



LB# 3502

AIR 12-814
NOC 863

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

August 29, 2012

CERTIFIED MAIL

7008 1300 0001 5989 9598

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

Dear Mr. Samuelson:

Pursuant to Chapter 246-247 of the Washington Administrative Code (WAC), your revised application will be approved according to the enclosed License for:

**E-525 Double-Shell Tank (DST) Transfer System Modifications Project
(Replaced NOC ID 855) (NOC 863; EU 486 & 751)**

The Washington State Department of Health (DOH) considers the conditions, controls, monitoring requirements, and limitations of the License integral to approval of your application.

This approval shall take effect, and a final approval letter issued, twenty-eight (28) days after you receive it unless you apply for an adjudicative proceeding, as described below.

If you accept the conditions and limitations of this approval and do not wish to apply for an adjudicative proceeding, but wish to proceed under this approval before the 28 days have elapsed, please notify us in writing and the DOH will issue the final approval letter. Your notice should be mailed or faxed to:

DOH – Office of Radiation Protection
Radioactive Air Emissions Section
309 Bradley Blvd., Suite 201
Richland, Washington 99352
FAX: (509) 946-0876

If there are concerns with the conditions and limitations of the approval, please notify the DOH. If attempts to resolve the concerns fail, the DOH will deny your application and you may contest the conditions and limitations of this approval, within 28 days of receipt, by filing the enclosed



Request for Adjudicative Proceeding or a document providing substantially the same information with the DOH, Adjudicative Service Unit (ASU), in a manner that shows proof of service on the ASU. The ASU's address is:

DOH - Adjudicative Service Unit
310 Israel Road SE
P.O. Box 47879
Olympia, Washington 98504-7879

You must include a copy of this approval with your application. FILING SHALL NOT BE DEEMED COMPLETE UNTIL THE ADJUDICATIVE SERVICE UNIT ACTUALLY RECEIVES YOUR APPLICATION.

If you have any questions regarding this draft approval, please contact Ernest McCormick at (509) 946-0624.

Sincerely,



for John Martell, Manager
Radioactive Air Emissions Section

Enclosures: (1) Conditions and Limitations for NOC 863 (EU 486 & 751)
(2) Request for Adjudicative Proceeding

cc: Robert Anderson, MSA
Matthew Barnett, PNNL
John Bates, USDOE-RL
Tom Beam, MSA
Lee Bostic, BNI
Dennis Bowser, USDOE-RL
Jack Donnelly, WRPS
Dennis Faulk, EPA
Phil Gent, Ecology
Michael Greene, WRPS
Robert Haggard, BNI
Dale Jackson, USDOE-RL
Steven Killoy, WRPS
John Martell, WDOH
Ernest McCormick, WDOH
Felix Miera, WRPS
Valarie Peery, Ecology
Michael Peloquin, WRPS
Lucinda Penn, WRPS
Mara Skorska, Ecology
John Schmidt WDOH
Jeff Voogd, WRPS
Stephen Weil, USDOE-RL
Joan Woolard, WCH
Davis Zhen, EPA
Environmental Portal
RAES Tracking: NOC 863; EUs
486 & 751

Project Title

E-525 Double-Shell Tank (DST) Transfer System Modifications Project
(Replaced NOC ID 855)

Approval # Date Approved NOC_ID

Not Approved 863

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 3.70E-02 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 3.70E-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.

241-AZ-151 CATCH TANK BYPASS

The modification description for the 241-AZ-151 catch tank bypass modification includes the installation of a new RCRA-compliant condensate distribution system for condensate generated from the existing 241-AZ-702 ventilation system. This will involve tapping into existing ventilation headers. This work will be done according to ALARACT 16.1 requirements. This new system will consist of a 1200 gallon capacity catch tank (241-AZ-301), secondary containment, piping, pumps, and controls. The system is designed to collect condensate at rate of 0.29 gallons per minute (154,424 gallons per year). The tank will be emptied every 2 to 3 days. At that time, the condensate will be pumped back to one of the 241-AY or 241-AZ tanks at a rate of 4 to 5 gallons per minute. Condensate accumulation is currently estimated at between 6000 to 8000 gallons per month- 72,000 to 96,000 gallons per year.

The new 241-AZ-301 tank and system will be located outside the northeast corner of building 241-AZ-702. Most of the secondary containment structure will be located below grade (except for the cover that will be located above grade) to provide operator access and remote valve operation. A HEPA filter will also be installed above grade. This filter will be connected to 241-AZ-301 tank and will be used as the vent for the 241-AZ-301 tank.

The lower level of the fabricated tank system will contain the receiver tank for the condensate coming from the AZ-PC-SP-1 seal pot via line AZ-503. Other components housed in the lower level will include the sump, sump suction line, tank suction piping, tank return piping, tank vent lines, instrument access risers, leak detection, and freeze protection, as required.

The upper level of the fabricated tank system will contain the distribution pumps, valves, instrumentation, and controls. Operator access will be provided as required (e.g., access ladder, door in system cover, mid-level grating to support operator). Distribution valves will be located to provide the ability to use remote valve actuators. Freeze protection for the piping, pumps, and valves will be used as required.

The AZ-PC-SP-1 seal pot is located in the 241-AZ-702 building and this seal pot serves as a collection point for condensate originating from the 241-AZ-702 ventilation system. The 241-AZ-702 ventilation system provides primary tank ventilation for the 241-AY and 241-AZ DSTs. The existing 241-AZ-151 catch tank would be isolated in a separate effort to support other commitments.

Currently there are two drain paths into the 241-AZ-151 catch tank that will remain active after June 30, 2005. Those two drain paths are the condensate from the 241-AZ-702 facility and the 241-AZ-801A floor drain. The 241-AZ-702 condensate drain line will be rerouted to the 241-AY tanks and also to the 241-AZ tanks. In addition, the 241-AZ-801A floor drain will be isolated. In addition to the installation of a drain line to AZ-102, a new jumper will be installed in the 241-AZ-02A pit. This work will be accomplished under ALARACT 4.1,6.1,14.1 and 15.1.

204-AR TRANSFER LINE MODIFICATION

The 204-AR Waste Unloading Facility will continue to be in operation after June 30, 2005. Waste transfer line LIQW-702 will be modified to extend the transfer line encasement through the pit wall. This pipe is buried approximately three and a half feet below grade, so the excavated area will be approximately 10' x 10' x 6'. A portion of the slab under an old laundry facility and a section of the asphalt surface adjacent to the doorstep of the facility will require demolition for access.

The new encasement section will be open-ended, upstream of the exterior wall seal plate. The obsolete air purge connection to the existing encasement pipe will be removed.

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

Ac - 227	4.70E-03	Am - 241	7.76E+02	Am - 243	4.32E-02
Ba - 137 m	1.41E+06	C - 14	5.77E+00	Cd - 113 m	1.76E+02
Cm - 242	6.36E+01	Cm - 243	1.93E-01	Cm - 244	2.63E+00
Co - 60	1.08E+02	Cs - 134	3.32E+00	Cs - 137	1.49E+06
Eu - 152	8.21E+00	Eu - 154	6.09E+02	Eu - 155	7.03E+02
H - 3	8.16E+02	I - 129	1.13E+00	Nb - 93 m	2.04E+01
Ni - 59	1.82E+00	Ni - 63	1.74E+02	Np - 237	1.88E+01
Pa - 231	1.19E-02	Pu - 238	6.19E+00	Pu - 239	1.07E+02
Pu - 240	2.27E+01	Pu - 241	3.89E+02	Pu - 242	2.37E-03
Ra - 226	4.36E-04	Ra - 228	2.03E-01	Ru - 106	1.49E-04
Sb - 125	8.23E+01	Se - 79	2.86E+00	Sm - 151	3.25E+04
Sn - 126	5.86E+00	Sr - 90	1.68E+05	Tc - 99	1.34E+03
Th - 229	7.22E-03	Th - 232	3.26E-02	U - 232	4.66E-01
U - 233	1.91E+00	U - 234	1.53E+00	U - 235	5.90E-02
U - 236	1.05E-01	U - 238	1.14E+00	Y - 90	1.68E+05
Zr - 93	2.16E+01				

4) **ABATEMENT TECHNOLOGY-Pit work**

All pit work shall be performed in accordance with ALARACT 6.1 "TWRS ALARACT Demonstration for Pit Access", ALARACT 13.1 "TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment", and ALARACT 14.1 "TWRS ALARACT Demonstration for Pit Work".

5) **ABATEMENT TECHNOLOGY- Soil excavation, manual**

All soil excavation, not using the Guzzler, shall be conducted in accordance with ALARACT 5.1 "TWRS ALARACT Demonstration for Soil Excavation (Using Hand Tools)".

- 6) ABATEMENT TECHNOLOGY- Soil excavation, Guzzler
For Guzzler excavation, monitoring will be performed as discussed in the latest WDOH approved NOC, "Operation of the Guzzler in the Tank Farm Facilities." A guzzler tracking log will be used to track emissions. Periodic confirmatory measurements will be performed in accordance with the WDOH approved NOC.
- 7) ABATEMENT TECHNOLOGY- Pipe cuts
Required cuts of contaminated piping shall be made inside a glove bag for the initial cuts which separate the pipe from the system. Subsequent cuts for size reduction and waste disposal may be made under the conditions of ALARACT 15.1.
- 8) WDOH APPROVED LOG Guzzler Excavation
For Guzzler excavation, the Annual Possession Quantity shall be tracked on a WDOH approved excavation log.
- 9) CONTAMINATION CONTROL PTRAEU and HEPA
When performing work inside a glove bag and using a PTRAEU or HEPA filtered vacuum all conditions and limitations of site wide approvals for operation of the PTRAEU and HEPA filtered vacuums shall be followed.
- 10) RELEASE RATES- manual soil excavation limit
The total contaminated soil to be excavated for all NOC described activities shall not exceed 50,000 cubic feet.

Emission Unit ID: 751

200E P-241AZ301-001

241-AZ-301

This is a MINOR, PASSIVELY ventilated emission unit.

241-AZ TANK FARM

Emission Unit Information

Stack Height: 5.00 ft. 1.52 m. Stack Diameter 1.13 ft. 0.34 m.

Average Stack Effluent Temperature: 55 degrees Fahrenheit. 13 degrees Celsius.

Average Stack Exhaust Velocity: 0.25 ft/second. 0.08 m/second.

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
	HEPA	1	Passive Breather 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	Levels below 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha will verify low emissions.	Every 365 days

Sampling Requirements Smear survey on the inside surface of the ducting and downstream of the HEPA filter or on the outside of the screen covering the outlet of the vent.

Additional Requirements

Radial breather filters shall be replaced every 365 days.

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 is a catch tank passive breather filter ventilation system used to support tank farm operations, such as but not limited to waste retrieval and operation support activities for 241-AZ Tank Farm. The tanks stored radioactive waste during transfer operations. Any activity other than temporary storage and normal operation support will be regulated and/or permitted under the appropriate regulations and/or permits for the activity being performed and the emission units associated with the activity. The emission unit is a passive breather filter ventilation system that operates continuously.

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

Project Title	Approval #	Date Approved	NOC_ID
E-525 Double-Shell Tank (DST) Transfer System Modifications Project (Replaced NOC ID 855)		Not Approved	863

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 3.70E-02 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 3.70E-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.
241-AZ-151 CATCH TANK BYPASS

The modification description for the 241-AZ-151 catch tank bypass modification includes the installation of a new RCRA-compliant condensate distribution system for condensate generated from the existing 241-AZ-702 ventilation system. This will involve tapping into existing ventilation headers. This work will be done according to ALARACT 16.1 requirements. This new system will consist of a 1200 gallon capacity catch tank (241-AZ-301), secondary containment, piping, pumps, and controls. The system is designed to collect condensate at rate of 0.29 gallons per minute (154,424 gallons per year). The tank will be emptied every 2 to 3 days. At that time, the condensate will be pumped back to one of the 241-AY or 241-AZ tanks at a rate of 4 to 5 gallons per minute. Condensate accumulation is currently estimated at between 6000 to 8000 gallons per month- 72,000 to 96,000 gallons per year.

The new 241-AZ-301 tank and system will be located outside the northeast corner of building 241-AZ-702. Most of the secondary containment structure will be located below grade (except for the cover that will be located above grade) to provide operator access and remote valve operation. A HEPA filter will also be installed above grade. This filter will be connected to 241-AZ-301 tank and will be used as the vent for the 241-AZ-301 tank.

The lower level of the fabricated tank system will contain the receiver tank for the condensate coming from the AZ-PC-SP-1 seal pot via line AZ-503. Other components housed in the lower level will include the sump, sump suction line, tank suction piping, tank return piping, tank vent lines, instrument access risers, leak detection, and freeze protection, as required.

The upper level of the fabricated tank system will contain the distribution pumps, valves, instrumentation, and controls. Operator access will be provided as required (e.g., access ladder, door in system cover, mid-level grating to support operator). Distribution valves will be located to provide the ability to use remote valve actuators. Freeze protection for the piping, pumps, and valves will be used as required.

The AZ-PC-SP-1 seal pot is located in the 241-AZ-702 building and this seal pot serves as a collection point for condensate originating from the 241-AZ-702 ventilation system. The 241-AZ-702 ventilation system provides primary tank ventilation for the 241-AY and 241-AZ DSTs. The existing 241-AZ-151 catch tank would be isolated in a separate effort to support other commitments.

Currently there are two drain paths into the 241-AZ-151 catch tank that will remain active after June 30, 2005. Those two drain paths are the condensate from the 241-AZ-702 facility and the 241-AZ-801A floor drain. The 241-AZ-702 condensate drain line will be rerouted to the 241-AY tanks and also to the 241-AZ tanks. In addition, the 241-AZ-801A floor drain will be isolated. In addition to the installation of a drain line to AZ-102, a new jumper will be installed in the 241-AZ-02A pit. This work will be accomplished under ALARACT 4.1,6.1,14.1 and 15.1.

204-AR TRANSFER LINE MODIFICATION

The 204-AR Waste Unloading Facility will continue to be in operation after June 30, 2005. Waste transfer line LIQW-702 will be modified to extend the transfer line encasement through the pit wall. This pipe is buried approximately three and a half feet below grade, so the excavated area will be approximately 10' x 10' x 6'. A portion of the slab under an old laundry facility and a section of the asphalt surface adjacent to the doorstep of the facility will require demolition for access.

The new encasement section will be open-ended, upstream of the exterior wall seal plate. The obsolete air purge connection to the existing encasement pipe will be removed.

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

Ac - 227	4.70E-03
----------	----------

		Am - 241	7.76E+02	Am - 243	4.29E-02
Ba - 137 m	1.41E+06	C - 14	5.77E+00	Cd - 113 m	1.76E+02
Cm - 242	7.44E+00	Cm - 243	1.93E-01	Cm - 244	2.63E+00
Co - 60	1.07E+02	Cs - 134	3.32E+00	Cs - 137	1.49E+06
Eu - 152	8.21E+00	Eu - 154	6.09E+02	Eu - 155	7.03E+02
H - 3	8.16E+02	I - 129	1.12E+00	Nb - 93 m	2.04E+01
Ni - 59	1.82E+00	Ni - 63	1.73E+02	Np - 237	9.02E-01
Pa - 231	1.19E-02	Pu - 238	6.19E+00	Pu - 239	1.07E+02
Pu - 240	2.26E+01	Pu - 241	3.89E+02	Pu - 242	2.37E-03
Ra - 226	4.36E-04	Ra - 228	1.98E-01	Ru - 106	1.49E-04
Sb - 125	8.20E+01	Se - 79	2.06E+01	Sm - 151	3.25E+04
Sn - 126	6.86E+00	Sr - 90	1.68E+05	Tc - 99	1.34E+03
Th - 229	7.22E-03	Th - 232	3.26E-02	U - 232	4.66E-01
U - 233	1.91E+00	U - 234	2.57E-01	U - 235	5.90E-02
U - 236	1.05E-01	U - 238	1.13E+00	Y - 90	1.67E+05
Zr - 93	2.16E+01				

**STATE OF WASHINGTON
DEPARTMENT OF HEALTH
ENVIRONMENTAL HEALTH PROGRAMS
OFFICE OF RADIATION PROTECTION**

In Re The Approval of:

**E-525 Double-Shell Tank (DST) Transfer System
Modifications Project (Replaced NOC ID 855)
(EU 486 & 751)**

Docket No:

REQUEST FOR ADJUDICATIVE PROCEEDING

NOC ID: **863**

Approval No: **AIR 12-814**

THE STATE OF WASHINGTON TO:

**Mr. Scott Samuelson, Manager
United States Department of Energy
Office of River Protection
P.O. Box 450, MSIN: H6-60
Richland, Washington 99352-0450**

If you wish to request an adjudicative proceeding, you or your attorney must COMPLETE AND FILE THIS FORM OR A DOCUMENT PROVIDING SUBSTANTIALLY THE SAME INFORMATION WITH THE DEPARTMENT OF HEALTH ADJUDICATIVE SERVICE UNIT WITHIN TWENTY-EIGHT (28) DAYS OF YOUR RECEIPT of this Request for Adjudicative Proceeding form and a copy of the Office of Radiation Protection's approval, **AIR 12-814**.

You must file your application in a manner that shows proof of service on the Adjudicative Service Unit, at the following address:

Department of Health
Adjudicative Service Unit
310 Israel Road S.E.
P.O. Box 47879
Olympia, WA 98504-7879

With your application, you must include a copy of the Office of Radiation Protection's approval.

FILING SHALL NOT BE DEEMED COMPLETE UNTIL THE ADJUDICATIVE SERVICE UNIT ACTUALLY RECEIVES YOUR APPLICATION.

YOU HAVE THE RIGHT TO a formal hearing in this matter conducted pursuant to Revised Code of Washington (RCW) 43.70.115, Chapter 34.05 RCW, and Chapter 246-10 of the Washington Administrative Code (WAC). Alternatively, you may waive the formal hearing and submit a written statement and supporting documents setting out your position, your defenses, and any mitigating circumstances that you wish to bring to the Department's attention.

You have the right to be represented by an attorney at your own expense.

I.

I **WILL BE** represented by an attorney. His/her name, address, and phone number are:

Name:

Address:

Phone:

I **WILL NOT BE** represented by an attorney.

If after submitting this request, you obtain attorney representation or change attorneys, you must notify the Adjudicative Service Unit.

II.

I **DO NOT** waive my right to a formal hearing.

I **DO** waive my right to a formal hearing. I understand that if I waive my right to a formal hearing, the Department may decide this matter solely with reference to information in the Department's possession and to such written statements and supporting documents as I may have submitted.

If you choose to waive your right to a formal hearing, please complete the following:

I **AM NOT** submitting documents to the Department in support of my position.

I **AM** submitting a sworn statement and/or other documents to the Department in support of my position. Instructions - Please indicate your responses below:

If you are submitting documents to the Department, please list and briefly identify all such documents in the space provided below and on any additional sheet that may be necessary.

III.

ADMISSION/DENIAL OF CONDITIONS OR LIMITATIONS

The Office of Radiation Protection's approval **AIR 12-814**, dated **August 29, 2012**, contains conditions and limitations set out as numbered paragraphs. In the space below you must indicate, in good faith, whether you admit, or do not contest, or deny the conditions or limitations. Conditions or limitations denied or not contested may later be admitted. Conditions or limitations admitted or not contested shall be conclusively deemed true for further proceedings.

Instructions: I admit, deny, or do not contest the conditions or limitations as follows
(fill in the appropriate paragraph number):

	<u>Admit</u>	<u>Deny</u>	<u>Do Not Contest</u>
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]
Paragraph _____	[]	[]	[]

Please attach any additional sheets that may be necessary to respond to all allegations.

If you have chosen not to waive your rights to a formal hearing, please state all grounds for contesting this matter in the space provided below and on any additional sheets that may be necessary.

IV.

You have the right to an interpreter, appointed at no cost, if you are a hearing impaired person or limited English speaking person. If any witness for you is a hearing impaired person or a limited English speaking person, an interpreter will be appointed at your expense.

I [DO] / [DO NOT] (circle one) request an interpreter be appointed. If an interpreter is requested, please indicate the person or persons for whom an interpreter is required and their primary language, and/or whether they are hearing impaired.

IF YOU FAIL TO FILE YOUR APPLICATION IN A TIMELY MANNER, OR IF YOU FILE YOUR APPLICATION TIMELY BUT FAIL TO APPEAR AT ANY SCHEDULED SETTLEMENT CONFERENCE, PREHEARING CONFERENCE, OR HEARING WITHOUT LEAVE TO DO SO, THE DEPARTMENT MAY DECIDE THIS MATTER WITHOUT YOUR PARTICIPATION AND WITHOUT FURTHER NOTICE TO YOU.

DATED this _____ day of _____, _____

Party

Party's Representative (if any)

WSBA #: _____