

Emission Unit ID: 423

300 P-340NTEX-001

340-NT-EX

This is a MINOR, ACTIVELY ventilated emission unit.

340 BUILDING

Emission Unit Information

Stack Height: 18.00 ft. 5.49 m. Stack Diameter 1.60 ft. 0.49 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack Exhaust Velocity: 16.60 ft/second. 5.06 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

state only enforceable: WAC 246-247-010(4), 040(5), 060(5)

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Prefilter	1	3 parallel flow paths, (Minimum of 2 active flow paths providing 1 stage prefiltration and 2 stages HEPA filtration)
	HEPA	2	In series. 3 parallel flow paths, (Minimum of 2 active flow paths providing 1 stage prefiltration and 2 stages HEPA filtration)
	Fan	2	In parallel, (only one fan operates at a time, one is a backup)
	Moisture separator	1	Serves the vessel off-gas portion of the treatment system

Monitoring Requirements

state enforceable: WAC 246-247-040(5), 060(5), and federally enforceable: 40 CFR 61 subpart H

Federal and State Regulatory	Monitoring and Testing Requirements	Radionuclides Requiring Measurement	Sampling Frequency
40 CFR 61.93(b)(4)(i) & WAC 246-247-075(3)	Actions to assure quality of periodic confirmatory measurement as described in section 4.1 of the Standard Conditions.	Total Alpha and Total Beta.	The sample requirements is to take 4 one week duration samples each year (utilizing the stack record sampling system).

Sampling Requirements Record Sampling

Additional Requirements

Additional monitoring or sampling requirements established by this License will be listed in the Conditions and Limitations section, if applicable.

Operational Status Activities at the 340 A Building support surveillance and maintenance deactivation operations at the Hanford Site. This 20 foot tall stack exhausts filtered air from the 340 Building vault, the 340 Building vault tanks, the 340 A Building aboveground storage tanks, and the associated piping system. Particulate emissions are sampled. The 340 NT EX Emission unit is in surveillance and maintenance mode for ongoing current activities. These include activities like entries into the vault area to calibrate equipment in the sump, perform inspections currently required by Ecology, or corrective maintenance to remove precipitation, which might accumulate via leakage through the vault roof or doorways. Maintenance and surveillance activities do not increase the potential to emit.

This Emission Unit has 1 active Notice(s) of Construction.

Project Title	Approval No	Date Approved	NOC_ID
Operation of the 340 Waste Storage	AIR 06-661	7/5/2006	704

Conditions (state only enforceable)

- 1) The total abated emission limit for this Notice of Construction is limited to 4.00E-03 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)).
- 2) This approval applies only to those activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The 340-NT-EX Emission unit is in surveillance and maintenance mode for ongoing current activities. These include activities like entries into the vault area to calibrate equipment in the sump, perform inspections currently required by Ecology, or corrective maintenance to remove precipitation which might accumulate via leakage through the vault roof or doorways.

Per the approved release fraction calculation based on effluent stream samples collected upstream of all abatement controls, no activities may be performed upstream of the abatement controls. The only activities allowed are maintenance and surveillance that will not disturb the source term and will not increase the potential-to-emit.

- 3) The PTE for this project as determined under WAC 246-247-030(21)(a-e) [as specified in the application] is 4.00E-03 mrem/year. Approved are the associated potential release rates (Curies/year) of:

Alpha - 0	2.90E-06	Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Alpha release rate based on Am-241. See condition 24 for approval of alternative release fraction and basis.			
Am - 241	1.90E-06	Liquid/Particulate Solid	WAC 246-247-030(21)(d)
See condition 24 for approval of alternative release fraction and basis.			
B/G - 0	2.50E-05	Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Beta/Gamma release rate based on Sr-90. See condition 24 for approval of alternative release fraction and basis.			
Co - 57		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			
Co - 60	4.40E-04	Liquid/Particulate Solid	WAC 246-247-030(21)(d)
See condition 24 for approval of alternative release fraction and basis.			
Cs - 134		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			
Cs - 137	1.30E-03	Liquid/Particulate Solid	WAC 246-247-030(21)(d)
See condition 24 for approval of alternative release fraction and basis.			
Eu - 152		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			
Eu - 154		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			
Eu - 155		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			
Sb - 125		Liquid/Particulate Solid	WAC 246-247-030(21)(d)
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.			

The radioactive isotopes identified for this emission unit are (no quantities specified):

Am - 241	Co - 57	Co - 60	Cs - 134	Cs - 137
Eu - 152	Eu - 154	Eu - 155	Sb - 125	

The potential release rates described in this Condition were used to determine control technologies and monitoring requirements for this approval. DOE must notify the Department of a "modification" to the emission unit, as defined in WAC 246-247-030(16). DOE must notify the Department of any changes to a NESHAP major emission unit when a specific isotope is newly identified as contributing greater than 10% of the potential TEDE to the MEI, or greater than 25% of the TEDE to the MEI after controls. (WAC 246-247-110(9)) DOE must notify the Department of any changes to potential release rates as required by state or federal regulations including changes that would constitute a significant modification to the Air Operating Permit under WAC 173-401-725(4). Notice will be provided according to the particular regulation under which notification is required. If the applicable regulation(s) does not address manner and type of notification, DOE will provide the Department with advance written notice by letter or electronic mail but not solely by copies of documents.

- 4) The current abatement controls must be maintained and be operational until the source term is removed or as approved by the department.
- 5) The department approves the release fractions as demonstrated by the upstream air sampling and doses calculated and reported via letter 03-RCA-0231, dated May 8, 2003. The basis of this approval is the assurance that any increase in potential-to-emit will be determined prior to commencement of any source term disturbing activity. This determination shall be maintained as part of the air emissions record and will be available for inspection upon request.