E-08 | | | | | | |
| UO2+2 | | 7.67E-04 | | 7.67E-04 | | | | | | |
| Zn+2 | | 2.52E-07 | | 2.52E-07 | | | | | | |
| Cl- | | 4.49E-06 | | 4.49E-06 | | | | | | |
| CO3-2 | | 5.42E-05 | | 5.41E-05 | | | | | | |
| F- | | 3.40E-05 | | 3.40E-05 | | | | | | |
| I- | | 6.94E-10 | | 6.93E-10 | | | | | | |
| NO2- | | 3.07E-05 | | 3.07E-05 | | | | | | |
| NO3- | | 4.90E-04 | | 4.90E-04 | | | | | | |
| OH- | | 1.28E-03 | | 1.28E-03 | | | | | | |
| PO4-3 | | 2.39E-04 | | 2.39E-04 | | | | | | |
| SO4-2 | | 1.27E-05 | | 1.27E-05 | | | | | | |
| TcO4- | | 4.51E-07 | | 4.51E-07 | | | | | | |
| Cancrinite | | 1.35E-03 | | 1.34E-03 | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 2.84E-07 | | 2.84E-07 | | | | | | |
| Organic Carbon | | 4.34E-05 | | 4.34E-05 | | | | | | |
| ZrO2:2H2O | | 5.94E-04 | | 5.94E-04 | | | | | | |
| Ag2O | | 1.59E-09 | | 1.59E-09 | | | | | | |
| AlPO4 | | 6.57E-07 | | 6.57E-07 | | | | | | |
| Al2O3 | | 1.98E-06 | | 1.97E-06 | | | | | | |
| Am2O3 | | 3.08E-11 | | 3.08E-11 | | | | | | |
| As2O5 | | 3.46E-12 | | 3.46E-12 | | | | | | |
| B2O3 | | 8.13E-04 | | 8.13E-04 | | | | | | |
| BaO | | 4.17E-09 | | 4.17E-09 | | | | | | |
| BeO | | 8.50E-12 | | 8.50E-12 | | | | | | |
| Bi2O3 | | 2.80E-07 | | 2.79E-07 | | | | | | |
| CaO | | 2.14E-07 | | 2.13E-07 | | | | | | |
| CdO | | 7.52E-09 | | 7.52E-09 | | | | | | |
| Ce2O3 | | 2.74E-07 | | 2.74E-07 | | | | | | |
| Cm2O3 | | 1.92E-14 | | 1.92E-14 | | | | | | |
| Co2O3 | | 1.60E-14 | | 1.60E-14 | | | | | | |
| Cr2O3 | | 8.67E-08 | | 8.67E-08 | | | | | | |
| Cs2O | | 1.99E-09 | | 1.99E-09 | | | | | | |
| CuO | | 2.36E-10 | | 2.36E-10 | | | | | | |
| Fe2O3 | | 1.09E-06 | | 1.09E-06 | | | | | | |
| FeO | | 1.04E-14 | | 1.04E-14 | | | | | | |
| HgO | | 7.00E-13 | | 6.99E-13 | | | | | | |
| SeO | | 1.52E-16 | | 1.52E-16 | | | | | | |
| K2O | | 4.13E-08 | | 4.13E-08 | | | | | | |
| La2O3 | | 2.68E-08 | | 2.68E-08 | | | | | | |
| Li2O | | 2.32E-04 | | 2.32E-04 | | | | | | |
| MgO | | 1.36E-08 | | 1.36E-08 | | | | | | |
| MnO | | 4.24E-16 | | 4.24E-16 | | | | | | |
| MoO3 | | 4.81E-11 | | 4.81E-11 | | | | | | |
| Na2O | | 2.28E-06 | | 2.27E-06 | | | | | | |
| Ni2O3 | | 2.90E-07 | | 2.89E-07 | | | | | | |
| NpO2 | | 1.01E-10 | | 1.01E-10 | | | | | | |
| HgO2 | | 3.38E-08 | | 3.38E-08 | | | | | | |
| PuO2 | | 4.93E-10 | | 4.93E-10 | | | | | | |

| STREAM NAME | 656 | 657 | 661 | 662 | 670 | 671 | 672 | 673 | 674 | 675 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | 1.78E-15 | | 1.78E-15 | | | | | | |
| $Re_2O_7$ | | 9.53E-16 | | 9.52E-16 | | | | | | |
| $Rh_2O_3$ | | 2.37E-10 | | 2.37E-10 | | | | | | |
| $Ru_2O_3$ | | 1.09E-14 | | 1.09E-14 | | | | | | |
| $SeO_3$ | | 5.31E-09 | | 5.30E-09 | | | | | | |
| $SiO_2$ | | 4.34E-03 | | 4.34E-03 | | | | | | |
| $SO_3$ | | 2.53E-08 | | 2.52E-08 | | | | | | |
| SrO | | 4.29E-08 | | 4.29E-08 | | | | | | |
| $Tc_2O_7$ | | 2.11E-09 | | 2.11E-09 | | | | | | |
| $Tc_2S_7$ | | 8.76E-07 | | 8.76E-07 | | | | | | |
| $TeO_3$ | | 8.48E-15 | | 8.47E-15 | | | | | | |
| $ThO_2$ | | 3.16E-09 | | 3.16E-09 | | | | | | |
| $TiO_2$ | | 2.32E-07 | | 2.32E-07 | | | | | | |
| $UO_3$ | | 1.63E-06 | | 1.63E-06 | | | | | | |
| ZnO | | 6.28E-10 | | 6.28E-10 | | | | | | |
| $ZrO_2$ | | 9.22E-07 | | 9.21E-07 | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | 2.46E-06 | | 2.45E-06 | | | | | | |
| Silico-Titanate | | 4.02E-04 | | 4.02E-04 | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 |
|---|---|---|---|---|---|---|---|---|---|---|
| **LIQUID COMPONENTS** | | | | | | | | | | |
| Total Mass Flow (MT) | 3.00E+03 | 3.00E+03 | 5.03E+02 | 2.50E+03 | 2.50E+03 | 2.50E+03 | 2.50E+03 | 1.55E+01 | 2.48E+03 | |
| Volume (L) | 3.00E+06 | 3.00E+06 | 5.03E+05 | 2.50E+06 | 2.50E+06 | 2.50E+06 | 2.50E+06 | 1.55E+04 | 2.48E+06 | |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | |
| **Radionuclides (Ci)** | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| **Chemicals (MT)** | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| HO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 1.52E+03 | 1.52E+03 | | 1.52E+03 | 1.52E+03 | 1.53E+03 | 1.53E+03 | | 1.53E+03 | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 9.23E+02 | 9.23E+02 | | 9.23E+02 | 9.23E+02 | 9.23E+02 | 9.23E+02 | | 9.23E+02 | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | 3.84E-14 | 3.84E-14 | | 3.84E-14 | 3.84E-14 | 3.84E-14 | 3.84E-14 | | 3.84E-14 | |
| SO2 | 1.03E+01 | 1.03E+01 | | 1.03E+01 | 1.03E+01 | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | 3.96E+01 | 3.96E+01 | | 3.96E+01 | 3.96E+01 | 2.86E+01 | 2.86E+01 | | 2.86E+01 | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | 5.03E+02 | 5.03E+02 | 5.03E+02 | | | 1.55E+01 | 1.55E+01 | 1.55E+01 | | |

| STREAM NAME | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlFO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| RuO2 | | | | | | | | | | |

| STREAM NAME | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Nb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZrO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 686 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 700 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.48E+03 | 5.39E+02 | 1.05E+05 | 3.18E+05 | 2.00E-03 | 2.30E+03 | 1.03E+05 | | | 1.68E+04 |
| Volume (L) | 2.48E+06 | 5.39E+05 | 9.98E+07 | 3.02E+08 | 1.72E+00 | 2.18E+06 | 9.76E+07 | | | 1.68E+07 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.05E+00 | 1.05E+00 | 1.16E+00 | 1.05E+00 | 1.05E+00 | | | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | 2.18E-06 |
| C-14 | | | | | | | | | | 9.13E-07 |
| Cs-137 | | | 6.90E+05 | 2.08E+06 | | 1.51E+04 | 6.75E+05 | | | 1.49E-03 |
| Ba-137 | | | 6.55E+05 | 1.98E+06 | | 1.43E+04 | 6.41E+05 | | | 1.41E-03 |
| Np-237 | | | | | | | | | | 1.92E-09 |
| Pu-239 | | | | | | | | | | 4.54E-07 |
| Pu-240 | | | | | | | | | | 1.19E-07 |
| Pu-241 | | | | | | | | | | 1.33E-06 |
| Sr-90 | | | | | | | | | | 5.10E-04 |
| Y-90 | | | | | | | | | | 5.10E-04 |
| Tc-99 | | | 1.53E+04 | 4.63E+04 | | 3.35E+02 | 1.50E+04 | | | 1.94E-05 |
| Total Curies | | | 1.36E+06 | 4.11E+06 | | 2.97E+04 | 1.33E+06 | | | 3.95E-03 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | 8.81E-11 |
| Am+3 | | | | | | | | | | 6.35E-13 |
| As+5 | | | | | | | | | | 1.12E-14 |
| B+3 | | | | | | | | | | 9.44E-12 |
| Ba+2 | | | | | | | | | | 2.18E-10 |
| Be+2 | | | | | | | | | | 6.68E-15 |
| Bi+3 | | | | | | | | | | 3.25E-09 |
| Ca+2 | | | | | | | | | | 6.69E-07 |
| Cd+2 | | | 9.49E-01 | 2.87E+00 | | 2.07E-02 | 9.28E-01 | | | 3.15E-09 |
| Ce+3 | | | | | | | | | | 6.51E-10 |
| Cm+3 | | | | | | | | | | 2.62E-17 |
| Co+3 | | | | | | | | | | 4.02E-13 |
| Cs+ | | | 3.98E-02 | 1.20E-01 | | 8.69E-04 | 3.89E-02 | | | 8.58E-11 |
| Cu+2 | | | | | | | | | | 2.72E-11 |
| Fe+2 | | | | | | | | | | 3.28E-13 |
| Fe+3 | | | | | | | | | | 9.47E-09 |
| H+ | | | 1.51E+02 | 4.56E+02 | 9.05E-06 | 3.29E+00 | 1.48E+02 | | | |
| Hg+2 | | | | | | | | | | 1.61E-11 |
| K+ | | | 1.80E+00 | 5.43E+00 | | 3.92E-02 | 1.76E+00 | | | 1.97E-07 |
| La+3 | | | | | | | | | | 6.57E-11 |
| Mg+2 | | | | | | | | | | 4.02E-14 |
| Mn+2 | | | | | | | | | | 1.33E-14 |
| Mn+4 | | | | | | | | | | 2.97E-09 |
| Mo+6 | | | 9.81E-05 | 2.97E-04 | | 2.14E-06 | 9.60E-05 | | | 2.10E-12 |
| Na+ | | | 2.17E+02 | 6.57E+02 | | 4.75E+00 | 2.13E+02 | | | 6.49E-05 |
| Ni+3 | | | | | | | | | | 2.26E-09 |
| Np+4 | | | | | | | | | | 2.72E-12 |
| Pb+4 | | | 1.21E+00 | 3.65E+00 | | 2.64E-02 | 1.18E+00 | | | 3.98E-09 |
| Pu+4 | | | | | | | | | | 7.86E-12 |
| Rb+ | | | | | | | | | | 6.61E-14 |
| Re+7 | | | | | | | | | | 2.98E-14 |
| Rh+3 | | | | | | | | | | 2.34E-13 |
| Ru+3 | | | 1.47E-04 | 4.43E-04 | | 3.20E-06 | 1.43E-04 | | | 4.88E-13 |
| Se+6 | | | 2.43E-03 | 7.34E-03 | | 5.30E-05 | 2.37E-03 | | | 2.72E-12 |
| Si+4 | | | | | | | | | | 4.39E-09 |
| Sr+2 | | | | | | | | | | 1.05E-10 |
| Tc+6 | | | 1.02E-04 | 3.09E-04 | | 2.23E-06 | 1.00E-04 | | | 3.41E-13 |
| UO2+2 | | | | | | | | | | 2.92E-08 |
| Zr+2 | | | | | | | | | | 2.14E-13 |
| Zr+4 | | | | | | | | | | 6.68E-15 |
| Al(OH)4- | | | | | | | | | | 3.44E-06 |
| BO2- | | | 1.13E-02 | 3.41E-02 | | 2.46E-04 | 1.10E-02 | | | 1.25E-11 |
| Cl- | | | 6.18E+02 | 1.87E+03 | | 1.35E+01 | 6.04E+02 | | | 1.49E-06 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | 1.88E-07 |
| F- | | | 5.34E+02 | 1.61E+03 | | 1.17E+01 | 5.22E+02 | | | 8.38E-07 |
| I- | | | 5.43E-01 | 1.64E+00 | | 1.19E-02 | 5.31E-01 | | | 6.26E-10 |
| NO2- | | | | | | | | | | 2.61E-06 |
| NO3- | | | 6.54E+03 | 1.98E+04 | 5.61E-04 | 1.43E+02 | 6.39E+03 | | | 7.31E-05 |
| OH- | | | | | | | | | | 5.35E-06 |
| PO4-3 | | | 2.85E+02 | 8.62E+02 | | 6.23E+00 | 2.79E+02 | | | 1.57E-06 |
| SO4-2 | | | | | | | | | | 5.56E-07 |
| TcO4- | | | 1.49E+00 | 4.49E+00 | | 3.24E-02 | 1.45E+00 | | | 1.88E-09 |
| H2O | 1.53E+03 | | 9.69E+04 | 2.93E+05 | 1.43E-03 | 2.12E+03 | 9.48E+04 | | | 1.68E+04 |
| Organic Carbon | | | | | | | | | | 8.31E-07 |
| ZrO2;2H2O | | | | | | | | | | 2.07E-09 |
| Hg | | | | | | | | | | 8.60E-19 |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | 2.04E+01 | | | | | | | | |
| CO2 | | | | | | | | | | 6.26E-07 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 9.23E+02 | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | 2.01E-02 | | | | | | | | |
| O2 | 3.84E-14 | | | | | | | | | |
| SO2 | 1.20E-15 | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | 1.12E-17 |
| H2S | 2.86E+01 | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | 5.18E+02 | | | | | | | | |

| STREAM NAME | 686 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 700 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 2.32E+03 | 9.26E+03 | | 2.30E+03 | 2.32E+01 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 4.27E+01 | 1.70E+02 | | 4.23E+01 | 4.27E-01 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | 1.38E+04 | 5.50E+04 | | 1.37E+04 | 1.38E+02 | | | |
| Ba-137 | | | 1.31E+04 | 5.23E+04 | | 1.30E+04 | 1.31E+02 | | | |
| Np-237 | | | 3.69E-02 | 1.47E-01 | | 3.65E-02 | 3.69E-04 | | | |
| Pu-239 | | | 9.05E+00 | 3.61E+01 | | 8.96E+00 | 9.05E-02 | | | |
| Pu-240 | | | 2.36E+00 | 9.40E+00 | | 2.33E+00 | 2.36E-02 | | | |
| Pu-241 | | | 2.64E+01 | 1.06E+02 | | 2.62E+01 | 2.64E-01 | | | |
| Sr-90 | | | 1.08E+04 | 4.32E+04 | | 1.07E+04 | 1.08E+02 | | | |
| Y-90 | | | 1.08E+04 | 4.32E+04 | | 1.07E+04 | 1.08E+02 | | | |
| Tc-99 | | | 3.55E+01 | 1.42E+02 | | 3.52E+01 | 3.55E-01 | | | |
| Total Curies | | | 4.87E+04 | 1.94E+05 | | 4.82E+04 | 4.87E+02 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | 6.50E-01 | 2.59E+00 | | 6.44E-01 | 6.50E-03 | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | 5.35E+00 | 2.14E+01 | | 5.30E+00 | 5.35E-02 | | | |
| I- | | | 1.10E-04 | 4.36E-04 | | 1.09E-04 | 1.10E-06 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | 9.45E-02 | 3.77E-01 | | 9.35E-02 | 9.45E-04 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | 1.78E-03 | 7.09E-03 | | 1.76E-03 | 1.78E-05 | | | |
| AlPO4 | | | 2.93E+01 | 1.17E+02 | | 2.90E+01 | 2.93E-01 | | | |
| Al2O3 | | | 1.04E+02 | 4.14E+02 | | 1.03E+02 | 1.04E+00 | | | |
| Am2O3 | | | 1.37E-05 | 5.46E-05 | | 1.35E-05 | 1.37E-07 | | | |
| As2O5 | | | 4.16E-07 | 1.66E-06 | | 4.11E-07 | 4.16E-09 | | | |
| B2O3 | | | 5.50E-04 | 2.20E-03 | | 5.45E-04 | 5.50E-06 | | | |
| BaO | | | 4.57E-03 | 1.82E-02 | | 4.52E-03 | 4.57E-05 | | | |
| BeO | | | 5.92E-07 | 2.36E-06 | | 5.86E-07 | 5.92E-09 | | | |
| Bi2O3 | | | 7.46E-02 | 2.98E-01 | | 7.38E-02 | 7.46E-04 | | | |
| CaO | | | 2.32E+02 | 9.26E+02 | | 2.30E+02 | 2.32E+00 | | | |
| CdO | | | 4.34E-02 | 1.73E-01 | | 4.30E-02 | 4.34E-04 | | | |
| Ce2O3 | | | 2.21E-02 | 8.81E-02 | | 2.19E-02 | 2.21E-04 | | | |
| Cm2O3 | | | 1.10E-09 | 4.37E-09 | | 1.08E-09 | 1.10E-11 | | | |
| Co2O3 | | | 1.03E-05 | 4.13E-05 | | 1.02E-05 | 1.03E-07 | | | |
| Cr2O3 | | | 2.18E+00 | 8.68E+00 | | 2.15E+00 | 2.18E-02 | | | |
| Cs2O | | | 8.44E-04 | 3.37E-03 | | 8.35E-04 | 8.44E-06 | | | |
| CuO | | | 6.30E-04 | 2.52E-03 | | 6.24E-04 | 6.30E-06 | | | |
| Fe2O3 | | | 2.80E-01 | 1.12E+00 | | 2.77E-01 | 2.80E-03 | | | |
| FeO | | | 7.72E-06 | 3.08E-05 | | 7.64E-06 | 7.72E-08 | | | |
| Hg | | | 1.41E-02 | 5.63E-04 | | 1.40E-02 | 1.41E-04 | | | |
| HgO | | | 3.07E-06 | 1.23E-05 | | 3.04E-06 | 3.07E-08 | | | |
| K2O | | | 4.29E+00 | 1.71E+01 | | 4.24E+00 | 4.29E-02 | | | |
| La2O3 | | | 2.21E-03 | 8.80E-03 | | 2.18E-03 | 2.21E-05 | | | |
| Li2O | | | | | | | | | | |
| MgO | | | 4.06E-04 | 1.62E-03 | | 4.02E-04 | 4.06E-06 | | | |
| MnO | | | 3.15E-07 | 1.26E-06 | | 3.12E-07 | 3.15E-09 | | | |
| MoO3 | | | 5.59E-05 | 2.23E-04 | | 5.54E-05 | 5.59E-07 | | | |
| Na2O | | | 5.80E+02 | 2.32E+03 | | 5.74E+02 | 5.80E+00 | | | |
| Nb2O5 | | | 6.68E-02 | 2.67E-01 | | 6.61E-02 | 6.68E-04 | | | |
| NpO2 | | | 5.94E-05 | 2.37E-04 | | 5.88E-05 | 5.94E-07 | | | |
| PbO2 | | | 5.59E-02 | 2.23E-01 | | 5.54E-02 | 5.59E-04 | | | |
| PuO2 | | | 1.78E-04 | 7.09E-04 | | 1.76E-04 | 1.78E-06 | | | |

| STREAM NAME | 686 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 700 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | | 1.32E-06 | 5.27E-06 | | 1.31E-06 | 1.32E-08 | | | |
| $Re_2O_7$ | | | 7.08E-07 | 2.82E-06 | | 7.01E-07 | 7.08E-09 | | | |
| $Rh_2O_3$ | | | 1.23E-05 | 4.91E-05 | | 1.22E-05 | 1.23E-07 | | | |
| $Ru_2O_3$ | | | 7.26E-06 | 2.90E-05 | | 7.19E-06 | 7.26E-08 | | | |
| $SeO_3$ | | | 1.56E-04 | 6.24E-04 | | 1.55E-04 | 1.56E-06 | | | |
| $SiO_2$ | | | 1.36E+03 | 5.43E+03 | | 1.35E+03 | 1.36E+01 | | | |
| $SO_3$ | | | 8.17E-01 | 3.26E+00 | | 8.09E-01 | 8.17E-03 | | | |
| SrO | | | 3.53E-03 | 1.41E-02 | | 3.49E-03 | 3.53E-05 | | | |
| $Tc_2O_7$ | | | 3.27E-03 | 1.31E-02 | | 3.24E-03 | 3.27E-05 | | | |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | | | 5.64E-06 | 2.25E-05 | | 5.58E-06 | 5.64E-08 | | | |
| $ThO_2$ | | | 9.40E-05 | 3.75E-04 | | 9.31E-05 | 9.40E-07 | | | |
| $TiO_2$ | | | 6.97E-03 | 2.78E-02 | | 6.90E-03 | 6.97E-05 | | | |
| $UO_3$ | | | 6.13E-01 | 2.45E+00 | | 6.07E-01 | 6.13E-03 | | | |
| ZnO | | | 2.35E-05 | 9.39E-05 | | 2.33E-05 | 2.35E-07 | | | |
| $ZrO_2$ | | | 5.67E-02 | 2.26E-01 | | 5.62E-02 | 5.67E-04 | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.00E-15 | 1.68E+04 | 1.00E-15 | | 1.00E-15 | | 1.00E-15 | 2.00E-15 | | 1.00E-13 |
| Volume (L) | 1.00E-12 | 1.68E+07 | 1.00E-12 | | 1.00E-12 | | 1.00E-12 | 2.00E-12 | | 1.00E-10 |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | | 1.00E+00 | | 1.00E+00 | 1.00E+00 | | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 2.18E-06 | | | | | | | | |
| C-14 | | 9.13E-07 | | | | | | | | |
| Cs-137 | | 1.49E-03 | | | | | | | | |
| Ba-137 | | 1.41E-03 | | | | | | | | |
| Np-237 | | 1.92E-09 | | | | | | | | |
| Pu-239 | | 4.54E-07 | | | | | | | | |
| Pu-240 | | 1.19E-07 | | | | | | | | |
| Pu-241 | | 1.33E-06 | | | | | | | | |
| Sr-90 | | 5.10E-04 | | | | | | | | |
| Y-90 | | 5.10E-04 | | | | | | | | |
| Tc-99 | | 1.94E-05 | | | | | | | | |
| Total Curies | | 3.95E-03 | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | 8.81E-11 | | | | | | | | |
| Am+3 | | 6.35E-13 | | | | | | | | |
| As+5 | | 1.12E-14 | | | | | | | | |
| B+3 | | 9.44E-12 | | | | | | | | |
| Ba+2 | | 2.18E-10 | | | | | | | | |
| Be+2 | | 6.68E-15 | | | | | | | | |
| Bi+3 | | 3.25E-09 | | | | | | | | |
| Ca+2 | | 6.69E-07 | | | | | | | | |
| Cd+2 | | 3.15E-09 | | | | | | | | |
| Ce+3 | | 6.51E-10 | | | | | | | | |
| Cm+3 | | 2.62E-17 | | | | | | | | |
| Co+3 | | 4.02E-13 | | | | | | | | |
| Cs+ | | 8.58E-11 | | | | | | | | |
| Cu+2 | | 2.72E-11 | | | | | | | | |
| Fe+2 | | 3.28E-13 | | | | | | | | |
| Fe+3 | | 9.47E-09 | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | 1.61E-11 | | | | | | | | |
| K+ | | 1.97E-07 | | | | | | | | |
| La+3 | | 6.57E-11 | | | | | | | | |
| Mg+2 | | 4.02E-14 | | | | | | | | |
| Mn+2 | | 1.33E-14 | | | | | | | | |
| Mn+4 | | 2.97E-09 | | | | | | | | |
| Mo+6 | | 2.10E-12 | | | | | | | | |
| Na+ | | 6.49E-05 | | | | | | | | |
| Ni+3 | | 2.26E-09 | | | | | | | | |
| Np+4 | | 2.72E-12 | | | | | | | | |
| Pb+4 | | 3.98E-09 | | | | | | | | |
| Pu+4 | | 7.86E-12 | | | | | | | | |
| Rb+ | | 6.61E-14 | | | | | | | | |
| Re+7 | | 2.98E-14 | | | | | | | | |
| Rh+3 | | 2.34E-13 | | | | | | | | |
| Ru+3 | | 4.88E-13 | | | | | | | | |
| Se+6 | | 2.72E-12 | | | | | | | | |
| Si+4 | | 4.39E-09 | | | | | | | | |
| Sr+2 | | 1.05E-10 | | | | | | | | |
| Te+6 | | 3.41E-13 | | | | | | | | |
| UO2+2 | | 2.92E-08 | | | | | | | | |
| Zn+2 | | 2.14E-13 | | | | | | | | |
| Zr+4 | | 6.68E-15 | | | | | | | | |
| Al(OH)4- | | 3.44E-06 | | | | | | | | |
| BO2- | | 1.25E-11 | | | | | | | | |
| Cl- | | 1.49E-06 | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | 1.88E-07 | | | | | | | | |
| F- | | 8.38E-07 | | | | | | | | |
| I- | | 6.26E-10 | | | | | | | | |
| NO2- | | 2.61E-06 | | | | | | | | |
| NO3- | | 7.31E-05 | | | | | | | | |
| OH- | | 5.35E-06 | | | | | | | | |
| PO4-3 | | 1.57E-06 | | | | | | | | |
| SO4-2 | | 5.56E-07 | | | | | | | | |
| TcO4- | | 1.88E-09 | | | | | | | | |
| H2O | 1.00E-15 | 1.68E+04 | 1.00E-15 | | 1.00E-15 | | 1.00E-15 | 2.00E-15 | | 1.00E-13 |
| Organic Carbon | | 8.31E-07 | | | | | | | | |
| ZrO2:2H2O | | 2.07E-09 | | | | | | | | |
| Hg | | 8.60E-19 | | | | | | | | |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | 6.26E-07 | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | 1.12E-17 | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| HgS | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 711 | 712 | 800 | 802 | 803 | 804 | 805 | 806 | 807 | 900 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.00E-13 | | 1.65E+06 | 1.65E+06 | 1.00E-15 | 1.65E+06 | | 1.65E+06 | 1.25E+06 | |
| Volume (L) | 1.00E-10 | | 1.65E+09 | 1.65E+09 | 6.50E-13 | 1.65E+09 | | 1.65E+09 | 1.25E+09 | |
| Specific Gravity | 1.00E+00 | | 1.00E+00 | 1.00E+00 | 1.54E+00 | 1.00E+00 | | 1.00E+00 | 1.00E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 2.19E-03 | 2.19E-03 | | 2.19E-03 | | 2.19E-03 | 1.67E-03 | |
| C-14 | | | 9.17E-04 | 9.17E-04 | | 9.17E-04 | | 9.17E-04 | 6.98E-04 | |
| Cs-137 | | | 1.49E+00 | 1.49E+00 | | 1.49E+00 | | 1.49E+00 | 1.14E+00 | |
| Ba-137 | | | 1.42E+00 | 1.42E+00 | | 1.42E+00 | | 1.42E+00 | 1.08E+00 | |
| Np-237 | | | 1.93E-06 | 1.93E-06 | | 1.93E-06 | | 1.93E-06 | 1.47E-06 | |
| Pu-239 | | | 4.56E-04 | 4.56E-04 | | 4.56E-04 | | 4.56E-04 | 3.47E-04 | |
| Pu-240 | | | 1.19E-04 | 1.19E-04 | | 1.19E-04 | | 1.19E-04 | 9.08E-05 | |
| Pu-241 | | | 1.34E-03 | 1.34E-03 | | 1.34E-03 | | 1.34E-03 | 1.02E-03 | |
| Sr-90 | | | 5.12E-01 | 5.12E-01 | | 5.12E-01 | | 5.12E-01 | 3.90E-01 | |
| Y-90 | | | 5.12E-01 | 5.12E-01 | | 5.12E-01 | | 5.12E-01 | 3.90E-01 | |
| Tc-99 | | | 2.61E-02 | 2.61E-02 | | 2.61E-02 | | 2.61E-02 | 1.99E-02 | |
| Total Curies | | | 3.96E+00 | 3.96E+00 | | 3.96E+00 | | 3.96E+00 | 3.02E+00 | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | 8.85E-08 | 8.85E-08 | | 8.85E-08 | | 8.85E-08 | 6.74E-08 | |
| Am+3 | | | 6.37E-10 | 6.37E-10 | | 6.37E-10 | | 6.37E-10 | 4.85E-10 | |
| As+5 | | | 1.12E-11 | 1.12E-11 | | 1.12E-11 | | 1.12E-11 | 8.53E-12 | |
| B+3 | | | 9.48E-09 | 9.48E-09 | | 9.48E-09 | | 9.48E-09 | 7.22E-09 | |
| Ba+2 | | | 2.19E-07 | 2.19E-07 | | 2.19E-07 | | 2.19E-07 | 1.66E-07 | |
| Be+2 | | | 6.71E-12 | 6.71E-12 | | 6.71E-12 | | 6.71E-12 | 5.11E-12 | |
| Bi+3 | | | 3.27E-06 | 3.27E-06 | | 3.27E-06 | | 3.27E-06 | 2.49E-06 | |
| Ca+2 | | | 6.69E-04 | 6.69E-04 | | 6.69E-04 | | 6.69E-04 | 5.09E-04 | |
| Cd+2 | | | 3.16E-06 | 3.16E-06 | | 3.16E-06 | | 3.16E-06 | 2.41E-06 | |
| Ce+3 | | | 6.54E-07 | 6.54E-07 | | 6.54E-07 | | 6.54E-07 | 4.98E-07 | |
| Cm+3 | | | 2.61E-14 | 2.61E-14 | | 2.61E-14 | | 2.61E-14 | 1.99E-14 | |
| Co+3 | | | 4.04E-10 | 4.04E-10 | | 4.04E-10 | | 4.04E-10 | 3.07E-10 | |
| Cs+ | | | 8.60E-08 | 8.60E-08 | | 8.60E-08 | | 8.60E-08 | 6.55E-08 | |
| Cu+2 | | | 2.74E-08 | 2.74E-08 | | 2.74E-08 | | 2.74E-08 | 2.08E-08 | |
| Fe+2 | | | 3.30E-10 | 3.30E-10 | | 3.30E-10 | | 3.30E-10 | 2.51E-10 | |
| Fe+3 | | | 9.51E-06 | 9.51E-06 | | 9.51E-06 | | 9.51E-06 | 7.24E-06 | |
| H+ | | | | | | | | | | |
| Hg+2 | | | 1.61E-08 | 1.61E-08 | | 1.61E-08 | | 1.61E-08 | 1.23E-08 | |
| K+ | | | 1.97E-04 | 1.97E-04 | | 1.97E-04 | | 1.97E-04 | 1.50E-04 | |
| La+3 | | | 6.60E-08 | 6.60E-08 | | 6.60E-08 | | 6.60E-08 | 5.02E-08 | |
| Mg+2 | | | 4.04E-11 | 4.04E-11 | | 4.04E-11 | | 4.04E-11 | 3.07E-11 | |
| Mn+2 | | | 1.34E-11 | 1.34E-11 | | 1.34E-11 | | 1.34E-11 | 1.02E-11 | |
| Mn+4 | | | 2.99E-06 | 2.99E-06 | | 2.99E-06 | | 2.99E-06 | 2.27E-06 | |
| Mo+6 | | | 2.11E-09 | 2.11E-09 | | 2.11E-09 | | 2.11E-09 | 1.61E-09 | |
| Na+ | | | 6.52E-02 | 6.52E-02 | 2.88E-16 | 6.52E-02 | | 6.52E-02 | 4.96E-02 | |
| Ni+3 | | | 2.27E-06 | 2.27E-06 | | 2.27E-06 | | 2.27E-06 | 1.73E-06 | |
| Np+4 | | | 2.73E-09 | 2.73E-09 | | 2.73E-09 | | 2.73E-09 | 2.08E-09 | |
| Pb+4 | | | 3.99E-06 | 3.99E-06 | | 3.99E-06 | | 3.99E-06 | 3.04E-06 | |
| Pu+4 | | | 7.89E-09 | 7.89E-09 | | 7.89E-09 | | 7.89E-09 | 6.01E-09 | |
| Ra+ | | | 6.63E-11 | 6.63E-11 | | 6.63E-11 | | 6.63E-11 | 5.05E-11 | |
| Re+7 | | | 2.99E-11 | 2.99E-11 | | 2.99E-11 | | 2.99E-11 | 2.28E-11 | |
| Rh+3 | | | 2.35E-10 | 2.35E-10 | | 2.35E-10 | | 2.35E-10 | 1.79E-10 | |
| Ru+3 | | | 4.90E-10 | 4.90E-10 | | 4.90E-10 | | 4.90E-10 | 3.73E-10 | |
| Se+6 | | | 2.72E-09 | 2.72E-09 | | 2.72E-09 | | 2.72E-09 | 2.07E-09 | |
| Si+4 | | | 4.41E-06 | 4.41E-06 | | 4.41E-06 | | 4.41E-06 | 3.35E-06 | |
| Sr+2 | | | 1.05E-07 | 1.05E-07 | | 1.05E-07 | | 1.05E-07 | 8.01E-08 | |
| Te+6 | | | 3.42E-10 | 3.42E-10 | | 3.42E-10 | | 3.42E-10 | 2.60E-10 | |
| UO2+2 | | | 2.93E-05 | 2.93E-05 | | 2.93E-05 | | 2.93E-05 | 2.23E-05 | |
| Zn+2 | | | 2.15E-10 | 2.15E-10 | | 2.15E-10 | | 2.15E-10 | 1.64E-10 | |
| Zr+4 | | | 6.71E-12 | 6.71E-12 | | 6.71E-12 | | 6.71E-12 | 5.11E-12 | |
| Al(OH)4- | | | 3.46E-03 | 3.46E-03 | | 3.46E-03 | | 3.46E-03 | 2.63E-03 | |
| BO2- | | | 1.25E-08 | 1.25E-08 | | 1.25E-08 | | 1.25E-08 | 9.50E-09 | |
| Cl- | | | 1.49E-03 | 1.49E-03 | | 1.49E-03 | | 1.49E-03 | 1.13E-03 | |
| CO3-2 | | | 4.50E-06 | 4.50E-06 | | 4.50E-06 | | 4.50E-06 | 3.42E-06 | |
| Cr(OH)4- | | | 1.88E-04 | 1.88E-04 | | 1.88E-04 | | 1.88E-04 | 1.43E-04 | |
| F- | | | 8.39E-04 | 8.39E-04 | | 8.39E-04 | | 8.39E-04 | 6.39E-04 | |
| I- | | | 6.26E-07 | 6.26E-07 | | 6.26E-07 | | 6.26E-07 | 4.77E-07 | |
| NO2- | | | 2.63E-03 | 2.63E-03 | | 2.63E-03 | | 2.63E-03 | 2.00E-03 | |
| NO3- | | | 7.33E-02 | 7.33E-02 | | 7.33E-02 | | 7.33E-02 | 5.59E-02 | |
| OH- | | | 5.42E-03 | 5.42E-03 | 2.13E-16 | 5.42E-03 | | 5.42E-03 | 4.13E-03 | |
| PO4-3 | | | 1.58E-03 | 1.58E-03 | | 1.58E-03 | | 1.58E-03 | 1.20E-03 | |
| SO4-2 | | | 5.60E-04 | 5.60E-04 | | 5.60E-04 | | 5.60E-04 | 4.26E-04 | |
| TcO4- | | | 2.53E-06 | 2.53E-06 | | 2.53E-06 | | 2.53E-06 | 1.92E-06 | |
| H2O | 1.00E-13 | | 1.65E+06 | 1.65E+06 | 5.00E-16 | 1.65E+06 | | 1.65E+06 | 1.25E+06 | |
| Organic Carbon | | | 8.35E-04 | 8.35E-04 | | 8.35E-04 | | 8.35E-04 | 6.36E-04 | |
| ZrO2:2H2O | | | 2.08E-06 | 2.08E-06 | | 2.08E-06 | | 2.08E-06 | 1.59E-06 | |
| He | | | 2.48E-08 | 2.48E-08 | | 2.48E-08 | | 2.48E-08 | 1.89E-08 | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | 7.05E-04 | 7.05E-04 | | 7.05E-04 | | 7.05E-04 | 5.37E-04 | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | 3.23E-07 | 3.23E-07 | | 3.23E-07 | | 3.23E-07 | 2.46E-07 | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 711 | 712 | 800 | 802 | 803 | 804 | 805 | 806 | 807 | 900 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 711 | 712 | 800 | 802 | 803 | 804 | 805 | 806 | 807 | 900 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rh2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | 1.36E+01 | 1.36E+01 | 1.36E+01 | 3.59E+06 | | | |
| Volume (L) | | | | 1.36E+04 | 1.36E+04 | 1.36E+04 | 3.59E+09 | | | |
| Specific Gravity | | | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | 2.18E-06 | | | |
| C-14 | | | | | | | 3.86E+03 | | | |
| Cs-137 | | | | | | | 8.05E+04 | | | |
| Ba-137 | | | | | | | 7.65E+04 | | | |
| Np-237 | | | | | | | 1.92E-09 | | | |
| Pu-239 | | | | | | | 4.3[illegible]E-07 | | | |
| Pu-240 | | | | | | | 1.19E-07 | | | |
| Pu-241 | | | | | | | 1.3[illegible]E-06 | | | |
| Sr-90 | | | | | | | 5.13E-06 | | | |
| Y-90 | | | | | | | 5.13E-06 | | | |
| Tc-99 | | | | | | | 1.7[illegible]E+03 | | | |
| Total Curies | | | | | | | 1.[illegible]E+05 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | 8.[illegible]E-11 | | | |
| Am+3 | | | | | | | 6.[illegible]E-13 | | | |
| As+5 | | | | | | | 1.[illegible]E-14 | | | |
| B+3 | | | | | | | 9.[illegible]E-12 | | | |
| Ba+2 | | | | | | | 2.1[illegible]E-13 | | | |
| Be+2 | | | | | | | 6.6[illegible]E-13 | | | |
| Bi+3 | | | | | | | 3.2[illegible]E-08 | | | |
| Ca+2 | | | | | | | 6.6[illegible]E-07 | | | |
| Cd+2 | | | | | | | 1.11E-01 | | | |
| Ce+3 | | | | | | | 6.31E-10 | | | |
| Cm+3 | | | | | | | 2.62E-17 | | | |
| Co+3 | | | | | | | 4.02E-13 | | | |
| Cs+ | | | | | | | 4.64E-03 | | | |
| Cu+2 | | | | | | | 2.72E-11 | | | |
| Fe+2 | | | | | | | 3.28E-13 | | | |
| Fe+3 | | | | | | | 9.47E-09 | | | |
| H+ | | | | | | | 1.72E+01 | | | |
| Hg+2 | | | | | | | 1.61E-11 | | | |
| K+ | | | | | | | 2.10E-01 | | | |
| La+3 | | | | | | | 6.57E-11 | | | |
| Mg+2 | | | | | | | 4.02E-14 | | | |
| Mn+2 | | | | | | | 1.33E-14 | | | |
| Mn+4 | | | | | | | 2.97E-09 | | | |
| Mo+6 | | | | | | | 1.15E-05 | | | |
| Na+ | | | | | | | 2.54E+01 | | | |
| Ni+3 | | | | | | | 2.26E-09 | | | |
| Np+4 | | | | | | | 2.72E-12 | | | |
| Pb+4 | | | | | | | 1.41E-01 | | | |
| Pu+4 | | | | | | | 7.86E-12 | | | |
| Rb+ | | | | | | | 6.61E-14 | | | |
| Re+7 | | | | | | | 2.98E-14 | | | |
| Rh+3 | | | | | | | 2.34E-13 | | | |
| Ru+3 | | | | | | | 1.71E-05 | | | |
| Se+6 | | | | | | | 2.83E-04 | | | |
| Si+4 | | | | | | | 4.39E-09 | | | |
| Sr+2 | | | | | | | 1.05E-10 | | | |
| Te+6 | | | | | | | 1.19E-05 | | | |
| UO2+2 | | | | | | | 2.92E-08 | | | |
| Zn+2 | | | | | | | 2.14E-13 | | | |
| Zr+4 | | | | | | | 6.68E-15 | | | |
| Al(OH)4- | | | | | | | 3.44E-06 | | | |
| BO2- | | | | | | | 1.32E-03 | | | |
| Cl- | | | | | | | 7.20E+01 | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | 1.88E-07 | | | |
| F- | | | | | | | 6.23E+01 | | | |
| I- | | | | | | | 6.34E-02 | | | |
| NO2- | | | | | | | 2.61E-06 | | | |
| NO3- | | | | | | | 7.40E+02 | | | |
| OH- | | | | | | | 5.35E-06 | | | |
| PO4-3 | | | | | | | 3.33E+01 | | | |
| SO4-2 | | | | | | | 5.56E-07 | | | |
| TcO4- | | | | | | | 1.68E-01 | | | |
| H2O | | | | 1.36E+01 | 1.36E+01 | 1.36E+01 | 6.33E+04 | | | |
| Organic Carbon | | | | | | | 8.31E-07 | | | |
| ZrO2:2H2O | | | | | | | 2.07E-09 | | | |
| Hg | | | | | | | 7.24E-06 | | | |
| TeO2 | | | | | | | 4.12E-03 | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | 2.39E+03 | | | |
| CO2 | | | | | | | 1.90E+05 | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | 2.64E+06 | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | 2.46E+00 | | | |
| NO2 | | | | | | | 1.88E+01 | | | |
| O2 | | | | | | | 7.00E+05 | | | |
| SO2 | | | | | | | 1.21E+02 | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | 1.12E-17 | | | |
| H2S | | | | | | | 2.86E+01 | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | 1.10E+01 | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | 1.38E-01 | 1.38E-01 | 6.89E-05 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | 2.53E-03 | 2.53E-03 | 1.27E-06 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | 8.18E-01 | 8.18E-01 | 4.09E-04 | | | |
| Ba-137 | | | | | 7.77E-01 | 7.77E-01 | 3.89E-04 | | | |
| Np-237 | | | | | 2.19E-06 | 2.19E-06 | 1.10E-09 | | | |
| Pu-239 | | | | | 5.37E-04 | 5.37E-04 | 2.69E-07 | | | |
| Pu-240 | | | | | 1.40E-04 | 1.40E-04 | 6.99E-08 | | | |
| Pu-241 | | | | | 1.57E-03 | 1.57E-03 | 7.84E-07 | | | |
| Sr-90 | | | | | 6.42E-01 | 6.42E-01 | 3.21E-04 | | | |
| Y-90 | | | | | 6.42E-01 | 6.42E-01 | 3.21E-04 | | | |
| Tc-99 | | | | | 2.11E-03 | 2.11E-03 | 1.05E-06 | | | |
| Total Curies | | | | | 2.89E+00 | 2.89E+00 | 1.44E-03 | | | |
| Chemicals (MT) | | | | | | | | | | |
| As+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | 3.86E-05 | 3.86E-05 | 1.93E-08 | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | 3.18E-04 | 3.18E-04 | 1.59E-07 | | | |
| I- | | | | | 6.51E-09 | 6.51E-09 | 3.26E-12 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | 5.60E-06 | 5.60E-06 | 2.80E-09 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | 1.05E-07 | 1.05E-07 | 5.27E-11 | | | |
| AlPO4 | | | | | 1.74E-03 | 1.74E-03 | 8.69E-07 | | | |
| Al2O3 | | | | | 6.16E-03 | 6.16E-03 | 3.08E-06 | | | |
| Am2O3 | | | | | 8.11E-10 | 8.11E-10 | 4.06E-13 | | | |
| As2O5 | | | | | 2.47E-11 | 2.47E-11 | 1.23E-14 | | | |
| B2O3 | | | | | 3.26E-08 | 3.26E-08 | 1.63E-11 | | | |
| BaO | | | | | 2.71E-07 | 2.71E-07 | 1.35E-10 | | | |
| BeO | | | | | 3.51E-11 | 3.51E-11 | 1.76E-14 | | | |
| Bi2O3 | | | | | 4.42E-06 | 4.42E-06 | 2.21E-09 | | | |
| CaO | | | | | 1.38E-02 | 1.38E-02 | 6.89E-06 | | | |
| CdO | | | | | 2.58E-06 | 2.58E-06 | 1.29E-09 | | | |
| Ce2O3 | | | | | 1.31E-06 | 1.31E-06 | 6.55E-10 | | | |
| Cm2O3 | | | | | 6.47E-14 | 6.46E-14 | 3.24E-17 | | | |
| Co2O3 | | | | | 6.13E-10 | 6.13E-10 | 3.07E-13 | | | |
| Cr2O3 | | | | | 1.29E-04 | 1.29E-04 | 6.46E-08 | | | |
| Cs2O | | | | | 5.00E-08 | 5.00E-08 | 2.50E-11 | | | |
| CuO | | | | | 6.28E-10 | 6.28E-10 | 3.14E-13 | | | |
| Fe2O3 | | | | | 1.66E-05 | 1.66E-05 | 8.30E-09 | | | |
| FeO | | | | | 4.58E-10 | 4.58E-10 | 2.29E-13 | | | |
| Hg | | | | | 7.98E-07 | 7.98E-07 | 3.99E-10 | | | |
| HgO | | | | | 1.82E-10 | 1.82E-10 | 9.11E-14 | | | |
| K2O | | | | | 2.54E-04 | 2.54E-04 | 1.27E-07 | | | |
| La2O3 | | | | | 1.31E-07 | 1.31E-07 | 6.54E-11 | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | 2.41E-08 | 2.41E-08 | 1.21E-11 | | | |
| MnO | | | | | 1.87E-11 | 1.87E-11 | 9.34E-15 | | | |
| MoO3 | | | | | 3.32E-09 | 3.32E-09 | 1.66E-12 | | | |
| Na2O | | | | | 3.44E-02 | 3.44E-02 | 1.72E-05 | | | |
| Ni2O3 | | | | | 3.96E-06 | 3.96E-06 | 1.98E-09 | | | |
| NpO2 | | | | | 3.52E-09 | 3.52E-09 | 1.76E-12 | | | |
| PbO2 | | | | | 3.32E-06 | 3.32E-06 | 1.66E-09 | | | |
| PuO2 | | | | | 1.05E-08 | 1.05E-08 | 5.27E-12 | | | |

| STREAM NAME | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | 7.83E-11 | 7.83E-11 | 3.92E-14 | | | |
| Re2O7 | | | | | 4.20E-11 | 4.20E-11 | 2.10E-14 | | | |
| Rh2O3 | | | | | 7.30E-10 | 7.30E-10 | 3.65E-13 | | | |
| Ru2O3 | | | | | 4.31E-10 | 4.31E-10 | 2.15E-13 | | | |
| SeO3 | | | | | 9.27E-09 | 9.27E-09 | 4.64E-12 | | | |
| SiO2 | | | | | 8.07E-02 | 8.07E-02 | 4.04E-05 | | | |
| SO3 | | | | | 4.84E-05 | 4.84E-05 | 2.42E-08 | | | |
| SrO | | | | | 2.09E-07 | 2.09E-07 | 1.05E-10 | | | |
| Tc2O7 | | | | | 1.94E-07 | 1.94E-07 | 9.70E-11 | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | 3.34E-10 | 3.34E-10 | 1.67E-13 | | | |
| ThO2 | | | | | 5.58E-09 | 5.58E-09 | 2.79E-12 | | | |
| TiO2 | | | | | 4.14E-07 | 4.14E-07 | 2.07E-10 | | | |
| UO3 | | | | | 3.64E-05 | 3.64E-05 | 1.82E-08 | | | |
| ZnO | | | | | 1.40E-09 | 1.40E-09 | 6.98E-13 | | | |
| ZrO2 | | | | | 3.36E-06 | 3.36E-06 | 1.68E-09 | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 4.59E+04 | 5.76E+05 | 5.76E+05 | 4.59E+04 | 4.59E+04 | 5.76E+05 | | | |
| Volume (L) | | 4.59E+07 | 5.76E+08 | 5.76E+08 | 4.59E+07 | 4.59E+07 | 5.76E+08 | | | |
| Specific Gravity | | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+3 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | | 4.59E+04 | | | 4.59E+04 | 4.59E+04 | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | 4.55E+05 | 4.55E+05 | | | 4.55E+05 | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | 1.21E+05 | 1.21E+05 | | | 1.21E+05 | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 4.63E+02 | 4.63E+02 | 4.63E+02 | 4.63E+02 | 2.32E-01 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 8.52E+00 | 8.52E+00 | 8.52E+00 | 8.52E+00 | 4.26E-03 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | 2.75E+03 | 2.75E+03 | 2.75E+03 | 2.75E+03 | 1.38E+00 | | | |
| Ba-137 | | | 2.62E+03 | 2.62E+03 | 2.62E+03 | 2.62E+03 | 1.31E+00 | | | |
| Np-237 | | | 7.37E-03 | 7.37E-03 | 7.36E-03 | 7.36E-03 | 3.68E-06 | | | |
| Pu-239 | | | 1.81E+00 | 1.81E+00 | 1.81E+00 | 1.81E+00 | 9.03E-04 | | | |
| Pu-240 | | | 4.70E-01 | 4.70E-01 | 4.70E-01 | 4.70E-01 | 2.35E-04 | | | |
| Pu-241 | | | 5.28E+00 | 5.28E+00 | 5.27E+00 | 5.27E+00 | 2.64E-03 | | | |
| Sr-90 | | | 2.16E+03 | 2.16E+03 | 2.16E+03 | 2.16E+03 | 1.08E+00 | | | |
| Y-90 | | | 2.16E+03 | 2.16E+03 | 2.16E+03 | 2.16E+03 | 1.08E+00 | | | |
| Tc-99 | | | 7.09E+00 | 7.09E+00 | 7.09E+00 | 7.09E+00 | 3.55E-03 | | | |
| Total Curies | | | 9.72E+03 | 9.72E+03 | 9.71E+03 | 9.71E+03 | 4.86E+00 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | 1.30E-01 | 1.30E-01 | 1.30E-01 | 1.30E-01 | 6.49E-05 | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | 1.07E+00 | 1.07E+00 | 1.07E+00 | 1.07E+00 | 5.35E-04 | | | |
| I- | | | 2.19E-05 | 2.19E-05 | 2.19E-05 | 2.19E-05 | 1.10E-08 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | 1.89E-02 | 1.89E-02 | 1.89E-02 | 1.89E-02 | 9.43E-06 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | 3.55E-04 | 3.55E-04 | 3.55E-04 | 3.55E-04 | 1.78E-07 | | | |
| AlPO4 | | | 5.85E+00 | 5.85E+00 | 5.85E+00 | 5.85E+00 | 2.93E-03 | | | |
| Al2O3 | | | 2.07E+01 | 2.07E+01 | 2.07E+01 | 2.07E+01 | 1.04E-02 | | | |
| Am2O3 | | | 2.73E-06 | 2.73E-06 | 2.73E-06 | 2.73E-06 | 1.37E-09 | | | |
| As2O5 | | | 8.30E-08 | 8.30E-08 | 8.29E-08 | 8.29E-08 | 4.15E-11 | | | |
| B2O3 | | | 1.10E-04 | 1.10E-04 | 1.10E-04 | 1.10E-04 | 5.49E-08 | | | |
| BaO | | | 9.11E-04 | 9.11E-04 | 9.11E-04 | 9.11E-04 | 4.56E-07 | | | |
| BeO | | | 1.18E-07 | 1.18E-07 | 1.18E-07 | 1.18E-07 | 5.91E-11 | | | |
| Bi2O3 | | | 1.49E-02 | 1.49E-02 | 1.49E-02 | 1.49E-02 | 7.44E-06 | | | |
| CaO | | | 4.63E+01 | 4.63E+01 | 4.63E+01 | 4.63E+01 | 2.32E-02 | | | |
| CdO | | | 8.67E-03 | 8.67E-03 | 8.67E-03 | 8.67E-03 | 4.34E-06 | | | |
| Ce2O3 | | | 4.41E-03 | 4.41E-03 | 4.41E-03 | 4.41E-03 | 2.21E-06 | | | |
| Cm2O3 | | | 2.19E-10 | 2.19E-10 | 2.19E-10 | 2.19E-10 | 1.09E-13 | | | |
| Co2O3 | | | 2.07E-06 | 2.07E-06 | 2.06E-06 | 2.06E-06 | 1.03E-09 | | | |
| Cr2O3 | | | 4.34E-01 | 4.34E-01 | 4.34E-01 | 4.34E-01 | 2.17E-04 | | | |
| Cs2O | | | 1.68E-04 | 1.68E-04 | 1.68E-04 | 1.68E-04 | 8.42E-08 | | | |
| CuO | | | 1.26E-04 | 1.26E-04 | 1.26E-04 | 1.26E-04 | 6.29E-08 | | | |
| Fe2O3 | | | 5.58E-02 | 5.58E-02 | 5.58E-02 | 5.58E-02 | 2.79E-05 | | | |
| FeO | | | 1.54E-06 | 1.54E-06 | 1.54E-06 | 1.54E-06 | 7.70E-10 | | | |
| HgO | | | 2.28E-06 | 2.28E-06 | 2.28E-06 | 2.28E-06 | 1.14E-09 | | | |
| H2O | | | 6.13E-07 | 6.13E-07 | 6.13E-07 | 6.13E-07 | 3.07E-10 | | | |
| K2O | | | 8.56E-01 | 8.56E-01 | 8.55E-01 | 8.55E-01 | 4.28E-04 | | | |
| La2O3 | | | 4.40E-04 | 4.40E-04 | 4.40E-04 | 4.40E-04 | 2.20E-07 | | | |
| Li2O | | | | | | | | | | |
| MgO | | | 8.11E-05 | 8.11E-05 | 8.11E-05 | 8.11E-05 | 4.06E-08 | | | |
| MnO | | | 6.29E-08 | 6.29E-08 | 6.28E-08 | 6.28E-08 | 3.14E-11 | | | |
| MoO3 | | | 1.12E-05 | 1.12E-05 | 1.12E-05 | 1.12E-05 | 5.58E-09 | | | |
| Na2O | | | 1.16E+02 | 1.16E+02 | 1.16E+02 | 1.16E+02 | 5.79E-02 | | | |
| Ni2O3 | | | 1.33E-02 | 1.33E-02 | 1.33E-02 | 1.33E-02 | 6.67E-06 | | | |
| NpO2 | | | 1.19E-05 | 1.19E-05 | 1.19E-05 | 1.19E-05 | 5.93E-09 | | | |
| PbO2 | | | 1.12E-02 | 1.12E-02 | 1.12E-02 | 1.12E-02 | 5.58E-06 | | | |
| PuO2 | | | 3.55E-05 | 3.55E-05 | 3.54E-05 | 3.54E-05 | 1.77E-08 | | | |

| STREAM NAME | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | 2.64E-07 | 2.64E-07 | 2.64E-07 | 2.64E-07 | 1.32E-10 | | | |
| Re2O7 | | | 1.41E-07 | 1.41E-07 | 1.41E-07 | 1.41E-07 | 7.07E-11 | | | |
| Rh2O3 | | | 2.46E-06 | 2.46E-06 | 2.46E-06 | 2.46E-06 | 1.23E-09 | | | |
| Ru2O3 | | | 1.45E-06 | 1.45E-06 | 1.45E-06 | 1.45E-06 | 7.25E-10 | | | |
| SeO3 | | | 3.12E-05 | 3.12E-05 | 3.12E-05 | 3.12E-05 | 1.56E-08 | | | |
| SiO2 | | | 2.72E+02 | 2.72E+02 | 2.72E+02 | 2.72E+02 | 1.36E-01 | | | |
| SO3 | | | 1.63E-01 | 1.63E-01 | 1.63E-01 | 1.63E-01 | 8.15E-05 | | | |
| SrO | | | 7.05E-04 | 7.05E-04 | 7.04E-04 | 7.04E-04 | 3.52E-07 | | | |
| Tc2O7 | | | 6.53E-04 | 6.53E-04 | 6.53E-04 | 6.53E-04 | 3.27E-07 | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | 1.13E-06 | 1.13E-06 | 1.13E-06 | 1.13E-06 | 5.63E-10 | | | |
| ThO2 | | | 1.88E-05 | 1.88E-05 | 1.88E-05 | 1.88E-05 | 9.39E-09 | | | |
| TiO2 | | | 1.39E-03 | 1.39E-03 | 1.39E-03 | 1.39E-03 | 6.96E-07 | | | |
| UO3 | | | 1.22E-01 | 1.22E-01 | 1.22E-01 | 1.22E-01 | 6.12E-05 | | | |
| ZnO | | | 4.70E-06 | 4.70E-06 | 4.70E-06 | 4.70E-06 | 2.35E-09 | | | |
| ZrO2 | | | 1.13E-02 | 1.13E-02 | 1.13E-02 | 1.13E-02 | 5.66E-06 | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 921 | 922 | 923 | 924 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 5.59E-02 | 5.59E-02 | 7.05E+03 | | | 6.83E+01 | 1.37E+05 | 3.61E+03 | 3.61E+03 |
| Volume (L) | | 5.59E+01 | 5.59E+01 | 7.05E+06 | | | 1.80E+04 | 1.37E+08 | 3.61E+06 | 3.61E+06 |
| Specific Gravity | | 1.00E+00 | 1.00E+00 | 1.00E+00 | | | 3.80E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | 2.58E-05 | | | | | | |
| C-14 | | | | 2.56E+03 | | | | | | |
| Cs-137 | | | | 1.07E-02 | | | | | | |
| Ba-137 | | | | 1.02E-02 | | | | | | |
| Np-237 | | | | 2.27E-08 | | | | | | |
| Pu-239 | | | | 5.37E-06 | | | | | | |
| Pu-240 | | | | 1.40E-06 | | | | | | |
| Pu-241 | | | | 1.57E-05 | | | | | | |
| Sr-90 | | | | 6.03E-03 | | | | | | |
| Y-90 | | | | 6.03E-03 | | | | | | |
| Tc-99 | | | | 5.50E+02 | | | | | | |
| Total Curies | | | | 3.10E+03 | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | 1.04E-09 | | | | | | |
| Au+3 | | | | 7.51E-12 | | | | | | |
| As+5 | | | | 1.32E-13 | | | | | | |
| B+3 | | | | 1.12E-10 | | | | | | |
| Ba+2 | | | | 2.57E-09 | | | | | | |
| Be+2 | | | | 7.90E-14 | | | | | | |
| Bi+3 | | | | 3.85E-08 | | | | | | |
| Ca+2 | | | | 5.37E-08 | | | | | | |
| Cd+2 | | | | 2.75E-08 | | | | | | |
| Ce+3 | | | | 7.70E-09 | | | | | | |
| Cm+3 | | | | 3.10E-16 | | | | | | |
| Co+3 | | | | 4.75E-12 | | | | | | |
| Cs+ | | | | 6.17E-10 | | | | | | |
| Cu+2 | | | | 3.22E-10 | | | | | | |
| Fe+2 | | | | 3.88E-12 | | | | | | |
| Fe+3 | | | | 1.12E-07 | | | | | | |
| H+ | | | | 9.06E-03 | | | | | | |
| Hg+2 | | | | 1.90E-10 | | | | | | |
| K+ | | | | 2.31E-06 | | | | | | |
| La+3 | | | | 7.77E-10 | | | | | | |
| Mg+2 | | | | 4.75E-13 | | | | | | |
| Mn+2 | | | | 1.58E-13 | | | | | | |
| Mo+4 | | | | 3.52E-08 | | | | | | |
| Mo+6 | | | | 2.38E-11 | | | | | | |
| Na+ | | | | 2.71E-04 | | | 2.29E+01 | | | |
| Ni+3 | | | | 2.67E-08 | | | | | | |
| Np+4 | | | | 3.22E-11 | | | | | | |
| Pb+4 | | | | 3.46E-08 | | | | | | |
| Pu+4 | | | | 9.29E-11 | | | | | | |
| Rb+ | | | | 7.81E-13 | | | | | | |
| Re+7 | | | | 3.52E-13 | | | | | | |
| Rh+3 | | | | 2.77E-12 | | | | | | |
| Ru+3 | | | | 4.26E-12 | | | | | | |
| Se+6 | | | | 7.12E-12 | | | | | | |
| Si+4 | | | | 5.19E-08 | | | | | | |
| Sr+2 | | | | 1.24E-09 | | | | | | |
| Te+6 | | | | 2.97E-12 | | | | | | |
| UO2+2 | | | | 3.45E-07 | | | | | | |
| Zn+2 | | | | 2.53E-12 | | | | | | |
| Zr+4 | | | | 7.90E-14 | | | | | | |
| Al(OH)4- | | | | 4.13E-05 | | | | | | |
| BO2- | | | | 3.10E-11 | | | | | | |
| Cl- | | | | 2.24E-06 | | | | | | |
| CO3-2 | | | | 4.50E-10 | | | | | | |
| Cr(OH)4- | | | | 2.24E-06 | | | | | | |
| F- | | | | 3.70E-06 | | | | | | |
| I- | | | | 1.79E-09 | | | | | | |
| NO2- | | | | 2.68E-05 | | | 4.54E+01 | | | |
| NO3- | | | | 3.47E-01 | | | | | | |
| OH- | | | | 7.88E-09 | | | | | | |
| PO4-3 | | | | 1.58E-05 | | | | | | |
| SO4-2 | | | | 1.03E-01 | | | | | | |
| TcO4- | | | | 5.14E-02 | | | | | | |
| H2O | | 5.59E-02 | 5.59E-02 | 4.56E+02 | | | | | | |
| Organic Carbon | | | | 2.41E-05 | | | | | | |
| ZrO2:2H2O | | | | 2.45E-08 | | | | | | |
| Hg | | | | 1.42E-02 | | | | | | |
| TcO2 | | | | 1.48E-03 | | | | | | |
| Cl2 | | | | 1.35E-02 | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | 5.38E+03 | | | | | | |
| F2 | | | | 7.53E-02 | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | 4.96E-03 | | | | | | |
| N2 | | | | 1.03E+02 | | | | | | |
| N2O | | | | 1.71E+01 | | | | | | |
| NO | | | | 7.02E+02 | | | | | | |
| NO2 | | | | 1.46E+02 | | | | | | |
| O2 | | | | 2.30E+02 | | | | | | |
| SO2 | | | | 1.14E+01 | | | | | | |
| Dicyclopentadiene | | | | | | | | | 3.61E+03 | |
| Glycolic Anion | | | | 1.47E-02 | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | 2.03E+00 | | | | | | |
| Oligomer | | | | | | | | | | 3.61E+03 |
| Sulfur | | | | | | | | 1.37E+05 | | |

| STREAM NAME | 921 | 922 | 923 | 924 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | 5.64E-04 | 2.82E-07 | 7.25E+00 | 8.09E+02 | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | 2.33E-03 | 1.17E-06 | | | | | | |
| C-14 | | | 5.42E-07 | 2.71E-10 | | | | | | |
| Cs-137 | | | 7.77E-01 | 3.89E-04 | | | | | | |
| Ba-137 | | | 7.39E-01 | 3.70E-04 | | | | | | |
| Np-237 | | | 1.52E-06 | 7.58E-10 | | | | | | |
| Pu-239 | | | 6.12E-04 | 3.06E-07 | | | | | | |
| Pu-240 | | | 1.52E-04 | 7.60E-08 | | | | | | |
| Pu-241 | | | 1.71E-03 | 8.55E-07 | | | | | | |
| Sr-90 | | | 1.23E+00 | 6.17E-04 | | | | | | |
| Y-90 | | | 1.23E+00 | 6.17E-04 | | | | | | |
| Tc-99 | | | 5.56E-04 | 2.78E-07 | | | | | | |
| Total Curies | | | 3.99E+00 | 1.99E-03 | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | 3.68E-10 | 1.84E-13 | | | | | | |
| Al+3 | | | 1.84E-07 | 9.20E-11 | | | | | | |
| Am+3 | | | 6.99E-12 | 3.49E-15 | | | | | | |
| As+5 | | | 5.62E-13 | 2.81E-16 | | | | | | |
| Bat2 | | | 9.30E-10 | 4.65E-13 | | | | | | |
| Be+2 | | | 7.64E-13 | 3.82E-16 | | | | | | |
| Bi+3 | | | 6.25E-08 | 3.13E-11 | | | | | | |
| Ca+2 | | | 3.60E-08 | 1.80E-11 | | | | | | |
| Cd+2 | | | 1.63E-09 | 8.14E-13 | | | | | | |
| Ce+3 | | | 5.84E-08 | 2.92E-11 | | | | | | |
| Cm+3 | | | 4.36E-15 | 2.18E-18 | | | | | | |
| Co+3 | | | 3.69E-16 | 1.85E-19 | | | | | | |
| Cr+3 | | | 1.43E-08 | 7.15E-12 | | | | | | |
| Cs+ | | | 4.67E-10 | 2.34E-13 | | | | | | |
| Cu+2 | | | 4.68E-11 | 2.34E-14 | | | | | | |
| Fe+3 | | | 1.89E-07 | 9.47E-11 | | | | | | |
| Hg+2 | | | 2.19E-11 | 1.10E-14 | | | | | | |
| K+ | | | 7.36E-09 | 3.68E-12 | | | | | | |
| La+3 | | | 5.70E-09 | 2.85E-12 | | | | | | |
| Mg+2 | | | 2.05E-09 | 1.03E-12 | | | | | | |
| Mn+4 | | | 4.47E-08 | 2.24E-11 | | | | | | |
| Mo+6 | | | 7.99E-12 | 3.99E-15 | | | | | | |
| Na+ | | | 1.65E-07 | 8.25E-11 | | | | | | |
| Ni+3 | | | 5.12E-08 | 2.56E-11 | | | | | | |
| Np+4 | | | 2.21E-11 | 1.11E-14 | | | | | | |
| Pb+4 | | | 7.28E-09 | 3.64E-12 | | | | | | |
| Pu+4 | | | 1.08E-10 | 5.42E-14 | | | | | | |
| Rn+3 | | | 4.79E-11 | 2.39E-14 | | | | | | |
| Se+6 | | | 8.23E-10 | 4.12E-13 | | | | | | |
| Si+4 | | | 5.76E-08 | 2.88E-11 | | | | | | |
| Sr+2 | | | 9.08E-09 | 4.54E-12 | | | | | | |
| Th+4 | | | 6.93E-10 | 3.47E-13 | | | | | | |
| Ti+4 | | | 3.84E-11 | 1.92E-14 | | | | | | |
| UO2+2 | | | 3.84E-07 | 1.92E-10 | | | | | | |
| Zn+2 | | | 1.25E-10 | 6.29E-14 | | | | | | |
| Cl- | | | 3.25E-07 | 1.63E-10 | | | | | | |
| CO3-2 | | | 2.71E-08 | 1.35E-11 | | | | | | |
| F- | | | 1.82E-06 | 9.13E-10 | | | | | | |
| I- | | | 3.47E-13 | 1.73E-16 | | | | | | |
| NO2- | | | 1.53E-08 | 7.68E-12 | | | | | | |
| NO3- | | | 2.43E-07 | 1.22E-10 | | | | | | |
| OH- | | | 6.42E-07 | 3.21E-10 | | | | | | |
| PO4-3 | | | 1.19E-07 | 5.97E-11 | | | | | | |
| SO4-2 | | | 6.35E-09 | 3.18E-12 | | | | | | |
| TcO4- | | | 2.25E-10 | 1.13E-13 | | | | | | |
| Cancrinite | | | 6.72E-07 | 3.36E-10 | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | 6.82E-06 | 3.41E-09 | | | | | | |
| Organic Carbon | | | 2.17E-08 | 1.09E-11 | | | | | | |
| ZrO2:2H2O | | | 2.97E-07 | 1.49E-10 | | | | | | |
| Ag2O | | | 3.81E-08 | 1.91E-11 | | | | | | |
| AlFO4 | | | 1.57E-05 | 7.87E-09 | | | | | | |
| Al2O3 | | | 4.73E-05 | 2.37E-08 | | | | | | |
| Am2O3 | | | 7.40E-10 | 3.70E-13 | | | | | | |
| As2O5 | | | 8.31E-11 | 4.16E-14 | | | | | | |
| B2O3 | | | 3.95E-05 | 1.97E-08 | | | | | | |
| BaO | | | 1.00E-07 | 5.01E-11 | | | | | | |
| BeO | | | 2.04E-10 | 1.02E-13 | | | | | | |
| Bi2O3 | | | 6.71E-06 | 3.36E-09 | | | | | | |
| CaO | | | 4.85E-06 | 2.43E-09 | | | | | | |
| CdO | | | 1.81E-07 | 9.03E-11 | | | | | | |
| Ce2O3 | | | 6.59E-06 | 3.30E-09 | | | | | | |
| Cm2O3 | | | 4.61E-13 | 2.30E-16 | | | | | | |
| Co2O3 | | | 3.72E-13 | 1.86E-16 | | | | | | |
| Cr2O3 | | | 2.08E-06 | 1.04E-09 | | | | | | |
| Cs2O | | | 4.77E-08 | 2.39E-11 | | | | | | |
| CuO | | | 5.66E-09 | 2.83E-12 | | | | | | |
| Fe2O3 | | | 2.61E-05 | 1.31E-08 | | | | | | |
| FeO | | | 2.40E-13 | 1.20E-16 | | | | | | |
| Hg | | | 3.40E-14 | 1.70E-17 | | | | | | |
| HgO | | | 7.40E-18 | 3.70E-21 | | | | | | |
| K2O | | | 9.87E-07 | 4.94E-10 | | | | | | |
| La2O3 | | | 6.44E-07 | 3.22E-10 | | | | | | |
| Li2O | | | 1.13E-05 | 5.64E-09 | | | | | | |
| MgO | | | 3.27E-07 | 1.64E-10 | | | | | | |
| MnO | | | 9.80E-15 | 4.90E-18 | | | | | | |
| MoO3 | | | 1.16E-09 | 5.78E-13 | | | | | | |
| Na2O | | | 5.39E-05 | 2.70E-08 | | | | | | |
| Ni2O3 | | | 6.95E-06 | 3.48E-09 | | | | | | |
| NpO2 | | | 2.42E-09 | 1.21E-12 | | | | | | |
| PbO2 | | | 8.11E-07 | 4.06E-10 | | | | | | |
| PuO2 | | | 1.18E-08 | 5.92E-12 | | | | | | |

| STREAM NAME | 921 | 922 | 923 | 924 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | | 4.11E-14 | 2.06E-17 | | | | | | |
| $Re_2O_7$ | | | 2.20E-14 | 1.10E-17 | | | | | | |
| $Rh_2O_3$ | | | 5.68E-09 | 2.84E-12 | | | | | | |
| $Ru_2O_3$ | | | 2.54E-13 | 1.27E-16 | | | | | | |
| $SeO_3$ | | | 1.27E-07 | 6.37E-11 | | | | | | |
| $SiO_2$ | | | 2.59E-04 | 1.30E-07 | | | | | | |
| $SO_3$ | | | 6.05E-07 | 3.03E-10 | | | | | | |
| SrO | | | 1.03E-06 | 5.15E-10 | | | | | | |
| $Tc_2O_7$ | | | 5.07E-08 | 2.54E-11 | | | | | | |
| $Tc_2S_7$ | | | 4.38E-10 | 2.19E-13 | | | | | | |
| $TeO_3$ | | | 1.97E-13 | 9.85E-17 | | | | | | |
| $ThO_2$ | | | 7.60E-08 | 3.80E-11 | | | | | | |
| $TiO_2$ | | | 5.58E-06 | 2.79E-09 | | | | | | |
| $UO_3$ | | | 3.91E-05 | 1.96E-08 | | | | | | |
| ZrO | | | 1.51E-08 | 7.54E-12 | | | | | | |
| $ZrO_2$ | | | 2.21E-05 | 1.11E-08 | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | 1.23E-09 | 6.14E-13 | 7.25E+00 | | | | | |
| Silico-Titanate | | | 2.01E-07 | 1.01E-10 | | 8.09E+02 | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 6.18E+04 | 4.79E+04 | 2.41E+03 | 1.20E+04 | | 5.88E+04 | 6.17E+05 | 6.05E+03 | | |
| Volume (L) | 4.02E+07 | 3.44E+07 | 2.41E+06 | 1.20E+07 | | 5.88E+07 | 6.17E+08 | 6.05E+06 | | |
| Specific Gravity | 1.54E+00 | 1.39E+00 | 1.00E+00 | 1.00E+00 | | 1.00E+00 | 1.00E+00 | 1.00E+00 | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| Ast+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cr+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | 4.34E+02 | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | 1.78E+04 | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | 2.69E+04 | | | | | | | | |
| OH- | 1.31E+04 | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 3.09E+04 | 2.06E+04 | | | | | 6.17E+05 | 1.78E+03 | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | 1.20E+04 | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | 4.27E+03 | | |
| Kerosene | | | | | | 5.88E+04 | | | | |
| NH3 | | | 2.41E+03 | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | 4.91E+03 | 1.17E+03 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | 2.65E+03 | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | 2.25E+03 | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| B2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | | | | | | | | | | |
| $Re_2O_7$ | | | | | | | | | | |
| $Rh_2O_3$ | | | | | | | | | | |
| $Ru_2O_3$ | | | | | | | | | | |
| $SeO_3$ | | | | | | | | | | |
| $SiO_2$ | | | | | | | | | | |
| $SO_3$ | | | | | | | | | | |
| SrO | | | | | | | | | | |
| $Tc_2O_7$ | | | | | | | | | | |
| $Tc_2S_7$ | | | | | | | | | | |
| $TeO_3$ | | | | | | | | | | |
| $ThO_2$ | | | | | | | | | | |
| $TiO_2$ | | | | | | | | | | |
| $UO_3$ | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| $ZrO_2$ | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | 1.17E+03 |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1016 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1030 | 1031 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | 1.27E+05 | 1.27E+05 |
| Volume (L) | | | | | | | | | 1.27E+08 | 1.27E+08 |
| Specific Gravity | | | | | | | | | 1.00E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2;2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | 9.27E+03 | 9.27E+03 |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | 1.18E+05 | 1.18E+05 |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1016 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1030 | 1031 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.17E+03 | 2.77E+05 | 1.62E+04 | | 1.62E+03 | 4.64E+02 | 4.18E+04 | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | 1.62E+04 | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | 1.62E+03 | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | 4.18E+04 | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | 4.64E+02 | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 1016 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1030 | 1031 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | 2.77E+05 | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZrO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | 1.17E+03 | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.27E+05 | 1.27E+05 | 1.27E+05 | 3.18E+04 | 9.50E+04 | 9.50E+04 | 9.50E+04 | 2.27E+04 | 3.18E+04 | |
| Volume (L) | 1.27E+08 | 1.27E+08 | 1.27E+08 | 3.18E+07 | 9.50E+07 | 9.50E+07 | 9.50E+07 | 2.27E+07 | 3.18E+07 | |
| Specific Gravity | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | 1.00E+00 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TeO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 9.27E+03 | 9.27E+03 | 9.27E+03 | 9.05E+03 | 2.19E+02 | 2.19E+02 | 2.19E+02 | | 9.05E+03 | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | 1.18E+05 | 1.18E+05 | 1.18E+05 | 2.27E+04 | 9.48E+04 | 9.48E+04 | 9.48E+04 | 2.27E+04 | 2.27E+04 | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | | | | | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Carcinite | | | | | | | | | | |
| B2O | | | | | | | | | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Ni2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SrO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZnO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1042 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.18E+04 | 1.03E+05 | | 1.03E+05 | 7.23E+04 | 7.23E+04 | 3.07E+04 | 3.07E+04 | 8.77E+03 | 2.47E+04 |
| Volume (L) | 3.18E+07 | 9.76E+07 | | 9.76E+07 | 7.09E+07 | 7.09E+07 | 2.68E+07 | 2.68E+07 | 6.37E+06 | 2.36E+07 |
| Specific Gravity | 1.00E+00 | 1.05E+00 | | 1.05E+00 | 1.02E+00 | 1.02E+00 | 1.15E+00 | 1.15E+00 | 1.38E+00 | 1.05E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | 6.75E+05 | | 6.75E+05 | 1.59E-01 | 1.59E-01 | 6.75E+05 | 6.75E+05 | | |
| Ba-137 | | 6.41E+05 | | 6.41E+05 | 1.51E-01 | 1.51E-01 | 6.41E+05 | 6.41E+05 | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | 1.50E+04 | | 1.50E+04 | 3.53E-03 | 3.53E-03 | 1.50E+04 | 1.50E+04 | | |
| Total Curies | | 1.33E+06 | | 1.33E+06 | 3.13E-01 | 3.13E-01 | 1.33E+06 | 1.33E+06 | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | 9.28E-01 | | 9.28E-01 | 2.19E-07 | 2.19E-07 | 9.28E-01 | 9.28E-01 | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | 3.89E-02 | | 3.89E-02 | 9.16E-09 | 9.16E-09 | 3.89E-02 | 3.89E-02 | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | 1.48E+02 | | 1.48E+02 | 3.14E+01 | 3.14E+01 | 1.16E+02 | 1.16E+02 | 7.82E+01 | 2.52E+01 |
| Hg+2 | | | | | | | | | | |
| K+ | | 1.76E+00 | | 1.76E+00 | 4.14E-07 | 4.14E-07 | 1.76E+00 | 1.76E+00 | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | 9.60E-05 | | 9.60E-05 | 2.26E-11 | 2.26E-11 | 9.60E-05 | 9.60E-05 | | |
| Na+ | | 2.13E+02 | | 2.13E+02 | 5.01E-05 | 5.01E-05 | 2.13E+02 | 2.13E+02 | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | 1.18E+00 | | 1.18E+00 | 2.78E-07 | 2.78E-07 | 1.18E+00 | 1.18E+00 | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | 1.43E-04 | | 1.43E-04 | 3.37E-11 | 3.37E-11 | 1.43E-04 | 1.43E-04 | | |
| Se+6 | | 2.37E-03 | | 2.37E-03 | 5.59E-10 | 5.59E-10 | 2.37E-03 | 2.37E-03 | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | 1.00E-04 | | 1.00E-04 | 2.36E-11 | 2.36E-11 | 1.00E-04 | 1.00E-04 | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | 1.10E-02 | | 1.10E-02 | 2.60E-09 | 2.60E-09 | 1.10E-02 | 1.10E-02 | | |
| Cl- | | 6.04E+02 | | 6.04E+02 | 9.06E+01 | 9.06E+01 | 5.13E+02 | 5.13E+02 | 1.51E+01 | 4.88E+02 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | 5.22E+02 | | 5.22E+02 | 3.08E+02 | 3.08E+02 | 2.14E+02 | 2.14E+02 | 2.14E-01 | 2.14E+02 |
| I- | | 5.31E-01 | | 5.31E-01 | 1.25E-07 | 1.25E-07 | 5.31E-01 | 5.31E-01 | | |
| NO2- | | | | | | | | | | |
| NO3- | | 6.39E+03 | | 6.39E+03 | 7.67E+02 | 7.67E+02 | 5.63E+03 | 5.63E+03 | 4.78E+03 | 1.67E+00 |
| OH- | | | | | | | | | | |
| PO4-3 | | 2.79E+02 | | 2.79E+02 | 6.57E-05 | 6.57E-05 | 2.79E+02 | 2.79E+02 | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | 1.45E+00 | | 1.45E+00 | 3.42E-07 | 3.42E-07 | 1.45E+00 | 1.45E+00 | | |
| H2O | | 9.48E+04 | | 9.48E+04 | 7.11E+04 | 7.11E+04 | 2.37E+04 | 2.37E+04 | 3.90E+03 | 2.39E+04 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TCO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | 9.05E+03 | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | 2.27E+04 | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1042 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 2.32E+01 | | 2.32E+01 | | | 2.32E+01 | 2.32E+01 | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | 4.27E-01 | | 4.27E-01 | | | 4.27E-01 | 4.27E-01 | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | 1.38E+02 | | 1.38E+02 | | | 1.38E+02 | 1.38E+02 | | |
| Ba-137 | | 1.31E+02 | | 1.31E+02 | | | 1.31E+02 | 1.31E+02 | | |
| Np-237 | | 3.69E-04 | | 3.69E-04 | | | 3.69E-04 | 3.69E-04 | | |
| Pu-239 | | 9.05E-02 | | 9.05E-02 | | | 9.05E-02 | 9.05E-02 | | |
| Pu-240 | | 2.36E-02 | | 2.36E-02 | | | 2.36E-02 | 2.36E-02 | | |
| Pu-241 | | 2.64E-01 | | 2.64E-01 | | | 2.64E-01 | 2.64E-01 | | |
| Sr-90 | | 1.08E+02 | | 1.08E+02 | | | 1.08E+02 | 1.08E+02 | | |
| Y-90 | | 1.08E+02 | | 1.08E+02 | | | 1.08E+02 | 1.08E+02 | | |
| Tc-99 | | 3.55E-01 | | 3.55E-01 | | | 3.55E-01 | 3.55E-01 | | |
| Total Curies | | 4.87E+02 | | 4.87E+02 | | | 4.87E+02 | 4.87E+02 | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | 6.50E-03 | | 6.50E-03 | | | 6.50E-03 | 6.50E-03 | | |
| CO3-2 | | | | | | | | | | |
| F- | | 5.35E-02 | | 5.35E-02 | | | 5.35E-02 | 5.35E-02 | | |
| I- | | 1.10E-06 | | 1.10E-06 | | | 1.10E-06 | 1.10E-06 | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | 9.45E-04 | | 9.45E-04 | | | 9.45E-04 | 9.45E-04 | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2;2H2O | | | | | | | | | | |
| Ag2O | | 1.78E-05 | | 1.78E-05 | | | 1.78E-05 | 1.78E-05 | | |
| AlPO4 | | 2.93E-01 | | 2.93E-01 | | | 2.93E-01 | 2.93E-01 | | |
| Al2O3 | | 1.04E+00 | | 1.04E+00 | | | 1.04E+00 | 1.04E+00 | | |
| Am2O3 | | 1.37E-07 | | 1.37E-07 | | | 1.37E-07 | 1.37E-07 | | |
| As2O5 | | 4.16E-09 | | 4.16E-09 | | | 4.16E-09 | 4.16E-09 | | |
| B2O3 | | 5.50E-06 | | 5.50E-06 | | | 5.50E-06 | 5.50E-06 | | |
| BaO | | 4.57E-05 | | 4.57E-05 | | | 4.57E-05 | 4.57E-05 | | |
| BeO | | 5.92E-09 | | 5.92E-09 | | | 5.92E-09 | 5.92E-09 | | |
| Bi2O3 | | 7.46E-04 | | 7.46E-04 | | | 7.46E-04 | 7.46E-04 | | |
| CaO | | 2.32E+00 | | 2.32E+00 | | | 2.32E+00 | 2.32E+00 | | |
| CdO | | 4.34E-04 | | 4.34E-04 | | | 4.34E-04 | 4.34E-04 | | |
| Ce2O3 | | 2.21E-04 | | 2.21E-04 | | | 2.21E-04 | 2.21E-04 | | |
| Cm2O3 | | 1.10E-11 | | 1.10E-11 | | | 1.10E-11 | 1.10E-11 | | |
| Co2O3 | | 1.03E-07 | | 1.03E-07 | | | 1.03E-07 | 1.03E-07 | | |
| Cr2O3 | | 2.18E-02 | | 2.18E-02 | | | 2.18E-02 | 2.18E-02 | | |
| Cs2O | | 8.44E-06 | | 8.44E-06 | | | 8.44E-06 | 8.44E-06 | | |
| CuO | | 6.30E-06 | | 6.30E-06 | | | 6.30E-06 | 6.30E-06 | | |
| Fe2O3 | | 2.80E-03 | | 2.80E-03 | | | 2.80E-03 | 2.80E-03 | | |
| FeO | | 7.72E-08 | | 7.72E-08 | | | 7.72E-08 | 7.72E-08 | | |
| Hg | | 1.41E-04 | | 1.41E-04 | | | 1.41E-04 | 1.41E-04 | | |
| HgO | | 3.07E-08 | | 3.07E-08 | | | 3.07E-08 | 3.07E-08 | | |
| K2O | | 4.29E-02 | | 4.29E-02 | | | 4.29E-02 | 4.29E-02 | | |
| La2O3 | | 2.21E-05 | | 2.21E-05 | | | 2.21E-05 | 2.21E-05 | | |
| Li2O | | | | | | | | | | |
| MgO | | 4.06E-06 | | 4.06E-06 | | | 4.06E-06 | 4.06E-06 | | |
| MnO | | 3.15E-09 | | 3.15E-09 | | | 3.15E-09 | 3.15E-09 | | |
| MoO3 | | 5.59E-07 | | 5.59E-07 | | | 5.59E-07 | 5.59E-07 | | |
| Na2O | | 5.80E+00 | | 5.80E+00 | | | 5.80E+00 | 5.80E+00 | | |
| Ni2O3 | | 6.68E-04 | | 6.68E-04 | | | 6.68E-04 | 6.68E-04 | | |
| NpO2 | | 5.94E-07 | | 5.94E-07 | | | 5.94E-07 | 5.94E-07 | | |
| PbO2 | | 5.59E-04 | | 5.59E-04 | | | 5.59E-04 | 5.59E-04 | | |
| PuO2 | | 1.78E-06 | | 1.78E-06 | | | 1.78E-06 | 1.78E-06 | | |

| STREAM NAME | 1042 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | 1.32E-08 | | 1.32E-08 | | | 1.32E-08 | 1.32E-08 | | |
| Re2O7 | | 7.08E-09 | | 7.08E-09 | | | 7.08E-09 | 7.08E-09 | | |
| Rh2O3 | | 1.23E-07 | | 1.23E-07 | | | 1.23E-07 | 1.23E-07 | | |
| Ru2O3 | | 7.26E-08 | | 7.26E-08 | | | 7.26E-08 | 7.26E-08 | | |
| SeO3 | | 1.56E-06 | | 1.56E-06 | | | 1.56E-06 | 1.56E-06 | | |
| SiO2 | | 1.36E+01 | | 1.36E+01 | | | 1.36E+01 | 1.36E+01 | | |
| SO3 | | 8.17E-03 | | 8.17E-03 | | | 8.17E-03 | 8.17E-03 | | |
| SrO | | 3.53E-05 | | 3.53E-05 | | | 3.53E-05 | 3.53E-05 | | |
| Tc2O7 | | 3.27E-05 | | 3.27E-05 | | | 3.27E-05 | 3.27E-05 | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | 5.64E-08 | | 5.64E-08 | | | 5.64E-08 | 5.64E-08 | | |
| ThO2 | | 9.40E-07 | | 9.40E-07 | | | 9.40E-07 | 9.40E-07 | | |
| TiO2 | | 6.97E-05 | | 6.97E-05 | | | 6.97E-05 | 6.97E-05 | | |
| UO3 | | 6.13E-03 | | 6.13E-03 | | | 6.13E-03 | 6.13E-03 | | |
| ZnO | | 2.35E-07 | | 2.35E-07 | | | 2.35E-07 | 2.35E-07 | | |
| ZrO2 | | 5.67E-04 | | 5.67E-04 | | | 5.67E-04 | 5.67E-04 | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 9.79E+02 | 2.37E+04 | 2.37E+04 | 1.12E+03 | 2.06E+02 | 4.39E+04 | 2.23E+03 | 2.30E+03 | 2.56E-05 | 1.91E-07 |
| Volume (L) | 5.31E+05 | 2.30E+07 | 2.30E+07 | 7.26E+05 | 2.06E+05 | 4.39E+07 | 1.78E+06 | 2.28E+06 | 2.54E-02 | 1.91E-04 |
| Specific Gravity | 1.84E+00 | 1.03E+00 | 1.03E+00 | 1.54E+00 | 1.00E+00 | 1.00E+00 | 1.25E+00 | 1.01E+00 | 1.01E+00 | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | 6.75E+05 | | | |
| Ba-137 | | | | | | | 6.41E+05 | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | 1.50E+04 | | | |
| Total Curies | | | | | | | 1.33E+06 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | 4.93E-03 | 5.48E-11 | 5.48E-14 |
| Cd+2 | | | | | | | 9.28E-01 | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | 3.89E-02 | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | 1.41E+01 | 1.12E+01 | 1.12E+01 | | | | 1.28E+01 | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | 1.76E+00 | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | 9.60E-05 | | | |
| Na+ | | | | 3.21E+02 | | | 2.13E+02 | 3.21E+02 | 3.56E-06 | 3.56E-09 |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | 1.18E+00 | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | | | | | | | 1.43E-04 | | | |
| Se+6 | | | | | | | 2.37E-03 | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Tc+6 | | | | | | | 1.00E-04 | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| HO2- | | | | | | | 1.10E-02 | | | |
| Cl- | 4.73E+02 | 1.46E+01 | 1.46E+01 | | | | 1.03E+01 | 4.73E+02 | 5.26E-06 | 5.26E-09 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | 1.07E+01 | 2.03E+02 | 2.03E+02 | | | | 2.14E-01 | | | |
| I- | | | | | | | 5.31E-01 | | | |
| NO2- | | | | | | | | | | |
| NO3- | 1.67E+00 | | | | | | 8.44E+02 | 1.67E+00 | 1.86E-08 | 1.86E-11 |
| OH- | | | | 2.37E+02 | | | | 9.56E+00 | 1.06E-07 | 1.06E-10 |
| PO4-3 | | | | | | | 2.79E+02 | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | 1.45E+00 | | | |
| H2O | 4.79E+02 | 2.35E+04 | 2.35E+04 | 5.58E+02 | 2.06E+02 | 4.39E+04 | 8.61E+02 | 1.49E+03 | 1.66E-05 | 1.82E-07 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| He | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | | | | 2.29E+01 | 4.88E+03 | 2.32E+01 | 3.53E+01 | | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | 4.27E-01 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | 1.38E+02 | | | |
| Ba-137 | | | | | | | 1.31E+02 | | | |
| Np-237 | | | | | | | 3.69E-04 | | | |
| Pu-239 | | | | | | | 9.05E-03 | | | |
| Pu-240 | | | | | | | 2.36E-03 | | | |
| Pu-241 | | | | | | | 2.61E-01 | | | |
| Sr-90 | | | | | | | 1.08E+02 | | | |
| Y-90 | | | | | | | 1.08E+02 | | | |
| Tc-99 | | | | | | | 3.37E-01 | | | |
| Total Curies | | | | | | | 4.87E+02 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | 1.24E+01 | 2.64E+03 | | 2.37E+01 | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | 6.50E-03 | | | |
| CO3-2 | | | | | | | | | | |
| F- | | | | | | | 5.35E-02 | 1.07E+01 | | |
| I- | | | | | | | 1.10E-06 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | 1.05E+01 | 2.24E+03 | | 9.45E-01 | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | | | | | | | 9.45E-04 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2.2H2O | | | | | | | | | | |
| Ag2O | | | | | | | 1.78E-05 | | | |
| AlPO4 | | | | | | | 2.93E-01 | | | |
| Al2O3 | | | | | | | 1.04E+00 | | | |
| Am2O3 | | | | | | | 1.37E-07 | | | |
| As2O5 | | | | | | | 4.16E-09 | | | |
| B2O3 | | | | | | | 5.50E-06 | | | |
| BaO | | | | | | | 4.57E-05 | | | |
| BeO | | | | | | | 5.92E-09 | | | |
| Bi2O3 | | | | | | | 7.46E-04 | | | |
| CaO | | | | | | | 2.32E+00 | | | |
| CdO | | | | | | | 4.34E-04 | | | |
| Ce2O3 | | | | | | | 2.21E-04 | | | |
| Cm2O3 | | | | | | | 1.10E-11 | | | |
| Co2O3 | | | | | | | 1.03E-07 | | | |
| Cr2O3 | | | | | | | 2.18E-02 | | | |
| Cs2O | | | | | | | 8.44E-06 | | | |
| CuO | | | | | | | 6.30E-06 | | | |
| Fe2O3 | | | | | | | 2.80E-03 | | | |
| FeO | | | | | | | 7.72E-08 | | | |
| Hg | | | | | | | 1.41E-04 | | | |
| HgO | | | | | | | 3.07E-08 | | | |
| K2O | | | | | | | 4.29E-02 | | | |
| La2O3 | | | | | | | 2.21E-05 | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | 4.06E-06 | | | |
| MnO | | | | | | | 3.13E-09 | | | |
| MoO3 | | | | | | | 5.59E-07 | | | |
| Na2O | | | | | | | 5.80E+00 | | | |
| Ni2O3 | | | | | | | 6.68E-04 | | | |
| NpO2 | | | | | | | 5.94E-07 | | | |
| PbO2 | | | | | | | 5.59E-04 | | | |
| PuO2 | | | | | | | 1.78E-06 | | | |

| STREAM NAME | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | 1.32E-08 | | | |
| Re2O7 | | | | | | | 7.08E-09 | | | |
| Rh2O3 | | | | | | | 1.23E-07 | | | |
| Ru2O3 | | | | | | | 7.26E-08 | | | |
| SeO3 | | | | | | | 1.56E-06 | | | |
| SiO2 | | | | | | | 1.36E+01 | | | |
| SO3 | | | | | | | 8.17E-03 | | | |
| SrO | | | | | | | 3.53E-05 | | | |
| Tc2O7 | | | | | | | 3.27E-05 | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | 5.64E-08 | | | |
| ThO2 | | | | | | | 9.40E-07 | | | |
| TiO2 | | | | | | | 6.97E-05 | | | |
| UO3 | | | | | | | 6.13E-03 | | | |
| ZnO | | | | | | | 2.35E-07 | | | |
| ZrO2 | | | | | | | 5.67E-04 | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.54E-05 | 2.30E+03 | 2.30E+03 | 2.30E+03 | | | | | | 4.42E+04 |
| Volume (L) | 2.52E-02 | 2.28E+06 | 2.28E+06 | 2.28E+06 | | | | | | 4.42E+07 |
| Specific Gravity | 1.01E+00 | 1.01E+00 | 1.01E+00 | 1.01E+00 | | | | | | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | 5.47E-11 | 4.93E-03 | 4.93E-03 | 4.93E-03 | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cr+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | 3.56E-06 | 3.21E+02 | 3.21E+02 | 3.21E+02 | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Ru+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | | | | | | | | | | |
| Cl- | 5.26E-06 | 4.73E+02 | 4.73E+02 | 4.73E+02 | | | | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | | | | | | | | | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | 1.86E-08 | 1.67E+00 | 1.67E+00 | 1.67E+00 | | | | | | |
| OH- | 1.06E-07 | 9.56E+00 | 9.56E+00 | 9.56E+00 | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| H2O | 1.64E-05 | 1.49E+03 | 1.49E+03 | 1.49E+03 | | | | | | |
| Organic Carbon | | | | | | | | | | 4.42E+04 |
| ZrO2.2H2O | | | | | | | | | | |
| He | | | | | | | | | | |
| TCO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | | 3.53E+01 | 3.53E+01 | 3.53E+01 | 1.17E+03 | 1.17E+03 | 4.67E+03 | 4.67E+03 | 4.91E+03 | |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | | | | | | | | | | |
| Ba-137 | | | | | | | | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | | | | | | | | | | |
| Total Curies | | | | | | | | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | 2.37E+01 | 2.37E+01 | 2.37E+01 | | | 2.37E+01 | 2.37E+01 | 2.65E+03 | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | 3.21E+02 | 3.21E+02 | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Nd+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | | | | | | | 4.73E+02 | 4.73E+02 | | |
| CO3-2 | | | | | | | | | | |
| F- | | 1.07E+01 | 1.07E+01 | 1.07E+01 | | | 1.07E+01 | 1.07E+01 | | |
| I- | | | | | | | | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | 1.67E+00 | 1.67E+00 | | |
| OH- | | 9.45E-01 | 9.45E-01 | 9.45E-01 | | | 1.05E+01 | 1.05E+01 | 2.25E+03 | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Carcrinite | | | | | | | | | | |
| H2O | | | | | | | 1.49E+03 | 1.49E+03 | | |
| MnO2 | | | | | | | | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | | | | | | | | | | |
| AlPO4 | | | | | | | | | | |
| Al2O3 | | | | | | | | | | |
| Am2O3 | | | | | | | | | | |
| As2O5 | | | | | | | | | | |
| B2O3 | | | | | | | | | | |
| BaO | | | | | | | | | | |
| BeO | | | | | | | | | | |
| Bi2O3 | | | | | | | | | | |
| CaO | | | | | | | | | | |
| CdO | | | | | | | | | | |
| Ce2O3 | | | | | | | | | | |
| Cm2O3 | | | | | | | | | | |
| Co2O3 | | | | | | | | | | |
| Cr2O3 | | | | | | | | | | |
| Cs2O | | | | | | | | | | |
| CuO | | | | | | | | | | |
| Fe2O3 | | | | | | | | | | |
| FeO | | | | | | | | | | |
| Hg | | | | | | | | | | |
| HgO | | | | | | | | | | |
| K2O | | | | | | | | | | |
| La2O3 | | | | | | | | | | |
| Li2O | | | | | | | | | | |
| MgO | | | | | | | | | | |
| MnO | | | | | | | | | | |
| MoO3 | | | | | | | | | | |
| Na2O | | | | | | | | | | |
| Nd2O3 | | | | | | | | | | |
| NpO2 | | | | | | | | | | |
| PbO2 | | | | | | | | | | |
| PuO2 | | | | | | | | | | |

| STREAM NAME | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | | | | | | | | | | |
| Re2O7 | | | | | | | | | | |
| Rh2O3 | | | | | | | | | | |
| Ru2O3 | | | | | | | | | | |
| SeO3 | | | | | | | | | | |
| SiO2 | | | | | | | | | | |
| SO3 | | | | | | | | | | |
| SnO | | | | | | | | | | |
| Tc2O7 | | | | | | | | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | | | | | | | | | | |
| ThO2 | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| UO3 | | | | | | | | | | |
| ZrO | | | | | | | | | | |
| ZrO2 | | | | | | | | | | |
| Cement | | | | | | 1.17E+03 | 1.17E+03 | 1.17E+03 | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | 1.17E+03 | | 1.17E+03 | 1.17E+03 | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1129 | 1130 | 1131 | 1132 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.23E+03 | 3.34E+04 | 1.53E+05 | 5.00E+03 | 1.00E-03 | 1.02E+03 | 3.24E+03 | 4.34E+01 | | 4.34E+01 |
| Volume (L) | 1.78E+06 | 2.99E+07 | 1.48E+08 | 5.00E+06 | 1.00E+00 | 6.60E+05 | 2.55E+06 | 4.34E+04 | | 4.34E+04 |
| Specific Gravity | 1.25E+00 | 1.12E+00 | 1.04E+00 | 1.00E+00 | 1.00E+00 | 1.54E+00 | 1.27E+00 | 1.00E+00 | | 1.00E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | 6.75E+05 | | 1.59E-01 | | | | 6.75E+05 | | | |
| Ba-137 | 6.41E+05 | | 1.51E-01 | | | | 6.41E+05 | | | |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | 1.50E+04 | | 3.53E-03 | | | | 1.50E+04 | | | |
| Total Curies | 1.33E+06 | | 3.13E-01 | | | | 1.33E+06 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | 2.40E+03 | | | | | | | |
| Cd+2 | 9.28E-01 | | 2.19E-07 | | | | 9.28E-01 | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | 3.89E-02 | | 9.16E-09 | | | | 3.89E-02 | | | |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | 1.28E+01 | 1.03E+02 | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | 1.76E+00 | | 4.14E-07 | | | | 1.76E+00 | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | 9.60E-05 | | 2.26E-11 | | | | 9.60E-05 | | | |
| Na+ | 2.13E+02 | | 5.01E-05 | | | 2.92E+02 | 5.04E+02 | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | 1.18E+00 | | 2.78E-07 | | | | 1.18E+00 | | | |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | 1.43E-04 | | 3.37E-11 | | | | 1.43E-04 | | | |
| Se+6 | 2.37E-03 | | 5.59E-10 | | | | 2.37E-03 | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | 1.00E-04 | | 2.36E-11 | | | | 1.00E-04 | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | 1.10E-02 | | 2.60E-09 | | | | 1.10E-02 | | | |
| Cl- | 1.03E+01 | 5.03E+02 | 1.20E+02 | | | | 1.03E+01 | | | |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | 2.14E-01 | 2.14E+02 | 2.84E+02 | | | | 2.14E-01 | | | |
| I- | 5.31E-01 | | 1.25E-07 | | | | 5.31E-01 | | | |
| NO2- | | | | | | | | | | |
| NO3- | 8.44E+02 | 4.78E+03 | 5.55E+03 | | | | 8.44E+02 | | | |
| OH- | | | 2.04E+02 | | | 2.16E+02 | 4.33E-01 | | | |
| PO4-3 | 2.79E+02 | | 6.57E-05 | | | | 2.79E+02 | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | 1.45E+00 | | 3.42E-07 | | | | 1.45E+00 | | | |
| H2O | 8.61E+02 | 2.78E+04 | 1.45E+05 | 5.00E+03 | 1.00E-03 | 5.07E+02 | 1.60E+03 | 4.34E+01 | | 4.34E+01 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Hg | | | | | | | | | | |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1129 | 1130 | 1131 | 1132 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 2.32E+01 | | 7.09E+02 | | | | 2.32E+01 | | 1.08E+01 | 1.08E+01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.27E-01 | | | | | | 4.27E-01 | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | 1.38E+02 | | | | | | 1.38E+02 | | | |
| Ba-137 | 1.31E+02 | | | | | | 1.31E+02 | | | |
| Np-237 | 3.69E-04 | | | | | | 3.69E-04 | | | |
| Pu-239 | 9.05E-02 | | | | | | 9.05E-02 | | | |
| Pu-240 | 2.36E-02 | | | | | | 2.36E-02 | | | |
| Pu-241 | 2.64E-01 | | | | | | 2.64E-01 | | | |
| Sr-90 | 1.08E+02 | | | | | | 1.08E+02 | | | |
| Y-90 | 1.08E+02 | | | | | | 1.08E+02 | | | |
| Tc-99 | 3.55E-01 | | | | | | 3.55E-01 | | | |
| Total Curies | 4.87E+02 | | | | | | 4.87E+02 | | | |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | 4.82E+02 | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | | | | | | | | | | |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | | | | | | | | | | |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zn+2 | | | | | | | | | | |
| Cl- | 6.50E-03 | | | | | | 6.50E-03 | | | |
| CO3-2 | | | | | | | | | | |
| F- | 5.35E-02 | | 2.28E+02 | | | | 5.35E-02 | | | |
| I- | 1.10E-06 | | | | | | 1.10E-06 | | | |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 9.45E-04 | | | | | | 9.45E-04 | | | |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | 1.78E-05 | | | | | | 1.78E-05 | | | |
| AlPO4 | 2.93E-01 | | | | | | 2.93E-01 | | | |
| Al2O3 | 1.04E+00 | | | | | | 1.04E+00 | | | |
| Am2O3 | 1.37E-07 | | | | | | 1.37E-07 | | | |
| As2O5 | 4.16E-09 | | | | | | 4.16E-09 | | | |
| B2O3 | 5.50E-06 | | | | | | 5.50E-06 | | | |
| BaO | 4.57E-05 | | | | | | 4.57E-05 | | | |
| BeO | 5.92E-09 | | | | | | 5.92E-09 | | | |
| Bi2O3 | 7.46E-04 | | | | | | 7.46E-04 | | | |
| CaO | 2.32E+00 | | | | | | 2.32E+00 | | | |
| CdO | 4.34E-04 | | | | | | 4.34E-04 | | | |
| Ce2O3 | 2.21E-04 | | | | | | 2.21E-04 | | | |
| Cm2O3 | 1.10E-11 | | | | | | 1.10E-11 | | | |
| Co2O3 | 1.03E-07 | | | | | | 1.03E-07 | | | |
| Cr2O3 | 2.18E-02 | | | | | | 2.18E-02 | | | |
| Cs2O | 8.44E-06 | | | | | | 8.44E-06 | | | |
| CuO | 6.30E-06 | | | | | | 6.30E-06 | | | |
| Fe2O3 | 2.80E-03 | | | | | | 2.80E-03 | | | |
| FeO | 7.72E-08 | | | | | | 7.72E-08 | | | |
| Hg | 1.41E-04 | | | | | | 1.41E-04 | | | |
| HgO | 3.07E-08 | | | | | | 3.07E-08 | | | |
| K2O | 4.29E-02 | | | | | | 4.29E-02 | | | |
| La2O3 | 2.21E-05 | | | | | | 2.21E-05 | | | |
| Li2O | | | | | | | | | | |
| MgO | 4.06E-06 | | | | | | 4.06E-06 | | | |
| MnO | 3.15E-09 | | | | | | 3.15E-09 | | | |
| MoO3 | 5.59E-07 | | | | | | 5.59E-07 | | | |
| Na2O | 5.80E+00 | | | | | | 5.80E+00 | | | |
| Ni2O3 | 6.68E-04 | | | | | | 6.68E-04 | | | |
| NpO2 | 5.94E-07 | | | | | | 5.94E-07 | | | |
| PbO2 | 5.59E-04 | | | | | | 5.59E-04 | | | |
| PuO2 | 1.78E-06 | | | | | | 1.78E-06 | | | |

| STREAM NAME | 1129 | 1130 | 1131 | 1132 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 1.32E-08 | | | | | | 1.32E-08 | | | |
| Re2O7 | 7.08E-09 | | | | | | 7.08E-09 | | | |
| Rh2O3 | 1.23E-07 | | | | | | 1.23E-07 | | | |
| Ru2O3 | 7.26E-08 | | | | | | 7.26E-08 | | | |
| SeO3 | 1.56E-06 | | | | | | 1.56E-06 | | | |
| SiO2 | 1.36E+01 | | | | | | 1.36E+01 | | | |
| SO3 | 8.17E-03 | | | | | | 8.17E-03 | | | |
| SrO | 3.53E-05 | | | | | | 3.53E-05 | | | |
| Tc2O7 | 3.27E-05 | | | | | | 3.27E-05 | | | |
| Tc2S7 | | | | | | | | | | |
| TeO3 | 5.64E-08 | | | | | | 5.64E-08 | | | |
| ThO2 | 9.40E-07 | | | | | | 9.40E-07 | | | |
| TiO2 | 6.97E-05 | | | | | | 6.97E-05 | | | |
| UO3 | 6.13E-03 | | | | | | 6.13E-03 | | | |
| ZrO | 2.35E-07 | | | | | | 2.35E-07 | | | |
| ZrO2 | 5.67E-04 | | | | | | 5.67E-04 | | | |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | | | | | | |
| Silico-Titanate | | | | | | | | | | |
| Sulfur | | | | | | | | | 1.08E+01 | 1.08E+01 |

| STREAM NAME | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 3.26E+03 | 1.86E+01 | 3.28E+03 | 2.90E+01 | | 2.90E+01 | 3.31E+03 | 3.31E+03 | | 3.29E+03 |
| Volume (L) | 2.57E+06 | 1.21E+04 | 2.58E+06 | 2.90E+04 | | 2.90E+04 | 2.61E+06 | 2.61E+06 | | 2.59E+06 |
| Specific Gravity | 1.27E+00 | 1.54E+00 | 1.27E+00 | 1.00E+00 | | 1.00E+00 | 1.27E+00 | 1.27E+00 | | 1.27E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | |
| C-14 | | | | | | | | | | |
| Cs-137 | 1.34E+05 | | 1.34E+05 | | | | 1.34E+05 | 1.34E+05 | | 1.33E+05 |
| Ba-137 | 1.27E+05 | | 1.27E+05 | | | | 1.27E+05 | 1.27E+05 | | 1.27E+05 |
| Np-237 | | | | | | | | | | |
| Pu-239 | | | | | | | | | | |
| Pu-240 | | | | | | | | | | |
| Pu-241 | | | | | | | | | | |
| Sr-90 | | | | | | | | | | |
| Y-90 | | | | | | | | | | |
| Tc-99 | 1.49E+04 | | 1.49E+04 | | | | 7.89E+02 | 7.89E+02 | | 7.85E+02 |
| Total Curies | 2.76E+05 | | 2.76E+05 | | | | 2.62E+05 | 2.62E+05 | | 2.61E+05 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| B+3 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | 9.22E-01 | | 9.22E-01 | | | | 9.22E-01 | 9.22E-01 | | 9.16E-01 |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cs+ | 7.73E-03 | | 7.73E-03 | | | | 7.73E-03 | 7.73E-03 | | 7.69E-03 |
| Cu+2 | | | | | | | | | | |
| Fe+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | 1.75E+00 | | 1.75E+00 | | | | 1.75E+00 | 1.75E+00 | | 1.74E+00 |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | 9.53E-05 | | 9.53E-05 | | | | 9.53E-05 | 9.53E-05 | | 9.47E-05 |
| Na+ | 5.00E+02 | 5.35E+00 | 5.05E+02 | | | | 5.06E+02 | 5.06E+02 | | 5.03E+02 |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | 1.17E+00 | | 1.17E+00 | | | | 1.17E+00 | 1.17E+00 | | 1.17E+00 |
| Pu+4 | | | | | | | | | | |
| Rb+ | | | | | | | | | | |
| Re+7 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Ru+3 | 1.42E-04 | | 1.42E-04 | | | | 1.42E-04 | 1.42E-04 | | 1.42E-04 |
| Se+6 | 2.36E-03 | | 2.36E-03 | | | | 2.36E-03 | 2.36E-03 | | 2.34E-03 |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Te+6 | 9.93E-05 | | 9.93E-05 | | | | 9.93E-05 | 9.93E-05 | | 9.88E-05 |
| UO2+2 | | | | | | | | | | |
| Zr+2 | | | | | | | | | | |
| Zr+4 | | | | | | | | | | |
| Al(OH)4- | | | | | | | | | | |
| BO2- | 1.10E-02 | | 1.10E-02 | | | | 1.10E-02 | 1.10E-02 | | 1.09E-02 |
| Cl- | 1.02E+01 | | 1.02E+01 | | | | 1.02E+01 | 1.02E+01 | | 1.01E+01 |
| CO3-2 | | | | | | | | | | |
| Cr(OH)4- | | | | | | | | | | |
| F- | 2.13E-01 | | 2.13E-01 | | | | 2.13E-01 | 2.13E-01 | | 2.11E-01 |
| I- | 5.28E-01 | | 5.28E-01 | | | | 5.28E-01 | 5.28E-01 | | 5.25E-01 |
| NO2- | | | | | | | | | | |
| NO3- | 8.38E+02 | | 8.38E+02 | | | | 8.38E+02 | 8.38E+02 | | 8.33E+02 |
| OH- | 4.30E-01 | 3.96E+00 | 4.39E+00 | | | | 5.53E+00 | 5.53E+00 | | 5.50E+00 |
| PO4-3 | 2.77E+02 | | 2.77E+02 | | | | 2.77E+02 | 2.77E+02 | | 2.76E+02 |
| SO4-2 | | | | | | | | | | |
| TcO4- | 1.44E+00 | | 1.44E+00 | | | | 7.64E-02 | 7.64E-02 | | 7.60E-02 |
| H2O | 1.63E+03 | 9.31E+00 | 1.64E+03 | 2.90E+01 | | 2.90E+01 | 1.67E+03 | 1.67E+03 | | 1.66E+03 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| H3 | | | | | | | | | | |
| TcO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NEG | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.22E+01 | | 1.22E+01 | | 7.25E+00 | 7.25E+00 | 1.89E+01 | 1.89E+01 | | 1.89E-01 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.27E-03 | | 4.27E-03 | | | | 4.27E-03 | 4.27E-03 | | 4.27E-05 |
| C-14 | | | | | | | | | | |
| Cs-137 | 5.36E+05 | | 5.36E+05 | | | | 5.36E+05 | 5.36E+05 | | 5.36E+03 |
| Ba-137 | 5.09E+05 | | 5.09E+05 | | | | 5.09E+05 | 5.09E+05 | | 5.09E+03 |
| Np-237 | 3.69E-06 | | 3.69E-06 | | | | 3.69E-06 | 3.69E-06 | | 3.69E-08 |
| Pu-239 | 9.05E-04 | | 9.05E-04 | | | | 9.05E-04 | 9.05E-04 | | 9.05E-06 |
| Pu-240 | 2.36E-04 | | 2.36E-04 | | | | 2.36E-04 | 2.36E-04 | | 2.36E-06 |
| Pu-241 | 2.64E-03 | | 2.64E-03 | | | | 2.64E-03 | 2.64E-03 | | 2.64E-05 |
| Sr-90 | 1.08E+00 | | 1.08E+00 | | | | 1.08E+00 | 1.08E+00 | | 1.08E-02 |
| Y-90 | 1.08E+00 | | 1.08E+00 | | | | 1.08E+00 | 1.08E+00 | | 1.08E-02 |
| Tc-99 | 3.55E-03 | | 3.55E-03 | | | | 1.41E+04 | 1.41E+04 | | 1.41E+02 |
| Total Curies | 1.05E+06 | | 1.05E+06 | | | | 1.06E+06 | 1.06E+06 | | 1.06E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | |
| Al+3 | | | | | | | | | | |
| Am+3 | | | | | | | | | | |
| As+5 | | | | | | | | | | |
| Ba+2 | | | | | | | | | | |
| Be+2 | | | | | | | | | | |
| Bi+3 | | | | | | | | | | |
| Ca+2 | | | | | | | | | | |
| Cd+2 | | | | | | | | | | |
| Ce+3 | | | | | | | | | | |
| Cm+3 | | | | | | | | | | |
| Co+3 | | | | | | | | | | |
| Cr+3 | | | | | | | | | | |
| Cs+ | 3.09E-02 | | 3.09E-02 | | | | 3.09E-02 | 3.09E-02 | | 3.09E-04 |
| Cu+2 | | | | | | | | | | |
| Fe+3 | | | | | | | | | | |
| Hg+2 | | | | | | | | | | |
| K+ | | | | | | | | | | |
| La+3 | | | | | | | | | | |
| Mg+2 | | | | | | | | | | |
| Mn+4 | | | | | | | | | | |
| Mo+6 | | | | | | | | | | |
| Na+ | 1.08E+00 | | 1.08E+00 | | | | 1.08E+00 | 1.08E+00 | | 1.08E-02 |
| Ni+3 | | | | | | | | | | |
| Np+4 | | | | | | | | | | |
| Pb+4 | | | | | | | | | | |
| Pu+4 | | | | | | | | | | |
| Rh+3 | | | | | | | | | | |
| Se+6 | | | | | | | | | | |
| Si+4 | | | | | | | | | | |
| Sr+2 | | | | | | | | | | |
| Th+4 | | | | | | | | | | |
| Ti+4 | | | | | | | | | | |
| UO2+2 | | | | | | | | | | |
| Zr+2 | | | | | | | | | | |
| Cl- | 6.50E-05 | | 6.50E-05 | | | | 6.50E-05 | 6.50E-05 | | 6.50E-07 |
| CO3-2 | | | | | | | | | | |
| F- | 5.35E-04 | | 5.35E-04 | | | | 5.35E-04 | 5.35E-04 | | 5.35E-06 |
| I- | 1.10E-08 | | 1.10E-08 | | | | 1.10E-08 | 1.10E-08 | | 1.10E-10 |
| NO2- | | | | | | | | | | |
| NO3- | | | | | | | | | | |
| OH- | | | | | | | | | | |
| PO4-3 | | | | | | | | | | |
| SO4-2 | | | | | | | | | | |
| TcO4- | | | | | | | | | | |
| Cancrinite | | | | | | | | | | |
| H2O | | | | | | | | | | |
| MnO2 | 9.45E-06 | | 9.45E-06 | | | | 9.45E-06 | 9.45E-06 | | 9.45E-08 |
| Organic Carbon | | | | | | | | | | |
| ZrO2:2H2O | | | | | | | | | | |
| Ag2O | 1.78E-07 | | 1.78E-07 | | | | 1.78E-07 | 1.78E-07 | | 1.78E-09 |
| AlPO4 | 2.93E-03 | | 2.93E-03 | | | | 2.93E-03 | 2.93E-03 | | 2.93E-05 |
| Al2O3 | 1.04E-02 | | 1.04E-02 | | | | 1.04E-02 | 1.04E-02 | | 1.04E-04 |
| Am2O3 | 1.37E-09 | | 1.37E-09 | | | | 1.37E-09 | 1.37E-09 | | 1.37E-11 |
| As2O5 | 4.16E-11 | | 4.16E-11 | | | | 4.16E-11 | 4.16E-11 | | 4.16E-13 |
| B2O3 | 5.50E-08 | | 5.50E-08 | | | | 5.50E-08 | 5.50E-08 | | 5.50E-10 |
| BaO | 4.57E-07 | | 4.57E-07 | | | | 4.57E-07 | 4.57E-07 | | 4.57E-09 |
| BeO | 5.92E-11 | | 5.92E-11 | | | | 5.92E-11 | 5.92E-11 | | 5.92E-13 |
| Bi2O3 | 7.46E-06 | | 7.46E-06 | | | | 7.46E-06 | 7.46E-06 | | 7.46E-08 |
| CaO | 2.32E-02 | | 2.32E-02 | | | | 2.32E-02 | 2.32E-02 | | 2.32E-04 |
| CdO | 4.34E-06 | | 4.34E-06 | | | | 4.34E-06 | 4.34E-06 | | 4.34E-08 |
| Ce2O3 | 2.21E-06 | | 2.21E-06 | | | | 2.21E-06 | 2.21E-06 | | 2.21E-08 |
| Cm2O3 | 1.10E-13 | | 1.10E-13 | | | | 1.10E-13 | 1.10E-13 | | 1.10E-15 |
| Co2O3 | 1.03E-09 | | 1.03E-09 | | | | 1.03E-09 | 1.03E-09 | | 1.03E-11 |
| Cr2O3 | 2.18E-04 | | 2.18E-04 | | | | 2.18E-04 | 2.18E-04 | | 2.18E-06 |
| Cs2O | 8.44E-08 | | 8.44E-08 | | | | 8.44E-08 | 8.44E-08 | | 8.44E-10 |
| CuO | 6.30E-08 | | 6.30E-08 | | | | 6.30E-08 | 6.30E-08 | | 6.30E-10 |
| Fe2O3 | 2.80E-05 | | 2.80E-05 | | | | 2.80E-05 | 2.80E-05 | | 2.80E-07 |
| FeO | 7.72E-10 | | 7.72E-10 | | | | 7.72E-10 | 7.72E-10 | | 7.72E-12 |
| Hg | 1.41E-06 | | 1.41E-06 | | | | 1.41E-06 | 1.41E-06 | | 1.41E-08 |
| HgO | 3.07E-10 | | 3.07E-10 | | | | 3.07E-10 | 3.07E-10 | | 3.07E-12 |
| K2O | 4.29E-04 | | 4.29E-04 | | | | 4.29E-04 | 4.29E-04 | | 4.29E-06 |
| La2O3 | 2.21E-07 | | 2.21E-07 | | | | 2.21E-07 | 2.21E-07 | | 2.21E-09 |
| Li2O | | | | | | | | | | |
| MgO | 4.06E-08 | | 4.06E-08 | | | | 4.06E-08 | 4.06E-08 | | 4.06E-10 |
| MnO | 3.15E-11 | | 3.15E-11 | | | | 3.15E-11 | 3.15E-11 | | 3.15E-13 |
| MoO3 | 5.59E-09 | | 5.59E-09 | | | | 5.59E-09 | 5.59E-09 | | 5.59E-11 |
| Na2O | 5.80E-02 | | 5.80E-02 | | | | 5.80E-02 | 5.80E-02 | | 5.80E-04 |
| Nd2O3 | 6.68E-06 | | 6.68E-06 | | | | 6.68E-06 | 6.68E-06 | | 6.68E-08 |
| NiO2 | 5.94E-09 | | 5.94E-09 | | | | 5.94E-09 | 5.94E-09 | | 5.94E-11 |
| PbO2 | 5.59E-06 | | 5.59E-06 | | | | 5.59E-06 | 5.59E-06 | | 5.59E-08 |
| PuO2 | 1.78E-08 | | 1.78E-08 | | | | 1.78E-08 | 1.78E-08 | | 1.78E-10 |

| STREAM NAME | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| $Rb_2O$ | 1.32E-10 | | 1.32E-10 | | | | 1.32E-10 | 1.32E-10 | | 1.32E-12 |
| $Re_2O_7$ | 7.08E-11 | | 7.08E-11 | | | | 7.08E-11 | 7.08E-11 | | 7.08E-13 |
| $Rh_2O_3$ | 1.23E-09 | | 1.23E-09 | | | | 1.23E-09 | 1.23E-09 | | 1.23E-11 |
| $Ru_2O_3$ | 7.26E-10 | | 7.26E-10 | | | | 7.26E-10 | 7.26E-10 | | 7.26E-12 |
| $SeO_3$ | 1.56E-08 | | 1.56E-08 | | | | 1.56E-08 | 1.56E-08 | | 1.56E-10 |
| $SiO_2$ | 1.36E-01 | | 1.36E-01 | | | | 1.36E-01 | 1.36E-01 | | 1.36E-03 |
| $SO_3$ | 8.17E-05 | | 8.17E-05 | | | | 8.17E-05 | 8.17E-05 | | 8.17E-07 |
| SrO | 3.53E-07 | | 3.53E-07 | | | | 3.53E-07 | 3.53E-07 | | 3.53E-09 |
| $Tc_2O_7$ | 3.27E-07 | | 3.27E-07 | | | | 3.27E-07 | 3.27E-07 | | 3.27E-09 |
| $Tc_2S_7$ | | | | | | | 1.77E+00 | 1.77E+00 | | 1.77E-02 |
| $TeO_3$ | 5.64E-10 | | 5.64E-10 | | | | 5.64E-10 | 5.64E-10 | | 5.64E-12 |
| $ThO_2$ | 9.40E-09 | | 9.40E-09 | | | | 9.40E-09 | 9.40E-09 | | 9.40E-11 |
| $TiO_2$ | 6.97E-07 | | 6.97E-07 | | | | 6.97E-07 | 6.97E-07 | | 6.97E-09 |
| $UO_3$ | 6.13E-05 | | 6.13E-05 | | | | 6.13E-05 | 6.13E-05 | | 6.13E-07 |
| ZnO | 2.35E-09 | | 2.35E-09 | | | | 2.35E-09 | 2.35E-09 | | 2.35E-11 |
| $ZrO_2$ | 5.67E-06 | | 5.67E-06 | | | | 5.67E-06 | 5.67E-06 | | 5.67E-08 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| $CuSO_4$ | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | | | | | 7.25E+00 | 7.25E+00 | 4.96E+00 | 4.96E+00 | | 4.96E-02 |
| Silico-Titanate | 1.08E+01 | | 1.08E+01 | | | | 1.08E+01 | 1.08E+01 | | 1.08E-01 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 |
|---|---|---|---|---|---|---|---|---|---|---|
| LIQUID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.87E+01 | 3.31E+03 | 1.50E+02 | 1.69E+02 | | 1.00E-03 | 1.00E-03 | | 1.69E+02 | 1.34E+05 |
| Volume (L) | 1.48E+04 | 2.61E+06 | 1.50E+05 | 1.65E+05 | | 4.46E-01 | 4.46E-01 | | 1.65E+05 | 1.32E+08 |
| Specific Gravity | 1.27E+00 | 1.27E+00 | 1.00E+00 | 1.02E+00 | | 2.24E+00 | 2.24E+00 | | 1.02E+00 | 1.01E+00 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | | | | | | | | | | 5.15E+01 |
| C-14 | | | | | | | | | | 2.16E+01 |
| Cs-137 | 7.59E+02 | 1.38E+05 | | 7.59E+02 | | | | | 7.59E+02 | 2.14E+04 |
| Ba-137 | 7.21E+02 | 1.31E+05 | | 7.21E+02 | | | | | 7.21E+02 | 2.03E+04 |
| Np-237 | | | | | | | | | | 4.53E-02 |
| Pu-239 | | | | | | | | | | 1.07E+01 |
| Pu-240 | | | | | | | | | | 2.81E+00 |
| Pu-241 | | | | | | | | | | 3.15E+01 |
| Sr-90 | | | | | | | | | | 1.21E+04 |
| Y-90 | | | | | | | | | | 1.21E+04 |
| Tc-99 | 4.47E+00 | 8.91E+02 | | 4.47E+00 | | | | | 4.47E+00 | 1.53E+02 |
| Total Curies | 1.48E+03 | 2.70E+05 | | 1.48E+03 | | | | | 1.48E+03 | 6.61E+04 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | 2.08E-03 |
| Am+3 | | | | | | | | | | 1.50E-05 |
| As+5 | | | | | | | | | | 2.64E-07 |
| B+3 | | | | | | | | | | 2.23E-04 |
| Ba+2 | | | | | | | | | | 5.15E-03 |
| Be+2 | | | | | | | | | | 1.58E-07 |
| Bi+3 | | | | | | | | | | 7.69E-02 |
| Ca+2 | | | | | | | | | | 1.07E-01 |
| Cd+2 | 5.22E-03 | 9.23E-01 | | 5.22E-03 | | | | | 5.22E-03 | 5.49E-02 |
| Ce+3 | | | | | | | | | | 1.54E-02 |
| Cm+3 | | | | | | | | | | 6.19E-10 |
| Co+3 | | | | | | | | | | 9.51E-06 |
| Cs+ | 4.38E-05 | 7.96E-03 | | 4.38E-05 | | | | | 4.38E-05 | 1.23E-03 |
| Cu+2 | | | | | | | | | | 6.44E-04 |
| Fe+2 | | | | | | | | | | 7.76E-06 |
| Fe+3 | | | | | | | | | | 2.24E-01 |
| H+ | | | | | | | | | | |
| Hg+2 | | | | | | | | | | 3.80E-04 |
| K+ | 9.89E-03 | 1.75E+00 | | 9.89E-03 | | | | | 9.89E-03 | 4.61E+00 |
| La+3 | | | | | | | | | | 1.55E-03 |
| Mg+2 | | | | | | | | | | 9.50E-07 |
| Mn+2 | | | | | | | | | | 3.16E-07 |
| Mn+4 | | | | | | | | | | 7.03E-02 |
| Mo+6 | 5.40E-07 | 9.54E-05 | | 5.40E-07 | | | | | 5.40E-07 | 4.76E-05 |
| Na+ | 2.87E+00 | 5.07E+02 | | 2.87E+00 | | 5.00E-04 | 5.00E-04 | | 2.87E+00 | 5.43E+02 |
| Ni+3 | | | | | | | | | | 5.34E-02 |
| Np+4 | | | | | | | | | | 6.43E-05 |
| Pb+4 | 6.65E-03 | 1.18E+00 | | 6.65E-03 | | | | | 6.65E-03 | 6.92E-02 |
| Pu+4 | | | | | | | | | | 1.86E-04 |
| Rb+ | | | | | | | | | | 1.56E-06 |
| Re+7 | | | | | | | | | | 7.04E-07 |
| Rh+3 | | | | | | | | | | 5.53E-06 |
| Ru+3 | 8.06E-07 | 1.43E-04 | | 8.06E-07 | | | | | 8.06E-07 | 8.51E-06 |
| Se+6 | 1.34E-05 | 2.36E-03 | | 1.34E-05 | | | | | 1.34E-05 | 1.42E-05 |
| Si+4 | | | | | | | | | | 1.04E-01 |
| Sr+2 | | | | | | | | | | 2.48E-03 |
| Tc+6 | 5.63E-07 | 9.95E-05 | | 5.63E-07 | | | | | 5.63E-07 | 5.94E-06 |
| UO2+2 | | | | | | | | | | 6.90E-01 |
| Zn+2 | | | | | | | | | | 5.06E-06 |
| Zr+4 | | | | | | | | | | 1.58E-07 |
| Al(OH)4- | | | | | | | | | | 8.25E+01 |
| BO2- | 6.20E-05 | 1.10E-02 | | 6.20E-05 | | | | | 6.20E-05 | 6.20E-05 |
| Cl- | 5.78E-02 | 1.02E+01 | | 5.78E-02 | | | | | 5.78E-02 | 4.47E+00 |
| CO3-2 | | | | | | | | | | 2.02E+01 |
| Cr(OH)4- | | | | | | | | | | 4.48E+00 |
| F- | 1.20E-03 | 2.13E-01 | | 1.20E-03 | | | | | 1.20E-03 | 7.40E+00 |
| I- | 2.99E-03 | 5.28E-01 | | 2.99E-03 | | | | | 2.99E-03 | 3.58E-03 |
| NO2- | | | | | | 5.00E-04 | 5.00E-04 | | 5.00E-04 | 1.07E+02 |
| NO3- | 4.75E+00 | 8.39E+02 | | 4.75E+00 | | | | | 4.75E+00 | 6.98E+02 |
| OH- | 3.13E-02 | 5.50E+00 | | 3.13E-02 | | | | | 3.13E-02 | 3.54E+02 |
| PO4-3 | 1.57E+00 | 2.77E+02 | | 1.57E+00 | | | | | 1.57E+00 | 3.16E+01 |
| SO4-2 | | | | | | | | | | 1.32E+01 |
| TcO4- | 4.33E-04 | 8.63E-02 | | 4.33E-04 | | | | | 4.33E-04 | 1.48E-02 |
| H2O | 9.44E+00 | 1.67E+03 | 1.50E+02 | 1.59E+02 | | | | | 1.59E+02 | 1.32E+05 |
| Organic Carbon | | | | | | | | | | 6.88E+00 |
| Z-02:2H2O | | | | | | | | | | 4.90E-02 |
| He | | | | | | | | | | 2.82E-09 |
| TiO2 | | | | | | | | | | |
| Cl2 | | | | | | | | | | |
| CO | | | | | | | | | | |
| CO2 | | | | | | | | | | 8.00E-05 |
| F2 | | | | | | | | | | |
| H2 | | | | | | | | | | |
| I2 | | | | | | | | | | |
| N2 | | | | | | | | | | |
| N2O | | | | | | | | | | |
| NO | | | | | | | | | | |
| NO2 | | | | | | | | | | |
| O2 | | | | | | | | | | |
| SO2 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Glycolic Anion | | | | | | | | | | 3.67E-08 |
| H2S | | | | | | | | | | |
| Glycolic Acid | | | | | | | | | | |
| Kerosene | | | | | | | | | | |
| NH3 | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Total Mass Flow (MT) | 1.87E+01 | 2.32E+01 | | 1.87E+01 | | | | | 1.87E+01 | 1.48E+04 |
| Radionuclides (Ci) | | | | | | | | | | |
| Am-241 | 4.23E-03 | 4.23E-01 | | 4.23E-03 | | | | | 4.23E-03 | 9.59E+04 |
| C-14 | | | | | | | | | | 2.17E+03 |
| Cs-137 | 5.31E+05 | 5.50E+03 | | 5.31E+05 | | | | | 5.31E+05 | 3.20E+07 |
| Ba-137 | 5.04E+05 | 5.22E+03 | | 5.04E+05 | | | | | 5.04E+05 | 3.04E+07 |
| Np-237 | 3.65E-06 | 3.65E-04 | | 3.65E-06 | | | | | 3.65E-06 | 6.23E+01 |
| Pu-239 | 8.96E-04 | 8.96E-02 | | 8.96E-04 | | | | | 8.96E-04 | 2.52E+04 |
| Pu-240 | 2.33E-04 | 2.33E-02 | | 2.33E-04 | | | | | 2.33E-04 | 6.25E+03 |
| Pu-241 | 2.62E-03 | 2.62E-01 | | 2.62E-03 | | | | | 2.62E-03 | 7.03E+04 |
| Sr-90 | 1.07E+00 | 1.07E+02 | | 1.07E+00 | | | | | 1.07E+00 | 5.07E+07 |
| Y-90 | 1.07E+00 | 1.07E+02 | | 1.07E+00 | | | | | 1.07E+00 | 5.07E+07 |
| Tc-99 | 1.40E+04 | 1.41E+02 | | 1.40E+04 | | | | | 1.40E+04 | 2.33E+04 |
| Total Curies | 1.05E+06 | 1.11E+04 | | 1.05E+06 | | | | | 1.05E+06 | 1.64E+08 |
| Chemicals (MT) | | | | | | | | | | |
| Ag+ | | | | | | | | | | 1.47E+00 |
| Al+3 | | | | | | | | | | 7.36E+02 |
| Am+3 | | | | | | | | | | 2.80E-02 |
| As+5 | | | | | | | | | | 2.25E-03 |
| Ba+2 | | | | | | | | | | 3.72E+00 |
| Be+2 | | | | | | | | | | 3.06E-03 |
| Bi+3 | | | | | | | | | | 2.50E+02 |
| Ca+2 | | | | | | | | | | 1.44E+02 |
| Cd+2 | | | | | | | | | | 6.51E+00 |
| Ce+3 | | | | | | | | | | 2.34E+02 |
| Cm+3 | | | | | | | | | | 1.75E-05 |
| Co+3 | | | | | | | | | | 1.48E-06 |
| Cr+3 | | | | | | | | | | 5.72E+01 |
| Cs+ | 3.06E-02 | 3.09E-04 | | 3.06E-02 | | | | | 3.06E-02 | 1.87E+00 |
| Cu+2 | | | | | | | | | | 1.87E-01 |
| Fe+3 | | | | | | | | | | 7.58E+02 |
| Hg+2 | | | | | | | | | | 8.76E-02 |
| K+ | | | | | | | | | | 2.94E+01 |
| La+3 | | | | | | | | | | 2.28E+01 |
| Mg+2 | | | | | | | | | | 8.20E+00 |
| Mn+4 | | | | | | | | | | 1.79E+02 |
| Mo+6 | | | | | | | | | | 3.20E-02 |
| Na+ | 1.07E+00 | 1.08E-02 | | 1.07E+00 | | | | | 1.07E+00 | 6.60E+02 |
| Ni+3 | | | | | | | | | | 2.05E+02 |
| Np+4 | | | | | | | | | | 8.84E-02 |
| Pb+4 | | | | | | | | | | 2.91E+01 |
| Pu+4 | | | | | | | | | | 4.34E-01 |
| Ru+3 | | | | | | | | | | 1.92E-01 |
| Se+6 | | | | | | | | | | 3.29E+00 |
| Si+4 | | | | | | | | | | 2.30E+02 |
| Sr+2 | | | | | | | | | | 3.63E+01 |
| Th+4 | | | | | | | | | | 2.77E+00 |
| Ti+4 | | | | | | | | | | 1.54E-01 |
| UO2+2 | | | | | | | | | | 1.54E+03 |
| Zn+2 | | | | | | | | | | 5.03E-01 |
| Cl- | 6.44E-05 | 6.44E-03 | | 6.44E-05 | | | | | 6.44E-05 | 8.95E+00 |
| CO3-2 | | | | | | | | | | 1.08E+02 |
| F- | 5.30E-04 | 5.30E-02 | | 5.30E-04 | | | | | 5.30E-04 | 6.78E+01 |
| I- | 1.09E-08 | 1.09E-06 | | 1.09E-08 | | | | | 1.09E-08 | 1.39E-03- |
| NO2- | | | | | | | | | | 6.14E+01 |
| NO3- | | | | | | | | | | 9.80E+02 |
| OH- | | | | | | | | | | 3.13E+03 |
| PO4-3 | | | | | | | | | | 4.78E+02 |
| SO4-2 | | | | | | | | | | 2.54E+01 |
| TcO4- | | | | | | | | | | 9.02E-01 |
| Cancrinite | | | | | | | | | | 2.69E+03 |
| H2O | | | | | | | | | | |
| MnO2 | 9.35E-06 | 9.35E-04 | | 9.35E-06 | | | | | 9.35E-06 | 9.35E-06 |
| Organic Carbon | | | | | | | | | | 8.68E+01 |
| ZrO2;2H2O | | | | | | | | | | 1.19E+03 |
| Ag2O | 1.76E-07 | 1.76E-05 | | 1.76E-07 | | | | | 1.76E-07 | 1.76E-07 |
| AlPO4 | 2.90E-03 | 2.90E-01 | | 2.90E-03 | | | | | 2.90E-03 | 2.90E-03 |
| Al2O3 | 1.03E-02 | 1.03E+00 | | 1.03E-02 | | | | | 1.03E-02 | 1.03E-02 |
| Am2O3 | 1.35E-09 | 1.35E-07 | | 1.35E-09 | | | | | 1.35E-09 | 1.35E-09 |
| As2O5 | 4.11E-11 | 4.11E-09 | | 4.11E-11 | | | | | 4.11E-11 | 4.11E-11 |
| B2O3 | 5.45E-08 | 5.45E-06 | | 5.45E-08 | | | | | 5.45E-08 | 5.45E-08 |
| BaO | 4.52E-07 | 4.52E-05 | | 4.52E-07 | | | | | 4.52E-07 | 4.52E-07 |
| BeO | 5.86E-11 | 5.86E-09 | | 5.86E-11 | | | | | 5.86E-11 | 5.86E-11 |
| Bi2O3 | 7.38E-06 | 7.38E-04 | | 7.38E-06 | | | | | 7.38E-06 | 7.38E-06 |
| CaO | 2.30E-02 | 2.30E+00 | | 2.30E-02 | | | | | 2.30E-02 | 2.30E-02 |
| CdO | 4.30E-06 | 4.30E-04 | | 4.30E-06 | | | | | 4.30E-06 | 4.30E-06 |
| Ce2O3 | 2.19E-06 | 2.19E-04 | | 2.19E-06 | | | | | 2.19E-06 | 2.19E-06 |
| Cm2O3 | 1.08E-13 | 1.08E-11 | | 1.08E-13 | | | | | 1.08E-13 | 1.08E-13 |
| Co2O3 | 1.02E-09 | 1.02E-07 | | 1.02E-09 | | | | | 1.02E-09 | 1.02E-09 |
| Cr2O3 | 2.15E-04 | 2.16E-02 | | 2.15E-04 | | | | | 2.15E-04 | 2.15E-04 |
| Cs2O | 8.35E-08 | 8.35E-06 | | 8.35E-08 | | | | | 8.35E-08 | 8.35E-08 |
| CuO | 6.24E-08 | 6.24E-06 | | 6.24E-08 | | | | | 6.24E-08 | 6.24E-08 |
| Fe2O3 | 2.77E-05 | 2.77E-03 | | 2.77E-05 | | | | | 2.77E-05 | 2.77E-05 |
| FeO | 7.64E-10 | 7.64E-08 | | 7.64E-10 | | | | | 7.64E-10 | 7.64E-10 |
| Hg | 1.40E-06 | 1.40E-04 | | 1.40E-06 | | | | | 1.40E-06 | 1.40E-06 |
| HgO | 3.04E-10 | 3.04E-08 | | 3.04E-10 | | | | | 3.04E-10 | 3.04E-10 |
| K2O | 4.24E-04 | 4.24E-02 | | 4.24E-04 | | | | | 4.24E-04 | 4.24E-04 |
| La2O3 | 2.18E-07 | 2.18E-05 | | 2.18E-07 | | | | | 2.18E-07 | 2.18E-07 |
| Li2O | | | | | | | | | | |
| MgO | 4.02E-08 | 4.02E-06 | | 4.02E-08 | | | | | 4.02E-08 | 4.02E-08 |
| MnO | 3.12E-11 | 3.12E-09 | | 3.12E-11 | | | | | 3.12E-11 | 3.12E-11 |
| MoO3 | 5.54E-09 | 5.54E-07 | | 5.54E-09 | | | | | 5.54E-09 | 5.54E-09 |
| Na2O | 5.74E-02 | 5.74E+00 | | 5.74E-02 | | | | | 5.74E-02 | 5.74E-02 |
| Ni2O3 | 6.61E-06 | 6.61E-04 | | 6.61E-06 | | | | | 6.61E-06 | 6.61E-06 |
| NpO2 | 5.88E-09 | 5.88E-07 | | 5.88E-09 | | | | | 5.88E-09 | 5.88E-09 |
| PbO2 | 5.54E-06 | 5.54E-04 | | 5.54E-06 | | | | | 5.54E-06 | 5.54E-06 |
| PuO2 | 1.76E-08 | 1.76E-06 | | 1.76E-08 | | | | | 1.76E-08 | 1.76E-08 |

| STREAM NAME | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 |
|---|---|---|---|---|---|---|---|---|---|---|
| SOLID COMPONENTS | | | | | | | | | | |
| Chemicals Continued (MT) | | | | | | | | | | |
| Rb2O | 1.31E-10 | 1.31E-08 | | 1.31E-10 | | | | | 1.31E-10 | 1.31E-10 |
| Re2O7 | 7.01E-11 | 7.01E-09 | | 7.01E-11 | | | | | 7.01E-11 | 7.01E-11 |
| Rh2O3 | 1.22E-09 | 1.22E-07 | | 1.22E-09 | | | | | 1.22E-09 | 1.22E-09 |
| Ru2O3 | 7.19E-10 | 7.19E-08 | | 7.19E-10 | | | | | 7.19E-10 | 7.19E-10 |
| SeO3 | 1.55E-08 | 1.55E-06 | | 1.55E-08 | | | | | 1.55E-08 | 1.55E-08 |
| SiO2 | 1.35E-01 | 1.35E+01 | | 1.35E-01 | | | | | 1.35E-01 | 1.35E-01 |
| SO3 | 8.09E-05 | 8.09E-03 | | 8.09E-05 | | | | | 8.09E-05 | 8.09E-05 |
| SrO | 3.49E-07 | 3.49E-05 | | 3.49E-07 | | | | | 3.49E-07 | 3.49E-07 |
| Tc2O7 | 3.24E-07 | 3.24E-05 | | 3.24E-07 | | | | | 3.24E-07 | 3.24E-07 |
| Tc2S7 | 1.75E+00 | 1.77E-02 | | 1.75E+00 | | | | | 1.75E+00 | 1.75E+00 |
| TeO3 | 5.58E-10 | 5.58E-08 | | 5.58E-10 | | | | | 5.58E-10 | 5.58E-10 |
| ThO2 | 9.31E-09 | 9.31E-07 | | 9.31E-09 | | | | | 9.31E-09 | 9.31E-09 |
| TiO2 | 6.90E-07 | 6.90E-05 | | 6.90E-07 | | | | | 6.90E-07 | 6.90E-07 |
| UO3 | 6.07E-05 | 6.07E-03 | | 6.07E-05 | | | | | 6.07E-05 | 6.07E-05 |
| ZnO | 2.33E-09 | 2.33E-07 | | 2.33E-09 | | | | | 2.33E-09 | 2.33E-09 |
| ZrO2 | 5.62E-06 | 5.62E-04 | | 5.62E-06 | | | | | 5.62E-06 | 5.62E-06 |
| Cement | | | | | | | | | | |
| Cu | | | | | | | | | | |
| CuSO4 | | | | | | | | | | |
| Dicyclopentadiene | | | | | | | | | | |
| Flyash | | | | | | | | | | |
| Oligomer | | | | | | | | | | |
| Sodium Sulfide | 4.91E+00 | 4.96E-02 | | 4.91E+00 | | | | | 4.91E+00 | 4.91E+00 |
| Silico-Titanate | 1.07E+01 | 1.08E-01 | | 1.07E+01 | | | | | 1.07E+01 | 8.04E+02 |
| Sulfur | | | | | | | | | | |

| STREAM NAME | 1226 | 1227 | 1228 | 1229 |
|---|---|---|---|---|
| LIQUID COMPONENTS | | | | |
| Total Mass Flow (MT) | | 3.22E+03 | 2.30E+01 | |
| Volume (L) | | 2.53E+06 | 1.81E+04 | |
| Specific Gravity | | 1.27E+00 | 1.27E+00 | |
| Radionuclides (Ci) | | | | |
| Am-241 | | | | |
| C-14 | | | | |
| Cs-137 | | 6.70E+05 | 4.78E+03 | |
| Ba-137 | | 6.36E+05 | 4.55E+03 | |
| Np-237 | | | | |
| Pu-239 | | | | |
| Pu-240 | | | | |
| Pu-241 | | | | |
| Sr-90 | | | | |
| Y-90 | | | | |
| Tc-99 | | 1.49E+04 | 1.06E+02 | |
| Total Curies | | 1.32E+06 | 9.44E+03 | |
| Chemicals (MT) | | | | |
| Ag+ | | | | |
| Am+3 | | | | |
| As+5 | | | | |
| B+3 | | | | |
| Ba+2 | | | | |
| Be+2 | | | | |
| Bi+3 | | | | |
| Ca+2 | | | | |
| Cd+2 | | 9.22E-01 | 6.58E-03 | |
| Ce+3 | | | | |
| Cm+3 | | | | |
| Co+3 | | | | |
| Cs+ | | 3.87E-02 | 2.76E-04 | |
| Cu+2 | | | | |
| Fe+2 | | | | |
| Fe+3 | | | | |
| H+ | | | | |
| Hg+2 | | | | |
| K+ | | 1.75E+00 | 1.25E-02 | |
| La+3 | | | | |
| Mg+2 | | | | |
| Mn+2 | | | | |
| Mn+4 | | | | |
| Mo+6 | | 9.53E-05 | 6.81E-07 | |
| Na+ | | 5.01E+02 | 3.58E+00 | |
| Ni+3 | | | | |
| Np+4 | | | | |
| Pb+4 | | 1.17E+00 | 8.39E-03 | |
| Pu+4 | | | | |
| Rb+ | | | | |
| Re+7 | | | | |
| Rh+3 | | | | |
| Ru+3 | | 1.42E-04 | 1.02E-06 | |
| Se+6 | | 2.36E-03 | 1.68E-05 | |
| Si+4 | | | | |
| Sr+2 | | | | |
| Te+6 | | 9.93E-05 | 7.09E-07 | |
| UO2+2 | | | | |
| Zn+2 | | | | |
| Zr+4 | | | | |
| Al(OH)4- | | | | |
| BO2- | | 1.10E-02 | 7.82E-05 | |
| Cl- | | 1.02E+01 | 7.28E-02 | |
| CO3-2 | | | | |
| Cr(OH)4- | | | | |
| F- | | 2.13E-01 | 1.52E-03 | |
| I- | | 5.28E-01 | 3.77E-03 | |
| NO2- | | | | |
| NO3- | | 8.38E+02 | 5.98E+00 | |
| OH- | | 4.30E-01 | 3.07E-03 | |
| PO4-3 | | 2.77E+02 | 1.98E+00 | |
| SO4-2 | | | | |
| TcO4- | | 1.44E+00 | 1.03E-02 | |
| H2O | | 1.59E+03 | 1.13E+01 | |
| Organic Carbon | | | | |
| ZrO2:2H2O | | | | |
| Hg | | | | |
| TiO2 | | | | |
| Cl2 | | | | |
| CO | | | | |
| CO2 | | | | |
| F2 | | | | |
| H2 | | | | |
| I2 | | | | |
| N2 | | | | |
| N2O | | | | |
| NO | | | | |
| NO2 | | | | |
| O2 | | | | |
| SO2 | | | | |
| Dicyclopentadiene | | | | |
| Glycolic Anion | | | | |
| H2S | | | | |
| Glycolic Acid | | | | |
| Kerosene | | | | |
| NH3 | | | | |
| Oligomer | | | | |
| Sulfur | | | | |

| STREAM NAME | 1226 | 1227 | 1228 | 1229 |
|---|---|---|---|---|
| SOLID COMPONENTS | | | | |
| Total Mass Flow (MT) | | 2.32E-01 | 2.30E+01 | |
| Radionuclides (Ci) | | | | |
| Am-241 | | 4.27E-03 | 4.23E-01 | |
| C-14 | | | | |
| Cs-137 | | 1.38E+00 | 1.37E+02 | |
| Ba-137 | | 1.31E+00 | 1.30E+02 | |
| Np-237 | | 3.69E-06 | 3.65E-04 | |
| Pu-239 | | 9.05E-04 | 8.96E-02 | |
| Pu-240 | | 2.36E-04 | 2.33E-02 | |
| Pu-241 | | 2.64E-03 | 2.62E-01 | |
| Sr-90 | | 1.08E+00 | 1.07E+02 | |
| Y-90 | | 1.08E+00 | 1.07E+02 | |
| Tc-99 | | 3.55E-03 | 3.52E-01 | |
| Total Curies | | 4.87E+00 | 4.82E+02 | |
| Chemicals (MT) | | | | |
| Ag+ | | | | |
| Al+3 | | | | |
| Am+3 | | | | |
| As+5 | | | | |
| Ba+2 | | | | |
| Be+2 | | | | |
| Bi+3 | | | | |
| Ca+2 | | | | |
| Cd+2 | | | | |
| Ce+3 | | | | |
| Cm+3 | | | | |
| Co+3 | | | | |
| Cr+3 | | | | |
| Cs+ | | | | |
| Cu+2 | | | | |
| Fe+3 | | | | |
| Hg+2 | | | | |
| K+ | | | | |
| La+3 | | | | |
| Mg+2 | | | | |
| Mn+4 | | | | |
| Mo+6 | | | | |
| Na+ | | | | |
| Ni+3 | | | | |
| Np+4 | | | | |
| Pb+4 | | | | |
| Pu+4 | | | | |
| Rh+3 | | | | |
| Se+6 | | | | |
| Si+4 | | | | |
| Sr+2 | | | | |
| Th+4 | | | | |
| Ti+4 | | | | |
| UO2+2 | | | | |
| Zn+2 | | | | |
| Cl- | | 6.50E-05 | 6.44E-03 | |
| CO3-2 | | | | |
| F- | | 5.35E-04 | 5.30E-02 | |
| I- | | 1.10E-08 | 1.09E-06 | |
| NO2- | | | | |
| NO3- | | | | |
| OH- | | | | |
| PO4-3 | | | | |
| SO4-2 | | | | |
| TcO4- | | | | |
| Cancrinite | | | | |
| H2O | | | | |
| MnO2 | | 9.45E-06 | 9.35E-04 | |
| Organic Carbon | | | | |
| ZrO2:2H2O | | | | |
| Ag2O | | 1.78E-07 | 1.76E-05 | |
| AlPO4 | | 2.93E-03 | 2.90E-01 | |
| Al2O3 | | 1.04E-02 | 1.03E+00 | |
| Am2O3 | | 1.37E-09 | 1.35E-07 | |
| As2O5 | | 4.16E-11 | 4.11E-09 | |
| B2O3 | | 5.50E-08 | 5.45E-06 | |
| BaO | | 4.57E-07 | 4.52E-05 | |
| BeO | | 5.92E-11 | 5.86E-09 | |
| Bi2O3 | | 7.46E-06 | 7.38E-04 | |
| CaO | | 2.32E-02 | 2.30E+00 | |
| CdO | | 4.34E-06 | 4.30E-04 | |
| Ce2O3 | | 2.21E-06 | 2.19E-04 | |
| Cm2O3 | | 1.10E-13 | 1.08E-11 | |
| Co2O3 | | 1.03E-09 | 1.02E-07 | |
| Cr2O3 | | 2.18E-04 | 2.15E-02 | |
| Cs2O | | 8.44E-08 | 8.35E-06 | |
| CuO | | 6.30E-08 | 6.24E-06 | |
| Fe2O3 | | 2.80E-05 | 2.77E-03 | |
| FeO | | 7.72E-10 | 7.64E-08 | |
| Hg | | 1.41E-06 | 1.40E-04 | |
| HgO | | 3.07E-10 | 3.04E-08 | |
| K2O | | 4.29E-04 | 4.24E-02 | |
| La2O3 | | 2.21E-07 | 2.18E-05 | |
| Li2O | | | | |
| MgO | | 4.06E-08 | 4.02E-06 | |
| MnO | | 3.15E-11 | 3.12E-09 | |
| MoO3 | | 5.59E-09 | 5.54E-07 | |
| Na2O | | 5.80E-02 | 5.74E+00 | |
| Nd2O3 | | 6.68E-06 | 6.61E-04 | |
| NiO2 | | 5.94E-09 | 5.88E-07 | |
| PbO2 | | 5.59E-06 | 5.54E-04 | |
| PuO2 | | 1.78E-08 | 1.76E-06 | |

| STREAM NAME | 1226 | 1227 | 1228 | 1229 |
|---|---|---|---|---|
| SOLID COMPONENTS | | | | |
| Chemicals Continued (MT) | | | | |
| $Rb_2O$ | | 1.32E-10 | 1.31E-08 | |
| $Re_2O_7$ | | 7.08E-11 | 7.01E-09 | |
| $Rh_2O_3$ | | 1.23E-09 | 1.22E-07 | |
| $Ru_2O_3$ | | 7.26E-10 | 7.19E-08 | |
| $SeO_3$ | | 1.56E-08 | 1.55E-06 | |
| $SiO_2$ | | 1.36E-01 | 1.35E+01 | |
| $SO_3$ | | 8.17E-05 | 8.09E-03 | |
| SrO | | 3.53E-07 | 3.49E-05 | |
| $Tc_2O_7$ | | 3.27E-07 | 3.24E-05 | |
| $Tc_2S_7$ | | | | |
| $TeO_3$ | | 5.64E-10 | 5.58E-08 | |
| $ThO_2$ | | 9.40E-09 | 9.31E-07 | |
| $TiO_2$ | | 6.97E-07 | 6.90E-05 | |
| $UO_3$ | | 6.13E-05 | 6.07E-03 | |
| ZrO | | 2.35E-09 | 2.33E-07 | |
| $ZrO_2$ | | 5.67E-06 | 5.62E-04 | |
| Cement | | | | |
| Cu | | | | |
| $CuSO_4$ | | | | |
| Dicyclopentadiene | | | | |
| Flyash | | | | |
| Oligomer | | | | |
| Sodium Sulfide | | | | |
| Silico-Titanate | | | | |
| Sulfur | | | | |

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# APPENDIX B

# PROCESS FACILITIES, SITE LAYOUT, AND SUPPORT FACILITIES

## B1.0 PROCESS FACILITIES

The initial facility will be capable of performing separations and vitrification of LLW. It will have the capacity of producing up to 120 Mg/d of glass cullet. The vitrification process will use a single combustion melter train.

At some predetermined point in time the LLW melter train will be shut-down and converted to a HLW melter train capable of producing up to 20 Mg/d of HLW glass. The converted facility will be capable of producing monolithic glass, pouring it into stainless steel canisters, cooling, sealing, decontaminating, and overpacking the canisters, and loading them out to the Canister/Cask Handling Annex. Figure B-1, SPFC Layout, shows the SPFC configuration for both (1) separations/LLW vitrification and (2) HLW vitrification.

Due to the depth (approximately 15 m belowgrade) of the canister transfer and handling facilities, these portions of the HLW plant will be included in the initial design and construction of the Separations/LLW vitrification facility. The equipment located in these areas are dedicated to the HLW vitrification process and will be procured and installed at a later date. To prevent contamination and insure the ability to install the HLW equipment, seal plates and cover blocks will be provided to separate these areas from the LLW processing areas. Radiological protection will be provided to allow the installation of equipment in the canister transfer tunnel while the LLW melter is in operation.

It is assumed that the majority of the decommissioning, decontamination, and removal of LLW equipment and installation of HLW equipment within the process area can be performed remotely. However, a certain amount will have to be contact handled. Radiological protection will have to be provided for personnel in the melter and other process cells.

Knockouts in the exterior walls and roof will be provided to allow installation of large equipment items. These knockouts will be located so as to not compromise the integrity of the LLW confinement envelope.

The impact of this alternative on equipment in the LLW portion of the plant is summarized in Table B-1.

As Table B-1 indicates, some of the equipment items from the converted LLW train can be re-used in HLW service, while others will be designated as surplus. The net effect of re-used and newly added equipment is to create a fully equipped, 20 Mg/day HLW vitrification train.

Table B-1. Impact of Melter Replacement. (2 sheets)

| Low-level waste equipment tag | Equipment name | Status after conversion |
|---|---|---|
| TK-400 | LLW Evaporator Feed Tank | No change, continue in HLW service |
| EV-402 | LLW Feed Evaporator | Continue in HLW service at reduced capacity |
| TK-404A and B | LLW Melter Feed Adjustment Tank | Continue in HLW service |
| TK-406 | LLW Melter Feed Tank | Continue in HLW service |
| EM-412 | LLW Melter | Replace by EM-323, HLW Melter |
| S-413 | LLW Glass Separator | Replace by S-324, HLW Glass Separator |
| MQ-414 | LLW Quench Flume | Surplus |
| TK-416 | LLW Cullet Catch Tank | Surplus |
| EC-417 | LLW Condenser | Surplus |
| EC-419 | LLW Cooler | Surplus |
| TK-421 | LLW Quench Water Recycle Tank | Surplus |
| FS-422 | LLW Screen | Surplus |
| TK-426 | LLW Filter Catch Tank | Surplus |
| B-427 | LLW Cullet Day Lag Storage | Surplus |
| EC-428 | LLW Condenser | Surplus |
| TK-429 | LLW Condensate Catch Tank | Surplus |
| FC-432 | LLW Cyclone | Surplus |
| B-434 | LLW Day Bin | Surplus |

Table B-1. Impact of Melter Replacement. (2 sheets)

| | | |
|---|---|---|
| TK-438 | Sulfur Cement Mixing Tank | Surplus |
| TK-441 | Surge Tank | Surplus |
| TK-443 | Decanted Molten Sulfur Vault | Surplus |
| TK-2000 | LLW Cullet Storage | Surplus |
| FC-500 | LLW Cyclone | Surplus |
| TK-503 | LLW Recycle Cullet Catch Tank | Surplus |
| T-609 | LLW Quench Tower | Change to T-600, HLW Quench Tower |
| EC-610 | LLW Cooler | Change to EC-601, HLW Cooler |
| TK-614 | LLW Scrub Solution Tank | Change to TK-608, HLW Scrub Solution Tank |
| DE-618 | LLW Mist Eliminator | Change to DE-605, HLW Mist Eliminator |

HLW = High-level waste
LLW = Low-level waste.

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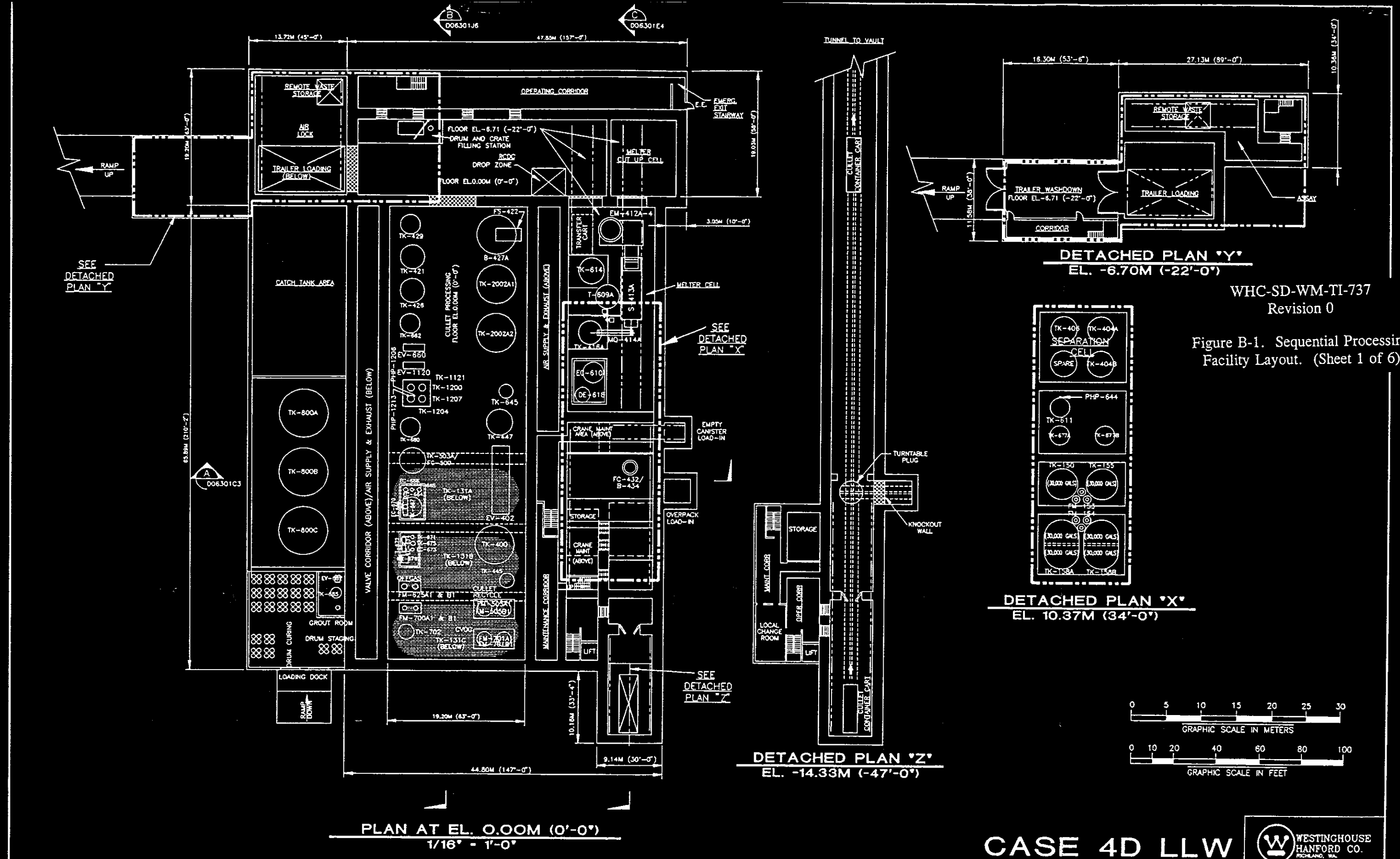


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Figure B-1. Sequential Processing Facility Layout. (Sheet 1 of 6)

# CASE 4D LLW

WESTINGHOUSE HANFORD CO. RICHLAND, WA.

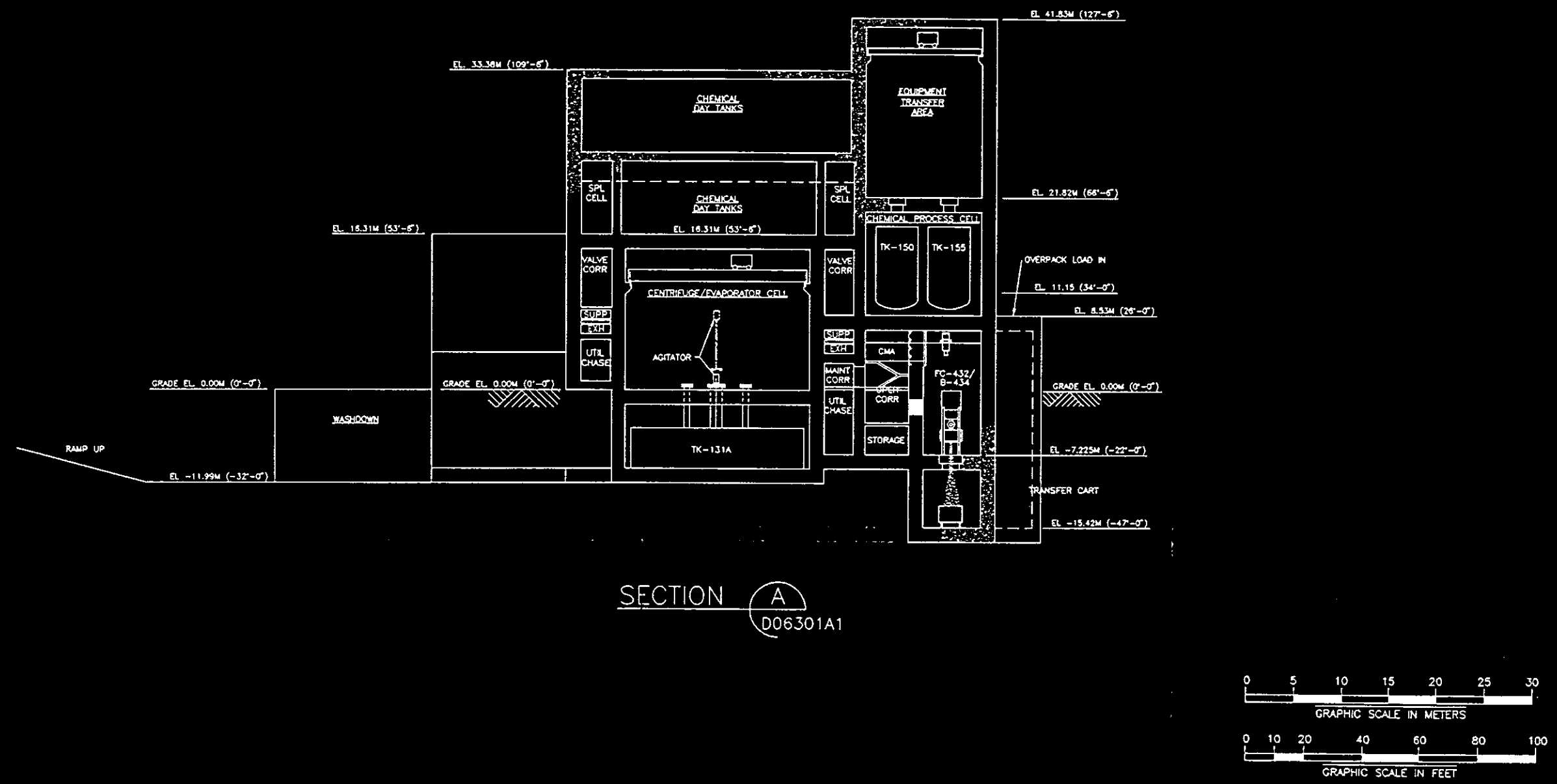
TITLE:

## SEQUENTIAL PROCESSING ALTERNATIVE

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301A1 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4D01A | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-12-96 | SCALE | 1/16" = 1'-0" |

PLAN AT ELEVATION (AS NOTED)
LOW-LEVEL MELTER CASE
120T/D VITRIFICATION BLDG.

Figure B-1. Sequential Processing Facility Layout. (Sheet 2 of 6)




CASE 4D LLW

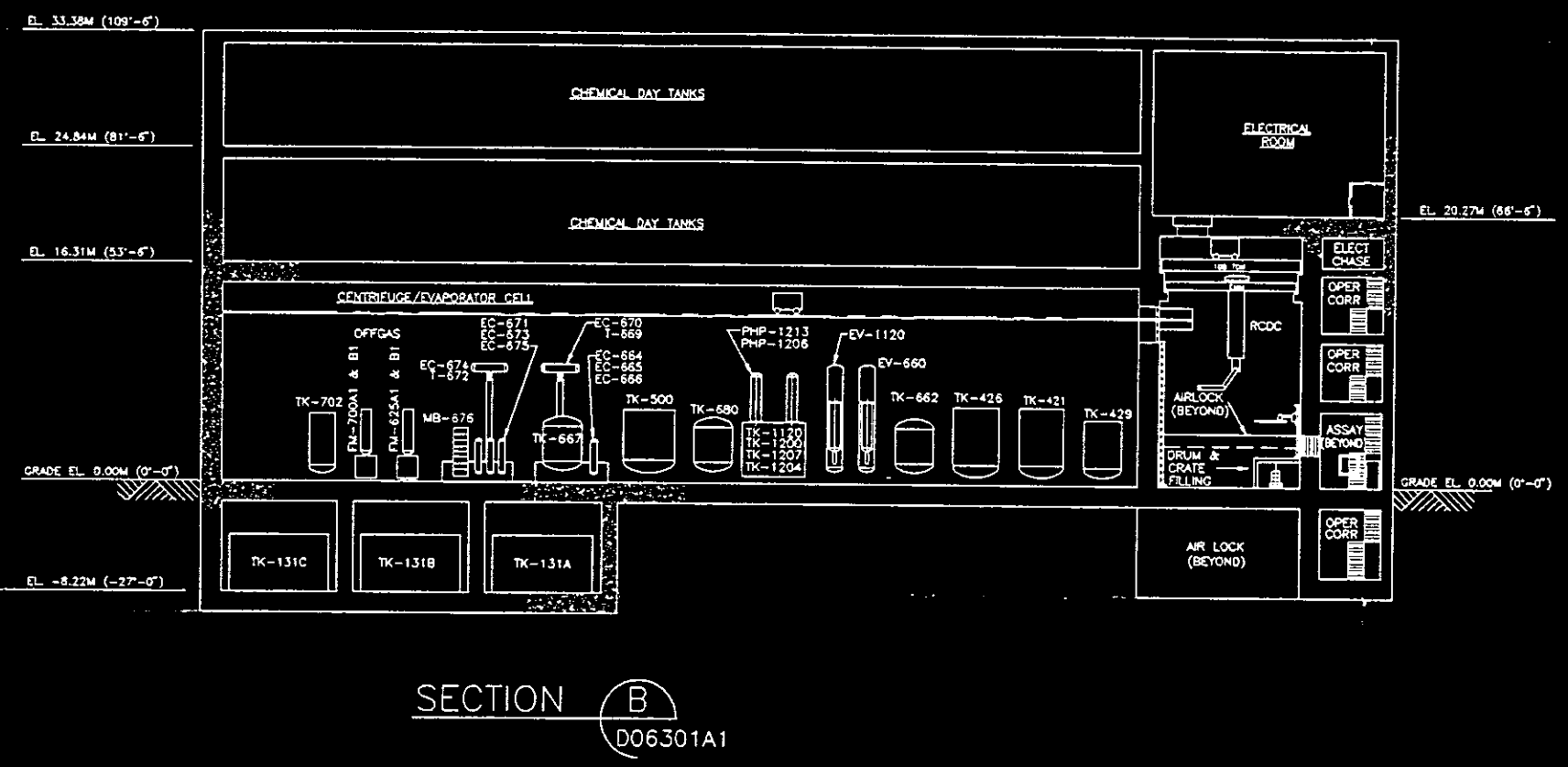
WESTINGHOUSE HANFORD CO. RICHLAND, WA.

TITLE: SEQUENTIAL PROCESSING ALTERNATIVE

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301C3 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4D01A | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-9-96 | SCALE | 1/16" = 1'-0" |

SECTION "A" ELEVATION
LOW-LEVEL MELTER CASE
120T/D VITRIFICATION BLDG.

Figure B-1. Sequential Processing Facility Layout. (Sheet 3 of 6)




CASE 4D LLW

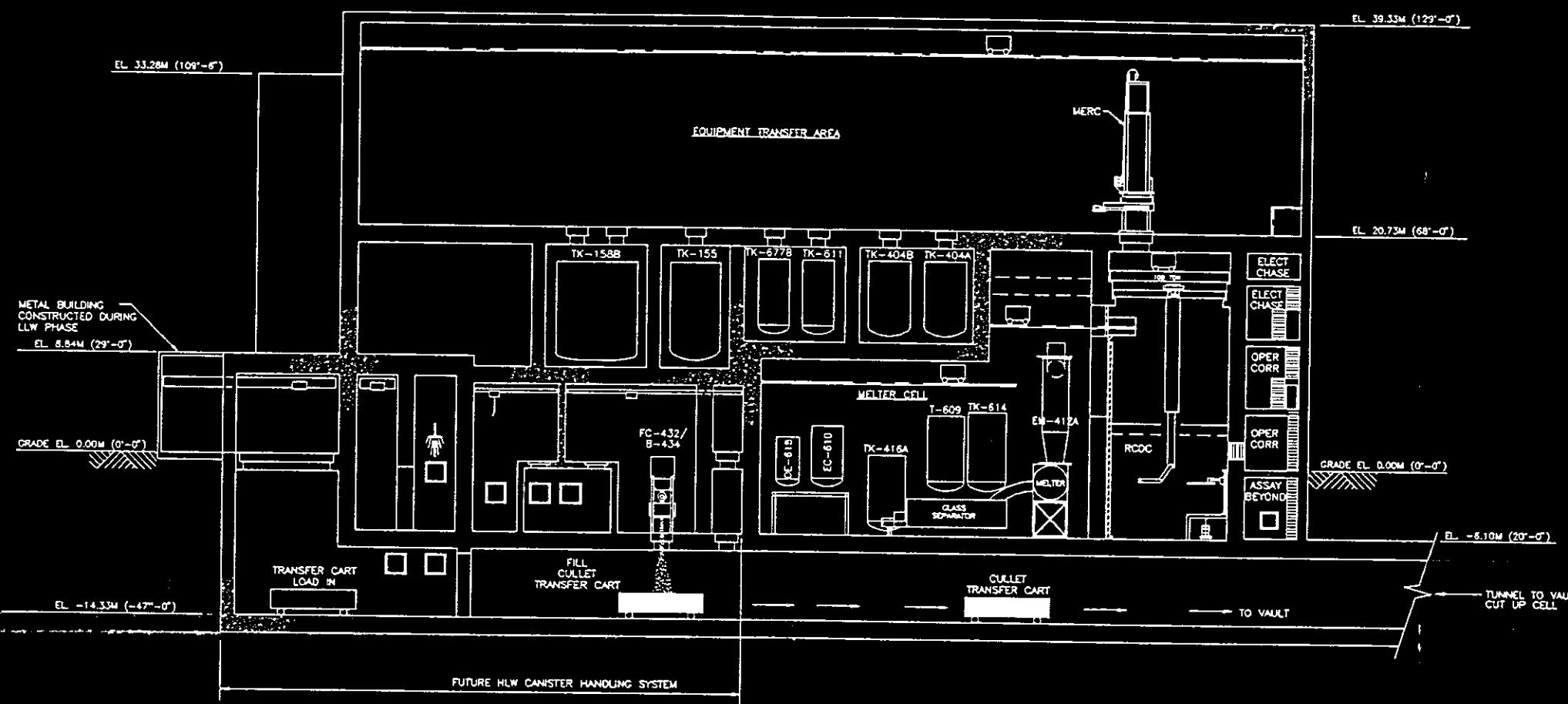
WESTINGHOUSE HANFORD CO. RICHLAND, WA.

TITLE: SEQUENTIAL PROCESSING ALTERNATIVE

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301J6 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4001A | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-13-96 | SCALE | 1/16" = 1'-0" |

SECTION "B" ELEVEATION
LOW-LEVEL MELTER CASE
120T/D VITRIFICATION BLDG.

Figure B-1. Sequential Processing Facility Layout. (Sheet 4 of 6)




SECTION C
D06301A1

0 5 10 15 20 25 30
GRAPHIC SCALE IN METERS

0 10 20 40 60 80 100
GRAPHIC SCALE IN FEET

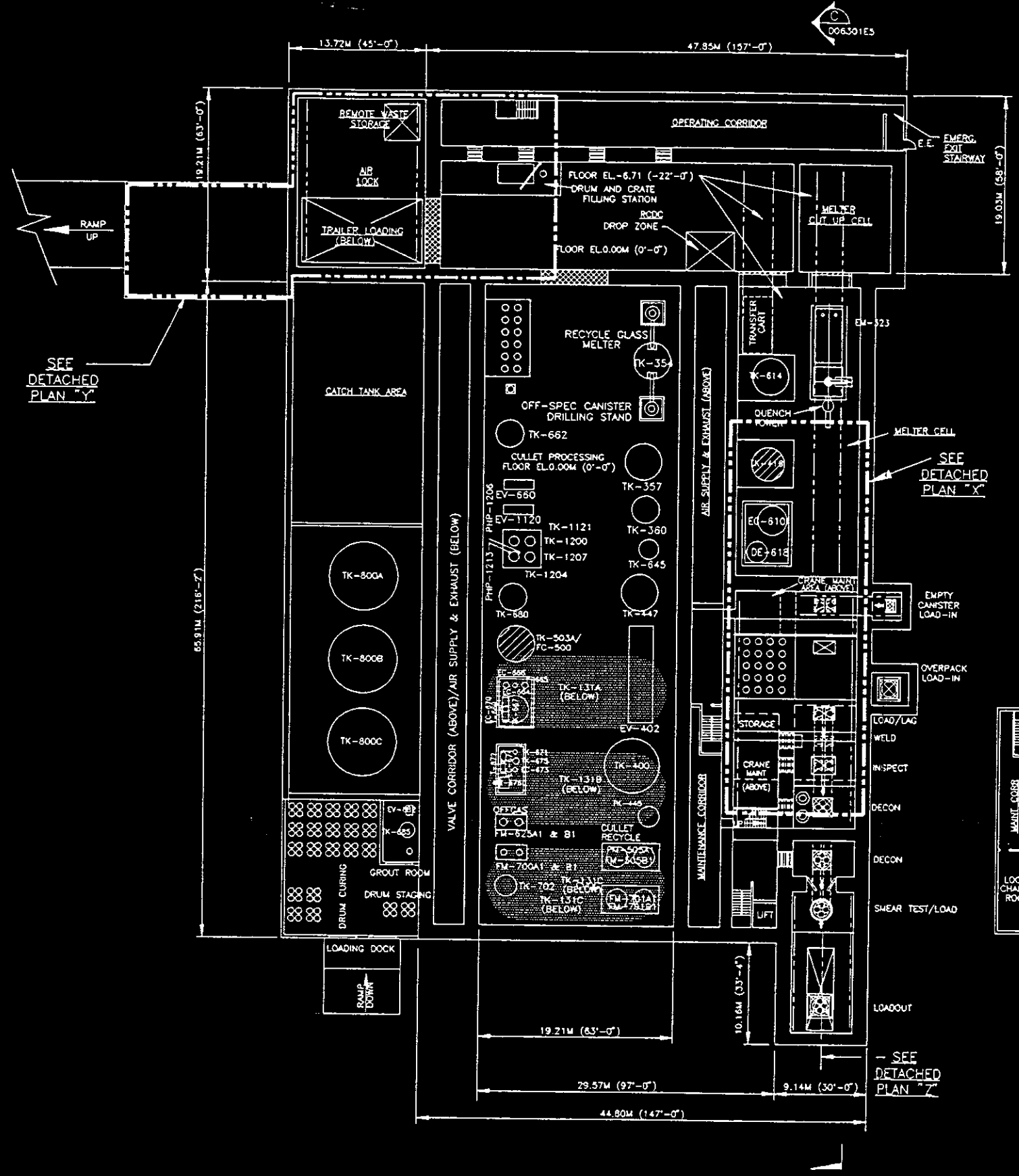
# CASE 4D LLW

WESTINGHOUSE HANFORD CO.
RICHLAND, WA.

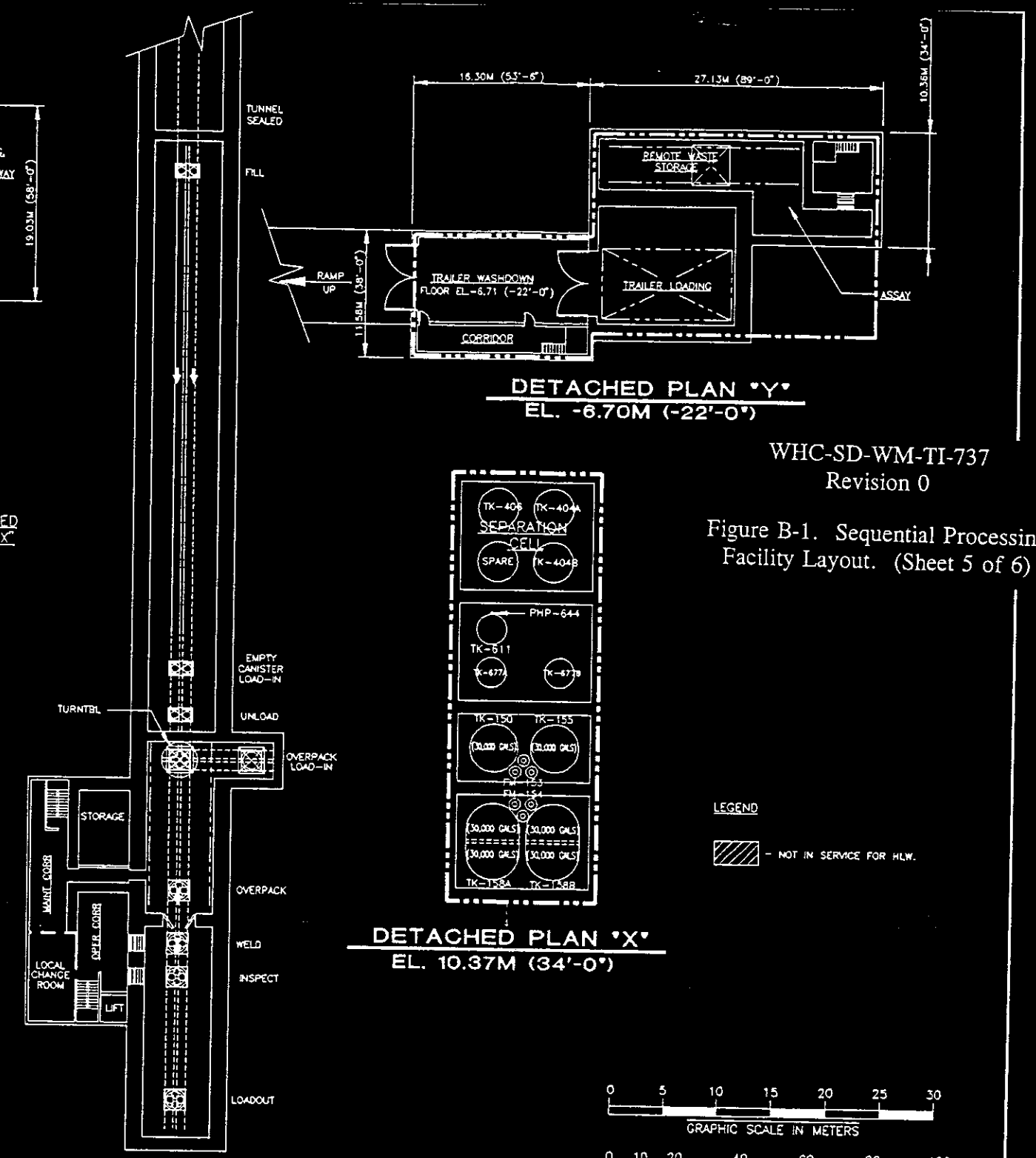
TITLE:
## SEQUENTIAL PROCESSING ALTERNATIVE

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301E4 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4001A | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-7-96 | SCALE | 1/16" = 1'-0" |

ELEVATION VIEW SECT. C
LOW-LEVEL MELTER CASE
120T/D VITRIFICATION BLDG.




PLAN AT EL. 0.00M (0'-0")
1/16" = 1'-0"




DETACHED PLAN "Y"
EL. -6.70M (-22'-0")

DETACHED PLAN "X"
EL. 10.37M (34'-0")

DETACHED PLAN "Z"
EL. -14.33M (-47'-0")

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Figure B-1. Sequential Processing Facility Layout. (Sheet 5 of 6)

LEGEND

- NOT IN SERVICE FOR HLW.

0 5 10 15 20 25 30
GRAPHIC SCALE IN METERS

0 10 20 40 60 80 100
GRAPHIC SCALE IN FEET

# CASE 4D HLW

WESTINGHOUSE HANFORD CO.
RICHLAND, WA.

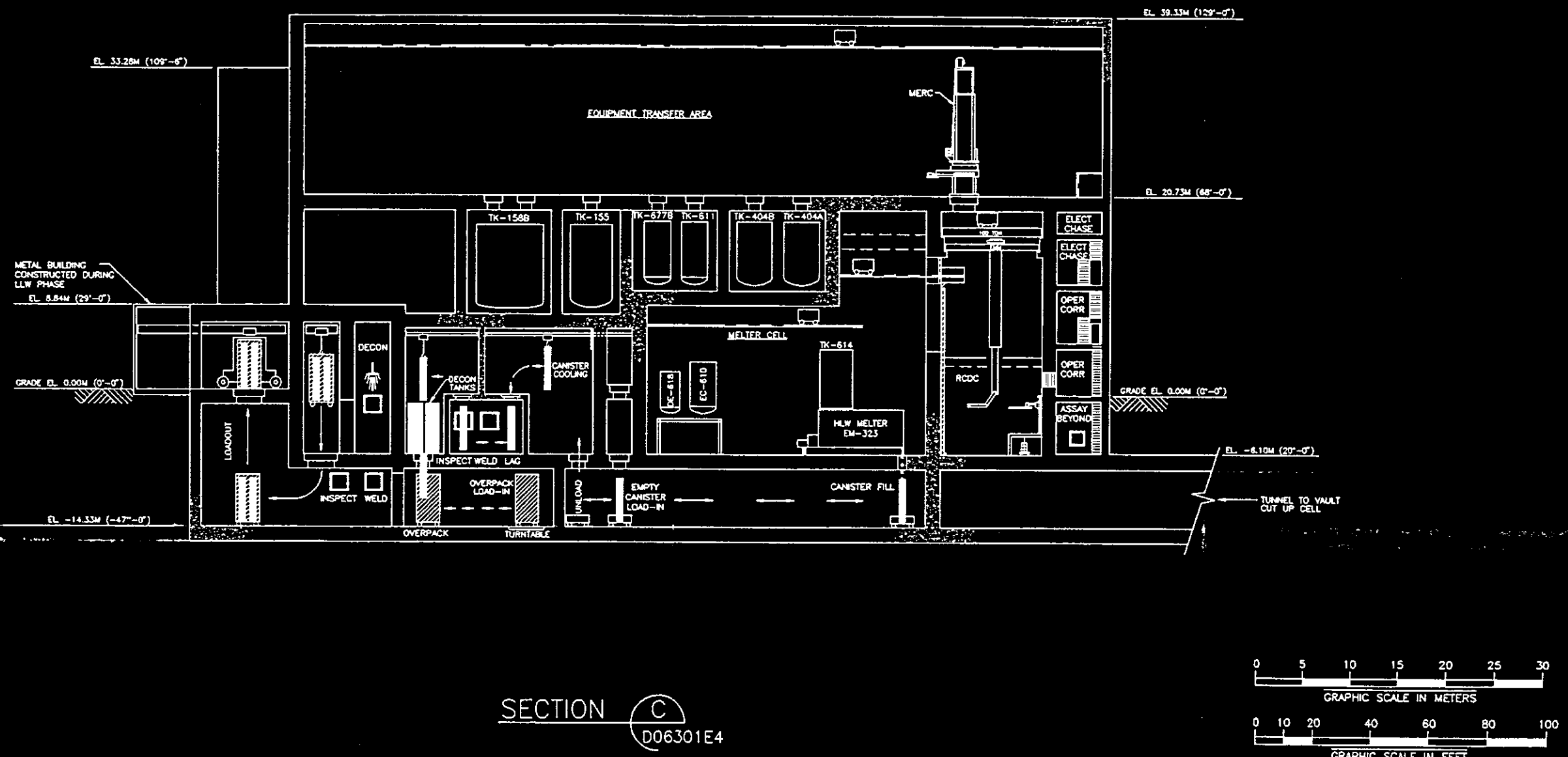
TITLE:
## SEQUENTIAL PROCESSING ALTERNATIVE

B-13/B-14

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301F5 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4001F | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-13-96 | SCALE | 1/16" = 1'-0" |

PLAN AT ELEVATION (AS NOTED)
HIGH-LEVEL MELTER CASE
20T/D VITRIFICATION BLDG.

Figure B-1. Sequential Processing Facility Layout. (Sheet 6 of 6)




CASE 4D HLW

WESTINGHOUSE HANFORD CO. RICHLAND, WA.

TITLE:

SEQUENTIAL PROCESSING ALTERNATIVE

| | | | |
|---|---|---|---|
| PROCESS DESIGN CAD FILE NO. | D06301E5 | WESTINGHOUSE CHARTER | PROCESS DESIGN |
| ORIGINAL CONTRACTOR CAD FILE NO. | ALT4D01A | COGNIZANT MANAGER | JOHN GARFIELD |
| ORIGINAL DESIGN CONTRACTOR | FLUOR DANIELS | COGNIZANT ENGINEER | ERIC SLAATHAUG |
| REVISION | 0 | DESIGNER | DARREN DIXON |
| DATE | 2-13-96 | SCALE | 1/16" = 1'-0" |

ELEVATION VIEW SECT. C
HIGH-LEVEL MELTER CASE
120T/D VITRIFICATION BLDG.

## B2.0 SITE LAYOUT

It was assumed that the site layout for the process building and support facilities for the SPFC would be identical to the layout for the original SPF. No changes were made to this section due to that assumption.

The TWRS program preliminary findings of the site reevaluation recommended that the TWRS Treatment Complex be located within 200 East Area. The specific area is composed of the HWVP location or an area located west of the PUREX facility and bounded on three sides by Baltimore Avenue, First Street, and the existing rail and spur.

The current strategy is to locate the TWRS Treatment Facility and Close Shared Support Facilities within the eastern portion of this site. The Distant Shared Support Facilities would be located in the western portion of the site.

For clarification, the buildings in the TWRS program mission were segregated into areas or complexes. The largest division is the TWRS Treatment Complex. It is collective the area required for, the new process facilities, non-process facilities and distant and close shared support and auxiliary facilities required to support the TWRS processing mission.

The TWRS Treatment Complex is a portion of the TWRS Complex. It is the area required to co-locate the process facilities (e.g., separations and vitrification) and close shared support facilities. The TWRS Treatment Complex facilities are the basis for the Site Arrangement Drawing.

The Operations Area is a portion of the TWRS Treatment Complex. It co-locate the process facilities and annexed support facilities which have the potential to become contaminated. These facilities are required to be close together for process operations efficiency, safety and conduct of operations requirements.

The support facility buildings and their estimated sizes were originally defined during initial Trade Studies in 1994. Their respective envelopes were used to develop initial site arrangement and utility corridor layouts for other configurations. Further building development was undertaken in the Trade Study, CWBS 2001 "Process Support Infrastructure and Definitions," to identify functional requirements and to confirm utility requirements and support facility building sizes. The basis for the building development was refined for this concept and the sizes adjusted accordingly.

Figure B-2 contains the Site Arrangement Drawing showing the layout for the selected site. Support facilities initially defined in the Trade Study CWBS 2001 "TWRS Process Support Infrastructure and Definition" and the process facilities as defined by this study, were placed into the selected site. The arrangement of these buildings evolved from functional and adjacency requirements as examined by that study. In some cases, the technical requirements associated with the functions or systems within each of the buildings determined their plot location.

The process and support facilities were situated with consideration for construction, staging and facility requirements of the TWRS Treatment Complex. Sufficient space to allow for installation of underground piping corridors, fire water loops, sanitary water supply, sanitary sewer systems, and electrical systems was provided in the study.

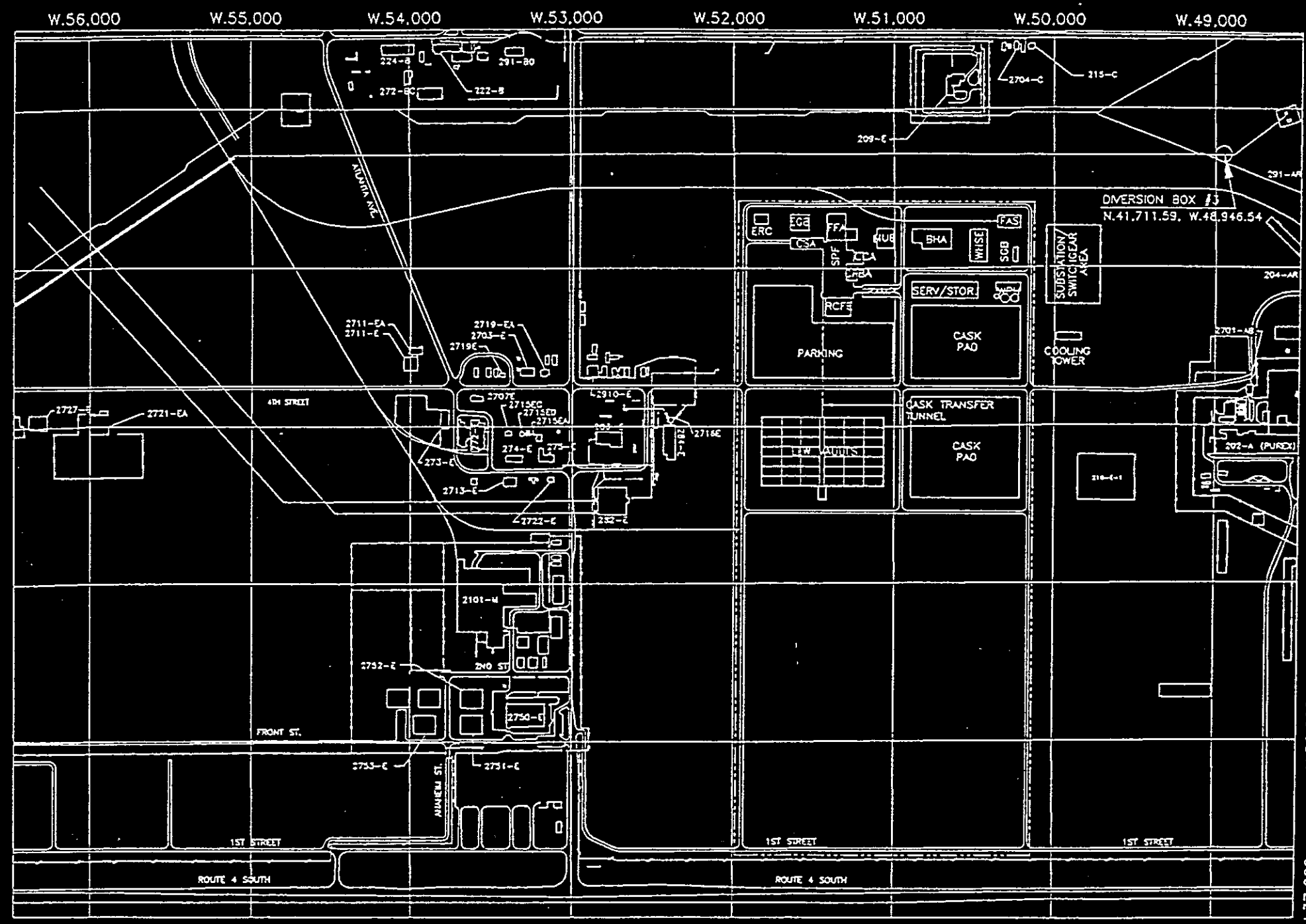
## B2.1 SITE CONSTRUCTION

The site arrangement was developed to allow for staged construction or phased construction of the TWRS Treatment Complex. Study drawings were completed to review the space required for the vitrification building. Overall site clearing and grubbing drawings were completed to estimate the potential site disturbance. Sketches showing likely approaches to locating temporary facilities were completed.

Provisions were made to allow for site construction to continue while the Separations/vitrification facility became operational. Support buildings were set back from the roads by 15.2 to 30.5 m to allow for the construction of piping and electrical utility corridors. Existing systems located above and below grade in the site may require relocation to allow for separation of electrical and piping systems.

Temporary laydown areas will be required to support site construction. To maximize efficiency and minimize costs associated with transportation of raw materials to the construction area the lay down area is in proximity to the work area.

Figure B-2. TWRS Treatment Complex Site Plan.




## LEGEND

| | |
|---|---|
| SPF | SEQUENTIAL PROCESSING FACILITY |
| RCFE | REGULATED COMPLEX/FACILITY ENTRY AND ANALYTICAL LAB ANNEX |
| CSA | CONTAINER STAGING ANNEX |
| CFBR | CONTACT FILTER/BLOWER ROOM ANNEX |
| FFA | FAN/FILTER ANNEX |
| CCA | COLD CHEMICAL ANNEX |
| EGB | EMERGENCY GENERATOR BUILDING |
| ERC | EMERGENCY RESPONSE CENTER |
| BHA | BULK HANDLING AREA |
| MUB | MECHANICAL UTILITY BUILDING |
| SERV/STOR | SERVICE/STORAGE YARD |
| SGB | SWITCHGEAR BUILDING |
| WHSE | WAREHOUSE |
| WPH | WATER PUMPHOUSE |
| FAS | FABRICATION & ASSEMBLY SHOP |

NOTE:
1. OVERALL AREA OF THE TWRS TREAMENT COMPLEX IS ACRES.

200 EAST AREA

0 100 200 300 400 500
GRAPHIC SCALE IN METERS

0 100 400 700 1000 1300 1600
GRAPHIC SCALE IN FEET

U.S.DEPARTMENT OF ENERGY

FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

SINGLE LINE
TWRS TREATMENT COMPLEX
SITE PLAN

SITE40
J.THOMPSON 6-3-95 1:3000
NONE NOT REQD ES-SITE40-1 1 1 A
ACAD

REFERENCE DRAWINGS
NEXT USED ON

### B2.1.8 Infrastructure

The infrastructure layout allows for phased construction of the site and allows for access and maintainability. Between each of the facilities there is at least 15.2 m of easement to allow for underground and/or above ground piping and electrical systems. Within the site boundaries, electrical and piping systems are kept separate. Electrical systems are located on one side of the site roads while piping systems are located on the other side.

Tie-ins to existing auxiliary systems will be from headers and connections along Fourth Street. The site feed system is attached to a diversion box located northeast of the site. The diversion box is part of the new Inter-Area Transfer Piping (W-058).

The rail system is an integral requirement of the site arrangement. The BHA, FAS, and Warehouses necessitate rail access. Bulk chemicals and large equipment will most likely enter the site by rail. Large and heavy items such as new melters, canisters and casks will be transported from one location on the site to another by donkey engine and rail car or by truck and trailer. In the site arrangement, access to the facilities is provided for from existing rail lines, spurs, and roads.

### B2.1.9 Land

The TWRS Treatment Complex site arrangement covers less than 100 acres of land. To the east and west the boundaries are established by existing B-Plant and Purex Facility. To the north, the site can be expanded but must contend with a main rail spur and the new inter area transfer lines (W-058). To the south, the site has additional space, approximately 100 acres, available. Support facilities can be moved further south in this area to provide additional space near and around the Separations/vitrification facility. The location can also be used for construction (spoils pile, trailers, fabrication and laydown areas) and future usage (cask pads, etc.). The TWRS Treatment Complex site is bounded by Route 4 on the south. Temporary construction facilities could be built south of the highway on open land if necessary, for an interim time to allow for additional site growth.

The Civil/Structural site design criteria for non-reactor DOE facilities at Hanford is provided by HPS SDC-4.1, Design Loads for Facilities. This document implements DOE Order 5480.28, Natural Phenomena Hazard Mitigation. It provides uniform wind and seismic design criteria, which conforms to published DOE Natural Phenomena Hazard Mitigation requirements. No distinction is made relating to separate locations on the Hanford Site.

# B3.0 SUPPORT FACILITIES

## B3.1 REGULATED COMPLEX/FACILITY ENTRY (RCFE)

The RCFE for the Separations/vitrification facility is the main entrance to the site and process facility. It is an annex attached to the main process structure. All personnel entering the Complex must first pass through the RCFE. Although not a requirement, it would be preferred to limit the travel distance of onsite personnel to and from the RCFE and their assigned work location. It houses the room functions for the site and facility personnel. The RCFE's primary function is to control personnel access and monitor exiting personnel for potential contamination. It also houses Health Physics offices, Analytical Laboratories, a counting room and main control room. The RCFE requires direct personnel access to the main process areas.

## B3.2 CONTACT FILTER AND BLOWER ROOM (CFBR)

The dedicated CFBR is annexed to the process facility. The CFBR contains the second stage filters and blowers for the in-cell offgas metal filters. The room requires external access for remote removal of large, contaminated filters and equipment. The room is required to be as close as possible to the vitrification facility to minimize the length of ducting and embedded piping.

## B3.3 FAN/FILTER BUILDING

The dedicated Fan/Filter Building is attached to the process facility. The Fan/Filter Building's primary function is to house the Zone 1 exhaust filters and fans. Also located in the building is a filter decontamination room, health physics area, instrument room and continuous air effluent monitoring (CAEM) rooms. The building's safety classification is consistent with the safety classification of the Zone 1 exhaust system.

The filters housed in the Fan/Filter Building are required by DOE 6430.1A Section 1500-99.02 to be "as close to the source as possible" to limit or minimize contamination of the air transportation system. This requirement is met by having the dedicated Fan/Filter Building annexed to the Separations/ vitrification Building.

## B3.4 EMERGENCY GENERATOR BUILDING

A dedicated Emergency Generator Building is provided at the process facility. It provides emergency power to those functions required to maintain confinement and bring the complex into a safe shutdown condition during and after a loss of power. The Exhaust Air Treatment System in the Fan/Filter Building is the largest load requiring emergency power.

For that reason, the Emergency Generator Building is located as close as possible, without interfering with the process operation, to the Fan/Filter Building.

## B3.5 CONTAINER STAGING ANNEX (CSA)

The Container Staging Annex is an annex to the vitrification facility. The LLW containers and the HLW canisters and casks will move from the Shipping and Receiving Building to the CSA for cleaning, inspection, lag storage and movement to the container load in station, canister load in stations or cask loading station. The building ensures quality and contamination control for the containers. The building is adjacent to the canister load in stations and over pack load out station. This allows for the CSA overhead cranes to lower the canisters into the building and to raise the over packs out of the facility.

## B3.6 LOW-LEVEL WASTE VAULTS

The LLW vaults will store the LLW product. A below grade tunnel will be used to transport containers of a sulfur polymer cement (SPC) and cullet from the Separations/vitrification building to the vaults. This tunnel will also be used to cool the SPC and cullet. A minimum tunnel length of 250 m is required to provide adequate time for cooling. Shortening this length would require additional HVAC to lower the tunnel temperature so as to provide adequate cooling. A longer tunnel would increase construction and operating costs. The tunnel is required to provide shielding and prevent the spread of contamination. The tunnel to the vaults is sealed after the LLW production run.

## B3.7 EMERGENCY RESPONSE CENTER (ERC)

If warranted by results of safety analyses an Emergency Response Center (ERC) would be provided for redundant safe shutdown and accident recovery monitoring.

## B3.8 COLD CHEMICAL ANNEX (CCA)/BULK HANDLING AREA (BHA)

The main function of the CCA and the Bulk Handling Area is to provide cold chemical receipt, storage, preparation and distribution to the TWRS Treatment Complex process facility. The length of solids transport lines to the users must be minimized to avoid the problems inherent to solids transport such as line obstruction and erosion. Additionally, the length of the liquid transport lines must be minimized to avoid substantial leaks of toxic chemicals. Therefore, the CCA is attached to the process facility and the BHA must be located close to the processing facility.

## B3.9 MECHANICAL UTILITIES BUILDING (MUB)

The MUB houses the Utility Steam System, the Compressed Air System, the Demineralized Water System, and the HVAC Chilled Water System. From a process standpoint, it is desirable to locate all of these systems in proximity to the main users the process facility. Locating these systems far from the processing facility, especially distant site locations, would require steam super heating, water cooling to a lower temperature, heavier line insulation and tracing, longer transfer lines, and higher transfer pressures, all of which lead to a higher capital and operating cost. Therefore, this building is located close to the process facility.

## B3.10 SWITCHGEAR BUILDING

The electrical Switchgear Building and substation are fed from the main electrical lines coming from the north and therefore should be situated for ease of access. To limit the length of the power feed lines, the electrical equipment is located near the primary user, the vitrification facility.

## B3.11 COOLING TOWER

The Cooling Tower should be located to the southeast portion of the TWRS Treatment Complex. Consideration of the prevailing wind direction was given when determining this location. Drift from the cooling tower should not be allowed to travel across construction areas, operational facilities, parking lots or operation areas. Condensate plumes should not be allowed to "fog" or obscure visibility along facility road systems. The prevailing wind is from the northwest. Cooling water can be pumped from any location to the users. Therefore, the Cooling Tower does not necessarily need to be located on the site and can be located elsewhere if required.

## B3.12 WATER PUMPHOUSE

There are no technical requirements for close proximity of the water tanks or water pump house to the process or ancillary buildings. The main consideration for the firewater system is reliability and not adjacency to the system users.

## B3.13 WAREHOUSE

The Warehouse is considered to be a distant shared facility. There are no technical requirements for the building to be specifically located on the site. The building must have truck and rail access to allow for movement of items in and out of the site. The building will also function as the shipping and receiving office for the site. Should the warehouse

building be used to support construction activities, it should be located in a position which can best provide for these activities.

## B3.14 FABRICATION AND ASSEMBLY SHOP

The Fabrication and Assembly Shop is considered to be a distant shared facility. There are no technical requirements for the shop to be specifically located on the site. The only consideration is that the shop requires railroad access to allow for movement of large and/or heavy pieces of equipment. Should the building be used to support construction activities, it should be located in a position which can best provide for these activities.

## B3.15 SERVICE/STORAGE YARD

The Service/Storage Yard is considered to be a distant shared facility. It provides for outdoor onsite storage of equipment, vehicles and materials not required to be stored inside the warehouse. It provides outdoor service and maintenance for vehicles, equipment and materials not requiring indoor major repairs. Should the yard be used to support construction activities, it should be located in a position which can best provide for these activities.

## B3.16 HIGH-LEVEL WASTE CASK PADS

The HLW Cask Pads allow for interim storage of the HLW product. HLW casks will be moved by special transporters from the HLW Canister/ Cask Staging Building to the Cask Pads. Location of storage pads should be near the process facility to limit the travel time for the transporter. Extensive travel time for the transporter may require additional transporters or other means of transportation to fulfill the Total Operating Efficiency requirements. Shielding and personnel protection also place requirements on the casks, cask pads and surrounding area.

The casks used for interim storage of the HLW glass canisters does not provide sufficient shielding for personnel contact. A cost analysis of these various shielding options was conducted. The results of this study indicated that the most cost effective solution to this problem is a full berm around the cask pad for personnel protection.

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# APPENDIX C

# EQUIPMENT LIST

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# APPENDIX D

# INITIAL CAPITAL COST ESTIMATE

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# APPENDIX E

## COST CALCULATIONS

Life-cycle costs are derived from the design media generated for the SPFC as shown in Figure E-1. Capital and expense costs for the life of the mission are derived from the Process Flow Diagram (PFD) and the related mass balance run on ASPEN software. These provide a basis for the process equipment list, design layouts, and site layouts.

Capital costs for the SPF were estimated by Fluor Daniel, Inc. for process equipment, facility, and the site/infrastructure elements. For the SPFC, the Fluor Daniel estimate was used as a starting point. The pretreatment and cesium ion exchange equipment no longer needed was deleted and the additional equipment for cesium and technetium removal was added. The facility cost was parametrically scaled from the original Fluor estimate. The expense costs were developed by WHC from specific elements of the design media as depicted on Figure E-1. Thus, the life-cycle costs are directly traceable to specific elements of the design included in this document.

The ancillary areas and structures required to support the operation of the SPF are collectively referred to as "support and infrastructure" and are arranged with respect to the SPFC in a site layout.

The support and infrastructure functions associated with the TWRS processing flowsheet have been systematically identified and documented in WHC-SD-W378-ES-002 (draft), "Facility Design Philosophy: TWRS Process Support and Infrastructure Definition". Utilities and structures have been mapped to the TWRS functional block diagram for "Remediate Tank Waste" in order to ensure a complete identification of processing support and infrastructure. Subsequently, each support function was assessed for location and process constraints. Specifically, on the bases of safety and operational considerations, it was determined whether support functions should be close coupled with the main processing facility or could otherwise be placed some distance away. It was also determined whether the function could be shared between pretreatment and vitrification or must otherwise be dedicated to each. Finally, opportunities for cost savings and efficiencies were considered through grouping or collocating functions in common structures.

Table E-1 provides the ADS guidance for fiscal year 1996. Table E-2 provides the funding profile for SPFC. Table E-3 provides the staff levels for the SPFC separations and LLW vitrification. Table E-4 provides the staff levels for the SPFC HLW vitrification. Table E-5 provides the expense costs for chemicals, utilities, equipment replacement, and containers and vaults.

Figure E-1. Basis for Life-Cycle Cost Estimates.

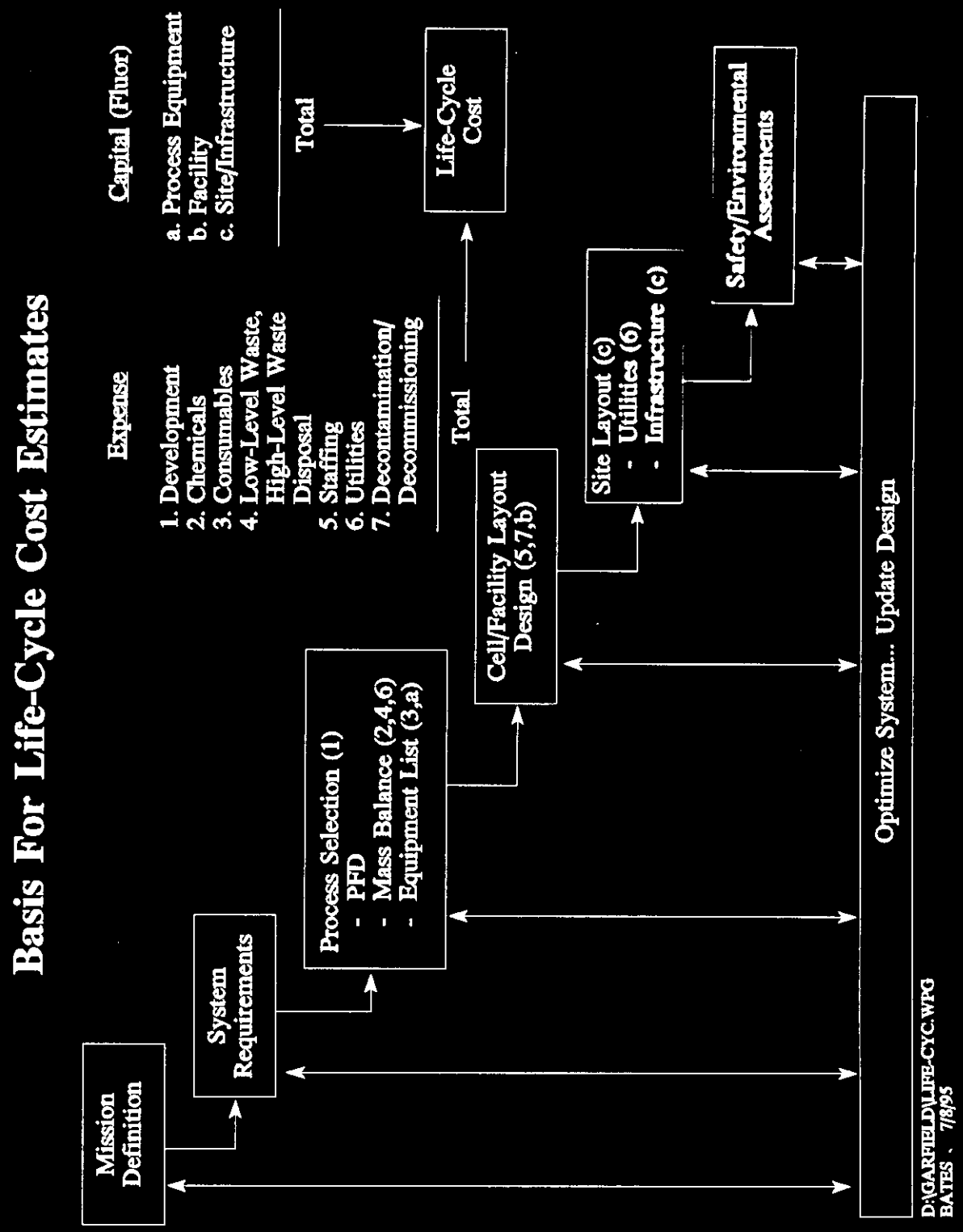

Table E-1. ADS Guidance for Fiscal Year 1996. (Sheet 1 of 2)

| | | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | Total |
|---|---|---|---|---|---|---|---|---|
| Program Management | Target | 39,300 | 31,000 | 25,000 | 25,000 | 24,000 | 24,000 | 168,300 |
| | Planning | 47,201 | 43,752 | 46,815 | 46,086 | 47,089 | 47,026 | 277,969 |
| | Guidance | 34,000 | 25,000 | 25,000 | 25,000 | 24,000 | 24,000 | 157,000 |
| Operations and Maintenance | Target | 137,145 | 113,423 | 100,500 | 92,500 | 83,500 | 80,500 | 607,568 |
| | Planning | 149,306 | 144,320 | 155,598 | 158,498 | 156,044 | 166,164 | 929,930 |
| | Guidance | 118,100 | 113,423 | 106,500 | 102,500 | 93,500 | 90,500 | 624,523 |
| Waste Tank Safety | Target | 54,351 | 50,802 | 55,000 | 45,000 | 30,000 | 20,000 | 255,153 |
| | Planning | 54,351 | 50,802 | 55,000 | 45,000 | 30,000 | 20,000 | 255,153 |
| | Guidance | 54,351 | 48,500 | 47,600 | 45,000 | 30,000 | 20,000 | 245,451 |
| Tank Farm Upgrades | Target | 23,623 | 22,076 | 11,095 | 12,000 | 10,000 | 8,000 | 86,794 |
| | Planning | 29,444 | 37,103 | 22,567 | 22,927 | 18,172 | 15,618 | 145,831 |
| | Guidance | 21,582 | 14,164 | 12,095 | 12,000 | 10,000 | 8,000 | 77,841 |
| Project W-038 | Target | 2,712 | 594 | 0 | 0 | 0 | 0 | 3,306 |
| | Planning | 2,950 | 594 | 0 | 0 | 0 | 0 | 3,544 |
| | Guidance | 2,712 | 594 | 0 | 0 | 0 | 0 | 3,306 |
| Project W-058 | Target | 20,704 | 4,700 | 2,660 | 0 | 0 | 0 | 28,064 |
| | Planning | 21,950 | 4,700 | 2,660 | 0 | 0 | 0 | 29,310 |
| | Guidance | 20,704 | 9,200 | 2,660 | 0 | 0 | 0 | 32,564 |
| Project W-314 | Target | 14,975 | 14,700 | 22,800 | 67,200 | 102,000 | 136,000 | 357,675 |
| | Planning | 14,975 | 25,700 | 59,614 | 136,222 | 225,363 | 210,810 | 672,684 |
| | Guidance | 14,975 | 14,700 | 32,800 | 77,200 | 112,000 | 146,000 | 397,675 |
| Project W-028 | Target | 2,610 | 1,243 | 245 | 0 | 0 | 0 | 4,098 |
| | Planning | 2,570 | 1,243 | 245 | 0 | 0 | 0 | 4,058 |
| | Guidance | 2,610 | 2,243 | 245 | 0 | 0 | 0 | 5,098 |
| Project W-236A | Target | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Planning | 103,490 | 113,431 | 73,649 | 940 | 0 | 0 | 291,510 |
| | Guidance | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | Target | 256,120 | 207,538 | 192,300 | 216,700 | 225,500 | 244,500 | 1,342,658 |
| | Planning | 379,036 | 377,893 | 369,333 | 363,587 | 429,579 | 412,592 | 2,332,020 |
| | Guidance | 235,034 | 202,824 | 201,900 | 236,700 | 245,500 | 264,500 | 1,386,458 |
| Characterization | Target | 77,100 | 54,174 | 45,000 | 35,000 | 30,000 | 15,000 | 256,274 |
| | Planning | 107,350 | 107,224 | 87,548 | 43,200 | 0 | 0 | 345,322 |
| | Guidance | 77,000 | 77,000 | 62,510 | 50,000 | 40,000 | 25,000 | 331,510 |
| Storage Total | Target | 333,220 | 261,712 | 237,300 | 251,700 | 255,500 | 259,500 | 1,598,932 |
| | Planning | 486,386 | 485,117 | 456,881 | 406,787 | 429,579 | 412,592 | 2,677,342 |
| | Guidance | 312,034 | 279,824 | 264,410 | 286,700 | 285,500 | 289,500 | 1,717,968 |
| Waste Retrieval | Target | 11,832 | 30,800 | 18,150 | 21,500 | 24,600 | 24,500 | 131,382 |
| | Planning | 44,612 | 36,184 | 72,673 | 67,110 | 108,725 | 132,906 | 462,210 |
| | Guidance | 11,832 | 21,346 | 21,150 | 54,380 | 69,000 | 68,500 | 246,208 |
| W-151 | Target | 500 | 0 | 0 | 0 | 0 | 0 | 500 |
| | Planning | 500 | 0 | 0 | 0 | 0 | 0 | 500 |
| | Guidance | 500 | 0 | 0 | 0 | 0 | 0 | 500 |
| W-211 | Target | 13,680 | 13,200 | 15,200 | 13,000 | 11,900 | 12,800 | 79,780 |
| | Planning | 13,680 | 21,860 | 21,270 | 24,220 | 25,750 | 25,730 | 132,510 |
| | Guidance | 13,680 | 13,200 | 15,200 | 13,000 | 11,900 | 12,800 | 79,780 |
| W-320 | Target | 12,733 | 200 | 0 | 0 | 0 | 0 | 12,933 |
| | Planning | 12,733 | 200 | 0 | 0 | 0 | 0 | 12,933 |
| | Guidance | 18,733 | 200 | 0 | 0 | 0 | 0 | 18,933 |
| Retreival Total | Target | 38,745 | 44,200 | 33,350 | 34,500 | 36,500 | 37,300 | 224,595 |
| | Planning | 71,525 | 58,244 | 93,943 | 91,330 | 134,475 | 158,636 | 608,153 |
| | Guidance | 44,745 | 34,746 | 36,350 | 67,380 | 80,900 | 81,300 | 345,421 |
| Pretreatment | Target | 18,054 | 10,000 | 5,940 | 9,600 | 10,000 | 10,000 | 63,594 |
| | Planning | 22,898 | 25,408 | 53,021 | 50,591 | 40,491 | 64,974 | 257,383 |
| | Guidance | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | 2,400 | 14,400 |

Table E-1. ADS Guidance for Fiscal Year 1996. (Sheet 2 of 2)

| | | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | Total |
|---|---|---|---|---|---|---|---|---|
| Initial Pretreatment Module | Target | 24,317 | 15,000 | 11,870 | 28,700 | 20,000 | 15,000 | 114,887 |
| | Planning | 63,044 | 45,332 | 45,078 | 122,549 | 211,748 | 170,954 | 658,705 |
| | Guidance | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Low Level | Target | 39,430 | 28,030 | 27,700 | 44,980 | 57,000 | 61,200 | 258,340 |
| | Planning | 39,430 | 30,841 | 61,988 | 67,500 | 80,539 | 91,100 | 371,398 |
| | Guidance | 15,400 | 13,030 | 13,000 | 13,000 | 13,000 | 13,000 | 80,430 |
| Low Level Vitrification Plant | Target | 0 | 4,970 | 0 | 0 | 0 | 0 | 4,970 |
| | Planning | 0 | 25,706 | 177,099 | 301,672 | 342,084 | 317,146 | 1,163,707 |
| | Guidance | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| High Level Waste | Target | 11,434 | 8,000 | 4,740 | 4,740 | 7,600 | 8,000 | 44,514 |
| | Planning | 19,191 | 26,920 | 35,864 | 55,485 | 109,479 | 187,808 | 434,747 |
| | Guidance | 6,100 | 5,000 | 4,740 | 4,740 | 4,740 | 4,740 | 30,060 |
| Disposal Total | Target | 131,980 | 110,200 | 83,600 | 122,520 | 131,100 | 131,500 | 710,900 |
| | Planning | 216,088 | 212,451 | 466,993 | 689,127 | 918,816 | 990,618 | 3,494,093 |
| | Guidance | 68,645 | 55,176 | 56,490 | 87,520 | 101,040 | 101,440 | 470,311 |
| TWRS Total | Target | 504,500 | 402,912 | 345,900 | 399,220 | 410,600 | 415,000 | 2,478,132 |
| | Planning | 749,675 | 741,320 | 970,689 | 1,142,000 | 1,395,484 | 1,450,236 | 6,449,404 |
| | Guidance | 414,679 | 360,000 | 345,900 | 399,220 | 410,540 | 414,940 | 2,345,279 |

Figure E-2. Alternative Funding Profiles.

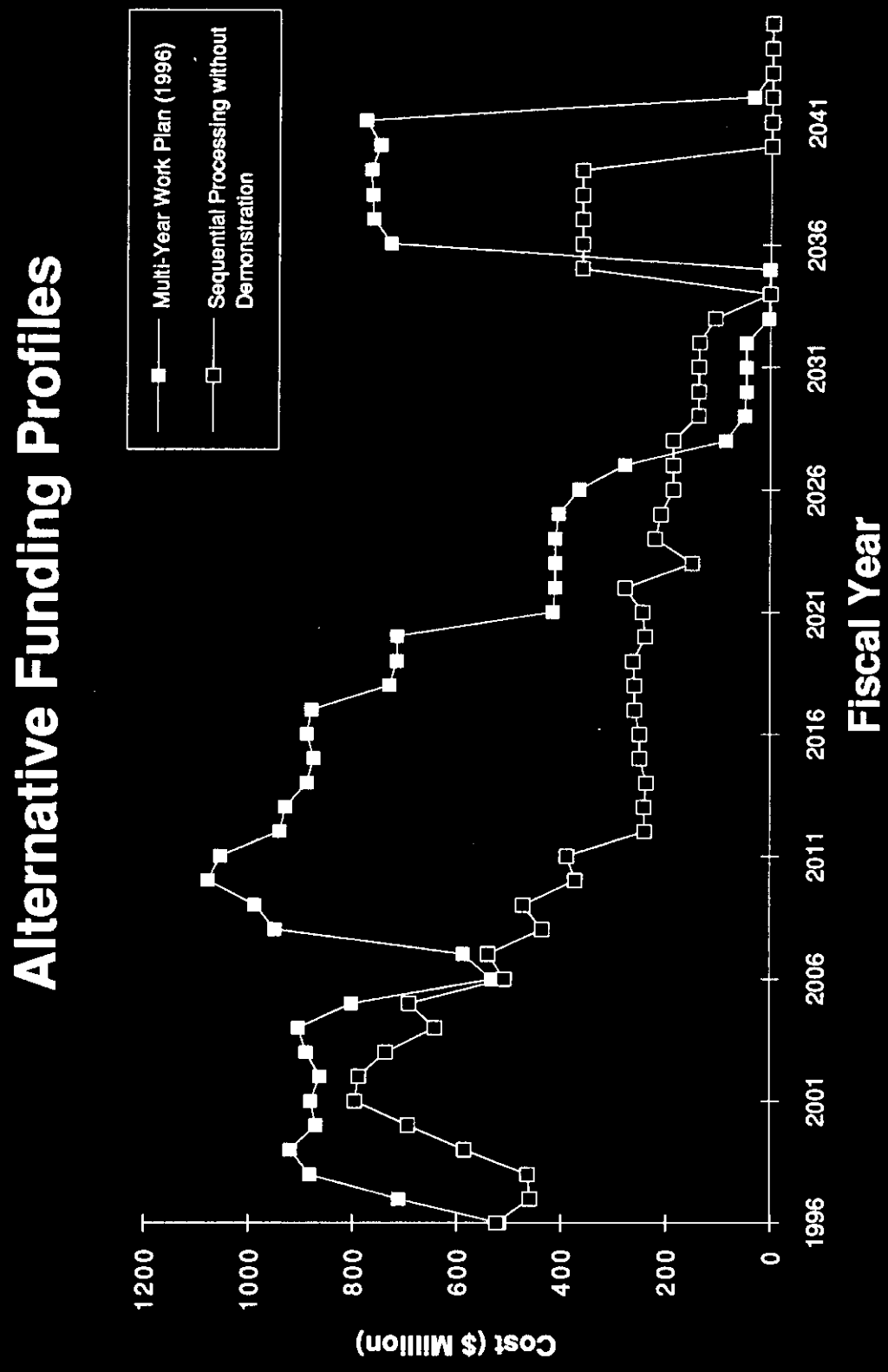

Table E-2. Funding Profile for SPF. (Sheet 1 of 6)

| Multi-Year Work Plan | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | 43 | 34 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 |
| TWRS Plant Operation and Maintenance | 174 | 167 | 147 | 190 | 208 | 244 | 177 | 176 | 175 | 175 |
| Characterization | 78 | 72 | 63 | 52 | 41 | 27 | 77 | 77 | 77 | 0 |
| Tank Safety | 53 | 49 | 47 | 19 | 14 | 8 | 0 | 0 | 0 | 0 |
| Base TWRS Program | 304 | 287 | 257 | 261 | 263 | 278 | 254 | 253 | 253 | 175 |
| Waste Retrieval | 44 | 28 | 29 | 46 | 65 | 53 | 69 | 75 | 92 | 90 |

| Process Facility | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|
| Waste Retrieval | 44 | 28 | 29 | 70 | 101 | 114 | 179 | 247 | 282 | 353 |
| Escalated Facility Cost | 132 | 111 | 146 | 223 | 299 | 372 | 326 | 206 | 76 | 133 |
| Program Management | 43 | 34 | 32 | 30 | 31 | 31 | 31 | 31 | 31 | 31 |
| Operations and Maintenance | 174 | 167 | 147 | 190 | 208 | 244 | 177 | 176 | 175 | 175 |
| Characterization | 78 | 72 | 63 | 52 | 41 | 27 | 77 | 77 | 77 | 0 |
| Tank Safety | 53 | 49 | 47 | 19 | 14 | 8 | 0 | 0 | 0 | 0 |
| TWRS Cost | 523 | 459 | 463 | 585 | 694 | 795 | 789 | 737 | 642 | 691 |
| Discounted TWRS Total Cost | 523 | 433 | 412 | 491 | 550 | 595 | 556 | 505 | 428 | 449 |
| Discounted Facility Cost | 132 | 104 | 130 | 187 | 237 | 278 | 230 | 141 | 51 | 86 |

Table E-2. Funding Profile for SPF. (Sheet 2 of 6)

| Multi-Year Work Plan | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | 31 | 31 | 30 | 30 | 27 | 27 | 27 | 27 | 27 | 27 |
| TWRS Plant Operation and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base TWRS Program | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste Retrieval | 124 | 124 | 91 | 90 | 90 | 100 | 15 | 15 | 14 | 15 |

| Process Facility | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Waste Retrieval | 341 | 372 | 274 | 315 | 217 | 234 | 85 | 90 | 89 | 101 |
| Escalated Facility Cost | 137 | 137 | 134 | 128 | 128 | 128 | 128 | 124 | 121 | 121 |
| Program Management | 31 | 31 | 30 | 30 | 27 | 27 | 27 | 27 | 27 | 27 |
| Operations and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWRS Cost | 508 | 540 | 437 | 473 | 372 | 389 | 240 | 241 | 238 | 250 |
| Discounted TWRS Total Cost | 321 | 332 | 261 | 275 | 211 | 214 | 129 | 126 | 120 | 123 |
| Discounted Facility Cost | 87 | 84 | 80 | 75 | 72 | 70 | 68 | 64 | 61 | 60 |

Table E-2. Funding Profile for SPF. (Sheet 3 of 6)

| Multi-Year Work Plan | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | 27 | 26 | 26 | 25 | 25 | 25 | 22 | 22 | 23 | 24 |
| TWRS Plant Operation and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base TWRS Program | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste Retrieval | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 6 |

| Process Facility | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|---|---|---|---|
| Waste Retrieval | 102 | 113 | 113 | 117 | 93 | 99 | 74 | 67 | 43 | 30 |
| Escalated Facility Cost | 121 | 121 | 121 | 121 | 121 | 121 | 182 | 61 | 156 | 156 |
| Program Management | 27 | 26 | 26 | 25 | 25 | 25 | 22 | 22 | 23 | 24 |
| Operations and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWRS Cost | 250 | 260 | 260 | 263 | 239 | 245 | 279 | 150 | 222 | 210 |
| Discounted TWRS Total Cost | 120 | 121 | 118 | 116 | 103 | 102 | 113 | 59 | 85 | 79 |
| Discounted Facility Cost | 58 | 56 | 55 | 53 | 52 | 50 | 74 | 24 | 60 | 58 |

Table E-2. Funding Profile for SPF. (Sheet 4 of 6)

| Multi-Year Work Plan | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | 24 | 24 | 24 | 3 | 3 | 3 | 2 | 2 | 2 | 2 |
| TWRS Plant Operation and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base TWRS Program | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste Retrieval | 6 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Process Facility | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|---|---|---|---|---|---|---|---|---|---|---|
| Waste Retrieval | 6 | 6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Escalated Facility Cost | 156 | 156 | 156 | 135 | 135 | 135 | 135 | 104 | 0 | 360 |
| Program Management | 24 | 24 | 24 | 3 | 3 | 3 | 2 | 2 | 2 | 2 |
| Operations and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWRS Cost | 187 | 187 | 186 | 138 | 138 | 138 | 137 | 107 | 2 | 362 |
| Discounted TWRS Total Cost | 68 | 66 | 64 | 46 | 45 | 44 | 42 | 32 | 1 | 103 |
| Discounted Facility Cost | 57 | 55 | 54 | 45 | 44 | 43 | 41 | 31 | 0 | 102 |

Table E-2. Funding Profile for SPF. (Sheet 5 of 6)

| Multi-Year Work Plan | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 |
|---|---|---|---|---|---|---|---|---|---|---|
| Program Management | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWRS Plant Operation and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base TWRS Program | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Waste Retrieval | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Process Facility | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 |
|---|---|---|---|---|---|---|---|---|---|---|
| Waste Retrieval | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Escalated Facility Cost | 360 | 360 | 360 | 360 | 0 | 0 | 0 | 0 | 0 | 0 |
| Program Management | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Operations and Maintenance | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWRS Cost | 362 | 362 | 362 | 362 | 0 | 0 | 0 | 0 | 0 | 0 |
| Discounted TWRS Total Cost | 100 | 97 | 95 | 92 | 0 | 0 | 0 | 0 | 0 | 0 |
| Discounted Facility Cost | 99 | 97 | 94 | 91 | 0 | 0 | 0 | 0 | 0 | 0 |

Table E-2. Funding Profile for SPF. (Sheet 6 of 6)

| Multi-Year Work Plan | 2046 | 2047 | 2048 | 2049 | 2050 | Total |
|---|---|---|---|---|---|---|
| Program Management | 0 | 0 | 0 | 0 | 0 | 951 |
| TWRS Plant Operation and Maintenance | 0 | 0 | 0 | 0 | 0 | 1,833 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 564 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 189 |
| Base TWRS Program | 0 | 0 | 0 | 0 | 0 | 2,586 |
| Waste Retrieval | 0 | 0 | 0 | 0 | 0 | 1,430 |

| Process Facility | 2046 | 2047 | 2048 | 2049 | 2050 | Total |
|---|---|---|---|---|---|---|
| Waste Retrieval | 0 | 0 | 0 | 0 | 0 | 4,440 |
| Escalated Facility Cost | 0 | 0 | 0 | 0 | 0 | 7,500 |
| Program Management | 0 | 0 | 0 | 0 | 0 | 951 |
| Operations and Maintenance | 0 | 0 | 0 | 0 | 0 | 1,833 |
| Characterization | 0 | 0 | 0 | 0 | 0 | 564 |
| Tank Safety | 0 | 0 | 0 | 0 | 0 | 189 |
| TWRS Cost | 0 | 0 | 0 | 0 | 0 | 15,476 |
| Discounted TWRS Total Cost | 0 | 0 | 0 | 0 | 0 | 8,965 |
| Discounted Facility Cost | 0 | 0 | 0 | 0 | 0 | 3,693 |

Table E-3. Staff Levels for the SPF Separations and Low-Level Waste Vitrification. (Sheet 1 of 3)

# Hanford Vitrification Facility Separations and LLW Staff

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| ***BUILDING SUPPORT*** | | | | | | | | | | | | | | | | | | | | | | |
| **Plant Management** | | | | | | | | | | | | | | | | | | | | | | |
| Plant Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Administrative Assistant | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Technical/Budget Analysts | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Clerical | 1 | 2 | | | | | | | | | | | | | | | | | 1 | 2 | | 3 |
| **Job Control** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Clerical | | 4 | | | | | | | | | | | | | | | | | | 4 | | 4 |
| Facility Administrator | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Job Control Specialists | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Material Specialists | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Schedulers | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Planners | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Crane Planners | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Plant Engineering** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Designers / Drafters | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Plant Engineers | 12 | | | | | | | | | | | | | | | | | | 12 | | | 12 |
| **Analytical Laboratory** | | | | | | | | | | | | | | | | | | | | | | |
| Managers / Supervisors | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Chemists | 3 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 8 | | | 8 |
| Chemical Technicians | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 24 | 24 |
| **Standards Laboratory** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Chemists | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Chemical Technicians | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| **Radiation Protection** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Health Physics Technologists | | | 8 | | | | | | | | | | | | | | | | | | 8 | 8 |
| **Facility Services** | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Process Operators | | | 10 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 20 | 20 |
| Crane Operators | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Power Operators | | | 3 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 13 | 13 |
| Driver | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| **Computer Support** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| System Admin. / Analyst | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| **Document Control** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Document Control Specialist | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Technical Editor | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Program Office** | | | | | | | | | | | | | | | | | | | | | | |
| Program Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Program Scheduler | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Activity Engineer | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| ***Subtotal*** | 62 | 19 | 31 | 2 | | 10 | 2 | | 10 | 2 | | 10 | 2 | | 10 | 2 | | 10 | 72 | 19 | 81 | 172 |

Table E-3. Staff Levels for the SPF Separations and Low-Level Waste Vitrification. (Sheet 2 of 3)

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| *ENGINEERING & SUPPORT* | | | | | | | | | | | | | | | | | | | | | | |
| Process & Technology Engineer | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Clerical | | 3 | | | | | | | | | | | | | | | | | | 3 | | 3 |
| Shift Engineers | 3 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 8 | | | 8 |
| Process Engineers | 9 | | | | | | | | | | | | | | | | | | 9 | | | 9 |
| Technicians | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Surveillance & Testing | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Surveillance & Testing Engrs. | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Quality Assurance & Control | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Quality Control Inspectors | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Quality Assurance Engineer | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Safety Engineering | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Emergency Preparedness Specialist | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Radiation Engineers | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Nuclear Engineers | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Industrial Safety Engineers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Nuclear Materials Administration | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Specialists | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Training | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Trainers | 5 | | | | | | | | | | | | | | | | | | 5 | | | 5 |
| *Subtotal* | 41 | 12 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 46 | 12 | | 58 |
| *PROCESS STAFF* | | | | | | | | | | | | | | | | | | | | | | |
| Operations Management | | | | | | | | | | | | | | | | | | | | | | |
| Operations Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Shift Manager | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | | 7 |
| Shift Support Manager | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | | | 12 |
| Operations Plant Engineers | 5 | | | | | | | | | | | | | | | | | | 5 | | | 5 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Operators | | | | | | | | | | | | | | | | | | | | | | |
| Receipt and Sludge Washing | | | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | 11 |
| Effluents | | | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | 11 |
| Evaporators | | | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | 11 |
| LLW Melter | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Product Handling | | | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | 7 |
| Hazardous Material Control | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Technicians | | 3 | | | | | | | | | | | | | | | | | | 3 | | 3 |
| Engineers | 6 | | | | | | | | | | | | | | | | | | 6 | | | 6 |
| Environmental Control | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Technicians | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Engineers | 5 | | | | | | | | | | | | | | | | | | 5 | | | 5 |
| Radiation Protection | | | | | | | | | | | | | | | | | | | | | | |
| Managers / Supervisors | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | | 7 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Health Physics Technologists | | | | | | 4 | | | 4 | | | 4 | | | 4 | | | 4 | | | 20 | 20 |
| *Subtotal* | 25 | 11 | 7 | 4 | | 13 | 4 | | 13 | 4 | | 13 | 4 | | 13 | 4 | | 13 | 45 | 11 | 72 | 128 |

Table E-3. Staff Levels for the SPF Separations and Low-Level Waste Vitrification. (Sheet 3 of 3)

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| *MAINTENANCE* | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Maintenance Engineer | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Training Coordinator | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Mechanical Maintenance | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Person in Charge | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Mill Wrights | | | 4 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 14 | 14 |
| Pipe Fitters | | | 4 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 14 | 14 |
| Insulators | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Riggers | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Drivers | | | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | 11 |
| Welders | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Carpenters | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Painters | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Sign Writer | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1 |
| I&E Maintenance | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Person in Charge | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| I&E Technicians | | | 4 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 14 | 14 |
| Electricians | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Manipulator Maintenance | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Person in Charge | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Mill Wrights | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| I & E Technicians | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| *Subtotal* | 11 | 4 | 30 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 26 | 4 | 110 | 140 |
| TOTAL | 139 | 46 | 68 | 10 | | 39 | 10 | | 39 | 10 | | 39 | 10 | | 39 | 10 | | 39 | 189 | 46 | 263 | 498 |

Table E-4. Staff Levels for the SPF HLW Vitrification. (Sheet 1 of 3)

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| ***BUILDING SUPPORT*** | | | | | | | | | | | | | | | | | | | | | | |
| **Plant Management** | | | | | | | | | | | | | | | | | | | | | | |
| Plant Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Administrative Assistant | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Technical/Budget Analysts | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Clerical | 1 | 2 | | | | | | | | | | | | | | | | | 1 | 2 | | 3 |
| **Job Control** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Clerical | | 4 | | | | | | | | | | | | | | | | | | 4 | | 4 |
| Facility Administrator | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Job Control Specialists | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Material Specialists | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Schedulers | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Planners | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Crane Planners | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Plant Engineering** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Designers / Drafters | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Plant Engineers | 8 | | | | | | | | | | | | | | | | | | 8 | | | 8 |
| **Analytical Laboratory** | | | | | | | | | | | | | | | | | | | | | | |
| Managers / Supervisors | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Chemists | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | | 7 |
| Chemical Technicians | | | 2 | | | 5 | | | 5 | | | 5 | | | 5 | | | 5 | | | 27 | 27 |
| **Standards Laboratory** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Chemists | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| Chemical Technicians | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| **Radiation Protection** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Health Physics Technologists | | | 10 | | | | | | | | | | | | | | | | | | 10 | 10 |
| **Facility Services** | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Process Operators | | | 8 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 18 | 18 |
| Crane Operators | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | 6 |
| Power Operators | | | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | 7 |
| Driver | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| **Computer Support** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| System Admin. / Analyst | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Document Control** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Document Control Specialist | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| Technical Editor | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Program Office** | | | | | | | | | | | | | | | | | | | | | | |
| Program Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Program Scheduler | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Activity Engineer | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| ***Subtotal*** | 57 | 19 | 27 | 2 | | 9 | 2 | | 9 | 2 | | 9 | 2 | | 9 | 2 | | 9 | 67 | 19 | 72 | 158 |

Table E-4. Staff Levels for the SPF HLW Vitrification. (Sheet 2 of 3)

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| ***ENGINEERING & SUPPORT*** | | | | | | | | | | | | | | | | | | | | | | |
| **Process & Technology Engineer** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Shift Engineers | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | | 7 |
| Process Engineers | 8 | | | | | | | | | | | | | | | | | | 8 | | | 8 |
| Technicians | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| **Surveillance & Testing** | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Surveillance & Testing Engrs. | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| **Quality Assurance & Control** | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Quality Control Inspectors | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Quality Assurance Engineer | 2 | | | | | | | | | | | | | | | | | | 2 | | | 2 |
| **Safety Engineering** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Emergency Preparaness Specialist | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Radiation Engineers | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Nuclear Engineers | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Industrial Safety Engineers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| **Nuclear Materials Administration** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Specialists | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| **Training** | | | | | | | | | | | | | | | | | | | | | | |
| Managers | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Trainers | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| ***Subtotal*** | 42 | 11 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 47 | 11 | | 58 |
| ***PROCESS STAFF*** | | | | | | | | | | | | | | | | | | | | | | |
| **Operations Management** | | | | | | | | | | | | | | | | | | | | | | |
| Operations Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Shift Manager | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Shift Support Manager | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | | | 11 |
| Operations Plant Engineers | 5 | | | | | | | | | | | | | | | | | | 5 | | | 5 |
| Clerical | | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | 7 |
| **Operators** | | | | | | | | | | | | | | | | | | | | | | |
| Receipt | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | 6 |
| Cesium Ion Exchange | | | | | | | | | | | | | | | | | | | | | | |
| Effluents | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | 6 |
| Evaporators | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | 6 |
| LLW Melter | | | | | | | | | | | | | | | | | | | | | | |
| HLW Melter | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Product Handling | | | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | 7 |
| **Hazardous Material Control** | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Technicians | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Engineers | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| **Environmental Control** | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Technicians | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Engineers | 4 | | | | | | | | | | | | | | | | | | 4 | | | 4 |
| **Radiation Protection** | | | | | | | | | | | | | | | | | | | | | | |
| Managers / Supervisors | 2 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 7 | | | 7 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Health Physics Technologists | | | | | | 5 | | | 5 | | | 5 | | | 5 | | | 5 | | | 25 | 25 |
| ***Subtotal*** | 19 | 10 | 7 | 4 | 1 | 11 | 4 | 1 | 11 | 4 | 1 | 11 | 4 | 1 | 11 | 4 | 1 | 11 | 39 | 15 | 62 | 116 |

Table E-4. Staff Levels for the SPF HLW Vitrification. (Sheet 3 of 3)

## Sequential Processing Facility HLW Staff

| Title | SHIFT STAFFING | | | | | | | | | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Day Shift | | | A Shift | | | B Shift | | | C Shift | | | D Shift | | | Training Shift | | | Sub Total | | | |
| POSITION | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | E | NE | BU | |
| ***MAINTENANCE*** | | | | | | | | | | | | | | | | | | | | | | |
| Manager | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Maintenance Engr. | 3 | | | | | | | | | | | | | | | | | | 3 | | | 3 |
| Training Coordinator | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| **Mechanical Maintenance** | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Person in Charge | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Mill Wrights | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Pipe Fitters | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Insulators | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Riggers | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| Drivers | | | 1 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 11 | 11 |
| Welders | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Carpenters | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Painters | | | 2 | | | | | | | | | | | | | | | | | | 2 | 2 |
| Sign Writer | | | 1 | | | | | | | | | | | | | | | | | | 1 | 1 |
| **I&E Maintenance** | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 2 | | | | | | | | | | | | | | | | | | 2 | | 2 |
| Person in Charge | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| I&E Technicians | | | 4 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 14 | 14 |
| Electricians | | | 4 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 14 | 14 |
| **Manipulator Maintenance** | | | | | | | | | | | | | | | | | | | | | | |
| Managers/Supervisors | 1 | | | | | | | | | | | | | | | | | | 1 | | | 1 |
| Clerical | | 1 | | | | | | | | | | | | | | | | | | 1 | | 1 |
| Person in Charge | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | | 6 | | | 6 |
| Mill Wrights | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| I & E Technicians | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 2 | | | 12 | 12 |
| ***Subtotal*** | 11 | 5 | 28 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 3 | | 16 | 26 | 5 | 108 | 139 |
| **TOTAL** | 129 | 45 | 62 | 10 | 1 | 36 | 10 | 1 | 36 | 10 | 1 | 36 | 10 | 1 | 36 | 10 | 1 | 36 | 179 | 50 | 242 | 471 |

Table E-5. Expense Costs.

| | | | Separations and Low Level Waste | | | High Level Waste | | | Total Cost |
|---|---|---|---|---|---|---|---|---|---|
| Material | Unit | Unit Cost | Stream Number | Material | Cost | Stream Number | Material | Cost | |
| Cement | Megagram | $100 | 1124 | 1,170 | $117,000 | | | | $117,000 |
| Flyash | Megagram | $100 | 1123 | 1,170 | $117,000 | | | | $117,000 |
| Calcium Hydroxide | Megagram | $100 | 1127 | 4,910 | $491,000 | | | | $491,000 |
| NaNO2 | Megagram | $210 | 38 | 68 | $14,343 | | | | $14,343 |
| Sulfur | Megagram | $370 | 446 | 137,000 | $50,690,000 | | | | $50,690,000 |
| DCPD | Megagram | $150 | 448 | 3,610 | $541,500 | | | | $541,500 |
| CPD | Megagram | $150 | 449 | 3,610 | $541,500 | | | | $541,500 |
| Glycolic Acid | Megagram | $150 | | | | 315 | 6,050 | $907,500 | $907,500 |
| Sodium Sulfide | Megagram | $711 | 1210 | 63 | $44,437 | | | | |
| SilicoTitanate | Megagram | $176,370 | 65 & 1204 | 775 | $136,666,413 | | | | |
| NaOH | Megagram | $250 | 11, 18, 25, 48, 55, 451, 803 1112, 1201, 1207, & 1223 | 61,831 | $15,457,650 | | | | $15,457,650 |
| HNO3 | Megagram | $160 | 656 & 1101 | 47,900 | $7,664,000 | 327, 347, & 611 | | | $7,664,000 |
| NH3 | Megagram | $350 | 654 | 2,410 | $843,500 | | | | $843,500 |
| Decon Chemicals | Megagram | $401 | | 2,114 | $848,040 | | 3,171 | $1,272,060 | $2,120,100 |
| Solid Waste | Cubic Meter | $1,000 | | 5,720 | $5,720,000 | | 1,000 | $1,000,000 | $6,720,000 |
| Kerosene | Megagram | $150 | 649 & 408 | 58,810 | $8,821,500 | | | | $8,821,500 |
| Process Water | Cubic Meter | $0.03 | | 972,907 | $29,187 | | 697,000 | $20,910 | $50,097 |
| SiO2 | Megagram | $40 | 407 | 269,000 | $10,760,000 | 314 | 4,670 | $186,800 | $10,946,800 |
| Al2O3 | Megagram | $500 | 407 | 16,200 | $8,100,000 | 314 | | | $8,100,000 |
| CaO | Megagram | $60 | 407 | 41,800 | $2,508,000 | 314 | | | $2,508,000 |
| B2O3 | Megagram | $1,000 | | | | 314 | 1,620 | $1,620,000 | $1,620,000 |
| Li2O | Megagram | $5,000 | | | | 314 | 463 | $2,315,000 | $2,315,000 |
| | | | | | $249,995,070 | | | $7,322,270 | $257,317,340 |
| | | | | | $13,888,615 | | | $1,464,454 | |
| Sanitary Water | Cubic Meter | $0.03 | | 751,000.00 | $22,530 | | 286,000.00 | $8,580 | $31,110 |
| Raw Water | Cubic Meter | $0.03 | | 12,327,093 | $369,813 | | 923,000 | $27,690 | $397,503 |
| Steam | Megagram | $5 | | | | | | | |
| Electricity | Megawatt Hours | $30 | | 5,900,000 | $177,000,000 | | 4,100,000 | $123,000,000 | $300,000,000 |
| | | | | | $177,392,343 | | | $123,036,270 | $300,428,613 |
| | | | | | $8,855,130 | | | $24,607,254 | |
| Equipment Replacemen | Allotment | | | 9,000,000 | $162,000,000 | | 5,000,000 | $25,000,000 | $187,000,000 |
| | | | | | $589,387,413 | | | $155,358,540 | |
| Support for Process | | | | | $32,743,745 | | | $31,071,708 | |
| Vaults/Pads | | | | | $99,767,647 | | | $26,000,000 | |
| Containers | | | 441 | | $138,494,753 | 344 | | $216,314,586 | |
| | | | | | $238,262,400 | | | $242,314,586 | |
| | | | | | $13,236,800 | | | $48,462,919 | |
| Total Consumables | | | | | $927,649,813 | | | $397,673,136 | $1,225,322,949 |
| Annual Consumables | | | | | $45,980,545 | | | $79,534,627 | |

# DISTRIBUTION SHEET

| To | From | Page 1 of 1 |
|---|---|---|
| Disposal Program | Process Design | Date 2/15/96 |
| Project Title/Work Order | | EDT No. 608995 |
| Tank Waste Remediation System Optimized Processing Strategy with an Altered Treatment Scheme, WHC-SD-WM-TI-737, Rev. 0 | | ECN No. |

| Name | MSIN | Text With All Attach. | Text Only | Attach./ Appendix Only | EDT/ECN Only |
|---|---|---|---|---|---|
| Central Files | A3-88 | X | | | |
| DOE Public Reading Room | A1-65 | X | | | |
| S. K. Baker | H5-49 | X | | | |
| A. L. Boldt | H5-49 | X | | | |
| K. D. Boomer | H5-49 | X | | | |
| J. D. Galbraith | H5-49 | X | | | |
| J. S. Garfield (10) | H5-49 | X | | | |
| J. O. Honeyman | G3-21 | X | | | |
| M. E. Johnson | H5-49 | X | | | |
| E. J. Kosiancic | H5-61 | X | | | |
| C. E. Leach | A2-34 | X | | | |
| E. J. Slaathaug | H5-49 | X | | | |
| J. P. Sloughter | R2-54 | X | | | |
| T. L. Waldo | H5-49 | X | | | |
| D. J. Washenfelder | H5-27 | X | | | |