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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

June 6, 2007

Mr. Michael J. Weis, Acting Manager
Richland Operations Office
United States Department of Energy
P.O. Box 550, MSIN: A7-50
Richland, Washington 99352

Re: Approval of Criteria and Toxic Air Emissions Notice of Construction (NOC) Application
for the Addition the 200 Area Effluent Treatment Facility Solidification Treatment Unit

- References: 1. USDOE-RL Letter 07-SED-0199, *Transmittal of Nonradioactive Air Emissions
Notice of Construction (NOC) The 200 Area Effluent Treatment Facility –
Proposed Addition of the Solidification Treatment Unit*, April 10, 2007. 0072672
2. Ecology Letter, *Determination of Complete Application, 200 Area Effluent
Treatment Facility Solidification Treatment Unit*, April 30, 2007. 0672817

Dear Mr. Weis:

The United States Department of Energy-Richland Operations petitioned for approval of a Notice of Construction for the proposed Effluent Treatment Facility Solidification Treatment Unit (Reference 1). Ecology determined that your application was complete (Reference 2). This letter issues approval for the petitioned operations.

Enclosed is ORDER No. **DE07NWP-003**, authorizing the proposed operations. The enclosed ORDER may be appealed. Appeal procedures are described in the ORDER. Administrative revision of the Hanford Air Operating Permit, to incorporate provisions of this ORDER as requested in Reference 1, will follow this issuance.

This authorization can be modified, suspended, or revoked, in whole or in part, if Ecology finds that, due to inaccuracies in the petition request, compliance with ambient air quality standards is not ensured.

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Mr. Michael J. Weis
June 6, 2007
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If you have any questions, contact Doug Hendrickson at 509-372-7983.

Sincerely,



Jane A. Hedges
Program Manager
Nuclear Waste Program

dh/pll
Enclosure

cc: Mary Jarvis, USDOE
Tom Beam, FH
Fen Simmons, FH
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Susan Leckband, HAB
Ken Niles, ODOE
John Martell, WDOH
Administrative Record: AIR Permits 14-0-9
Environmental Portal T-2-8

**CRITERIA AND TOXIC AIR EMISSIONS
NOTICE OF CONSTRUCTION APPROVAL ORDER
CONDITIONS AND RESTRICTIONS**

REGULATORY AUTHORITY:

Pursuant to the Washington State Department of Ecology General Regulations for Air Pollution Sources, Chapter 173-400 Washington Administrative Code (WAC), and Controls for New Sources of Toxic Air Pollutants, Chapter 173-460 WAC, Ecology now finds the following:

FINDINGS OF FACT:

1. The United States Department of Energy (USDOE) proposes to modify their existing facility (Hanford) located in Richland, Washington.
2. Notice of Construction (NOC) application for the USDOE Effluent Treatment Facility (ETF) was submitted on February 12, 1993. The application was found to be complete and approval issued on December 20, 1993, as ORDER NOC-93-3.
 - a. The ETF is an industrial waste water treatment facility designed to treat dilute liquid waste streams generated on the Hanford Site.
 - b. The ETF was designed with a treatment capacity of 150 gallons per minute.
 - c. The ETF was designed in association with the Liquid Effluent Retention Facility (LERF) with an initial capacity of 27 million gallons. Construction of the LERF predated promulgation of WAC 173-460.
 - d. Intended waste feed streams included the Plutonium Uranium Extraction (PUREX) plant process distillate, PUREX ammonia scrubber distillate, and 242-A Evaporator process condensate.
 - e. Liquid treatment processes include solids removal, ultraviolet/oxidation with hydrogen peroxide, pH adjustment, degasification, reverse osmosis (RO), ion exchange, concentration of RO reject and resin regeneration solutions, and evaporation of product solids to dryness.
 - f. Emissions from sources of the ETF storage vessels and processes are depicted in Figure 1.
 - g. Estimated emissions included 2.41 pound per year (lb/yr) of ammonia, 581 lb/yr of volatile organic compounds (VOCs), and 5.2×10^{-4} lb/yr of particulate matter.
 - h. High efficiency particulate air (HEPA) filtration of ETF stack gases was determined to meet best available control technology for air toxics (T-BACT).
3. The USDOE completed start-up testing of VOC and visible emissions required by Approval Conditions 2 and 3 of ORDER NOC-93-3 on January 23, 1996. The testing verified initial compliance with Conditions 2 and 3, regarding VOC and visible emissions of ORDER NOC-93-3 and Conditions 1.2.1.1, 1.2.2.1, and 1.2.2.2 of this ORDER.

4. The USDOE requested modification to the ETF NOC on October 7, 1996. The modification application was found to be complete and approval issued on October 16, 1996, as ORDER 96NW-1-301.
 - a. Waste feed streams originally intended for treatment at the ETF have been discontinued as a result of the PUREX plant shut down. Discontinued streams were the PUREX plant process distillate and PUREX ammonia scrubber distillate.
 - b. Additional waste streams from groundwater pumping, N-Basin, and other locations identified new potential air contaminants.
 - c. LERF VOC control through the use of granulated activated carbon (GAC) offgas treatment reduced VOC emissions from the facility and did not incur additional permitting approval requirements in the storage and management of new waste waters.
 - d. Assessment of new waste water streams identified minor changes in waste constituents for which WAC 173-460 approval was required.
 - e. Estimated emissions of the ETF operations are detailed in Table 1.
 - f. ETF installed GAC filtration for VOC control within the vessel offgas treatment train.
 - g. No change in treatment technology or T-BACT analysis was required.
5. The USDOE requested modification to the ETF on April 10, 2007. The modification application was found to be complete on April 26, 2007.
 - a. The ETF Solidification Treatment Unit (STU) is proposed as a solidification process receiving concentrated brine wastes which would otherwise be dried in the ETF thin film dryer.
 - b. The ETF STU is designed with a capacity of eight cubic yards of solidified waste per day.
 - c. ETF STU operations are proposed to include receipt, storage, and transfer of dry cementitious solids, mixing of these solids with concentrated brine wastes, placement of the blended cementitious waste mixture into a lined form, and closure of the solidified waste form liner.
 - d. Emissions from sources of the ETF STU storage and process units are depicted in Figure 2.
 - e. Estimated emissions of the ETF STU operations are detailed in Table 2.
 - f. Industrial filtration of dry material storage bins and HEPA filtration of offgases from the Feed Hopper, Grout Mixer, and Discharge Chute has been determined to be reasonably available control technology (RACT) for this modification.
 - g. Administrative feed control of ammonia content of waste brines has been determined to be RACT for this modification.
6. Hanford is an existing major stationary source that emits more than 250 tons of a regulated pollutant per year.
7. Emissions of criteria pollutants from the proposed project modification are below the Prevention of Significant Deterioration Significant Emission Rates.
8. Hanford is located in a Class II Area designated as "attainment" for the purpose of permitting for all pollutants.

9. Criteria air pollutant emissions from the proposed project modification are below the *de minimus* levels in WAC 173-400-110(5)(d).
10. Toxic Air Pollutants (TAPs) from the proposed project are below the Acceptable Source Impact Levels (ASILs) of WAC 173-460-150 and WAC 173-460-160 and below Small Quantity Emission Rates (SQERs) where SQERs are defined.
11. The proposed project, if constructed and operated as herein required, will provide T-BACT.
12. The proposed project, if operated as herein required, will be in accordance with applicable rules and regulations, as set forth in Chapter 173-400 WAC and Chapter 173-460 WAC, and the operation thereof will not result in ambient air quality standards being exceeded.
13. The project will have no significant impact on air quality.

THEREFORE, IT IS ORDERED that the project as described in said Notice of Construction application, and as detailed in emissions estimates and impact and control technology assessments submitted to the Washington State Department of Ecology in reference thereto, is approved for construction, installation, and operation, provided compliance with the conditions and restrictions described below. This ORDER voids ORDERS NOC-93-3 and 96NW-1-301. This ORDER shall be identified as NOC ORDER DE07NWP-003.

1.0 GENERAL APPROVAL CONDITIONS

1.1 Effective Date

The effective date of this authorization shall be that as signed in Section 4.0. All references to procedures or test methods shall be to those in effect as of the effective date of this ORDER.

1.2 Emission Limits

1.2.1 Visible emissions

1.2.1.1 Visible emissions from the ETF stack (Figure 1) shall not exceed five percent.

1.2.1.2 Visible emissions from the ETF STU stack (Figure 2) shall not exceed five percent.

1.2.1.3 Visible emission from the ETF STU dry material storage bins (Figure 2) shall not exceed 20 percent. [WAC 173-400-040(1)]

1.2.2 Volatile Organic Compound (VOC) emissions

1.2.2.1 VOC emissions from the ETF (Figure 1) shall not exceed 0.50 gram per minute (g/min).

1.2.2.2 VOC emissions from the ETF (Figure 1) shall not exceed 0.55 gram per cubic meter (g/m³) at standard conditions.

1.2.2.3 VOC emissions from ETF and ETF STU operations shall not exceed 4,000 lb/yr. [WAC 173-400-110(5)(d)]

- 1.2.3 Particulate matter emissions shall not exceed 1,500 lb/yr. [WAC 173-400-110(5)(d)]
- 1.2.4 Toxic Air Pollutant (TAP) emissions
 - 1.2.4.1 As submitted in the NOC Applications and identified in Table 1 and Table 2, shall not exceed ASILs. [WAC 173-460-070]
 - 1.2.4.2 Newly identified TAPs shall not exceed ASILs and with assessment of ASIL compliance may be processed. [WAC 173-460-070]
- 1.2.5 Emissions of ammonia from the ETF STU stack shall not exceed two pounds per hour. [WAC 173-460-080(2)(e)]

1.3 Compliance Demonstration

- 1.3.1 Visible emissions
 - 1.3.1.1 Compliance with Approval Condition 1.2.1.1 shall be met by Tier 3 Visible Emissions Survey requirements of the Hanford Air Operating Permit.
 - 1.3.1.2 Compliance with Approval Condition 1.2.1.2 shall be met by Tier 3 Visible Emissions Survey requirements of the Hanford Air Operating Permit.
 - 1.3.1.3 Compliance with Approval Condition 1.2.1.3 shall be met by Tier 2 Visible Emissions Survey requirements of the Hanford Air Operating Permit.
- 1.3.2 VOC emissions
 - 1.3.2.1 Compliance with Approval Conditions 1.2.2.1 and 1.2.2.2 shall be determined based upon the tested arithmetic mean of three one-hour periods for the G6 stream (Figure 1) using U.S. Environmental Protection Agency reference Method 25A or Method 18 (Finding 3) and upon waste analysis records as detailed in Approval Condition 2.4.
 - 1.3.2.2 Compliance with Approval Condition 1.2.2.3 shall be demonstrated by material emission estimates as detailed in Approval Condition 2.4.
- 1.3.3 Compliance with Approval Condition 1.2.3 shall be met by operating the exhauster systems only when in accord with:
 - 1.3.3.1 T-BACT emission controls found for the ETF (Finding 2.h).
 - 1.3.3.2 RACT emissions controls found for the ETF STU storage bins, Feed Hopper, Grout Mixer and Discharge Chute (Finding 5.f).
- 1.3.4 Compliance with Approval Condition 1.2.4.1 shall be demonstrated by waste analysis records as detailed in Approval Condition 2.4.
- 1.3.5 Compliance with Approval Condition 1.2.4.2 shall be demonstrated by compliance with Approval Condition 2.5 and assessment of ASIL compliance detailed in Approval Condition 2.4.
- 1.3.6 Compliance with Approval Condition 1.2.5 shall be demonstrated by grouted waste production records and material emissions estimates detailed in Approval Condition 2.4.

1.4 Manuals

Operations and Maintenance (O&M) manuals for all equipment, procedures, and controls associated with the proposed activities that have the potential to affect emissions to the atmosphere shall be developed and followed. Manufacturer's instructions may be referenced. The O&M manuals shall be updated to reflect any modifications of the process or operating procedures. Copies of the O&M manuals shall be available to Ecology upon request.

2.0 NOTIFICATIONS AND SUBMITTALS

2.1 Addressing

Any required notifications and submittals required under these Approval Conditions shall be sent electronically or in writing to:

Program Manager
Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354

2.2 Schedule

A schedule of installation and operation activities for the ETF STU exhauster systems shall be submitted within 90 days of issuance of this ORDER.

2.3 Operational Notice

Notification will be made at least 10 calendar days prior to initial operation of the ETF STU exhauster systems covered by this ORDER.

2.4 Recordkeeping

Specific records shall be kept on the Hanford Site by the Permittee and made available for inspection by Ecology upon request. The records shall be organized in a readily accessible manner and cover a minimum of the most recent 60-month period. The records to be kept shall include the following:

1. Records of calibration of stack gas flow rate and temperature measurement devices.
2. Exhauster system stack flow rates and temperature records.
3. All monitoring and operations records required to operate and maintain the emission control equipment which implements T-BACT and RACT as described in Approval Condition 1.3.3.
4. Laboratory analysis result summaries of any waste influent samples undertaken after the effective date of this Order which are examined for potential TAPS or TAPS identified in Table 1 and Table 2 shall support Approval Conditions 1.3.4 and 1.3.5.

5. Waste stream influent volumetric records shall be retained to support Approval Conditions 1.3.4 and 1.3.5.
6. Waste feed influent assessment of VOC emission release potential to support Approval Condition 1.3.2.1.
7. Supporting data, calculations, and procedure to demonstrate grouted waste production administrative control of ammonia content and emission compliance as detailed in Approval Condition 1.3.4. An emission factor of 5.2% shall be applied to determine ammonia emissions based upon STU brine feed concentrations of ammonium sulfate and ammonium nitrate.

2.5 Reporting

Identification of any TAP not previously identified within the NOC Applications, as defined in Table 1 and Table 2, shall be submitted to Ecology within 90 days of completion of laboratory analysis which verify actual or anticipated emissions of that toxic air pollutant from the project.

Visible emission surveys, conducted pursuant to Compliance Demonstration requirement 1.3.1.3, shall be submitted to Ecology within 30 days of completion of the survey with an assessment of the cause of visible emissions and a report of the maintenance conducted to maintain the subject exhaust system's RACT operations.

3.0 EMISSION MONITORING

No routine monitoring of criteria or toxic air pollutants from these approved operations is required. Ecology reserves the ability to require ETF STU offgas testing via ammonia sorbent tube, or other appropriate method recommended by the permittee, to demonstrate accuracy of emission factors provided within the NOC application.

4.0 APPROVAL ORDER AND RESTRICTIONS

Operation of the subject systems is intended for the storage, treatment, and discharge of Hanford Site waste waters as described in the NOC application.

This Authorization may be modified, suspended, or revoked in whole, or in part, for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this authorization.
2. Obtaining this authorization by misrepresentation, or failure to fully disclose all relevant facts.

The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

Any person aggrieved by this ORDER may obtain review thereof by application, within thirty (30) days of receipt of this order, to:

Pollution Control Hearings Board
P.O. Box 40903
Olympia, Washington 98504-0903

Concurrently, copies of the application must be sent to:

Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

These procedures are consistent with the provisions of Chapter 43.21B RCW, and the rules and regulations adopted thereunder.

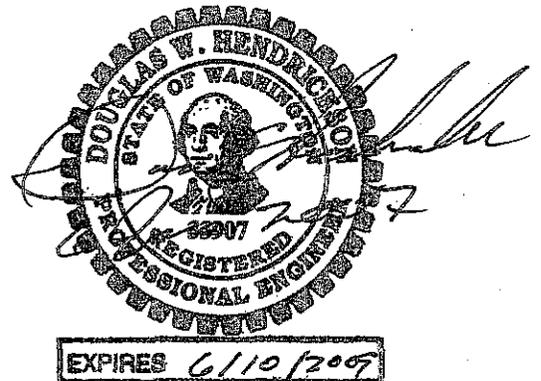
DATED at Richland, Washington, this 6th day of June 2007.

REVIEWED AND PREPARED BY:


Doug Hendrickson, P.E.

APPROVED BY:


Jane A. Hedges



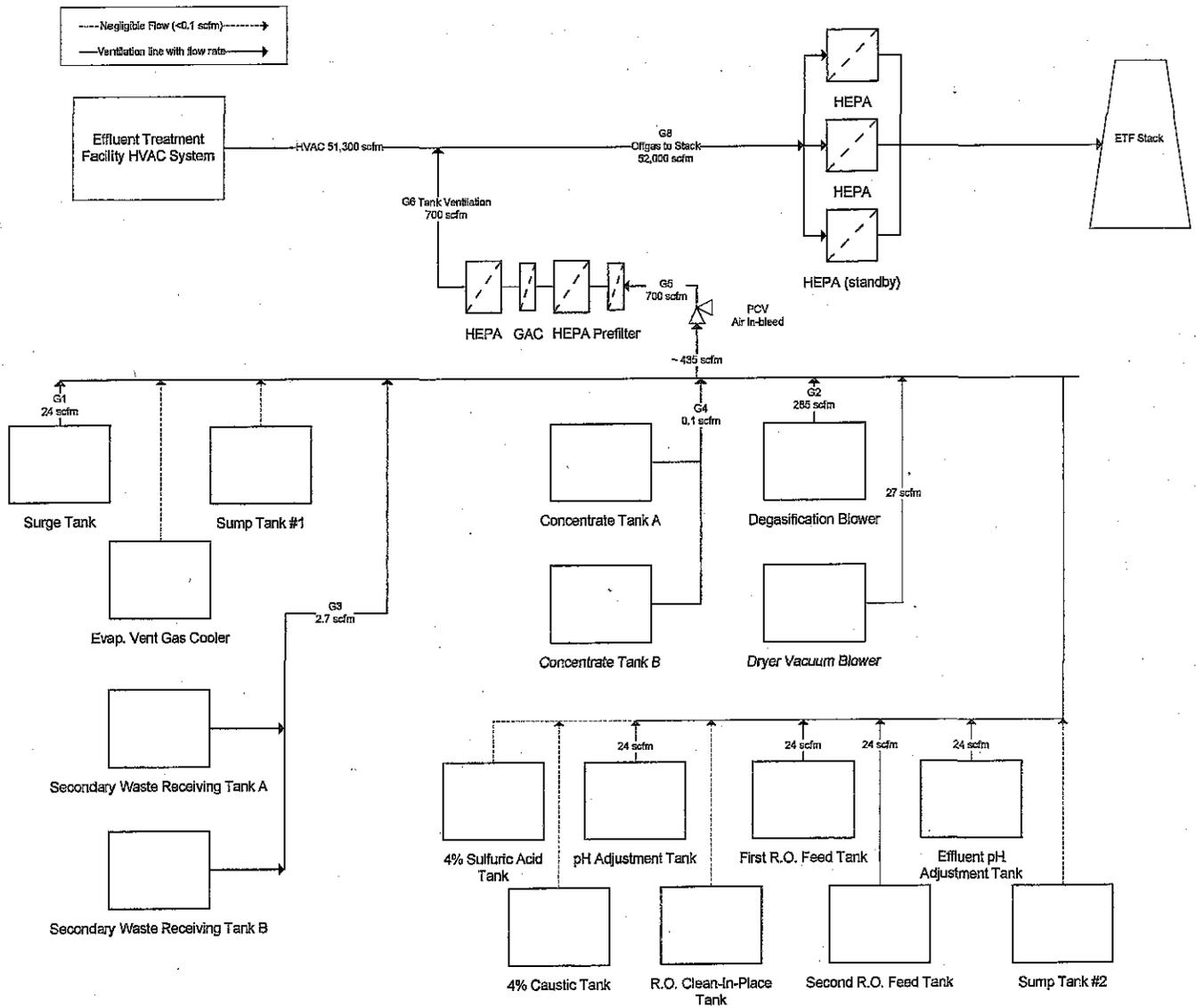


Figure 1: Effluent Treatment Facility Ventilation

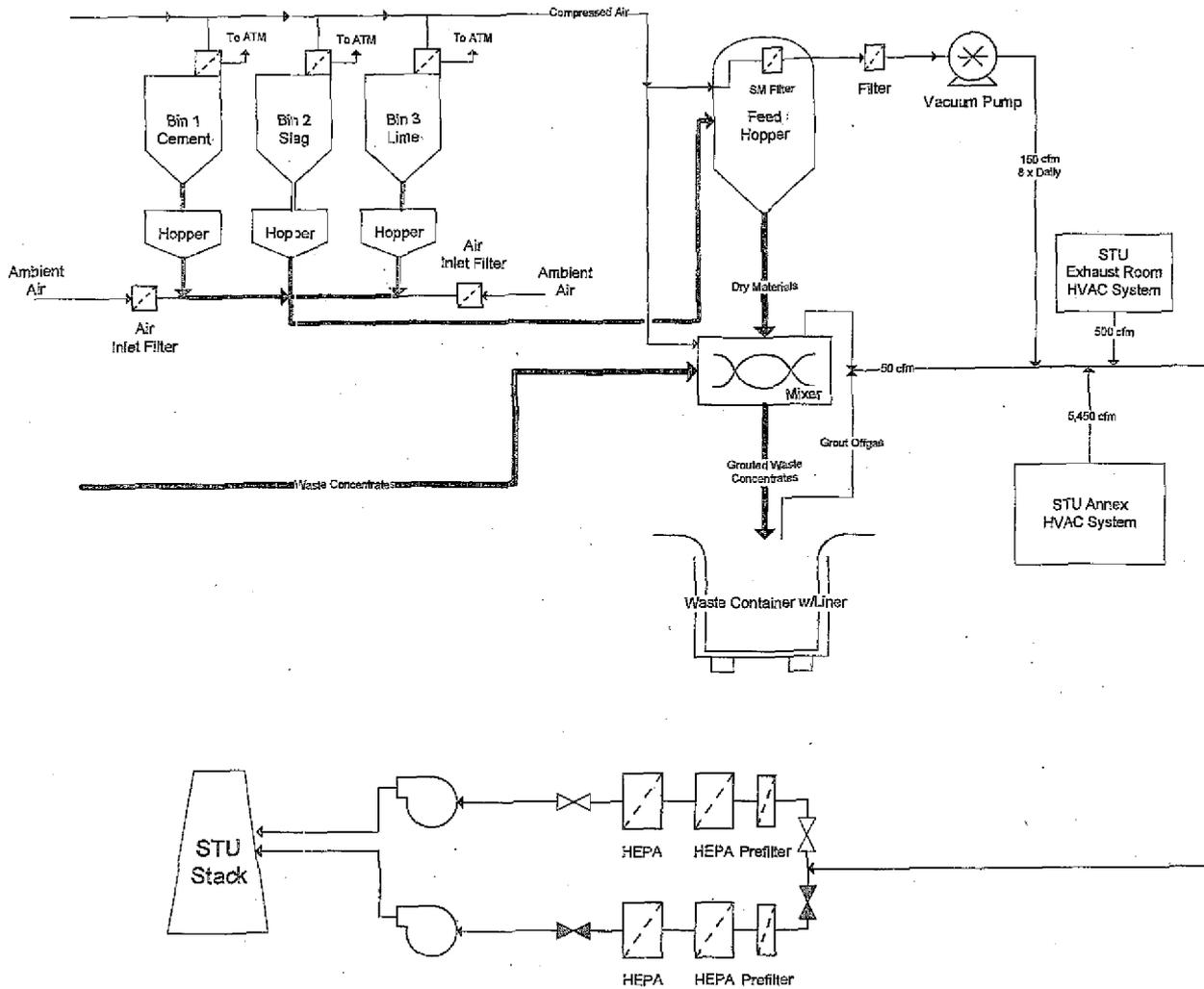


Figure 2: ETF Solidification Treatment Unit Ventilation

Table 1: Effluent Treatment Facility Toxic Air Pollutants					
Toxic Air Pollutants ¹	TAP Class ²	CAS# ³	Emissions Estimate (lb/yr)	ASIL ⁴ (µg/m ³)	SQER ⁵ (lb/period)
Methyl chloroform (1,1,1-Trichloroethane)	B	71-55-6	8.35E-04	6400	5
1,1,2-Trichloroethane	B	79-00-5	3.54E-04	180	2.6
1,2-Dichloroethane (ethylene chloride)	A	107-06-2	1.26E-04	2700	10
1,4-Dichlorobenzene	A	106-46-7	1.14E-04	1.5	500
DDE (p,p'-Dichlorodiphenyldichloroethylene)	A	3547-04-4	3.66E-04	0.1	20
DDT (1,1,1 Trichloro-2,2-Bis(p-chlorophenyl)-ethane)	A	50-29-3	4.80E-03	0.01	10
Acetone	B	67-64-1	1.14E-01	5900	5
Aldrin	A	309-00-2	2.06E-03	0.0002	None
Benzene	A	71-43-2	2.29E-03	0.12	20
Carbon tetrachloride	A	56-23-5	5.05E-01	0.067	20
Chloroform	A	67-66-3	7.75E-03	0.043	10
Dibutyl phosphate	B	107-66-4	4.30E-03	29	0.2
Dieldrin	A	60-57-1	4.34E-03	0.00022	None
Endrin	B	72-20-8	5.05E-03	0.33	0.02
Ethyl benzene	B	100-41-4	1.03E-03	1000	5
Hexachlorocyclohexane (Lindane) Gamma BHC	A	58-89-9	1.94E-03	1.7	0.5
Heptachlor	A	76-44-8	1.94E-03	0.00077	None
Cresol, all isomers	B	1319-77-3	8.45E-02	73	1.2
Dichloromethane (methylene chloride)	A	75-09-2	2.85E-03	0.56	50
Pentachlorophenol	A	87-86-5	3.09E-02	0.33	50
Phenol	B	108-95-2	9.60E-01	63	1.2
Perchloroethylene (tetrachloroethylene)	A	127-18-4	7.10E-04	1.1	500
Tetrahydrofuran	B	109-99-9	4.44E-02	2000	5
Tributyl phosphate	B	126-73-8	1.00E-02	7.3	0.02
Toluene	B	108-88-3	6.85E-04	400	5
Trichloroethylene	A	79-01-6	9.15E-03	0.59	50
Xylenes (m-,o-,p-isomers)	B	1330-20-7	1.83E-03	1500	5
Ammonia	B	7664-41-7	1.21E-06	100	2
Aluminum, as Al soluble salts	B	C7429-90-5	3.15E-05	6.7	0.02
Antimony & compounds as Sb	B	C7440-36-0	1.31E-05	1.7	0.02
Barium, soluble compounds Ba	B	C7440-39-3	4.98E-05	1.7	0.02
Beryllium and compounds	A	7440-41-7	2.17E-07	0.00042	None
Boron trifluoride	B	76737-07-2	9.20E-06	9.3	0.02
Cadmium and compounds	A	7440-43-9	8.20E-07	0.00056	None
Calcium hydroxide	B	1305-62-0	1.25E-12	17	0.2

Table 1: Effluent Treatment Facility Toxic Air Pollutants

Toxic Air Pollutants ¹	TAP Class ²	CAS# ³	Emissions Estimate (lb/yr)	ASIL ⁴ (µg/m ³)	SQER ⁵ (lb/period)
Chromium, hexavalent metal and compounds	A	C7440-47-3	2.95E-14	0.000083	None
Copper, Dusts and mists, as Cu	B	C7440-50-8	1.04E-04	3.3	0.02
Cyanides, as CN	B	57-12-5	1.31E-06	17	0.2
Fluorides, as F	B	16984-48-8	4.90E-13	8.3	0.02
Iron salts, soluble as Fe	B	—	1.08E-03	3.3	0.02
Lead compounds	A	—	1.95E-08	0.5	0.02
Manganese dust & compounds	B	C7439-96-5	4.34E-06	0.4	0.02
Nickel and compounds (as nickel subsulfide or nickel refinery dust)	A	C7440-02-0	1.30E-05	0.0021	0.5
Potassium hydroxide	B	1310-58-3	1.71E-03	6.7	0.02
Silver, soluble compounds as Ag	B	C7440-22-4	6.95E-07	0.033	0.02
Sodium hydroxide	B	1310-73-2	7.75E-03	6.7	0.02
Uranium, insoluble & soluble	B	C7440-61-1	1.88E-03	0.67	0.02
Vanadium, as V ₂ O ₅	B	1314-62-1	4.57E-06	0.17	0.02
Zinc chromates	B	13530-65-9	3.78E-05	0.033	0.02

Notes:

- 1: Toxic Air Pollutant as identified in WAC 173-460-150 and WAC 173-460-160.
- 2: TAP Class = A for carcinogenic pollutants; B for toxic pollutants.
- 3: CAS # = Chemical Abstracts Service Registry number.
- 4: Acceptable Source Impact Level, ambient concentration. Periods of exposure assessment are Annual for "A" TAPs and 24 hours for "B" TAPs.
- 5: Small Quantity Emission Rate periods are Annual for "A" TAPs and per hour for "B" TAPs.

Table 2: Effluent Treatment Facility Solidification Treatment Unit Toxic Air Pollutants

Toxic Air Pollutants ¹	TAP Class ²	CAS# ³	Emissions Estimate (lb/yr)	ASIL ⁴ (µg/m ³)	SQER ⁵ (lb/period)
Methyl chloroform (1,1,1-Trichloroethane)	B	71-55-6	2.10E-07	6400	5
1,1,2-Trichloroethane	B	79-00-5	2.20E-07	180	2.6
1,2-Dichloroethane (ethylene chloride)	A	107-06-2	1.10E-07	2700	10
1,4-Dichlorobenzene	A	106-46-7	1.50E-07	1.5	500
n-Butyl alcohol	B	71-36-3	4.20E-03	500	5
Methyl ethyl ketone (MEK)	B	78-93-3	4.10E-05	1000	5
2-Butoxyethanol	B	111-76-2	1.60E-04	400	5
DDE (p,p'-Dichlorodiphenyldichloroethylene)	A	3547-04-4	1.30E-07	0.1	20
DDT (1,1,1 Trichloro-2,2-Bis(p-chlorophenyl)-ethane)	A	50-29-3	3.60E-06	0.01	10
Acetone	B	67-64-1	1.60E-03	5900	5
Aldrin	A	309-00-2	1.50E-06	0.0002	None
Benzene	A	71-43-2	1.00E-06	0.12	20
Carbon tetrachloride	A	56-23-5	5.50E-05	0.067	20
Chloroform	A	67-66-3	6.30E-06	0.043	10
Dieldrin	A	60-57-1	3.20E-06	0.00022	None
Endrin	B	72-20-8	1.70E-06	0.33	0.02
Ethyl benzene	B	100-41-4	4.90E-07	1000	5
Hexachlorocyclohexane (Lindane) Gamma BHC	A	58-89-9	1.30E-06	1.7	0.5
Heptachlor	A	76-44-8	1.70E-06	0.00077	None
Cresol, all isomers	B	1319-77-3	2.30E-05	73	1.2
Methyl isobutyl ketone (MIBK)	B	108-10-1	1.50E-05	680	5
2-Hexanone (MBK)	B	591-78-6	1.50E-05	67	1.2
Methyl propyl ketone	B	107-87-9	1.00E-05	2300	5
Dichloromethane (methylene chloride)	A	75-09-2	6.20E-05	0.56	50
Pentachlorophenol	A	87-86-5	1.10E-05	0.33	50
Phenol	B	108-95-2	3.70E-04	63	1.2
Perchloroethylene (tetrachloroethylene)	A	127-18-4	8.20E-08	1.1	500
Tetrahydrofuran	B	109-99-9	2.60E-05	2000	5
Toluene	B	108-88-3	2.20E-07	400	5
Trichloroethylene	A	79-01-6	2.10E-06	0.59	50
Xylenes (m-,o-,p-isomers)	B	1330-20-7	6.60E-07	1500	5
Ammonia	B	7664-41-7	5.40E+03	100	2
Aluminium, as Al soluble salts	B	C7429-90-5	3.40E-03	6.7	0.02
Antimony & compounds as Sb	B	C7440-36-0	3.20E-05	1.7	0.02
Barium, soluble compounds Ba	B	C7440-39-3	9.60E-05	1.7	0.02
Beryllium and compounds	A	7440-41-7	9.00E-06	0.00042	None
Boron trifluoride	B	76737-07-2	2.00E-04	9.3	0.02
Cadmium and compounds	A	7440-43-9	4.90E-06	0.00056	None
Calcium hydroxide	B	1305-62-0	5.91E+00	17	0.2

Table 2: Effluent Treatment Facility Solidification Treatment Unit Toxic Air Pollutants

Toxic Air Pollutants ¹	TAP Class ²	CAS# ³	Emissions Estimate (lb/yr)	ASIL ⁴ (µg/m ³)	SQER ⁵ (lb/period)
Calcium oxide	B	1305-78-8	3.65E+00	6.7	0.02
Chromium, hexavalent metal and compounds	A	C7440-47-3	3.00E-04	0.000083	None
Copper, Dusts and mists, as Cu	B	C7440-50-8	2.50E-04	3.3	0.02
Cyanides, as CN	B	57-12-5	3.20E-06	17	0.2
Fluorides, as F	B	16984-48-8	1.30E-03	8.3	0.02
Iron salts, soluble as Fe	B	—	3.00E-03	3.3	0.02
Lead compounds	A	—	1.70E-06	0.5	0.02
Manganese dust & compounds	B	C7439-96-5	4.00E-02	0.4	0.02
Mercury, Aryl & inorganic cmpd	B	C7439-97-6	1.60E-07	0.33	0.02
Nickel and compounds (as nickel subsulfide or nickel refinery dust)	A	C7440-02-0	1.20E-04	0.0021	0.5
Nitric acid	B	7697-37-2	5.50E-01	17	0.2
Potassium hydroxide	B	1310-58-3	1.00E-02	6.7	0.02
Silver, soluble compounds as Ag	B	C7440-22-4	2.00E-06	0.033	0.02
Sodium hydroxide	B	1310-73-2	4.70E-02	6.7	0.02
Sulfuric acid	B	7664-93-9	5.60E-01	3.3	0.02
Uranium, insoluble & soluble	B	C7440-61-1	5.30E-03	0.67	0.02
Vanadium, as V ₂ O ₅	B	1314-62-1	2.30E-05	0.17	0.02

Notes:

- 1: Toxic Air Pollutant as identified in WAC 173-460-150 and WAC 173-460-160.
- 2: TAP Class = A for carcinogenic pollutants; B for toxic pollutants.
- 3: CAS # = Chemical Abstracts Service Registry number.
- 4: Acceptable Source Impact Level, ambient concentration. Periods of exposure assessment are Annual for "A" TAPs and 24 hours for "B" TAPs.
- 5: Small Quantity Emission Rate periods are Annual for "A" TAPs and per hour for "B" TAPs.