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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

February 21, 2008

Ms. Shirley J. Olinger, Manager
Office of River Protection
United States Department of Energy
P.O. Box 450, MSIN: H6-60
Richland, Washington 99352

RECEIVED
FEB 26 2008

EDMC

Re: Determination of Completeness and Initiation of Public Comment Period, 241-AY and 241-AZ Ventilation Approval Order Revision Request

Reference: Letter 08-ESQ-015, dated January 18, 2008, *Request for Approval of Revision to the Notice of Construction (NOC) and Approval Order for the Ventilation Upgrades, 241-AY and 241-AZ, and Amendment to Hanford Site Air Operating Permit (AOP) for Emission Unit 200E P-296A042 Ammonia Emission Limit*

0075661

Dear Ms. Olinger:

The Department of Ecology has reviewed the referenced application to modify the approval to operate ventilation systems for the 241-AY and 241-AZ double-shell tank farms. We find your application complete in accord with Washington Administration Code (WAC) 173-400-110(6)(a).

Substantive components of your application include an increase in allowable emissions of ammonia and removal of a granulated activated carbon treatment unit from your emissions control suite. Toxic air pollutants within your emissions, which do not presently have established acceptable source impact levels within WAC 173-460, require the establishment of new standards. WAC 173-400-171 requires that our proposed permit containing new standards be subject to public review and comment.

Ecology is initiating a public comment period for the review of conditions in Order 94-07, Proposed Revision 2, prepared in response to your application. The public comment period will begin on or about April 1, 2008, and extend for a minimum of thirty days. No public hearing is currently scheduled.

The following information will be provided to the public information repositories in Richland, Spokane, and Seattle, Washington, as well as Portland, Oregon:

- A Focus Sheet describing the proposed action and public comment period.
- Order 94-07, Proposed Revision 2.
- Your application for approval.



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This information will also be available on the Ecology website at:
<http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>

Of particular interest, your project involves the development of public exposure standards not currently established in WAC 173-460. The proposed permit will contain standards developed by Ecology as described in Table 1. (Enclosure)

If you have questions, please call me at 509-372-7983.

Sincerely,



Doug Hendrickson, P.E.
Lead Air Engineer
Nuclear Waste Program

dbm
Enclosure

cc: Dennis Bowser, USDOE
Mary Jarvis, USDOE
Phillip Miller, CH2M Hill
Lucinda Penn, CH2M Hill
Stuart Harris, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Susan Leckband, HAB
Ken Niles, ODOE
John Martell, WDOH
Administrative Record: AIR Permits 5-2-3, H-0-9
Environmental Portal

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 , 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: $S.L. = REL_{\text{H}_2\text{S}} = \frac{10\mu\text{g}}{\text{m}^3} \text{ (24 hr average)}$
n-Nitrosomorpholine	59-89-2	5.3E-04 (Annual average)	Unit cancer unit risk factor of 1.90E-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 6.3E-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 2E-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>)