



LB# 3861

AIR 14-301  
NOC 914

STATE OF WASHINGTON  
DEPARTMENT OF HEALTH  
OFFICE OF RADIATION PROTECTION  
309 Bradley Blvd., Suite 201 • Richland, Washington 99352  
TDD Relay Service: 1-800-833-6388

March 12, 2014

Mr. Kevin W. Smith, Manager  
United States Department of Energy  
Office of River Protection  
P.O. Box 450, MSIN: H6-60  
Richland, Washington 99352

Dear Mr. Smith:

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your application was approved, as negotiated, on March 5, 2014, according to the enclosed license for:

**Operation of the AZ-301 Tanker for Condensate Collection and Transport  
(NOC 914; EU 1406)**

The conditions, controls, monitoring requirements, and limitations of this license must be observed in order for you to be in compliance with WAC 246-247. Failure to meet any provision of this license may result in the revocation of approval, the issuance of Notices of Violation, or other enforcement actions under WAC 246-247-100.

If you have any questions regarding this approval, please contact John Schmidt at (509) 946-3874.

Sincerely,

John Martell, Manager  
Radioactive Air Emissions Section

Enclosure: Applicable Portion of License

cc: (see next page)



Mr. Kevin W. Smith

March 12, 2014

Page 2 of 2

AIR 14-301

cc: Ruth Allen, WRPS  
Robert Anderson, MSA  
Matthew Barnett, PNNL  
Tom Beam, MSA  
Lee Bostic, BNI  
Dennis Bowser, USDOE-ORP  
Cliff Clark, USDOE-RL  
Jack Donnelly, WRPS  
Rick Engelmann, CHPRC  
Dennis Faulk, EPA  
Phil Gent, Ecology  
Michael Greene, WRPS  
Robert Haggard, BNI  
Dale Jackson, USDOE-RL  
Jessica Joyner, WRPS  
Paul Karschnia, CHPRC  
Crystal Mathey, WDOH  
Valarie Peery, Ecology  
Crystal Rau, Ecology  
John Schmidt, WDOH  
Maria Skorska, Ecology  
Jeff Voogd, WRPS  
Joan Woolard, WRPS  
Davis Zhen, EPA  
Environmental Portal  
RAES Tracking: Line 168; NOC 914; EU 1406

Emission Unit ID: 1406

**200 W-AZ-301 Tanker-001**

**A-AZ301 Tanker-001**

This is a MINOR, PASSIVELY ventilated emission unit.

Tank Farms

**Abatement Technology** BARCT WAC 246-247-040(3), 040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Radial HEPA Filter	1	Tanker trailer breather, Radial HEPA filter

**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]	40 CFR 61, Appendix B Method 114	Total Alpha and Total Beta/Gamma.	Annually at a minimum

**Sampling Requirements** Smear survey on the outside of the outlet of the vent.

**Additional Requirements**

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

**Operational Status**

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

Project Title	Approval #	Date Approved	NOC_ID
Operation of the AZ-301 Tanker for Condensate Collection and Transport	AIR 14-301	3/5/2014	914

**Conditions (state only enforceable: WAC 246-247-040(5), 060(5) if not specified)**

- 1) The total abated emission limit for this Notice of Construction is limited to 1.07E-05 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 2.14E-02 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).
- 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 AZ-301 Tanker project consists of operation of a pumping system to transport condensate from catch tank AZ-301 into the tanker. A tanker would be deployed outside of the 241-AY/AZ Tank Farm. The condensate is transported to another permitted facility, such as Liquid Effluent Retention Facility, or Effluent Treatment Facility.

241-AY and 241-AZ Tank farms are ventilated by the 296-A-42 primary exhauster. Condensate from various points in the primary exhauster are collected and routed to the AZ-301 catch tank. The AZ-301 catch tank has a nominal 1,200 gallon capacity and condensate is currently routed to AZ-102 or AY-101. Alternate options are needed as AY and AZ tanks are nearing capacity.

Emission from the AZ-301 Tanker project, in conjunction with other operations on the Hanford site, will not exceed the National Emission Standard of 10 millirem (mrem) per year (40 CFR 61, Subpart H).

The pumping operation shall follow As Low As Reasonably Achievable (ALARA) practices. The hose from AZ-301 to the tanker shall be hose in hose design so that any leak in the primary hose is contained. The hose is also elevated with a slant back toward the tank. The tanker has a catch basin.

The AZ-301 Tanker Project is designed to minimize potential emissions. A radial HEPA filter is used to vent the

tanker while it is being filled. To prevent the potential for inadvertent release during the connection and disconnection of the hoses "dry-break" type connections are used. The top of the tanker where the condensate is pumped into the truck has a catch basin so that any condensate does not reach the ground. ALARA practices are employed during pumping operations and the loading and unloading of the tanker.

The truck loading area might have a tent like enclosure for weather protection and to retain heat in the winter.

3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Alpha - 0	9.57E-01	Beta - 0	9.36E+01
All Alpha radioactivity was attributed to Pu-239		All Beta radioactivity was attributed to Sr-90	

4) **ABATEMENT CONTROL-Tanker Loading Activities**

All work shall be performed in accordance with approved radiological control methods and ALARA program requirements. These requirements shall be carried out through work packages, operating procedures, radiological work permits, or other work instructions. The general chemical and physical processes associated with tanker loading activities shall consist of the following.

Appropriate hookups shall be made between the source and the tanker (e.g., pumps, hoses, etc.). Connections will be periodically surveyed to verify that no leaks are occurring.

Spill prevention measures shall be in place to mitigate release of condensate to the atmosphere and/or to the ground during hookup, transfer, and disconnect operations. These measures include provisions to catch and retain any inadvertent release of liquid (e.g. the catch basin and the connection to the tanker) and the use of dry-break type connections to connect the transfer line to the truck. The tanker shall be equipped with a High Efficiency Particulate Filter (HEPA) to allow for venting while the tanker is being filled. (WAC 246-247-040(5))

5) **ABATEMENT CONTROL-Prior to Transport**

After filling the tanker, fittings shall be disconnected and closed and shall remain closed until commencement of unloading operations at LERF and or ETF. In the case that the condensate is taken to a different receiving facility, WDOH requires notification as to which facility shall receive the condensate.

All liquid/gas release points where the tanker contents could escape to the atmosphere shall be closed prior to transport.

The valve under the HEPA filter shall be closed during transport to ensure that the liquid does not wet the HEPA filter during transport.

Appropriate decontamination measures shall be performed to reduce residual external smearable radioactive contamination to transport release criteria before releasing the tanker for overland transport.

Removable contamination levels on the truck must be less than or equal to 1,000 dpm/100 cm<sup>2</sup> beta/gamma and less than or equal to 20 dpm/100 cm<sup>2</sup> alpha prior to transport.

Inspections of the tanker vents and valves shall be performed and documented prior to transport.

Waste liquid shall be characterized (at a minimum of annually), and acceptability at LERF and or ETF (or receiving facility specified in the notification to WDOH) shall be documented.(WAC 246-247-040(5)).

6) **EFFLUENT MONITORING-WDOH documentation:**

a) A single WDOH approved record shall be maintained, of the tanker shipments and an estimate of annual emissions shall be reported. Records of the operator rounds (which shall serve as the WDOH approved record) can be used for this documentation. (WAC 246-247-040(5))

b) Information from shipment records shall be used to estimate annual emissions. These records shall be retained at the facility and shall be available for audits. The estimated emissions shall be determined using one of the following methods:

Method 1: From the characterization of the liquid being loaded, gross alpha and gross beta/gamma activities shall be determined. The emission shall be determined using the volume of liquid transferred, an assumed release fraction of 0.001, the most recent location-specific dose conversion factors of 1.88E-01 mrem/Ci beta/gamma and 4.00E+00 mrem/Ci alpha, assuming gross alpha is Pu-239 and gross beta/gamma is Sr-90

Method 2: From the characterization of the liquid being loaded, a complete isotopic distribution of radionuclides shall be determined. The emission shall be determined using the volume of liquid transferred, an assumed release fraction of 0.001, the most recent location-specific dose conversion factors of 1.88E-01 mrem/Ci beta/gamma and

4.00E+00mrem/Ci alpha for the known isotopes. (WAC 246-247-040(5), WAC 246-247-080(7), WAC 246-247-075(3))

7) EMISSION UNITS IDENTIFIED

The emission unit shall be clearly identified by Emission Unit ID and AEI ID number (WAC 246-247-040(5))

8) ABATEMENT CONTROL-Fill level limits

The tanker has an 8,000 gallon capacity. The condensate will be periodically transported when the tanker is filled with approximately 7,000 gallons. (WAC 246-247-040(5))

9) ABATEMENT CONTROL-Air flow rates

The HEPA filter shall be rated for a flow rate higher than the maximum flow rate when being filled. (WAC 246-247-040(5))

10) ABATEMENT CONTROL-Volume documentation

Volume of tanker contents shall be documented each day of filling operations. (WAC 246-247-040(5))