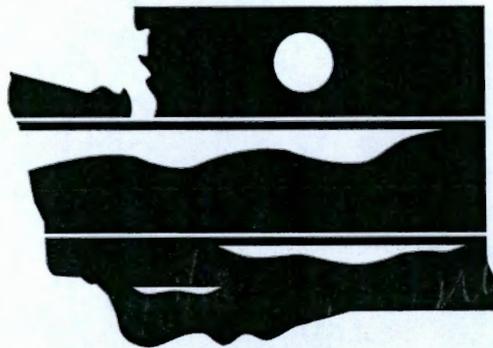


**Proposed permit for air quality standards and equipment
changes in Hanford's AY and AZ tank farms**

Responsiveness Summary



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

RECEIVED
MAY 15 4-6 2008

EDMC

Department of Ecology
Nuclear Waste Program
3100 Port of Benton Blvd.
Richland, WA 99354

May 7, 2008

Publication Number: 08-05-008

RESPONSIVENESS SUMMARY

Prepared by:

Doug Hendrickson, P.E.

Washington State Department of Ecology

Nuclear Waste Program

May 7, 2008

Publication Number: 08-05-008

If you need this publication in an alternate format, please call the Nuclear Waste Program at 509-372-7950. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Introduction

The Washington State Department of Ecology encouraged the public to comment on the proposed modification of an air permit for Hanford's 241-AY and 241-AZ Tank Farm operations during a public comment period from April 1 through April 30, 2008.

The proposed action was to modify Order 94-07 to address changes in emissions and equipment. Emission changes required that we identify standards and limitations for newly identified or anticipated pollutants from the operations.

This responsiveness summary addresses comments received during the public comment period. We received four comments from the public and permittee on the proposed permit approval. They commented upon the following issues:

- Control of radioiodine
- Ventilation rates and respective emission estimates
- Proposed ammonia emission limitations
- Proposed screening standards for carbonyl sulfide.

Responsiveness Summary

1. **Comment:** Please continue to extract even minute amounts of radioactive iodine. I have a personal friend who is living with thyroid disease, she lived "down wind" in the town of Pomeroy WA. This legacy of poison goes back 70 years and we must use the best science and technology to capture and contain all we can! , no amount vented into our breathing air is acceptable.

You well know this situation our government has created must be dealt with not just for 70 years, or the age of the pyramids, or the end of the last ice age, but from the time of the cave man till now 100,000 years. Please spend the money no matter how small the toxin captured. Good luck with your heroic mission. Thanks for listening.

Response: Ecology offers the following. The proposed removal of the carbon adsorber from the off-gas treatment train for the 241-AY and 241-AZ tank farms is subject to two standards of approval. The relevant standard of approval for this comment period is derived from the definition of "Best available control technology for toxics" (T-BACT) as provided in Washington Administrative Code (WAC) 173-460-020. This definition does take into account both the impact of pollutant increases and the cost of control. The applicant has demonstrated that increases in toxic air pollutants resulting from the removal of this costly equipment does not approach acceptable source impact levels and that no discernable benefit in toxic impact is accrued in continued operation of the carbon adsorber.

The second standard of approval deals with your comment regarding emission of radioiodine. Radioiodine emissions and dose impact to the public are regulated under WAC 246-247 and the issued License FF-01 by the Washington Department of Health. This license is incorporated in the Hanford Site Air Operating Permit (AOP) 00-05-006

(http://www.ecy.wa.gov/programs/nwp/pdf/aop/Revision%20C/AOP_00-05-006Renewal_1_Rev_C_Attachment2_112007.pdf). The 241-AY and 241-AZ radiological

emissions are regulated with emission unit specific conditions as Emission Unit ID 93 within License FF-01. These conditions presently require the operation of a high efficiency gas adsorber (HEGA). The Department of Energy must continue to operate the HEGA to remain in compliance with License FF-01 and AOP 00-05-006. If the Department of Energy wants to remove the HEGA, it must submit a revision request to the Department of Health for a change to the conditions. The Department of Health will only approve the request if it determines the change will keep doses within allowable standards.

2. **Comment:** . . . we would like to change the maximum exhauster flow rate to 1,000 cfm as described in the NOC. In 1999 a flow rate change from 800 cfm to 1000 was approved for this system. The nominal flow rate is somewhere between 800-1,000 cfm but must be allowed to go as high as 1,000 cfm to accommodate cooling and maintain differential pressure values, particularly when the mixer pumps are operating. (I am faxing you a copy of the approval (Rev 2) signed by Jerry Hensley. As a side note, I believe that our current revision must be rev 3.)

Response: Ecology agrees. The commenter provided a copy of a permit modification approved in 1999 by Ecology at the request of the permittee. Unfortunately this permit modification had not previously been stored in Ecology records. The approval at that time was consistent with efforts to streamline modifications which did not exceed either toxic air pollutant small quantity emission rate thresholds of WAC 173-460-080 or criteria air pollutant exemption thresholds of WAC 173-400-110(5)(d).

Volatile organic compound (VOC) emissions under the Order were in terms of concentrations rather than a specific periodic mass rate. The approved modification identified ventilation rates of 1,000 cubic feet per minute (cfm). Because of the approval to increase ventilation rate, VOC mass rate increases were inherently approved. The VOC emission increase resulting from this approval was approximately 0.035 pounds per hour (lb/hr), approximately 7.7% of the permitting exemption threshold of WAC 173-400-110(5)(d).

The Order, as issued Revision 3, recognizes the 1999 Revision 2 modifications including approval of ventilation rates of 1,000 cfm and VOC emissions of 0.175 lb/hr.

3. **Comment:** . . .the NOC application estimated Ammonia emissions at 0.34 ug/m^3 , and although this is conservative, there still may be some +/- to the estimate. To avoid potential non-compliance and/or additional revisions due to statistical uncertainties, we would like to request that the limit be tied more to the regulatory limits established in WAC 173-460. Is it possible to use the ASIL value of 100 ug/m^3 or alternatively, the SQER value of 2.0 lbs hr as a limit and demonstration of compliance in accordance with WAC 173-460-080(2)(e) and (3) Demonstrating ambient impact compliance?

Response: Ecology offers the following. The applicant's Notice of Construction (NOC) of January 23, 2008, contains information relevant to this comment. Section 3 of the NOC stated "...an amendment is requested to encompass anticipated operating emission increases." Section 8.4 of the NOC further stated "The calculated ammonia emissions resulted in 3,000 lbs per year."

The Order, as issued Revision 3, approves the anticipated operating emission increases of ammonia to 3,000 pounds per year. Ecology has not received a permit modification request which would exceed approvals requested by the applicant and is not issuing permit modifications to that effect at this time.

4. **Comment:** . . . should the screening level for Carbonyl Sulfide perhaps be 19 instead of 10?

Response: Ecology offers the following. Ecology understands that the applicant expresses that there are differences in permit-specific screening standards and wishes to apply a standard which is present in Order DE05NWP-002, Revision 2, related to Hanford Single-Shell Tank waste retrieval operations.

Toxicology studies and standards change with time through research. At the time that the United States Department of Energy (USDOE) requested revision of Order DE05NWP-002, in 2005, the prevailing toxicology standard for carbonyl sulfide exposure was derived from Bouwes, N. and Hassur, S., *Toxics Release Inventory Relative Risk-Based Environmental Indicators: Interim Toxicity Weighting Summary Document*. Economics, Exposure and Technology Division Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency. 401 M St., SW Washington, D.C. 20460. June 1997. (<http://www.epa.gov/oppt/rsei/docs/toxwght97.pdf>).

The screening standard derived from this Bouwes and Hassur reference was established as 19 $\mu\text{g}/\text{m}^3$ in Revision 1 to Order DE05NWP-002 on October 12, 2005, with the following screening level for carbonyl sulfide:

Excerpt of Table 1 from Order DE05NWP-002, Revision 1			
Toxic Air Pollutant	Chemical Abstracts Service #	Screening Level [$\mu\text{g}/\text{m}^3$]	Basis for Screening Level (S.L.)
Carbonyl Sulfide	463-58-1	19 (24-hr average)	<p>Applying, under WAC 173-460-110(3)(a), Toxics release toxicity data of this material with RfD of 5.5 $\mu\text{g}/\text{Kg}\cdot\text{day}$, for average adult of 70 Kg weight and inhaled air of 20 m^3, results in a value of:</p> $S.L. = \frac{5.5 \mu\text{g}}{\text{Kg} \cdot \text{day}} \cdot \frac{\text{day}}{20 \text{m}^3 \text{ air}} \cdot 70 \text{ Kg} = \frac{19.3 \mu\text{g}}{\text{m}^3} \text{ (24 hr average)}$ <p>Assessment rounded to two significant digits.</p>

On May 15, 2007, the USDOE requested further revision of Order DE05NWP-002. The USDOE did not request any modification of permit conditions relative to carbonyl sulfide. As no modification relative to that permit condition existed, Ecology was not authorized to review the permit-based screening standard by WAC 173-460-040(1)(c). Revision 2 of Order DE05NWP-002, issued on July 31, 2007, did not change this carbonyl sulfide screening level of 19 $\mu\text{g}/\text{m}^3$.

On May 16, 2007, the USDOE requested revision of Order DE05NWP-001, pertaining to emissions from the 214-AN and 241-AW tank farms. The USDOE revision request identified carbonyl sulfide as a new pollutant from these sources and was thus subject to review under WAC 173-460-040(1)(c). Toxicology review at that time resulted in the determination that appropriate exposure and screening standards were reflected in published values from the California Office of Environmental Health Hazard Assessment (OEHHA) Chronic Reference Exposure Levels (http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html).

This Revision 1 to Order DE05NWP-001 was discussed in Ecology publication 07-05-005 (<http://www.ecy.wa.gov/biblio/0705005.pdf>) with the determination that screening level for carbonyl sulfide from 241-AN and 241-AW operations be established as 10 µg/m³.

Excerpt of Table 1 from Order DE05NWP-001, Revision 1

Toxic Air Pollutant	Chemical Abstracts Service #	Screening Level [µg/m ³]	Basis for Screening Level (S.L.)
Carbonyl Sulfide	463-58-1	10 (24-hr average)	Based upon carbonyl sulfide metabolism to hydrogen sulfide and carbon dioxide, the chronic reference exposure level (REL) of hydrogen sulfide is established as the basis for exposure to carbonyl sulfide: $S.L. = REL_{H_2S} = \frac{10 \mu g}{m^3} \text{ (24 hr average)}$

Although ongoing development of revisions to WAC 173-460 may lead to the elimination of carbonyl sulfide from the list of toxins in Washington's toxic air pollutant regulations, it remains identified as a toxic air pollutant under WAC 173-460-160. Ecology assessment of toxicity data for carbonyl continues to support an appropriate screening level for this pollutant be that of 10 µg/m³ as proposed in this revision to Order 94-07. The issued Order establishes the carbonyl sulfide screening level as 10 µg/m³.

Summary of Public Involvement Actions

We mailed a focus sheet (legal notice) to approximately 900 highly interested members of the public. We sent an email to the Hanford Listserv to announce the comment period and direct readers to the Ecology website for more information. We placed a notice of the comment period in the Ecology events calendar. We placed a legal classified advertisement in the Tri-City Herald to announce the comment period. The advertisement ran on March 30, 2008. We sent the proposed permits and focus sheet to the Hanford Information Repositories. We also announced the comment period in a number of meetings with regional stakeholders. We did not schedule a public hearing, nor did we receive any request to do so.

Attachments

Comments Received

Bigas

CH2M and faxed permit mod

Public Announcement Classified Ad

Focus Sheet

Hanford-Info Listserv Notice

Copy of issued Permit Modification

April 14, 2008

Dear Douglas Henderson:

Please continue to extract even minute amounts of radioactive Iodine. I have a personal friend who is living with thyroid disease, she lived "down wind" in the town of Pomroy Wa. This legacy of poison goes back 70 years and we must use the best science and technology to capture and contain all we can!, no amount vented into our breathing air is acceptable.

You will know this situation our government has created must be dealt with not just for 70 years, or the age of the pyramids, or the end of the last ice age, but from the time of the cave man till now 100,000 years. Please spend the money no matter how small the toxin captured. Good luck with your heroic mission. Thanks for listening:

Jan & Pam Beggs

2754 NE 89th ST

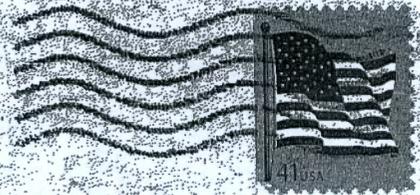
SEA WA. 98115-3460

206 523 5094

JOHN & PAM BIGAS
2754 NE 89TH ST
SEA. WA. 98115-3460

SEATTLE WA 981

14 APR 2008 PM 1 T



Douglas Hendrickson, P. E.
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Blvd.
Richland, Wa. 99354

RECEIVED

APR 17 2008

Department of Ecology
NWP - Richland

99354+1670



Unknown

From: Penn, Lucinda L [Lucinda_L_Penn@RL.gov]
Sent: Thursday, March 27, 2008 1:17 PM
To: Hendrickson, Douglas (ECY)
Cc: Penn, Lucinda L; Faust, Toni L
Subject: 94-07 Rev 2 Draft

Doug,

Thank you for giving us the opportunity to review the draft conditions for this NOC revision. As usual, my hat is off to you for your thorough analysis of the material and concise terms of approval.

I would like to request consideration for a couple of possible changes.

First we would like to change the maximum exhauster flow rate to 1,000 cfm as described in the NOC. In 1999 a flow rate change from 800 cfm to 1000 was approved for this system. The nominal flow rate is somewhere between 800-1,000 cfm but must be allowed to go as high as 1,000 cfm to accommodate cooling and maintain differential pressure values, particularly when the mixer pumps are operating. (I am faxing you a copy of the approval (Rev 2) signed by Jerry Hensley. As a side note, I believe that our current revision must be rev 3.)

Secondly, the NOC application estimated Ammonia emissions at 0.34 ug/m³, and although this is conservative, there still may be some +/- to the estimate. To avoid potential non-compliance and/or additional revisions due to statistical uncertainties, we would like to request that the limit be tied more to the regulatory limits established in WAC 173-460. Is it possible to use the ASIL value of 100 ug/m³ or alternatively, the SQER value of 2.0 lbs hr as a limit and demonstration of compliance in accordance with WAC 173-460-080(2) (e) and (3) *Demonstrating ambient impact compliance?*

Last, should the screening level for Carbonyl Sulfide perhaps be 19 instead of 10?

Thank you for your time.

Lucinda Penn
(509)373-1050

Mr. M. Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
Post Office Box 47600
Olympia, Washington 98504

Dear Mr. Wilson:

**REQUEST FOR APPROVAL OF MODIFICATION TO THE NOTICE OF
CONSTRUCTION AND APPROVAL ORDER FOR THE VENTILATION
UPGRADES, 241-AY AND 241-AZ**

Attached for your approval are the modifications to the notice of construction (NOC) application and approval order for the ventilation upgrades, 241-AY and 241-AZ. The mixer pumps were previously installed under this NOC and approval order and have been hand turned since installation. This modification revises the dates for powered mixer pump operations. These modifications to the NOC and approval order replace the modifications sent by U.S. Department of Energy Letter 00-OSS-103, dated October 20, 1999.

Should you have any questions regarding this matter, please contact Mr. D. J. Bowser, Office of River Protection, on (509) 373-2566 or Mr. P. J. Krupin, of my staff, on (509) 372-1112.

Sincerely,

Steven H. Wisness, Director
Office of site Services

Enclosure

cc w/encl:

J. R. Wilkinson, CTUIR
P. Sobotta, NPT
R. Jim, YN
S. L. Dahl, Ecology
M. P. DeLozier, LMHC
W. T. Dixon, LMHC

20 OCT 2007

Hanford Facility Approval Order Revision Form

<u>Emissions Unit:</u>	<u>NOCA Title and Approval Reference:</u>
241-AY and 241-AZ Tank Farms	Toxic Air Pollutants Notice of Construction Ventilation Upgrades, 241-AY and 241-AZ Tank Farms Revision 2 Approval Order NOC-94-07-01, 12/22/97

NOC Revision 2: This revision is being submitted to address changes to the subject NOC pertaining to the proposed dates of operation, hours of operation, and the exhaust flow rates.

The original NOC indicated that the operations of the mixer pumps would occur during the three year period, 1997-2000. Though the mixer pumps have been installed, operation has not commenced. Therefore, this revision form is being provided to clarify and identify the period of actual mixer pump operations as commencing in FY 2000 and continuing for approximately four years.

The original NOC identified a specific number of mixer pumps operational hours for each year, for a project total of approximately 2,450 hours of operation. This change does not identify a yearly hourly limit for mixer pump operations but retains the total operational limit of 2,450 hours identified in the original NOC.

The original NOC identified a stack exhaust flow rate of 400 scfm when the mixer pumps are not operating and 800 scfm when the mixer pumps are operating. This change identifies those flow rates as approximately 1000 scfm at all times.

DESCRIPTION

1. Modify Section 2.1 of Approval Order 94-07-01 to read:

" Project W-030 installed two systems that will decrease emissions: a recirculating coolant system and a ventilation system. The recirculating coolant system is considered a portion of the process and not a part of the emission control system. Each tank will have a separate recirculating coolant system, as shown in figure 1, which will consist of a recirculating condenser and a moisture separator and will operate at approximately 500 standard cubic feet per minute (scfm). The nominal stack flow is approximately 1000 scfm not to exceed approximately 1050 scfm. During normal operation this flow is approximately equally split among the four tanks. During mixer pump operations, approximately 500 scfm will be drawn from 241-AZ-101 with the remainder being approximately split among the tanks.

The portion of the stream that is to be discharged to the atmosphere will flow through the emissions control system consisting of a condenser, high efficiency mist eliminator, heater, and two high efficiency particulate air (HEPA) filters with a high efficiency gas adsorption (HEGA) unit between the HEPA filters (Figure 1)."

See Page 3 for signatures				
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

200 309

Hanford Facility Approval Order Revision Form

<p><u>Emissions Unit:</u></p> <p>241-AY and 241-AZ Tank Farms</p>	<p><u>NOCA Title and Approval Reference:</u></p> <p>Toxic Air Pollutants Notice of Construction Ventilation Upgrades, 241-AY and 241-AZ Tank Farms Revision 2 Approval Order NOC-94-07-01, 12/22/97</p>
-------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

NOC Revision 2: Continued:

DESCRIPTION

This replaces:

" Project W-030 will install two systems that will decrease emissions: a recirculating coolant system and a ventilation system. The recirculating coolant system is considered a portion of the process and not a part of the emission control system. Each tank will have a separate recirculating coolant system, as shown in figure 1, which will consist of a recirculating condenser and a moisture separator and will operate at approximately 500 standard cubic feet per minute (scfm). Approximately 100 scfm will be split from this stream, prior to recirculation to the tanks, and combined with 100 scfm from each of the other tanks. The combined 400 scfm will be discharged to the atmosphere. When the mixer pumps are operated, the 500 scfm being drawn from 241-AZ-101 will not be recirculated. It will be combined with the 100 scfm from each of the other three tanks for a total discharge of 800 scfm. The remaining flow from the other three tanks will continue to be recirculated back to the tanks.

The portion of the stream that is to be discharged to the atmosphere (400 scfm or 800 scfm) will flow through the emissions control system consisting of a condenser, high efficiency mist eliminator, heater, and two high efficiency particulate air (HEPA) filters with a high efficiency gas adsorption (HEGA) unit between the HEPA filters (Figure 1 of the NOC)."

2. Modify Section 2.3.2 (second to last sentence) to read:

" The average stack temperatures will be approximately 78 degrees F and the exhaust rate will be approximately 1000 scfm."

This replaces: " The average stack temperatures will be approximately 50 degrees F and the exhaust rate will be approximately 400 scfm when the mixer pumps are not in operation, and 800 scfm when they are operated."

3. Modify Section 3.2 of the NOC Approval Order (94-07-01) to read: " The ventilation system will be operated up to 24 hours a day, 365 (or 366) days in a year at approximately 1000 scfm. The mixer pumps may be operated 24 hours a day, 365 (or 366) days a year not to exceed a maximum of 2450 mixer pump run hours total for operations, testing and maintenance."

This replaces: "The ventilation system will be operated 24 hours a day, 365 days a year. During fiscal year 1997, the mixer pumps in Tank 241-AZ-101 will operate 800 mixer pump hours (one hour with one mixer operating) to determine the effectiveness of the mixer pumps for waste retrieval purposes and an additional 336 mixer pump hours over one week for the first wash. During fiscal year 1998, 336 mixer pump hours over one week will be required for the second wash. For retrieval (currently scheduled for fiscal year 1999), 636 mixer pump hours will be required over two weeks. These durations and estimated dates of occurrence are approximate."

<p>See Page 3 for signatures</p>				

20 OCT 1999

Page 3 of 3

Hanford Facility Approval Order Revision Form

<u>Emissions Unit:</u>	<u>NOCA Title and Approval Reference:</u>
241-AY and 241-AZ Tank Farms	Toxic Air Pollutants Notice of Construction Ventilation Upgrades, 241-AY and 241-AZ Tank Farms Revision 2 Approval Order NOC-94-07-01, 12/22/97

NOC Revision 2: Continued:

- 4. Modify Description Paragraph (4) in NOC-94-07 to read: "The proposed air emission systems will be operated approximately 24 hours a day, 365 (or 366) days per year, the mixer pumps may be operated up to 2450 hours for operations including testing and maintenance."

This replaces: " Though the proposed air emission systems will be operated 24 hours per day and 365 days per year, the mixer pumps will be operated up to 1,300 hours in 1997, 400 hours in 1998, and 750 hours in 1999."

No changes are required for Section 7.0 Approval Conditions

Reviewed by Contractor:	Reviewed by ORP:	Approved by Ecology:
<i>[Signature]</i> 10-22-99	<i>[Signature]</i> 10-25-99	<i>[Signature]</i> 10/25/99
<i>[Signature]</i> 10/22/99	<i>[Signature]</i> 10-25-99	
Date	Date	Date

[Handwritten initials]

Classified Legals

SUNDAY, MARCH 30, 2008

TRI-CITY HERALD

F5

located at returnable fee of \$35.00 at Point Drive, the office of Hams Engineering, Inc. 1632 W. Sylvester St., Pasco, WA 99301. Contract documents determined the may be examined at the following locations:

on March 24, Hams Engineering, Inc. 1632 W. Sylvester St. Pasco, WA 99301
 T: 509-547-2679
 F: 509-547-3767

Web: www.hamsengineering.com
 application at Spokane Regional Planning Center

102 E. Boone Ave. Suite 102, PO Box 2968
 Spokane, WA 99202
 T: 509-328-9801
 F: 509-328-7373

Web: www.plancenter.net
 Tri-City Construction Court

20 East Kennewick Avenue, P.O. Box 6025
 Kennewick, WA 99336-6025
 T: 509-582-7424
 F: 582-6815

Web: www.tricityplancenter.com
 Associated Builders and Contractors ABC
 12310 E Mirabeau Parkway
 Spokane Valley, WA 99126
 T: 509-534-0826
 F: 535-9967

Web: www.pcbc.org
 Walla Walla Valley Planning Center
 29 East Sumach, P.O. Box 644
 Walla Walla, WA 99362
 T: 509-525-0850 Ext. 203
 F: 509-522-2038

E-mail: jdawson@wvchamber.com
 Yakima Plan Center
 528 North 20th Avenue
 Yakima, WA 98902
 T: 509-457-4271
 F: 457-0775

Web: www.yakimaplancenter.com
 Bid security. A certified bank cashier's check in the amount of five percent (5%) of the bid amount, payable to Clark Addition Water Association, or bid bond executed by a licensed bonding company is required with each bid.

Rejection of Bids: The Clark Addition Water Association shall have the right to reject any or all bids not accompanied by bid security or a document required by the bidding document or a bid in any way incomplete or irregular.

Clark Addition Water Association is an equal opportunity and affirmative action employer. Small, minority, and women-owned businesses are encouraged to submit bids. All work performed on the project will be subject to the higher of prevailing state or federal Davis-Bacon wage rates. This project is funded in part by a federal grant through the U.S. Department of Housing and Urban Development and the Washington State Community Development Block Grant program.

The bids will be open at 2 P.M. April 10, 2008, at the office of Hams Engineering, Inc. at 1632 W. Sylvester St., Pasco, WA 99301. For more information call Christine Batavola, P.E. at (509) 547-2679 or email

TO BID:
 Water System and Test to 2008 of Project

TRICT #1
 1215 West Lewis Street
 Pasco, WA 99301

INVITATION TO BID

You are invited to bid on a general contract for site preparation and utility connections for five double classroom portables located at different school locations throughout the Pasco School District.

The work will generally consist of grading and leveling of sites, trenching, asphalt and installation of conduit for high voltage applications in preparation for the arrival of communications, fire and security systems, and the classroom units are in place.

The district will accept proposals until 2:00 pm, prevailing time, on Tuesday April 15, 2008, at Building 210, 3412 West Stearman Avenue, Pasco, WA at which time said proposals will be opened.

Interested parties may attend. Proposals should be marked: "PORTABLES 2008" ATTN: KIM MARSH. Bid packages containing plans and specifications can be obtained by contacting the Capital Projects Department (509) 543-6095 and requesting such documents. For additional information and site visits you may call Mr. Kim Marsh, Capital Projects Manager at (509) 543-6095. No bidder may withdraw his/her proposal after the date and time set before.

Award of Proposal unless delayed beyond 45 days. The district reserves the right to accept or reject any or all proposals and waive minor irregularities in its acceptance process.

Public Comment Period Proposed permit for air quality standards and equipment changes in AY and AZ tank farms at Hanford

April 1 through April 30, 2008
 Department of Ecology invites you to comment on a draft approval order for a Notice of Construction. The U.S. Department of Energy Office of River Protection (ORP) wants to change the conditions in the air permit for the AY and AZ tank farms. Permit modifications will address changes in equipment and in emissions.

On April 1, we will start a 30-day public comment period for a Notice of Construction for the ventilation system in the AY and AZ tank farms. The tanks are near the PUREX Plant on the central plateau at Hanford.

Why is the approval order needed? ORP is retrieving waste from single-shell tanks and putting it into the AY and AZ tank farms. This introduces new pollutants and has caused ammonia emissions to rise. Ecology will identify and set standards for the new pollutants. The new standards would allow more ammonia to be released at levels that would still be safe for the public and the environment.

Also ORP wants to stop using and to remove a high-efficiency gas absorber that was installed to capture radiolodine. It believes the wastes do not emit enough iodine to warrant this treatment. Removing this equipment will result in minor increases of toxic air pollutants.

How can you learn more about the draft approval order? The documents related to the approval order are available online at: <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>

You can review the draft at the Department of Ecology Nuclear Waste Program Resource Center in Richland. For a viewing appointment, call 509-372-7920. You can also review the proposal at Hanford's public information repositories, listed below.

Ecology does not plan to hold a public hearing. But if the public expresses interest, we could schedule one. To request a hearing, contact Madeleine Brown, 509-372-7938 or mabr461@ecy.wa.gov

For more information, call the Hanford Cleanup Line at 800-321-2008.

How can you make a comment? Send all comments in writing by Wednesday, April 30, 2008, to: Douglas Handrickson, P.E. Nuclear Waste Program Washington State Department of Ecology 3100 Port of Benton Blvd. Richland, WA 99354 Fax: 509-372-7971 Don461@ecy.wa.gov

HANFORD PUBLIC INFORMATION REPOSITORIES
 Portland State University
 Branford Price Miller Library
 1875 SW Park Ave.
 Attn: Don Frank
 503-725-4132
 Map: <http://www.pdx.edu/map.html>
 Richland
 U.S. Department of Energy
 Reading Room
 Consolidated Information Center Room 101-L
 2770 University Dr.
 Attn: Janice Parthree
 509-372-7443
 Map: <http://tinyurl.com/2axam2>
 Spokane
 Gonzaga University
 Foley Center
 502 E. Boone Ave.
 Attn: Linda Pierce
 509-323-3834
 Map: <http://tinyurl.com/26c6pm>
 Seattle
 University of Washington
 Suzzallo Library
 Government Publications Division
 Attn: Eleanor Chase
 206-543-4664
 Map: <http://tinyurl.com/m8eb>
 12604 3/30

Company: US Linen and Uniform 1106 Harding Street Richland WA 99352
 Nature of Violation, type of pollutant:
 US Linen and Uniform's industrial wastewater permit #CR-IU003 contains a limit for Fats, Oils, and Grease (FOG) derived from the City of Richland Pretreatment Ordinance for the City of Richland. The Pretreatment Ordinance 17-30 contains the following language:
 A. Chronic violations of wastewater discharge limits, defined here as those in excess of which sixty-six percent (66%) or more of the wastewater measurements taken during a six (6) month period exceed the distribution, maximum limit or average substation limit for the same pollutant parameter by any amount, other than a Technical Review Criteria (TRC) violation, needed be defined here as those in calendar year which thirty-three percent (33%) or more of the wastewater measurements service are taken for each pollutant work engineering parameter during a six (6) month period exceed the distribution, maximum limit or the total and average limit multiplied by expertise, the applicable criteria (1.4-cency, sa for BOD, TSS, fats, oils and (including grease and 1.2 for all other irrigation pollutants except PH) (studies).
 US Linen had both chronic experience and technical violations in Bentley V quarters 1, 2, 3, and 4 in Intergraph 2007, placing it in significant non-compliance for the year.
 Nature of Enforcement Action
 US Linen and Uniform was issued a notice of violation on November 14, 2007. The City of Richland is currently working on a compliance order to correct the violations.
 Comments:
 US Linen has been voluntarily studying improved wastewater pretreatment systems during 2007. As of now, no new system is in place to bring them under compliance with the conditions of permit #CR-IU003.
 12597 3/30

REQUIRE STATE QUALIFIC Public Util Washing RCW 39.8 STATEMENT and perform engineerin tural firms vide profi for the Dis become in trict proje the followi Architectu Ing Consul language: an empha ing assista does not i Architec which sixty-six percent for the 2008 C engineering v the design tribution, th maximum limit or average substation District's e parameter by any amount, other a B Technical Review Cr requirem teria (TRC) violations, needed be defined here as those in calendar y which thirty-three percent the service (33%) or more of are the ne wastewater measurements service are taken for each pollutant work engi parameter during a six (6) pre-design month period exceed the distributio exceeds the product of the gotechnic daily maximum limit or the tal and average limit multiplied by expertise, the applicable criteria (1.4-cency, sa for BOD, TSS, fats, oils and (including grease and 1.2 for all other irrigation pollutants except PH) (studies).
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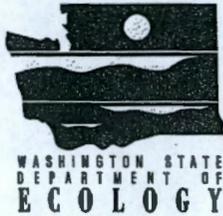
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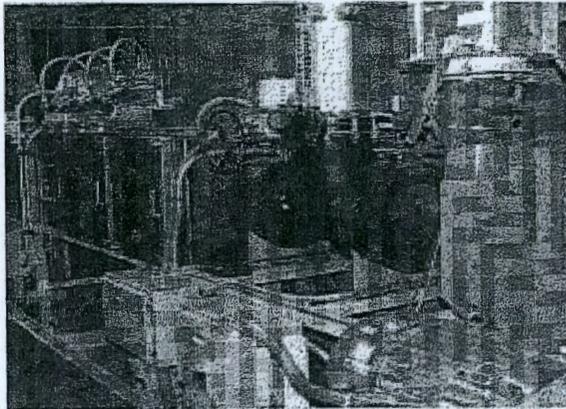


Public Comment Period

Proposed permit for air quality standards and equipment changes in the AY and AZ tank farms at Hanford

April 1 through April 30, 2008

The Washington State Department of Ecology invites you to comment on a draft approval order for a Notice of Construction. The U.S. Department of Energy Office of River Protection (ORP) wants to change the conditions in the air permit for the AY and AZ tank farms. Permit modifications will address changes in equipment and in emissions.



Primary ventilation at AY-AZ tank farms. The equipment in the second cabinet from the right will be removed.

On April 1, we will start a 30-day public comment period for a Notice of Construction for the ventilation system in the AY and AZ tank farms. The tanks are near the PUREX Plant on Hanford's central plateau.

Why is the approval order needed?

ORP is retrieving waste from single-shell tanks and putting it into the AY and AZ tank farms. This introduces new pollutants and has caused ammonia emissions to rise. Ecology will identify and set standards for the new pollutants. The new standards would allow more ammonia to be released at levels that would still be safe for workers, the public, and the environment.

Also ORP wants to stop using and to remove a high-efficiency gas absorber that was installed to capture radioiodine. ORP believes the waste does not emit enough iodine to warrant this treatment. Removing this equipment will result in minor increases of toxic air pollutants.

How can you learn more about the draft approval order?

The documents related to the approval order are available online at: <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>.

You can review the draft at Ecology's Nuclear Waste Program Resource Center in Richland. For a viewing appointment, call 509-372-7920. You can also review the proposal at Hanford's public information repositories, listed below.

Ecology does not plan to hold a public hearing. But if the public expresses interest, one could be scheduled. To request a hearing, contact Madeleine Brown, 509-372-7936 or mabr461@ecy.wa.gov. For more information, call the Hanford Cleanup Line at 800-321-2008.

How can you make a comment?

Send all comments in writing by Wednesday, April 30, 2008, to:

Douglas Hendrickson, P.E.
Nuclear Waste Program
Washington State Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99354
Fax 509-372-7971
Dohe461@ecy.wa.gov

Hanford Information Repositories

Portland

Portland State University
Branford Price Millar Library
1875 SW Park Ave.
Attn: Don Frank 503-725-4132
Map: <http://www.pdx.edu/map.html>

Richland

U.S. Department of Energy Reading Room
Consolidated Information Center, Room 101-L
2770 University Dr.
Attn: Janice Parthree 509-372-7443
Map: <http://tinyurl.com/2axam2>

Spokane

Gonzaga University
Foley Center
502 E. Boone Ave.
Attn: Linda Pierce 509-323-3834
Map: <http://tinyurl.com/2c6bpm>

Seattle

University of Washington
Suzzallo Library
Government Publications Division
Attn: Eleanor Chase 206-543-4664
Map: <http://tinyurl.com/m8ebj>

If you need this publication in an alternate format, please call the Nuclear Waste Program at 509-372-7950. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Public Comment Period

Public Comment Period: April 1 through April 30, 2008
Proposed permit for air quality standards and equipment changes in Hanford's AY and AZ tank farms

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ECOLOG Y
Nuclear Waste Program
3100 Port of Benton Blvd.
Richland, WA 99354



From: Brown, Madeleine (ECY) [mailto:mabr461@ECY.WA.GOV]
Sent: Tuesday, February 26, 2008 2:29 PM
To: HANFORD-INFO@LISTSERV.WA.GOV
Subject: Comment period to start about April 1

This is a message from the Washington State Department of Ecology

Proposed permit for air quality standards and equipment changes in Hanford's AY and AZ tank farms

Public Comment Period: April 1 through April 30, 2008

On April 1, we will start a 30-day public comment period for a Notice of Construction for the ventilation system in the AY and AZ tank farms.

Permit changes are needed to address changes in equipment and changes in emissions.

The needed updates are two-fold. The first change is to identify and set standards for new pollutants which have come from wastes retrieved from single-shell tanks.

Also, ammonia emissions have risen above previously approved rates. The new standards would allow more ammonia to be released, but the level would still be safe for the public and the environment.

The second update is to stop using a filter for iodine, because the tank farms do not emit enough iodine to warrant this treatment.

Ecology does not plan to hold a public hearing, but will consider all requests. If you have further questions, or to request a hearing, please contact Madeleine Brown, 509-372-7936 or mabr461@ecy.wa.gov

You also can get information by calling the Hanford Cleanup Line – 800-321-2008.

**NON-RADIOACTIVE AIR EMISSIONS
NOTICE OF CONSTRUCTION (NOC) 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:

1. The United States Department of Energy proposes to modify their existing facility (Hanford) located in Richland, Washington.
2. Hanford is an existing major stationary source that emits more than 250 tons of a regulated pollutant per year.
3. A NOC application for installation and operation of a new ventilation exhaust system for the 241-AY and 241-AZ tank farms on March 7, 1994.
 - a. The application was approved as Order 94-07 on August 24, 1994.
 - b. Order 94-07 established emission limitations of 0.001 pound per hour (lb/hr) of volatile organic compounds (VOC), 0.05 lb/hr of ammonia, and opacity of five percent as measured by U.S. Environmental Protection Agency (EPA) Method 9 (40 Code of Federal Regulations Part 60, Appendix A).
 - c. Order 94-07 established Best Available Control Technology (BACT) as a condenser, high efficiency mist eliminator (HEME), heater, and two high efficiency particulate air filters (HEPAs) with a high efficiency gas adsorber (HEGA) between the HEPA filters.
4. An NOC application for modification of Order 94-07 was received on August 29, 1997.
 - a. The application requested approval for an increase in maximum VOC emission rate from 0.001 lb/hr to 50 parts per million (ppm).
 - b. VOC emissions of 50 ppm are estimated to be 0.14 lb/hr and 1,230 lb/year (lb/yr) for normal ventilation flows for this project.
 - c. The application requested the use of field analytical instruments for measurement of VOC and ammonia emissions.
 - d. The application was found to be complete and approved as revision 1 of Order 94-07 (94-07-01) on December 22, 1997.
5. An NOC application for modification of Order 94-07 was received on October 25, 1999.
 - a. The application described and requested a ventilation rate increase from 800 standard cubic feet per minute (scfm) to 1,000 scfm.
 - b. The application described dates and duration of anticipated mixer pump operation.

- c. VOC emissions of 50 ppm are estimated to be 0.175 lb/hr and 1,534 (lb/yr) for normal ventilation flows for this project.
 - d. The application was found to be complete and approved as Revision 2 of Order 94-07 on October 25, 1999.
6. An NOC application for modification was received on January 23, 2008.
- a. The proposed modification includes removal of the HEGA, a component of the primary tank ventilation exhaust system for the 241-AY and 241-AZ tank farms.
 - b. The application requested approval for an increase in maximum ammonia emissions from 0.05 lb/hr (440 lb/yr) to 0.34 lb/hr (3,000 lb/yr).
 - c. The proposed modification includes the withdrawal of 10 toxic air pollutants (TAPs) from their approval and the addition of 101 TAPs newly identified or anticipated in the 241-AY and 241-AZ tank farms primary tank ventilation exhaust system.
 - d. The application was found to be complete on February 20, 2008.
7. Emissions of criteria pollutants from the proposed project 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 NOC permitting for all pollutants.
9. Criteria air pollutant emissions from the proposed project are below the *de minimus* levels in WAC 173-400-110(5)(d).
10. Acceptable Source Impact Levels (ASILs) do not exist for the TAPs propionaldehyde, acetophenone, carbonyl sulfide, n-nitrosomorpholine, n-nitrosomethylethylamine, and n-nitrosodi-n-propylamine which the proposed project may emit; therefore Ecology has developed Screening Levels for these pollutants as detailed in Table 1.

Table 1: Development of Screening Levels

Toxic Air Pollutant	Chemical Abstracts Service #	Screening Level [$\mu\text{g}/\text{m}^3$]	Basis for Screening Level (S.L.)
Propionaldehyde	123-38-6	160 (24-hr average)	The current ACGIH Threshold Limit Value (TLV) for this material is 20 ppm (TWA). At 25°C and one atmosphere this TLV is 47,477.6 $\mu\text{g}/\text{m}^3$. Application of WAC 173-460-110(2)(b) divides the TLV by 300 resulting in a value of 158.26 $\mu\text{g}/\text{m}^3$ (24 hr average). Assessment rounded to two significant digits.
Acetophenone	98-86-2	350 (24-hr average)	Applying, under WAC 173-460-110(3)(a), IRIS general toxicity data of this material with RfD of 100 $\mu\text{g}/\text{Kg}\cdot\text{day}$, for average adult of 70 Kg weight and inhaled air of 20 m^3/day , results in a value of: $S.L. = \frac{100 \mu\text{g}}{\text{Kg} \cdot \text{day}} \cdot \frac{\text{day}}{20 \text{m}^3 \text{ air}} \cdot 70 \text{Kg} = \frac{350 \mu\text{g}}{\text{m}^3} \text{ (24 hr average)}$
Carbonyl Sulfide	463-58-1	10 (24-hr average)	Based upon carbonyl sulfide metabolism to hydrogen sulfide and carbon dioxide, the chronic reference exposure level (REL) of hydrogen sulfide is established as the basis for exposure to carbonyl sulfide:

Table 1: Development of Screening Levels

Toxic Air Pollutant	Chemical Abstracts Service #	Screening Level [$\mu\text{g}/\text{m}^3$]	Basis for Screening Level (S.L.)
			$S.L. = REL_{H,S} = \frac{10 \mu\text{g}}{\text{m}^3} \text{ (24 hr average)}$
n-Nitrosomorpholine	59-89-2	5.3E-04 (Annual average)	Unit cancer unit risk factor of $1.90\text{E}-03/\mu\text{g}/\text{m}^3$ with estimated continuous inhalation exposure resulting in excess lifetime cancer risk by 1/1,000,000 results in a value of: $S.L. = \frac{1}{1\text{E} + 06} / \frac{1.9\text{E} - 03 \text{ m}^3}{\mu\text{g}} = \frac{5.263\text{E} - 04 \mu\text{g}}{\text{m}^3} \text{ (Annual average)}$ Assessment rounded to two significant digits.
n-Nitrosomethylethylamine	10595-95-6	1.6E-04 (Annual average)	Unit cancer unit risk factor of $6.3\text{E}-03/\mu\text{g}/\text{m}^3$ with estimated continuous inhalation exposure resulting in excess lifetime cancer risk by 1/1,000,000 results in a value of: $S.L. = \frac{1}{1\text{E} + 06} / \frac{6.3\text{E} - 03 \text{ m}^3}{\mu\text{g}} = \frac{1.587\text{E} - 04 \mu\text{g}}{\text{m}^3} \text{ (Annual average)}$ Assessment rounded to two significant digits.
n-Nitrosodi-n-propylamine	621-64-7	5 E-04 (Annual average)	Unit cancer unit risk factor of $2\text{E}-03/\mu\text{g}/\text{m}^3$ with estimated continuous inhalation exposure resulting in excess lifetime cancer risk by 1/1,000,000 results in a value of: $S.L. = \frac{1}{1\text{E} + 06} / \frac{2\text{E} - 03 \text{ m}^3}{\mu\text{g}} = \frac{5.0\text{E} - 04 \mu\text{g}}{\text{m}^3} \text{ (Annual average)}$ Assessment limited to one significant digit.

References:

- Propionaldehyde: ACGIH 2004, American Conference of Government Industrial Hygienists, 2004 TLVs® and BEIs®, Cincinnati, Ohio.
- Acetophenone: IRIS, Integrated Risk Information System, <http://www.epa.gov/iris/subst/0321.htm>
- Carbonyl Sulfide: California Office of Environmental Health Hazard Assessment (OEHHA), Chronic Reference Exposure Levels (http://www.oehha.ca.gov/air/chronic_rels/AllChrels.html).
- n-Nitrosomorpholine, n-Nitrosomethylethylamine, and n-Nitrosodi-n-propylamine: California Office of Environmental Health Hazard Assessment (OEHHA) Toxicity Criteria Database (TCDB). (<http://www.oehha.ca.gov/risk/ChemicalDB/index.asp>)

11. Dispersion factors for TAPs are found to be $0.05979 \mu\text{g}/\text{m}^3/\text{g/s}$ for TAPs with annual exposure assessment and $1.81318 \mu\text{g}/\text{m}^3/\text{g/s}$ for TAPs with 24 hour exposure assessment.
12. TAPs from the proposed project are below the ASILs of WAC 173-460-150 and WAC 173-460-160 or Screening Levels of Table 1.
13. Toxics Best Available Control Technology (T-BACT) for this project has been determined to be operation of the primary tank ventilation exhausters systems not exceeding 1,000 cubic feet per minute (ft^3/min) with a condenser, HEME, heater, and two-stage HEPA filtration in service in the treatment train.
14. The proposed project, if constructed and operated as herein required, will provide T-BACT.

15. 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.
16. 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 shall be identified as **NOC ORDER 94-07, Revision 3.**

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 at the stack shall not exceed five percent.
- 1.2.2 The primary tank ventilation exhauster system for the 241-AY and 241-AZ double-shell tank (DST) farms shall not exceed daily average flow rates of 1,000 ft³/min (standard temperature and pressure).
- 1.2.3 All TAPs, as submitted in the Permittee's NOC Application (Table 2), shall be below their respective ASIL or Screening Level of Table 1.
- 1.2.4 Emissions of ammonia shall not exceed 0.34 pounds per hour from the primary tank ventilation exhauster system.
- 1.2.5 Emissions of VOCs shall not exceed 0.175 lb/hr from the primary tank ventilation exhauster system.

1.3 Compliance Demonstration

- 1.3.1 Compliance with Approval Condition 1.2.1 shall be met by Tier 3 Visible Emissions Survey requirements of the Hanford Air Operating Permit.
- 1.3.2 Should visible emissions be observed, the excess emissions shall be discontinued by removing the emission unit from service and the Washington Department of Health notified immediately.
- 1.3.3 Compliance with Approval Condition 1.2.2 shall be demonstrated by stack gas flow and temperature measurement.
- 1.3.4 Compliance with Approval Condition 1.2.3 shall be met by operating the exhauster systems only when in accord with T-BACT emission controls found for this project.
- 1.3.5 Compliance with Approval Condition 1.2.4 shall be demonstrated by the conduct of ammonia concentration readings as described in Section 3.0, and applying these concentration readings with contemporaneous stack flow rate and temperatures to determine instantaneous mass release rate of ammonia.
- 1.3.6 Compliance with Approval Condition 1.2.5 shall be demonstrated by the conduct of VOC concentration readings less than or equal to 50 ppm measured as Total Organic Carbon as described in Section 3.0, and applying these concentration readings with contemporaneous stack flow and temperatures to determine instantaneous mass release rate of VOC.

1.4 Manuals

Existing 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 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 RECORDKEEPING AND REPORTING

2.1 Addressing

Any required notifications and submittals required under these Approval Conditions shall be sent to:

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

Any Washington Department of Health notice required under Approval Condition 1.3.2 shall be provided to:

Manager, Richland Office
Washington Department of Health
Radioactive Air Emissions
309 Bradley Boulevard
Richland, Washington 99352
509-946-3798

2.2 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 temperatures records.
3. Semi-annual ammonia and VOC emission monitoring results required in Section 3.0.
4. Supporting data and calculations to demonstrate compliance as detailed in Sections 1.3.5 and 1.3.6.
5. All monitoring and operations records required to operate and maintain the emission control equipment that implements T-BACT as described in Section 1.0.

6. Laboratory analysis result summaries of any samples undertaken after the effective date of this ORDER from 241-AY and 241-AZ tank farm tank headspaces or primary tank ventilation system exhaust which are examined for organic species or other TAPS.

2.3 Reporting

Identification of any TAP not previously identified within the NOC Application emissions estimate shall be submitted to Ecology within 90 days of completion of laboratory analyses which verify emissions of that toxic air pollutant from the project.

Visible emission surveys, conducted pursuant to Compliance Demonstration requirement 1.3.2, shall be submitted to Ecology within 30 days of completion of the survey. An assessment of the cause of visible emissions and a report of the maintenance conducted to maintain the subject exhaust system's T-BACT operations shall also be submitted.

3.0 EMISSION MONITORING

Although all toxic air pollutants from this project are estimated below their ASILs or Screening Levels, the following sampling and monitoring are required in order to verify emissions estimates and compliance with Section 1.3, above.

In order to maintain reasonable assurance of continued compliance with emission limitations from these exhauster systems, semi-annual assessment of ammonia stack emissions will be conducted. A minimum of three samples shall be used to assess these emissions.

Ammonia and VOC sampling and analysis will be in accord with approved alternative sampling procedures including the use of Draeger tubes to measure stack gas concentration of ammonia or VOCs providing such devices are spanned to appropriately measure the stack gas concentration of these pollutants. Stack flow rate and temperature will be applied with the pollutant stack gas concentration to report emission in terms of lb/hr.

4.0 APPROVAL ORDER AND RESTRICTIONS

Operation of the subject primary tank ventilation systems is intended for the storage, treatment, and retrieval of waste contained in the tanks as described in the NOC application. "Storage" and "Retrieval," for the purposes of this Authorization, include routine mixing and pumping as necessary and sufficient for safe waste management, transfer, and disposal.

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

1. Violating 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. 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 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:

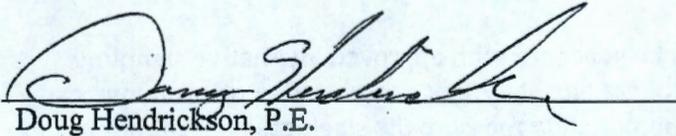
Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7600

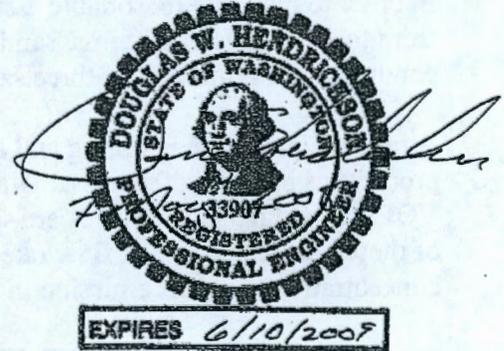
Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington. 99354

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

DATED at Richland, Washington, this 7th day of May 2008.

REVIEWED AND PREPARED BY:


Doug Hendrickson, P.E.



APPROVED BY:

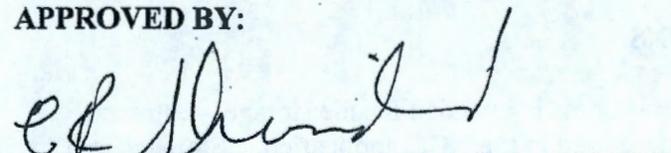

Ron Skinnarland
Waste Management Section Manager
Nuclear Waste Program
Washington State Department of Ecology

Table 2: Toxic Air Pollutants for Order 94-07, Revision 3

Material Data			ASIL/ Screening Level ¹	SQER ²	Emissions Estimate		Emissions Consequence
Chemical Name	CAS ³	Class	µg/m ³	lb/period	lb/hr	lb/yr	µg/m ³
n-Nitrosomethylethylamine	10595-95-6	A	1.60E-04		5.30E-07	4.64E-03	3.99E-09
n-Nitrosomorpholine	59-89-2	A	5.30E-04		8.73E-05	7.65E-01	6.58E-07
n-Nitrosodi-n-propylamine	621-64-7	A	5.00E-04		1.01E-07	8.88E-04	7.64E-10
1,4-Dichlorobenzene	106-46-7	A	1.50E+00	500	1.61E-05	1.41E-01	1.21E-07
1,3-Butadiene	106-99-0	A	3.60E-03	0.5	2.12E-04	1.86E+00	1.60E-06
1,2-Dichloroethane (ethylene chloride)	107-06-2	A	3.80E-02	10	9.34E-05	8.18E-01	7.04E-07
Acrylonitrile	107-13-1	A	1.50E-02	10	1.06E-05	9.31E-02	8.02E-08
Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	A	2.50E+00	500	8.73E-06	7.65E-02	6.58E-08
1,4-Dioxane	123-91-1	A	3.20E-02	10	1.79E-04	1.57E+00	1.35E-06
Perchloroethylene (tetrachloroethylene)	127-18-4	A	1.10E+00	500	1.01E-04	8.83E-01	7.60E-07
Polychlorinated Biphenyls (PCBs)	1336-36-3	A	4.50E-03	0.5	2.66E-05	2.33E-01	2.00E-07
Formaldehyde	50-00-0	A	7.70E-02	20	3.70E-05	3.24E-01	2.79E-07
Carbon tetrachloride	56-23-5	A	6.70E-02	20	4.11E-04	3.60E+00	3.10E-06
n-Nitrosodimethylamine	62-75-9	A	7.10E-05	0	2.38E-04	2.08E+00	1.79E-06
Chloroform	67-66-3	A	4.30E-02	10	3.58E-05	3.13E-01	2.70E-07
Benzene	71-43-2	A	1.20E-01	20	1.56E-04	1.37E+00	1.18E-06
Cadmium	7440-43-9	A	5.60E-04	0	7.22E-06	6.33E-02	5.45E-08
Vinyl chloride	75-01-4	A	1.20E-02	10	4.87E-05	4.26E-01	3.67E-07
Acetaldehyde	75-07-0	A	4.50E-01	50	1.31E-03	1.14E+01	9.85E-06
Dichloromethane (methylene chloride)	75-09-2	A	5.60E-01	50	6.63E-04	5.80E+00	5.00E-06
Trichloroethylene	79-01-6	A	5.90E-01	50	8.03E-05	7.04E-01	6.06E-07
n-Nitrosodi-n-butylamine	924-16-3	A	6.30E-04	0	1.75E-05	1.54E-01	1.32E-07
1,2-Dichloropropane	78-87-5	A	4.00E+00	0.02	4.90E-05	4.29E-01	1.12E-05
p-Nitrochlorobenzene	100-00-5	B	2.00E+00	0.02	9.31E-06	8.15E-02	2.13E-06
Ethyl benzene	100-41-4	B	1.00E+03	5	1.28E-04	1.12E+00	2.94E-05
Styrene	100-42-5	B	1.00E+03	5	2.00E-04	1.75E+00	4.58E-05
Nitric oxide	10102-43-9	B	1.00E+02	2	9.27E-04	8.12E+00	2.12E-04
Phenyl ether	101-84-8	B	2.30E+01	0.2	1.60E-04	1.40E+00	3.66E-05
Ethyl butyl ketone	106-35-4	B	7.80E+02	5	1.01E-03	8.87E+00	2.32E-04
1,2-Epoxybutane	106-88-7	B	2.00E+01	0.2	4.73E-04	4.14E+00	1.08E-04
Butane	106-97-8	B	6.30E+03	5	2.49E-03	2.18E+01	5.69E-04
Acrolein	107-02-8	B	2.00E-02	0.02	2.67E-05	2.34E-01	6.11E-06
Allyl chloride	107-05-1	B	1.00E+00	0.02	2.99E-05	2.62E-01	6.85E-06
Allyl alcohol	107-18-6	B	1.70E+01	0.2	9.01E-06	7.89E-02	2.06E-06
Methyl formate	107-31-3	B	8.20E+02	5	5.88E-05	5.15E-01	1.34E-05
Methyl propyl ketone	107-87-9	B	2.30E+03	5	5.85E-04	5.12E+00	1.34E-04
1-Nitropropane	108-03-2	B	2.00E+01	0.2	1.37E-04	1.20E+00	3.14E-05
Vinyl acetate	108-05-4	B	2.00E+02	2.6	5.24E-06	4.59E-02	1.20E-06

Table 2: Toxic Air Pollutants for Order 94-07, Revision 3

Material Data			ASIL/ Screening Level ¹	SQER ²	Emissions Estimate		Emissions Consequence
Chemical Name	CAS ³	Class	µg/m ³	lb/period	lb/hr	lb/yr	µg/m ³
Methyl isobutyl ketone (MIBK)	108-10-1	B	6.80E+02	5	3.67E-04	3.21E+00	8.38E-05
Isopropyl ether	108-20-3	B	3.50E+03	5	7.68E-04	6.73E+00	1.76E-04
Methylcyclohexane	108-87-2	B	5.40E+03	5	6.23E-04	5.46E+00	1.43E-04
Toluene	108-88-3	B	4.00E+02	5	6.55E-04	5.74E+00	1.50E-04
Chlorobenzene	108-90-7	B	1.50E+02	2.6	3.54E-05	3.10E-01	8.10E-06
Cyclohexanol	108-93-0	B	6.90E+02	5	3.84E-06	3.36E-02	8.78E-07
Cyclohexanone	108-94-1	B	3.30E+02	5	1.79E-04	1.57E+00	4.09E-05
Phenol	108-95-2	B	6.30E+01	1.2	5.49E-04	4.81E+00	1.26E-04
Pentane	109-66-0	B	6.00E+03	5	1.92E-03	1.68E+01	4.39E-04
Tetrahydrofuran	109-99-9	B	2.00E+03	5	1.23E-03	1.08E+01	2.82E-04
Methyl isoamyl ketone	110-12-3	B	7.80E+02	5	1.33E-04	1.17E+00	3.05E-05
Methyl n-amyl ketone	110-43-0	B	7.80E+02	5	3.54E-04	3.11E+00	8.11E-05
Hexane	110-54-3	B	2.00E+02	2.6	9.82E-04	8.61E+00	2.25E-04
n-Valeraldehyde	110-62-3	B	5.90E+02	5	4.62E-04	4.05E+00	1.06E-04
Cyclohexane	110-82-7	B	3.40E+03	5	4.79E-04	4.20E+00	1.10E-04
Cyclohexene	110-83-8	B	3.40E+03	5	1.75E-05	1.53E-01	3.99E-06
Pyridine	110-86-1	B	5.30E+01	0.6	1.48E-04	1.29E+00	3.38E-05
Octane	111-65-9	B	4.70E+03	5	3.63E-04	3.18E+00	8.30E-05
2-Butoxyethanol	111-76-2	B	4.00E+02	5	2.63E-04	2.30E+00	6.01E-05
Nonane	111-84-2	B	3.50E+03	5	2.83E-04	2.48E+00	6.46E-05
1,2,4-Trichlorobenzene	120-82-1	B	1.20E+02	2	7.55E-05	6.61E-01	1.73E-05
Diphenylamine	122-39-4	B	3.30E+01	0.6	6.74E-05	5.91E-01	1.54E-05
Dipropyl ketone	123-19-3	B	7.80E+02	5	3.74E-04	3.28E+00	8.56E-05
Propionaldehyde	123-38-6	B	1.60E+02	0.02	5.75E-04	5.03E+00	1.31E-04
Isoamyl alcohol	123-51-3	B	1.20E+03	5	1.02E-04	8.95E-01	2.34E-05
n-Butyl acetate	123-86-4	B	2.40E+03	5	3.47E-03	3.04E+01	7.94E-04
Tributyl phosphate	126-73-8	B	7.30E+00	0.02	9.49E-04	8.32E+00	2.17E-04
Methylacrylonitrile	126-98-7	B	9.00E+00	0.02	1.92E-04	1.68E+00	4.39E-05
Dimethyl acetamide	127-19-5	B	1.20E+02	2	8.73E-05	7.65E-01	2.00E-05
2,6-Ditert, butyl-p-cresol	128-37-0	B	3.30E+01	0.6	1.03E-03	9.02E+00	2.36E-04
Xylenes (m-,o-,p-isomers)	1330-20-7	B	1.50E+03	5	1.39E-03	1.22E+01	3.18E-04
Ethyl acetate	141-78-6	B	4.80E+03	5	2.77E-02	2.42E+02	6.33E-03
Mesityl oxide	141-79-7	B	2.00E+02	2.6	8.07E-05	7.07E-01	1.84E-05
Heptane (n-Heptane)	142-82-5	B	5.50E+03	5	7.49E-04	6.56E+00	1.71E-04
Cyclopentane	287-92-3	B	5.70E+03	5	3.75E-04	3.28E+00	8.56E-05
Crotonaldehyde	4170-30-3	B	2.00E+01	0.2	6.04E-05	5.29E-01	1.38E-05
Carbonyl sulfide	463-58-1	B	1.00E+01	0.02	8.73E-05	7.65E-01	2.00E-05
Cyanides, as CN (mg/m ³ of CN)	57-12-5	B	1.70E+01	0.2	2.27E-03	1.98E+01	5.18E-04
3-Heptanone, 5-methyl-	541-85-5	B	4.40E+02	5	4.31E-04	3.78E+00	9.87E-05
Methyl isopropyl ketone	563-80-4	B	2.30E+03	5	8.25E-04	7.23E+00	1.89E-04
2-Hexanone (MBK)	591-78-6	B	6.70E+01	1.2	3.02E-04	2.64E+00	6.90E-05
Methyl isocyanate	624-83-9	B	1.60E-01	0.02	8.03E-05	7.04E-01	1.84E-05

Table 2: Toxic Air Pollutants for Order 94-07, Revision 3

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Chemical Name	CAS ³	Class	µg/m ³	lb/period	lb/hr	lb/yr	µg/m ³
n-Propyl nitrate	627-13-4	B	3.60E+02	5	1.11E-03	9.69E+00	2.53E-04
Ethyl alcohol	64-17-5	B	6.30E+03	5	2.87E-03	2.51E+01	6.56E-04
Acetic acid	64-19-7	B	8.30E+01	1.2	2.19E-04	1.92E+00	5.01E-05
Methyl alcohol	67-56-1	B	8.70E+02	5	7.01E-03	6.14E+01	1.60E-03
Isopropyl alcohol	67-63-0	B	3.30E+03	5	6.27E-04	5.49E+00	1.43E-04
Acetone	67-64-1	B	5.90E+03	5	4.41E-03	3.86E+01	1.01E-03
n-Propyl alcohol	71-23-8	B	1.60E+03	5	1.10E-03	9.65E+00	2.52E-04
n-Butyl alcohol	71-36-3	B	5.00E+02	5	1.15E-02	1.01E+02	2.64E-03
Methyl chloroform (1,1,1-Trichloroethane)	71-55-6	B	6.40E+03	5	2.66E-05	2.33E-01	6.08E-06
Mercury (total)	7439-97-6	B	3.30E-01	0.02	4.60E-05	4.03E-01	1.05E-05
Silver	7440-22-4	B	3.30E-01	0.02	9.24E-06	8.10E-02	2.11E-06
Chromium	7440-47-3	B	1.70E+00	0.02	1.15E-03	1.00E+01	2.62E-04
Methyl bromide	74-83-9	B	5.00E+00	0.02	3.58E-05	3.14E-01	8.18E-06
Methyl chloride	74-87-3	B	3.40E+02	5	4.51E-05	3.95E-01	1.03E-05
Methyl acetylene	74-99-7	B	5.50E+03	5	5.97E-04	5.23E+00	1.37E-04
Ethyl chloride	75-00-3	B	1.00E+04	5	4.24E-05	3.72E-01	9.70E-06
Ethanamine	75-04-7	B	6.00E+01	1.2	1.72E-04	1.51E+00	3.93E-05
Acetonitrile	75-05-8	B	2.20E+02	2.6	1.32E-03	1.16E+01	3.02E-04
Formamide	75-12-7	B	6.00E+01	1.2	9.50E-05	8.32E-01	2.17E-05
Carbon disulfide	75-15-0	B	1.00E+02	2	1.28E-03	1.12E+01	2.92E-04
1,1-Dichloroethane	75-34-3	B	2.70E+03	5	4.34E-05	3.80E-01	9.93E-06
Vinylidene chloride	75-35-4	B	6.70E+01	1.2	2.73E-05	2.39E-01	6.24E-06
Dichlorofluoromethane	75-43-4	B	1.30E+02	2.6	7.68E-05	6.72E-01	1.76E-05
Chlorodifluoromethane	75-45-6	B	1.20E+04	5	1.54E-03	1.35E+01	3.52E-04
Nitromethane	75-52-5	B	8.30E+02	5	8.78E-05	7.69E-01	2.01E-05
tert-Butyl alcohol	75-65-0	B	1.00E+03	5	2.08E-04	1.82E+00	4.75E-05
Trichlorofluoromethane	75-69-4	B	1.90E+04	5	2.36E-03	2.07E+01	5.39E-04
Dichlorodifluoromethane	75-71-8	B	1.60E+04	5	5.40E-05	4.73E-01	1.23E-05
1,1,2-Trichloro-1,2,2-trifluorethane	76-13-1	B	2.70E+04	5	2.28E-04	2.00E+00	5.22E-05
Dichlorotetrafluoroethane	76-14-2	B	2.30E+04	5	7.86E-05	6.88E-01	1.80E-05
Ammonia	7664-41-7	B	1.00E+02	2	3.40E-01	2.98E+03	7.78E-02
Isobutyl alcohol	78-83-1	B	5.10E+02	5	3.91E-05	3.43E-01	8.95E-06
sec-Butyl alcohol	78-92-2	B	1.00E+03	5	2.35E-04	2.06E+00	5.38E-05
Methyl ethyl ketone (MEK)	78-93-3	B	1.00E+03	5	1.77E-03	1.55E+01	4.05E-04
1,1,2-Trichloroethane	79-00-5	B	1.80E+02	2.6	1.04E-04	9.07E-01	2.37E-05
Propionic acid	79-09-4	B	1.00E+02	2	1.51E-05	1.32E-01	3.44E-06
Methyl acetate	79-20-9	B	2.00E+03	5	1.48E-04	1.29E+00	3.38E-05
1,1,2,2-Tetrachloroethane	79-34-5	B	2.30E+01	0.2	7.04E-05	6.17E-01	1.61E-05
Diethyl phthalate	84-66-2	B	1.70E+01	0.2	2.94E-04	2.57E+00	6.72E-05
Dibutyl phthalate	84-74-2	B	1.70E+01	0.2	1.05E-05	9.18E-02	2.40E-06
Naphthalene	91-20-3	B	1.70E+02	2.6	3.73E-05	3.27E-01	8.53E-06
Biphenyl	92-52-4	B	4.30E+00	0.02	5.49E-03	4.81E+01	1.26E-03

Table 2: Toxic Air Pollutants for Order 94-07, Revision 3

Material Data			ASIL/ Screening Level ¹	SQER ²	Emissions Estimate		Emissions Consequence
Chemical Name	CAS ³	Class	µg/m ³	lb/period	lb/hr	lb/yr	µg/m ³
o-Dichlorobenzene (1,2-Dichlorobenzene)	95-50-1	B	1.00E+03	5	2.32E-05	2.03E-01	5.31E-06
Diethyl ketone	96-22-0	B	2.30E+03	5	1.57E-04	1.37E+00	3.58E-05
Cumene	98-82-8	B	8.20E+02	5	4.42E-04	3.87E+00	1.01E-04
a-Methyl styrene	98-83-9	B	8.10E+02	5	1.24E-04	1.09E+00	2.84E-05
Acetophenone	98-86-2	B	3.50E+02	0.02	2.68E-04	2.34E+00	6.12E-05
Nitrobenzene	98-95-3	B	1.70E+00	0.02	1.64E-05	1.44E-01	3.75E-06

Notes: 1: ASILs for materials identified in Table 1 do not exist within WAC 173-460-150 or WAC 173-460-160. Table 1 establishes Screening Levels to be applied. Periods of exposure assessment are Annual for "A" TAPs and 24 hours for "B" TAPs.

2: Small Quantity Emission Rate (SQER) periods are Annual for "A" TAPs and 24-hours for "B" TAPs. "A" TAP 1,2-Dichloropropane is treated with "B" class periods. SQER values do not exist within WAC 173-460-080 for ASILs or Screening Levels below 0.001 µg/m³.

3: CAS = Chemical Abstracts Service registry number.