



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

JUN 03 2011

11-AMCP-0151

Mr. P. J. Martell, Manager
Radioactive Air Emissions Section
State of Washington
Department of Health
309 Bradley Boulevard, Suite 201
Richland, Washington 99352

Dear Mr Martell:

COMPLIANCE PLAN FOR WASTE RECEIVING AND PROCESSING FACILITY (WRAP)
OPERATIONS AND AS LOW AS REASONABLY ACHIEVABLE CONTROL
TECHNOLOGY (ALARACT) DEMONSTRATION FOR WRAP VENTED CONTAINER
FUGITIVE EMISSIONS

The purpose of this letter is to transmit a Compliance Plan and ALARACT Demonstration for WRAP as requested by the State of Washington Department of Health on April 25, 2011. These address a self-identified issue with the tracking of potential airborne releases. The Compliance Plan and ALARACT Demonstration provide a path forward for continued receipt and handling of waste containers at WRAP and will remain in effect until a revised WRAP Notice of Construction application is approved. The Compliance Plan and ALARACT Demonstration are being submitted to the State of Washington Department of Health consistent with their authority to administer and enforce the state radioactive air emissions regulations.

If there are any questions, please contact me, or your staff may contact Larry Romine, of my staff, on (509) 376-4747.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan A. Dowell".

Jonathan A. Dowell, Assistant Manager
for the Central Plateau

AMCP:MSC

Attachments

cc: See Page 2

Mr. P. J. Martell
11-AMCP-0151

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cc w/attachs:

R. H. Anderson, MSA
J. A. Bates, CHPRC
G. Bohnee, NPT
L. Buck, Wanapum
D. A. Faulk, EPA
D. L. Flyckt, CHPRC
S. Harris, CTUIR
J. A. Hedges, Ecology
R. Jim, YN
S. L. Leckband, HAB
K. Niles, ODOE
D. J. Rokkan, MSA
D. Rowland, YN
F. M. Simmons, CHPRC
L.C. Tuott, CHPRC
D. Zhen, EPA
Administrative Record
Environmental Portal

COMPLIANCE PLAN FOR WASTE RECEIVING AND PROCESSING FACILITY (WRAP) OPERATIONS

This compliance plan will be implemented by the U.S. Department of Energy Richland Operations Office until the State of Washington Department of Health (DOH) has approved and issued a modified Waste Receiving and Processing Facility (WRAP) license (EU-486 200 Area Diffuse/Fugitive for WRAP Operations) to account for changes in the amount of alpha emitting content to beta/gamma emitting content in waste received and handled at the WRAP Facility. The changes are due to receipt of larger amounts of cleanup waste from alpha-source contaminated facilities.

The compliance plan for WRAP Facility operations is as follows:

- Operate to the As Low as Reasonably Achievable Control Technology (ALARACT) Demonstration for WRAP Vented Container Fugitive Emissions provided to DOH during our meeting on April 25, 2011.
- Submit a modification to DOE/RL-2000-34, Revision 0, Radioactive Air Emissions Notice of Construction Application for the Waste Receiving and Processing Facility, by July 29, 2011. This modification will incorporate entirely the latest revision of the Headspace Gas Sampling Analysis Facility MO-444 Notice of Construction (NOC), to address the updated possession quantity characteristics reflected in the WRAP NOC modification.
- Maintain a monthly log of fugitive emission parameters for EU-486 200 Area Diffuse/Fugitive for WRAP Operations at the WRAP Facility that includes the following:
 - Number of containers on hand and received at the WRAP Facility for the month logged.
 - Calculated CY-to-date possession quantity of total alpha as Am-241.
 - Calculated unabated CY-to-date dose (Total Effective Dose Equivalent (TEDE) to the Maximally Exposed Individual (MEI)), based on total curies of alpha on hand plus total curies of alpha received at the facility, calculated as follows:
(Total Alpha Ci) X (2 E-09 release fraction) X (4.73 mrem/yr unit Ci factor) = Calculated Unabated CY-to-date total alpha dose TEDE to the MEI.
 - Calculated CY-to-date possession quantity of total beta/gamma as Sr-90.
 - Calculated unabated CY-to-date dose (TEDE to the MEI), based on total curies of beta/gamma on hand plus total curies of alpha received at the facility, calculated as follows:
(Total beta/gamma Ci) X (2 E-09 release fraction) X (0.158 mrem/yr unit Ci factor) = Calculated CY-to-date total beta/gamma dose TEDE to the MEI.
 - Total Sum of calculated CY-to-date Unabated Dose, comprised of total alpha unabated CY-to-date dose plus total beta/gamma unabated CY-to-date dose. Also include the combined CY-to-date possession quantity values for total alpha and total beta/gamma.
- Headspace Gas Sampling at MO-444 under Emission Unit #1183 will maintain compliance as follows:
 - Although no limits or set points have been exceeded to date, accounting for the increased curie throughput at the WRAP Facility results in an increase in container headspace concentration thereby limiting the number of samples taken.
 - Allowing for the increased headspace concentrations, the headspace gas samples will be limited to 2430 samples/yr instead of the 7800 samples/yr approved in the current license.
 - This will maintain potential and actual emissions below existing limits in EU #1183 license.

**AS LOW AS REASONABLY ACHIEVABLE CONTROL TECHNOLOGY (ALARACT)
DEMONSTRATION FOR WASTE RECEIVING AND
PROCESSING FACILITY (WRAP) VENTED CONTAINER
FUGITIVE EMISSIONS**

1. Description of Activity/Requirements

This ALARACT Demonstration provides coverage for the WRAP Facility to continue receipt of vented containers in support of the existing license (EU-486 200 Area Diffuse/Fugitive for WRAP Operations). This ALARACT Demonstration is required due to new information that indicates a higher number of curies/container is being shipped to the WRAP Facility from other locations on the Hanford Site. This ALARACT Demonstration will be replaced with a modified NOC application which will update the estimated potential release rates for fugitive emissions at the WRAP Facility, and resultant dose to the Maximally Exposed Individual. Operations described under the existing license will not change.

The alpha curies managed/yr will be increased from 17,062 Ci/yr to 82,000 Ci/yr and the beta/gamma curies will be increased from 255,937 Ci/yr to 500,000 Ci/yr to accommodate the vented containers stored in 2404-WA and vented containers received from other locations on the Hanford Site. This will result in an increase of unabated total effective dose estimate (TEDE) from 5.88E-04 mrem/yr to 9.34E-04 mrem/yr using the current dose factors from DOE/RL-2006-29, Revision 1, Table 4.8:

Am-241 + Progeny	4.73 mrem/Ci per year
Sr-90 + Progeny	0.158 mrem/Ci per year

Continued handling methods and abatement technology for the vented containers will be per the existing Notice of Construction license.

2. Radiological Controls

Each of the vented containers is vented with a Nucfil™ filter.

The approved release fraction through these filters is 2 E-09 per curie per year.

All alpha curies are conservatively represented by Am-241 + Progeny.

All beta/gamma curies are conservatively represented by Sr-90 + Progeny.

3. Monitoring

No additional monitoring will be done for the fugitive emissions. Emissions are calculated based on the following equation:

Dose = (curies) X (approved release fraction) X (dose factor).

Alpha and beta/gamma curie possession quantity in the WRAP Facility fugitive area will be tracked monthly.

4. Records/Documentation

A monthly log of curie possession quantity and estimated potential for release will be maintained at the WRAP Facility.

5. Emission Pathway

Emissions are fugitive from vented containers.

6. Facility Description

The WRAP Facility is located in the 200 West Area.