DEPARTMENT OF
ECOLOGY
State of Washington

Response to Comments

Air Permit Revision to Facilitate Waste Retrieval from Hanford Tank AY-102

October 25 – November 25, 2015

Summary of a public comment period and responses to comments

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Response to Comments

Air Permit Revision to Facilitate Waste Retrieval from Hanford Tank AY-102

October 25 – November 25, 2015

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TABLE OF CONTENTS

Introduction.....7
Reasons for Issuing the Permit 7
Public Involvement Actions.....8
List of Commenters.....8
Response to Comments.....9
Appendix A: Copies Of All Public Notices
Appendix B: Copies Of All Written Comments
References

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INTRODUCTION

The Washington State Department of Ecology's Nuclear Waste Program (NWP) regulates air pollution sources at the Hanford Site through permits. These permits ensure Hanford's air emissions stay within regulatory limits to protect people and the environment.

The permittee is the U.S. Department of Energy (USDOE) Office of River Protection. The permit is for USDOE's Hanford Site in south-central Washington, north of Richland.

Activities at Hanford's tank farms require occasional changes to the permit as the permittee improves ventilation systems or installs new equipment to support management and retrieval of waste in the underground storage tanks. Through Approval Orders, the permittee can seek, and Ecology can approve, certain changes that are later incorporated into the Hanford Air Operating Permit.

The purpose of this Response to Comments is to:

- Describe and document public involvement actions.
- List and respond to all significant comments received during the public comment period.

This Response to Comments is prepared for:

Comment period:	*Air Permit Revision to Facilitate Waste Retrieval from Hanford Tank AY-102, October 25 – November 25, 2015*
Permit:	*Approval Order DE11NWP-001, Rev. 3*

To see more information related to the Hanford Site and nuclear waste in Washington, please visit our website: www.ecy.wa.gov/programs/nwp.

REASONS FOR ISSUING THE PERMIT

At the Hanford Site, USDOE is engaged in a cleanup effort to address the waste resulting from decades of plutonium production. Much of the waste to be cleaned up is stored in underground tanks near the center of Hanford, several miles from any residence or agricultural land.

The waste in Hanford's double-shell tank AY-102 must be removed because the tank is leaking. Under an Order from Ecology, the waste retrieval must start by March 4, 2016.

In support of retrieving waste from tank AY-102, the USDOE Office of River Protection wants to add a portable exhauster dedicated to tank AY-102. The portable exhauster will provide a dedicated and greater air flow to help prevent fogging of in-tank cameras. The cameras are needed to observe the work and when the cameras fog, work is stopped until they clear.

The Approval Order will approve the project proposed by the permittee, and describe conditions and restrictions they must meet.

PUBLIC INVOLVEMENT ACTIONS

Ecology sought public comment on the proposed changes for Tank AY-102's ventilation system during a 30-day public comment period held October 25 to November 25, 2015.

To publicize the comment period, Ecology:

- Emailed an advance notice of the comment period on September 28, 2015, to the approximately 1,500 subscribers on the Hanford-Info listserv.
- Posted the comment period on the Department of Ecology's Public Involvement Calendar.
- Placed a legal classified advertisement in the *Tri-City Herald* on October 25, 2015.

The Hanford information repositories located in Richland, Spokane, and Seattle, Washington, and Portland, Oregon, received the following documents for public review:

- Transmittal letter
- Application
- Draft approval order DE11NWP-001, Rev. 3

The following public notices for this comment period are in Appendix A of this document:

1. Classified advertisement in the *Tri-City Herald*
2. Notice sent to the Hanford-Info email list

LIST OF COMMENTERS

Commenter Identification:

The table below lists the names of organizations or individuals who submitted a comment on the draft Approval Order DE14NWP-001, Rev. 3 and where you can find Ecology's response to the comment(s).

Commenter	Organization	Comment Number	Page Number
Green, Bill	Citizen	1-11	3 - 15

RESPONSE TO COMMENTS

Ecology accepted comments on the draft Approval Order DE11NWP-001, Rev. 3 from October 25 to November 25, 2015. This section provides a summary of comments we received during the public comment period and our responses, as required by the Revised Code of Washington (RCW) 34.05.325(6)(a)(iii).

Comments are grouped by individual, and each comment is addressed separately. Ecology's responses directly follow each comment in italic font. Verbatim copies of all written comments are attached in Appendix B.

Comment #1 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

A new public review will be required before conditions in this Notice of Construction (NOC) can be added to Hanford's Air Operating Permit (AOP). According to Ecology's announcement, this NOC for modification of Order DE11NWP-001 for the operation of ventilation systems in the 241-APP (sic), 241-SY, and 241-AY/AZ tank farms "… will be added to the Hanford Air Operating Permit when it is next revised". However, the current public review conducted under WAV 173-400 does not meet the minimum requirements for public review pursuant to WAC 173-401, *The Operating Permit Regulation*. The specific deficiencies include:

- failure to publish a public notice in the *Permit Register* [WAC 173-401-805 92)];
- failure to provide thirty day comment period as specified in WAC 173-401-800 (3); and
- failure to provide notification via Ecology's mailing list. [WAC 173-401-800 (2)(c)

Ecology Response:

Thank you for your comment. Ecology offers the following response.

*Ecology acknowledges the current Hanford Air Operating Permit (AOP) is undergoing revision (the current revision is identified as Revision **A**) at this time. Revision **B** has received public comments following the requirements in Washington Administrative Code (WAC) 173-401. The public comment period for Revision **B** has closed and Ecology is working on responding to these comments. The term "… will be added to the Hanford Air Operating Permit when it is next revised" was meant to inform the public that this Notice of Construction would be put into the next revision (Revision **C**) of the Hanford Air Operating Permit.*

*The issuance of this Notice of Construction will result in a change to the applicable requirements of the Hanford (AOP). WAC 173-401-730 provides timeframes to complete changes to the AOP from the date the applicable requirement is effective. In this specific case, the Hanford AOP will need to be revised (Revision **C**) within eighteen months of when this NOC is issued. Ecology will follow the requirements of WAC 173-401 for all revisions of the Hanford AOP. No timeframe currently exists in regards to a public comment period for Revision **C**.*

*WAC 173-400-111 (2) states {emphasis added} "A **person seeking approval** to construct or modify a source that requires an operating permit **may elect** to integrate review of the operating permit*

application or amendment required under chapter 173-401 WAC and the notice of construction application required by this section. A notice of construction application designated for integrated review must be processed in accordance with operating permit program procedures and deadlines in chapter 173-401 WAC and must comply with WAC 173-400-171." The US Department of Energy is the 'person' seeking approval and they did not request integration of this notice of Construction with the Hanford AOP. It is not a requirement to process and issue a Notice of Construction concurrently with an AOP.

*Ecology will incorporate all new applicable requirements that have occurred since Revision **B** of the Hanford AOP was opened for public comment in the next revision (Revision **C**) of the Hanford AOP. Revision **C**, when it is issued, will follow the requirements of WAC 173-401 and will include a public comment period.*

Comment #2 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

There is no question the requirements of 40 C.F.R. 61 subpart H apply to activities contemplated by this NOC; yet, neither the application offered to the public for review or the draft order address these federal requirements. The U.S. Environmental Protection Agency (EPA) has already cautioned Ecology regarding the applicability subpart H requirements in Hanford air permitting actions[1, 2].

Ecology Response:

Thank you for your comment. Ecology offers the following response.

Washington Administrative Code (WAC) 173-400-113 "The permitting authority that is reviewing an application to establish a new source or modification in an attainment or unclassifiable area shall issue an order of approval if it determines that the proposed project satisfies each of the following requirements:

(1) The proposed new source or modification will comply with all applicable new source performance standards, national emission standards for hazardous air pollutants, national emission standards for hazardous air pollutants for source categories, emission standards adopted under chapter 70.94 RCW and, for sources regulated by an authority, the applicable emission standards of that authority."

The Washington Department of Health, Office of Radiation Protection, issues Radioactive Air Emission License(s) (RAELs) for specific emission units. The RAELs are issued independently of the Notice of Construction Permits issued by Ecology. It is in the RAELs where the requirements of 40 CFR 61, subpart H (as applicable) are contained. Ecology determined this proposed project satisfies the requirements 40 CFR 61, subpart H, by having these requirements in the RAELs.

Ecology requested copies of the RAELs used for tank farm emissions from the Department of Health. These RAELs are identified by their exhibit identifier in the Reference section. The following table shows a crosswalk of which exhibit is for which RAEL and the unit(s) that RAEL covers. All of the RAELs contain the requirements of 40 CFR 61, subpart H.

Exhibit Identifier	RAEL Identifier	Emission Unit Description
Exhibit A	*EU 56*	*Existing SY Farm exhauster*
Exhibit B	*EU 93*	*Existing AY/AZ Farm exhauster*
Exhibit C	*EU 204*	*Existing AP Farm exhauster*
Exhibit D	*EU 886*	*Proposed AY-102 portable exhauster*
Exhibit E	*EU 1328*	*New AP Farm exhauster being installed*
Exhibit F	*EU 1329*	*New AP Farm exhauster being installed*

Ecology will add to the findings portion of this permit, "The requirements for federally enforceable requirements of 40 CFR 61, subpart H, are contained in Radiological Air Emission License(s) (RAELs) issued by the Washington State Department of Health, Office of Radiation Protection."

Comment #3 from Bill Green, Citizen, dated June 24, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

Actions contemplated by this NOC cannot occur until after the Hanford Site Air Operating Permit (AOP) has been appropriately amended or modified (revised).

Ecology Response:

Thank you for your comment. Ecology offers the following response.

As discussed in the response to Comment #1, the issuance of this Notice of Construction will result in a change to the applicable requirements of the Hanford (AOP). WAC 173-401-730 provides timeframes to complete changes to the AOP from the date the applicable requirement is effective. In this specific case, the Hanford AOP will need to be revised within eighteen months of when this NOC is issued. No timeframe currently exists in regards to a public comment period for this revision.

As both the requirements for Hanford AOP and the requirements in this Notice of Construction Permit are concurrently applicable, the US Department of Energy is bound by the permit conditions concurrently. Each permit is separately enforceable, so even if different permit conditions exist for the same discharge point, enforcement of permit conditions in one permit is not superseded by conditions in the other permit (e.g. if a newly issued NOC that hasn't been incorporated into an AOP yet has emission rates more stringent than emission limits in the AOP, enforcement of the NOC can occur even if the emission limits in the AOP are not exceeded).

The US Environmental Protection Agency (EPA) issued an Order granting in part and denying in part two petitions for objection to permits (Exhibit G). This Order granted the Petitioner's request to object to the Hanford Title V Permit for Claim 3B. The Hanford Title V permit (AOP) is currently undergoing revision (Revision B as discussed in response to Comment #1 above), and

Ecology is preparing the Response to Comments received on the Draft Revision B. Revision B addresses EPA's Order.

For the above reasons, this Notice of Construction permit can be issued without the Hanford AOP being amended concurrently. The Hanford AOP needs to be and will be amended within the timeframes provided in WAC 173-401 to reflect the new applicable requirements put in place by this new NOC permit .

Comment #4 from Bill Green, Citizen, dated June 24, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Draft Order Finding 3 "Existent operations of . . . date May 7, 2008.") Rescind approval order 94-07, Rev. 3 dated May 7, 2008, because it is now known both the permittee's application and resulting order of approval greatly underestimate actual emissions from operations at 241-AY and 241-AZ Tank Farms. The 2008 application and conditions in the order relied upon characterization of tank contents and overlooked spikes in emissions associated with waste-disturbing activities. Experts have now determined:

- it is the composition of tank headspace rather than the contents of the tanks that determines the composition of emissions from the tanks; and
- waste-disturbing activities greatly increase the concentration and composition of head space gases and vapors

Ecology Response:

Thank you for your comment. Ecology offers the following response.

NOC ORDER 94-07, Revision 3, was voided as a condition of Approval Order DE11NWP-001, Rev. 2 (the preceding revision to this Order). Page 4, lines 43 and 44, of Approval Order DE11NWP-001, Rev. 2states "Upon the effective date of this Order covering the fully operational status of the 241-AY/AZ ventilation system, NOC ORDER 94-07, Revision 3, is voided."

As the 241-AY/AZ ventilation system is fully operational and the effective date has passed, NOC ORDER 94-07, Revision 3, has already been voided. The text was left in this Approval Order (DE11NWP-001, Rev. 3 at p. 5, lines 10-11) as the permittee didn't ask for a change to this portion and the permittee's modification did not require a change to this section.

Ecology does not need to rescind Approval Order 94-07, Revision 3, as the Approval Order has already been voided. No change to the permit is required.

Comment #5 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Conditions 1.3.4, 3.5, 3.5.2, and 3.5.3) Using ammonia emissions as a surrogate compound for the measuring of all other TAPs during active mixing, retrieval, or Waste Feed Delivery operations will seriously understate the huge increases in emissions already documented for

some of the most toxic and hazardous chemicals in these tanks. An independent panel of experts examined analyses of samples taken from Tank C-101 before waste transfer, at the start of waste transfer, and mid-way through the waste transfer operation. During these periods, Mercury emissions increased more than 900% of the *occupation exposure limit*; emissions of N-Nitrosodimethylamine (NDMA) increased more than 2,300% of the *occupational exposure limit*; and Formaldehyde emissions increased slightly more than 64% of the *occupational exposure limit*[1]. Yet, Ammonia emissions increased only about18% of the *occupation exposure limit*[2]. In briefings provided to these same experts by Hanford Site personnel "… was reported that transient spikes are observed in vapor concentrations at the beginning of retrieval operations … the transient spikes were reported to be as much as three orders of magnitude greater than the baseline quiescent levels."[3] An increase of three orders of magnitude is the equivalent of multiplying by 1,000, or by 10^3.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

The data presented in the Hanford Tank Vapor Assessment Report (TVAR) is not being questioned, but the applicability or relevancy of the data to the Federal Clean Air Act and the Washington Clean Air Act is not clear as the data is lacking important meta-data (e.g. where was the sample collected, how was the sample collected, what protocols were used for sample collection, etc.). Ecology doesn't have access to the actual data presented in the TVAR and can only depend on the information as presented in the report. This raises a question on how relevant the data are for use in determining ambient air concentration data to be compared to acceptable source impact level (ASIL) values of Washington Administrative Code 173-460.

The objective of the Hanford Tank Vapor Assessment Team is stated on page 12 of 153 of the TVAR as "WRPS asked the Savannah River National Laboratory (SRNL) to assemble and lead the Hanford Tank Vapors Assessment Team (TVAT) 2014 to determine the adequacy of the established WRPS program and prevalent site practices to protect ***workers*** *from adverse health effects of exposure to the chemical vapors on the Hanford tank farms."* [emphasis added] *This Approval Order is being issued under the Clean Air Act (CAA) and its amendments regulating ambient air. Ambient air is defined in 40 CFR Part 50.1 (e) as "… that portion of the atmosphere, external to buildings, to which the* ***general public*** *has access."* [emphasis added] *In addition, WAC 173-460-070 requires compliance with the state TAPs requirements to be demonstrated "in any area to which the applicant does not restrict or control access." The Hanford site is land owned or controlled by the source and to which general public access is precluded by a fence or other physical barriers. The air at the Hanford Site doesn't qualify as ambient air. Therefore, the State TAP requirements need not be met within the boundaries of the Hanford Site. However, on-site personnel are covered by other laws, rules, and regulations in regards to their safety.*

Accepting the TVAR data as presented and acknowledging it was gathered in reference to worker protection and not general public protection, the highest percent increase presented in the TVAR is ~2,300 %. A comparison of the emissions parameters submitted in the original application for the permit to the TVAR reported increases must be examined to determine if the ~ 2300% percent increase creates a condition outside of the bounding assumptions used. If the TVAR data is within the bounding assumptions, then the emission release rate and modeling is still valid and no change in the permit is needed.

The original application and Health Impact Assessment were based on a number of conservative assumptions designed to overestimate emissions:

1) *The highest emission rate from any given tank for each toxic air pollutant (TAP) was assumed to be the emission rate for that pollutant for all tanks in the Double Shell Tank (DST) tank farm. This results in a 'worse case tank' in regards to TAPs emitted.*
2) *When a TAP had values below the laboratory detection limit, the laboratory detection limit was assumed to be the TAP's value.*
3) *Based upon mixer pump tests in DST 241-AZ-101, it was assumed the headspace concentrations increased by a factor of 10 during waste mixing activities.*
4) *The maximum per tank emission rate was multiplied by a factor of 10 for each assumed mixing tank and 1 for each quiescent tank.*
5) *The AY/AZ tank system has four tanks, so the multiplication factor was 22 (2 mixed tanks for 20 and 2 quiescent tanks for 2 more, yielding 22). However, the AP tank farm contains 8 tanks (2 mixed tanks and 6 quiescent tanks) for a multiplication factor of 26. As 26 is the more conservative value, 26 was used as the multiplication factor for all emissions from both the AY/AZ tank farm, the SY tank farm and the AP tank farm.*

The concentrations of all of the TAPs were standardized to mg/m^3 at 25°C to allow for uniformity and then multiplied by the flow rate from the tank (provided by the exhauster) and converted to a flux per tank in grams per second (g/s). The flux was multiplied by the dispersion factor determined from the approved modeling program to yield the maximum offsite concentration in µg/m^3. This value was directly compared to the Acceptable Source Impact Levels (ASIL) from Washington Administrative Code 173-460-150.

The results indicated that dimethyl mercury was the only compound that had a calculated value in excess of the ASIL value (3.23E-08 µg/m^3 and 1.00E-99 µg/m^3 respectively). It was for this exceedance the permittee applied for a Tier 2 analysis.

The next two TAPs closest to exceeding an ASIL limit were n-Nitrosodimethylamine (2.17E-4 µg/m^3 ASIL and 6.82E-5 µg/m^3 calculated) at ~ 31.4% of the ASIL and Chromium Hexavalent (6.40E-5 µg/m^3 ASIL and 2.63E-5 µg/m^3 calculated) at ~38.8% of the ASIL.

The multiplication factor of 26 applied to the model input data used in developing NOC Approval Order DE11NWP-001, Rev. 3 yields a 2,600% increase to the highest values of quiescent tank waste. This 2,600 % increase is greater than the 2,300 % increase shown in the TVAR and indicates the model assumptions used in the Approval Order still bound the anticipated scenario.

Dimethyl mercury is the only compound exceeding the ASIL values in WAC 173-460. No certified instrumentation currently exists to provide real time monitoring of dimethyl mercury emissions. Instrumentation does exist for mercury emissions, but this instrumentation measures all of the mercury being emitted (as elemental mercury) and is not specific to dimethyl mercury. Therefore, using a mercury monitor would not be indicative of dimethyl mercury release values. In addition, elemental mercury has a distinct and different ASIL value from dimethyl mercury, and, while a mercury monitor would provide information relevant to the elemental mercury ASIL, it would not provide information relevant to the dimethyl mercury ASIL. Because real-time monitoring of dimethyl mercury is not possible, analysis of dimethyl mercury in the emissions would require

collecting a sample, submitting the sample to a laboratory, waiting for analysis and notification of results, and then comparing the results to emission limits, a process that typically takes weeks or months. As this process isn't timely, it was deemed prudent to select a more readily measured compound to use as a surrogate for dimethyl mercury.

The permit was based upon the highest measured value for each pollutant emitted from all quiescent tank sampling events. Ecology used these values to establish the ratio between the emissions of all tank emission compounds. This ratio was the basis for estimating compound-by-compound emissions values from dispersion modeling. Using this ratio, it is possible to estimate the emissions of any emitted compound if the emissions of just one compound has been measured. Consistent with this analysis, NOC approval order DE14NWP-001 Rev 3 uses measured emissions of ammonia to estimate emissions of dimethyl mercury. Thus Ecology is not considering all toxic air pollutants expected from the tank to be ammonia, but is using ammonia and the modeled ratio between ammonia and all other toxic air pollutants.

Ammonia was selected as a surrogate for dimethyl mercury as it:

1) *Can be directly measured using monitoring equipment.*
2) *Is emitted from the tanks in concentrations facilitating measurement with a variety of instruments.*
3) *Has EPA established sampling and analysis protocols.*

Ecology used the ratio representation approach outlined above to use ammonia emission concentrations to determine the dimethyl mercury emission concentrations. The dimethyl mercury emission concentration from the dispersion modeling has a corresponding emission concentration for ammonia. It is this ammonia value that Ecology is using as a surrogate measurement.

As discussed above, the assumptions used in preparing the modeling for the Approval Order cover the emission levels presented in the TVAR. Additionally, the emission ratios for all compounds were established in the dispersion modeling and allow for the use of ammonia as a surrogate compound. Therefore, the limits in the Approval Order haven't been invalidated and ammonia is an acceptable indicator compound for other compounds, and no change is required to the Approval Order.

Comment #6 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Condition 3.5) In Condition 3.5, Ecology proposes measuring all expected emissions of HAPs and TAPs from this project as if they were ammonia. [HAPs because a very significant number of TAPs are also *Hazardous Air Pollutants* (HAPs) federally regulated in accordance with section 112 of the *Clean Air Act*.] By measuring only for ammonia, thereby eliminating measurement of all other HAPs and TAPs emissions expected from this project, Ecology overlooks emissions used as inputs to models that determine the risk this project poses to the public. The determination of risk to the public should rely on the most accurate and complete information for all expected HAPs and TAPs.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

As explained in Ecology's response to comment # 5 above, ammonia is only being used as a surrogate compound for the measurement of dimethyl mercury. Dimethyl mercury is the only compound that exceeded acceptable source impact level (ASIL) values in Washington Administrative Code (WAC) 173-460.

The dispersion modeling evaluated numerous compounds and they were provided in the application and listed in the Approval Order. Ecology did not overlook these compounds as model inputs, but specifically used these model inputs to arrive at the ratio of ammonia emissions to all other compounds. Using the ratio between dimethyl mercury and ammonia allowed for limits on ammonia emissions to be quantified and used as a permit limit.

As the modeled ratio between dimethyl mercury and ammonia is known, the ammonia limits in the permit allow ammonia to be used as a surrogate for dimethyl mercury. No change is required in the permit.

Comment #7 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Condition 3.3 "TAPs Emission Assessment") Condition 3.3 requires the permittee develop a sampling and analysis plan (SAP). However, Condition 3.3 is deficient because it:

- does not specify a date by which this SAP is to be developed;
- does not require a pre-issuance review by Ecology;
- does not require publication of the sampling results; and
- does not require the SAP to be revised as new information becomes available.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

Condition 3.3 requires the development and implementation of an <u>annual</u> {emphasis added} sample and analysis plan (SAP) for each exhauster. This means a SAP is created every year for the conditions listed in Condition 3.3. A specific date within a year is not needed because the requirement is for the SAP to be created once per year.

Conditions in Condition 3.3 specifically address the requirements of compounds to be in the SAP. Specifically, "each SAP shall address the emission of a minimum of the three TAPs with the highest potential ambient concentration relative to the ASILs of WAC 173-460-150 in addition to dimethyl mercury." Thus the permittee is required to evaluate the latest analytical data for each exhauster system annually, determine the three TAPs with the highest concentrations (at a minimum) and dimethyl mercury, and then sample for said compounds. This is a permit condition, thus pre-issuance review and approval of the SAP is not required.

The sample results do not need to be published as inspections of the permittee by Ecology allows for the review of the sampling results. Additionally, in section 2.5, the permittee is required to

notify Ecology within ninety (90) days of completion of laboratory analyses of any toxic air pollutants (TAP) not previously identified within this Order or in the application for this Order.

No change to Condition 3.3 is required because the SAP is developed annually which requires an annual reevaluation of exhauster emissions, the analytical results are maintained for a minimum of five years (Condition 2.4), and Ecology inspects the permittee for conformance with the requirements of this Order at least once every 3 years.

Comment #8 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Condition 3.4 "Ammonia Emission Assessment") This condition requires a "quarterly assessment of ammonia stack emissions". A quarterly assessment is insufficient to detect a bolus event (a brief episodic spike in the release rates of a relatively high concentration of contaminates). In 2014, an independent panel of experts commissioned through the Savannah River National Laboratory issued the federally-funded *Hanford Tank Vapor Assessment Report*[1] which determined the existence of bolus events. "[U]nder certain weather conditions, concentrations approaching 80% of the head space concentration could exist 10 feet downwind from the release point …"[2] A quarterly assessment of ammonia emissions would almost certainly fail to capture emissions from such bolus events.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

Please refer to the response for Comment #5 in addition to the following:

The quarterly assessment requirement in Condition 3.4 is for quiescent conditions and Condition 3.5 is for conditions during retrieval activities (non-quiescent). In regards to the Tank Vapor Assessment Report discussion of the use of time-weighted average exposure versus bolus exposure, the TVAR states in section Technical Issues, EA Technical Issue 1, first paragraph, "… vapors are from intermittent and very short-term (seconds duration) exposure in breathing zones…". The analysis of acceptable exposure to toxic air pollutants (TAPS) under the Clean Air Act uses average exposure over periods of 1 hour, 24 hours, or 1 year, depending on the TAP (see WAC 173-460-150). These time-weighted averages must be met in areas over which the permittee does not have control, i.e., at the fence line.

The objective of the Hanford Tank Vapor Assessment Team is stated on page 12 of 153 of the TVAR as "WRPS asked the Savannah River National Laboratory (SRNL) to assemble and lead the Hanford Tank Vapors Assessment Team (TVAT) 2014 to determine the adequacy of the established WRPS program and prevalent site practices to protect ***workers*** *from adverse health effects of exposure to the chemical vapors on the Hanford tank farms."* [emphasis added] *This Approval Order is being issued under the Clean Air Act (CAA) and its amendments regulating ambient air. Ambient air is defined in 40 CFR Part 50.1 (e) as "… that portion of the atmosphere, external to buildings, to which the* ***general public*** *has access."* [emphasis added] *In addition, WAC 173-460-070 requires compliance with the state TAPs requirements to be demonstrated "in any area to which the applicant does not restrict or control access." The Hanford site is land owned or controlled by the source and to which general public access is*

precluded by a fence or other physical barriers. The air at the Hanford Site doesn't qualify as ambient air. Therefore, the State TAP requirements need not be met within the boundaries of the Hanford Site. However, on-site personnel are covered by other laws, rules, and regulations in regards to their safety.

As noted above, the Washington Clean Air Act regulates TAPs in ambient air over time-weighted averaging periods ranging from 1 hour to 1 year. By contrast the boluses reported in the TVAR represent short term (measured in seconds) excursions above average emissions. As noted on page 35 of the TVAR, short-term bolus events can easily average out over time, and not cause an exceedance of applicable time-weighted averages. The authors of the report further state that they knew of only three instances in which workers were wearing monitors while they experienced symptoms. In all three instances the monitors did not register that overexposures had occurred, thus showing that the brief but concentrated bolus exposure went undocumented even by the monitors worn by the workers. Under these circumstances, it is reasonable to assume that the boluses would not affect the time weighted average ASILs measured at the fence line.

The permit conditions are established using the averaging periods required by 173-460; any bolus events make up a part of the time weighted average to compare to the ASIL value, but are not directly compared to the ASIL value; the dispersion modeling utilized a 26X increase from analytically determined headspace modeling; and the Tank Vapor Assessment Report was focused on work exposure and not ambient air exposure. Therefore, no change in Condition 3.4 is required.

Comment #9 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Table 5 "Ammonia Concentration Limits at Varying Temperatures") At any given temperature Table 5 informs that ammonia from "New AP Exhauster" is considerably more toxic than ammonia from other tanks/exhausters and, therefore, merits a lower limit. Please explain why ammonia from one source is more toxic than ammonia from another similar source and how it is even possible to ensure any of these limits are never exceeded absent continuous monitoring. Continuous monitoring is known to exist on at least one tank, Tank SX-103[1]. Therefore, it is certainly possible to equip other tanks with such monitoring.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

*The rate of ammonia **emissions** proposed by the Department of Energy and modeled for compliance with the ASILs for all pollutants, including dimethyl mercury, was 1.00 g/s with 0.378 g/s coming from the AP Farm, 0.319 g/s coming from the AY/AZ Farm, and 0.305 g/s coming from the SY Farm. Table 5 shows the highest acceptable **volumetric concentrations** of ammonia (in parts per million (ppm)) from the exhausters that correspond to ammonia **emission** rates of 0.378 g/s for the AP Farm and 0.319 g/s for the AY/AZ Farm. The acceptable ammonia volumetric concentrations vary from exhauster to exhauster primarily because the exhausters put out gas at different rates (ranging from 1000 ft^3 per minute to 3000 ft^3 per minute). As the rate of gas emission increases, it creates a larger volume of gas for the same amount of mass (ammonia*

molecules) to be found in it. Having the same mass in a larger volume results in a lower volumetric concentration (smaller ppm value). Thus, at 32 °F, ammonia emissions of 0.378 g/s correspond to an ammonia concentration of 1050 ppm from an exhauster that has an exhaust gas flow rate of 1000 ft^3 per minute, while ammonia emissions of 0.378 g/s correspond to an ammonia concentration of 350 ppm from an exhauster that has an exhaust gas flow rate of 3000 ft^3 per minute.

Ecology calculated the concentrations (in parts per million, ppm) of ammonia under various conditions (please see exhibit H). From the calculations it is seen that increasing the stack emission temperature results in a smaller corrected stack volumetric gas flow rate. With a smaller corrected stack volumetric gas flow rate, the allowable parts per million value increases. Thus, with everything else constant, an increase in temperature causes an increase in the allowable ppm from the stack. This can be seen in Table 5 in the different acceptable ammonia concentrations for each exhauster at different temperatures.

The calculations also show that when the stack volumetric gas flow rate increases, the corrected stack volumetric gas flow rate also increases. With an increased corrected stack volumetric gas flow rate, the allowable ppm value decreases due to the dilution of the ammonia by the increased gas flow. Thus with everything else constant, an increase in stack volumetric gas flow rate causes a decrease in the allowable ppm from the stack.

Table 5 of the Order lists the ammonia concentration limits as calculated using the process shown in exhibit H. The allowable ammonia concentration limits for the new AP exhauster are lower than the allowable ammonia concentration limits for the other exhausters listed in Table 5 because the stack flow rate from the new AP exhauster is 3 times greater than the stack flow rate from the old AP exhauster, which dilutes the ammonia emitted, resulting in lower concentrations of ammonia that correspond to ammonia emissions of 0.378 g/s.

In regards to the tank vapor assessment report discussing Tank SX-103 monitoring, the type of equipment and how it was monitored is not provided in the report. Additionally, the monitoring shown in the report was performed on one day in 2006. Without additional details on the type of equipment, how it was employed, and whether it provides certified data, it is impossible to relate the information in the report to requirements in the permit.

Another consideration is the fact that the compound of concern is dimethyl mercury (it is the only compound that exceeded ASIL values). No certified instrumentation currently exists to provide real time monitoring of dimethyl mercury emissions. Instrumentation does exist for mercury emissions, but this instrumentation measures all of the mercury being emitted (as elemental mercury) and is not specific to dimethyl mercury. Therefore, using a mercury monitor would not indicate dimethyl mercury release values. In addition, elemental mercury has a distinct and different ASIL value from dimethyl mercury, so, while using a mercury monitor would provide information relevant to the elemental mercury ASIL, it would not provide information relevant to the dimethyl mercury ASIL. Because real-time monitoring of dimethyl mercury is not possible, measuring dimethyl mercury emissions would require collecting a sample, submitting the sample to a laboratory, waiting for analysis and notification of results, and then comparing the results to emission limits, a process that typically takes weeks or months.

As described in response to Comment #5, given that continuous monitoring equipment is not available for dimethyl mercury, the ratio between ammonia and dimethyl mercury established in the dispersion modeling and corrected stack flow rates and temperatures, ammonia was used as a

surrogate to determine monitoring requirements for dimethyl mercury. This comment requires no change to the permit.

Comment #10 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(Table 5 "Ammonia Concentration Limits at Varying Temperatures", pg. 11 of 27) Ecology exceeds its authority when it sets limits in an order for chemicals that are not addressed in regulation. While ammonia is a regulated chemical with specified limits, regulation overlooks ammonia as a TAP-surrogate or TAPs as ammonia equivalents along with associated methodology to arrive at specific limits. Ecology must first complete the rulemaking process before it can lawfully regulate TAP surrogates or ammonia equivalents. EPA did use a somewhat similar approach, though on a much more modest scale, in regulating green house (sic) gases or GHGs. EPA defined GHGs as a collection of six well-mixed chemicals - CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 -expressed these chemicals as CO_2 equivalents or CO_{2e}, and based the equivalents on each chemical's global warming potential. However, before GHGs and associated methodology for establishing equivalents were regulated, EPA first completed the rulemaking process, and did so only after significant involvement by the scientific community. Ecology's efforts in this draft order seem directed at inventing credibility for perpetuating ineffectual monitoring without benefit of known science and without first satisfying applicable statutory requirements.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

Please refer to the response to Comment #5 and #9 for additional information.

The permit was based upon the highest measured value for each pollutant emitted from all quiescent tank sampling events. Ecology used these values to establish the ratio between the emissions of all tank emission compounds. This ratio was the basis for estimating compound-by-compound emissions values from dispersion modeling. Using this ratio, it is possible to estimate the emissions of any emitted compound if the emissions of just one compound has been measured. Consistent with this analysis, NOC Approval Order No. DE14NWP-001 Rev. 3 uses measured emissions of ammonia to estimate emissions of dimethyl mercury. Thus Ecology is not considering all toxic air pollutants expected from the tank to be ammonia, but is using ammonia and the modeled ratio between ammonia and all other toxic air pollutants. Ecology used the ratio representation approach in utilizing ammonia emission concentrations to determine the dimethyl mercury emission concentrations. The dimethyl mercury emission concentration from the dispersion modeling has a corresponding emission concentration for ammonia. It is this ammonia value that Ecology is using as a surrogate measurement

Ecology agrees that rulemaking, as depicted by the commenter, would be needed to allow ammonia to be used as a surrogate for TAPs in all circumstances. As sources of ammonia emissions vary substantially (from Hanford double shell tanks to confined animal feed operation sewage lagoons) it would be very difficult and likely impossible to establish a global ammonia surrogate level for TAPs.

However, using the dispersion modeling ratios specific to this Order, and only this Order, allows for the use of ammonia as a surrogate for dimethyl mercury release in this Order. Therefore no change in the permit is required.

Comment #11 from Bill Green, Citizen, dated November 23, 2015

Ecology is only showing the first paragraph of this comment in this summary. For the complete comment with all citations, footnotes, and explanations, please refer to Exhibit D.

(page 11 of 27, line 4) There appears to be one or more missing or extra words in line 4 on page 11 ("…and AP tank farms during tank at three given …"). This should probably be corrected before Ecology issues this order as final.

Ecology Response:

Thank you for your comment. Ecology offers the following response.

The sentence will be rewritten to:

"Table 5 lists the maximum allowable ammonia reading in ppm for the exhausters in the AY/AZ and AP tank farms during tank retrieval activities at three given temperatures."

Appendix A: Copies Of All Public Notices

Public notices for this comment period:

1. Notice sent to the Hanford-Info email list
2. Classified advertisement in the *Tri-City Herald*

From: Bohrmann, Dieter (ECY)
To: HANFORD-INFO@LISTSERV.WA.GOV
Subject: Advance notice of upcoming comment period on Hanford air permit
Date: Monday, September 28, 2015 2:06:35 PM

This is a message from the Washington Department of Ecology

Ecology plans to start a 30-day public comment period in late October on a proposed modification to an air permit for the AY/AZ tank farm (DE11NWP-001, Rev. 3). The proposed change would allow the U.S. Department of Energy to add a portable exhauster to assist in retrieval activities of the leaking double-shell tank, AY-102. It also will consider the use of an existing exhauster during transfers of AY-102 tank material to the AP tank farm.

More information on the proposed change will be available on Ecology's website, the Hanford Public Information Repositories, and other document review locations when the public comment period begins.

For more information, email HanfordAir@ecy.wa.gov or call 800-321-2008.

Visit us on the web or social media.

Subscribe or Unsubscribe

MBLE

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each square,
dinary words.

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OMI

TEA

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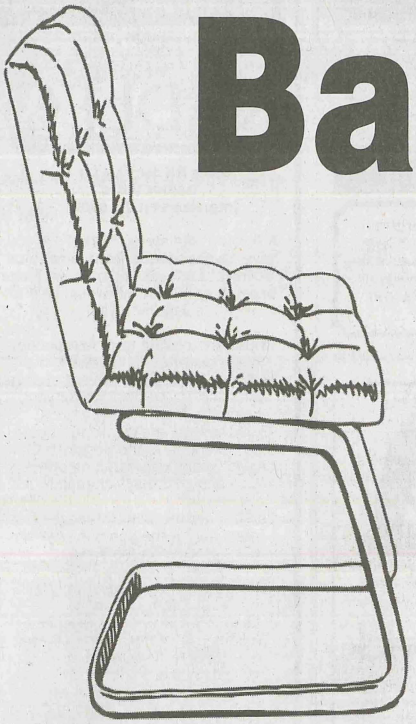
Check out the new, free JUST JUMBLE app

THAT SCRAMBLED WORD GAME
by David L. Hoyt and Jeff Knurek

Now arrange the circled letters to form the surprise answer, as suggested by the above cartoon.

INT YOUR ANSWER IN THE CIRCLES BELOW

Jumble Answer on Page C11



Bargains

Free 3-line ad for items priced under $200

Tri-City Herald
tricityherald.com
VOICE OF THE MID-COLUMBIA

CLASSIFIED LEGALS

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Irrigation District
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5 & 11/1/2015

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25/2015

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5/2015

F RICHLAND
PUBLIC HEARING

given that the Richland
conduct a public hearing
eeting on Tuesday, No-
at 7:30 p.m. in the Coun-
land City Hall, 505 Swift
nd, Washington.
he hearing is to receive
nterested individuals re-
osed 2016 City budget.
of the budget ordinance
November 3, 2015, with
d for November 17,
he proposal will be avail-
the City Clerk's Office or
ent section of the city

Plan Center Spokane
Tri-City Construction
Council Kennewick
Walla Walla Valley Plan
Center Walla Walla
Yakima Plan Center Yakima
A Pre-Bid Conference for all Prime Bidding Contractors will commence at the project location, 115 W. Wine Country Road, Grandview, WA, at 1:30 P.M. on Tuesday, November 3, 2015. Attendance is **Strongly Recommended** .
The City reserves the right to reject any or all bids or to accept the bid deemed best for the City and to waive any informalities. The city shall have the right to reject any or all bids not accompanied by bid security or data required by the bidding document or a bid in any way incomplete or irregular.
No bidder may withdraw his bid after the hour set for receiving the bids, or before the award of contract, unless said award is delayed for a period exceeding 45 days.
Cus Arteaga,
City of Grandview City Administrator
#2047429 10/25 & 11/1/2015

IN THE SUPERIOR COURT OF WASHINGTON FOR BENTON COUNTY

In re the Marriage of:
THACH, SON
Petitioner,
and
FLORES, ALMA G.
Respondent.
NO. 15-3-00951-7

SUMMONS FOR PUBLICATION
TO: ALMA G. FLORES
You are hereby summoned to appear within sixty days (60) after the date of the first publication of this summons, to wit, within sixty days (60) after the 25th day of September and defend the above entitled court, and answer the petition of the Petitioner, and serve a copy of your response upon the undersigned attorney for Petitioner at her office stated below; and in case of your failure to do so, judgment will be rendered against you according to the demand of the complaint, which has been filed with the clerk of said court. This action is a petition for dissolution.
Petitioner's Attorney:
Diem Chi Nguyen
Address: 2003 Maple Valley Hwy

PORT OF BENTON NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Port of Benton Commission will hold a Public Hearing at its regular Commission Meeting, November 10, 2015, at 8:30 a.m. at the Port of Benton Commission Meeting Room, located at 3250 Port of Benton Boulevard, Richland, Washington for the purpose of receiving public comment regarding the 2016 Port Budget. Copies of the Proposed Budget are available to the public at the Port Offices, 3250 Port of Benton Boulevard, Richland, Washington, during regular business hours (6:00 a.m. to 4:30 p.m. Monday through Thursday and 6:00 a.m. to 12:00 p.m Friday), beginning on November 2, 2015.
DATED at Richland, Washington this 14th day of October, 2015.
/s/Roy D. Keck, Commission Secretary
#2036934 10/25/201

The Washington State Department of Ecology invites you to comment on a modification to an air emission permit for the AY/AZ Tank Farm ventilation unit.
The public comment period runs from October 25 to November 25, 2015.
The formal name for this change is the "Approval Order for Notice of Construction." It will revise the already issued Approval Order DE11NWP-001, Rev. 2. The approval order will ensure that Hanford's air emissions stay within safe limits that protect people and the environment, and allow waste retrieval from AY-102 to proceed.
The waste in Hanford's double-shell tank AY-102 must be removed because the tank is leaking. Under an order from Ecology, the waste retrieval must start by March 4, 2016.
In support of retrieving waste from tank AY-102, the U.S. Department of Energy Office of River Protection (the permittee) wants to add a portable exhauster to ventilate tank AY-102 during retrieval activities and to add the existing SY Tank Farm exhauster to the permit as it provides ventilation for the receiving tanks for AY-102.
Decision Process
When the comment period closes, Ecology will consider the comments received and revise the permit as needed. Then we will issue the Approval Order and Response to Comments. The approval order will become part of the site wide Air Oper-

PORT OF BENTON
NOTICE OF COMMISSION MEETING DATE CHANGE

PUBLIC NOTICE IS HEREBY GIVEN that the regularly scheduled Commission Meeting of the Port of Benton for the month of November has been moved from November 11, 2015, to November 10, 2015, at 8:30 a.m. The Commission Meeting will be held at the Port of Benton Commission Meeting Room, 3250 Port of Benton Boulevard, Richland, Washington.
Dated at Richland, Washington, this 20th day of October, 2015.
/s/Roy D. Keck
Commission Secretary
#2045624 10/25/2015

NOTICE OF PUBLIC HEARING

Proposal : An application for a preliminary plat has been submitted by J-U-B Engineers, Inc., 2810 W. Clearwater Avenue, Kennewick, WA 99336. The site is generally located at 8523 W. 10th Avenue and consists of two lots for a total of 38.28 acres proposed to be divided into 84 single family lots. The smallest lot size is 9,285 square feet, the largest lot size is 20,259 square feet and the average lot size is 12,259 square feet. The site is zoned Residential Low Density (RL) and is subject to both single-family design standards. The Comprehensive Plan designation for the site is Low Density Residential. The file number is PP 15-04/PLN-2015-02833.
Open Record Hearing : The City of Kennewick Hearing Examiner will conduct an open record hearing at 6:00pm on **November 9, 2015** in the Council Chambers in Kennewick City Hall at 210 W. 6th Avenue, Kennewick, WA 99336. Testimony will be taken at this meeting. The Hearing Examiner is expected to make a decision for the Preliminary Plat following this meeting.
Public Comment Period : Comments submitted before 4:30 p.m. on November 6, 2015 will be included in the Hearing Examiner's meeting packet. Comments after November 6, 2015 can be submitted at the Public Hearing.
If you have questions on the proposal, contact Steve Donovan, Planner at (509) 585-4361 or via e-mail at **steve.donovan@ci.kennewick.wa.us** .
Environmental Documents and/or

Pre-Qualification of Contractors for 2016

Public Utility District No. 1 of Franklin County is updating its Pre-Qualified Contractors list for 2016. Contractors must be pre-qualified by the District's Board of Commissioners annually to work on the District's electrical and/ or fiber system. Electrical work may consist of electrical substation, transmission, overhead and/or underground distribution construction projects and tree trimming. Fiber work may consist of splicing, overhead and/or underground fiber construction projects. All contractors wanting to submit bids for work on the District'selectrical system must be on the District's Pre-Qualified Contractors List.
This is not a notice of bid; rather, the applications submitted by contractors will be used by the District to establish a list of contractors from which future bids may be requested.
Contractors may obtain a 2016 Prequalification Application Packet by contacting Rebecca Diaz, Contract Specialist, at (509) 542-5918 or
rdiaz@franklinpud.com.
Please submit a completed application by 5:00 pm on November 13, 2015.
#2022576 10/18 & 10/25/2015

INVITATION TO BID
WINCHESTER WASTEWAY TURNOUT RE-COATING PROJECT
GRANT COUNTY, WASHINGTON

Bidders are invited to submit sealed bids for sandblasting and coating of two (2) steel radial gates and associated exposed structural metal located at the turnout of the Winchester Wasteway from the West Canal in accordance with applicable industry standards, regulatory requirements, and District-supplied specifications. Bidders will comply with any applicable laws of the State of Washington pertaining to the performance of public works contracts, including compliance with laws pertaining to prevailing wages on public works contracts.
Bids shall be on a lump sum basis per schedule and in U.S. dollars. Tabulated bids will be submitted to the District's Board of Directors for consideration and award at their regular meeting on Tuesday, December 1, 2015. Award will be based upon the lowest responsible re-

v.ci.richland.wa.us begin-
30, 2015.
25 & 11/1/2015

VIEW MUSEUM
ATION TO BID
VIEW, WASHINGTON

be received by the City of
ater than 4:00 p.m. on
mber 12, 2015 at the
ers, Grandview City Hall,
cond Street, Grandview,
930, for the remodel of a
W MUSEUM. **BIDS RE-**
THIS DATE AND TIME
CONSIDERED. A single
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Road, Grandview,
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d frames, glazing, stucco,
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Thursday, November 12,
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930. Bidders and other
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re, pllc, 1320 N. 16th
C, Yakima, Washington
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#213 Renton, WA 98057
(425)276-5216
County: King

Kennewick Irrigation District (KID)
Invitation for Bid

Per RCW 87.03.435 the KID is inviting and requesting bid proposals for the furnishing of concrete. Concrete shall be 4,000 psi commercial concrete or 6 sacks of cement per cubic yard and include approximately 705 cubic yards of concrete.
Complete bid documents, including a materials list and specifications, are available at the Kennewick Irrigation District, 12 W. Kennewick Ave, Kennewick WA, 99336 starting at 1:00 p.m. Monday, October 19, 2015.
Bids shall be titled "PC2015-54 Concrete for WaterSmart Grant" and shall be addressed to the Kennewick Irrigation District Board of Directors. Bids will be received by Lori Gibson, Executive Assistant, 12 W. Kennewick Ave., Kennewick, WA 99336, up to 1:00 p.m., on Wednesday, November 4th, 2015 at which time they will be publically opened and read aloud at the Kennewick Irrigation District Office.
#2041155 10/18 & 10/25/2015

PORT OF KENNEWICK
NOTICE OF SPECIAL MEETING
AND MEETING CANCELLATION

NOTICE IS HEREBY GIVEN that the Port of Kennewick will hold a Special Commission Workshop Meeting ***Tuesday, October 27, 2015 at 6:00 pm*** in the Commission Chambers, located at 350 Clover Island Drive, Suite 200, Kennewick, Washington. This meeting will be held in lieu of the regularly scheduled 2:00 pm October 27, 2015 Commission Meeting.
The purpose of the Commission Workshop is to discuss the Comprehensive Scheme Update, Port priorities, goals, capital improvement costs and projects; and review the long range planning objectives included in the 2015-2016 Work Plan.
The public is welcome and encouraged to attend. For more information, please call the Port of Kennewick at 509.586.1186.
/s/ Don Barnes
President, Board of Commissioners
Port of Kennewick
#2013705 10/21 & 10/25/2015

Kennewick Irrigation District (KID)
Invitation for Bid

Per RCW 87.03.435 the KID is inviting and requesting bid proposals for the furnishing of materials only, related but not limited to, pipe, valves, fittings, and other appurtenant water work supplies. The materials include approximately 700 linear feet of 16-inch Ductile Iron, and 1,600 linear feet of 12-inch C900 PVC pipe and other related water work supplies.
Bid documents, including a materials list and specifications, are available at the Kennewick Irrigation District, 12 W. Kennewick Ave, Kennewick WA, 99336 starting at 1:00 p.m. Monday, October 19, 2015.
Bids shall be titled "Sherman St. Transmission Piping (Materials Only)" and shall be addressed to the Kennewick Irrigation District Board of Directors. Bids will be received by Lori Gibson, Executive Assistant, 12 W. Kennewick Ave., Kennewick, WA 99336, up to 1:30 p.m., on Wednesday, November 4, 2015 at which time they will be publically opened and read aloud at the Kennewick Irrigation District Office.
#2041185 10/18 & 10/25/2015

AN ORDINANCE of the City of Richland amending Title 18: Water, of the Richland Municipal Code, relating to irrigation rates and new customer meter fees. The changes to RMC Chapter 18.24 shall take effect on January 1, 2016, and RMC Chapter 18.37 shall take effect on the first utility bill in January 2016. Ordinance available at the City Clerk's Office, 975 George Washington Way, Richland, WA 99352 or (509) 942-7388.
#2052950 10/25/2015

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ating Permit during a future update.
The Permittee/Site Owner is U.S. Department of Energy Office of River Protection, P.O. Box 450, Richland, WA 99352
To submit comments, send comments or questions by email (preferred) to HanfordAir@ecy.wa.gov. You also can send them via U.S. mail, or hand deliver them to:
Philip Gent
Department of Ecology
3100 Port of Benton Blvd.
Richland, WA 99354
Public meeting.
A public hearing is not scheduled, but if there is enough interest, we will consider holding one. To request a hearing or for more information, contact:
Dieter Bohrmann
Department of Ecology
800-321-2008
Hanford@ecy.wa.gov
Information for Public Review
Ecology invites you to review and comment on the documents for our decision to change the permit.
· The application letter
· The draft approval order, conditions, and restrictions
These documents are at the locations listed below.
Air Pollution Regulations
Ecology is following Washington Administrative Code 173-400, General Regulations for Air Pollution Sources, to process the U.S. Department of Energy's request to change the permit.
Washington Administrative Code Section 173-400-171 covers how we conduct this public comment period.
It outlines when, where, and how we notify the public and provides the proposal for review.
Information Repositories and other document review locations
Online
www.ecy.wa.gov/programs/nwp/commentperiods.htm
Richland
Ecology's Nuclear Waste Program Resource Center
3100 Port of Benton Blvd.
Richland, WA 99354
Contact: Valarie Peery
509-372-7950
Valarie.Peery@ecy.wa.gov
Dept. of Energy Administrative Record
2440 Stevens Drive, Room 1101
Richland, WA 99354
Contact: Heather Childers
509-376-2530
Heather_M_Childers@rl.gov
Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland, WA 99354
Contact: Janice Scarano
509-372-7443
DOE.reading.room@pnnl.gov
Portland
Portland State University
Branford Price Millar Library
1875 SW Park Avenue
Portland, OR 97207
Contact: Claudia Weston
503-725-4542
Westonc@pdx.edu
Seattle
University of WA Suzzallo Library
P.O. Box 352900
Seattle, WA 98195
Contact: Cass Hartnett
206-685-3130
Cass@uw.edu
Spokane
Gonzaga University Foley Center
502 E Boone Avenue
Spokane, WA 99258
Contact: John S. Spencer
509-313-6110
spencer@gonzaga.edu
#2049116 10/25/2015

CITY OF PASCO
NOTICE OF PUBLIC HEARING

PLEASE TAKE NOTICE that the Pasco City Council will hold a Public Hearing on November 2, 2015, at 7:00 p.m., in the Council Chambers, at 525 N. 3rd Ave, to consider vacating the east/west easement between lots 8-15 Plat of Agri-Center.
Debra Clark, City Clerk
#2025213 10/11 & 10/25/2015

Studies Applicable to this Study : A Revised Mitigated Determination of Non-significance, ED 15-35 was issued on October 14, 2015. The time for appealing SEPA issues is fourteen (14) calendar days from the issue date.
Determination of Completeness : The application was determined complete on August 17, 2015 for the purpose of processing.
Project Permits Associated with this Proposal :None
Preliminary Determination of Regulations Used for Project Mitigation : Title 18 (Zoning), Title 17 (Subdivision), Title 4 of the Kennewick Municipal Code and the land use policies contained in the Kennewick Comprehensive Plan.
Estimated Date of Decision : Within 10 business days of the Hearing Date of November 9, 2015.
To Receive Notification of the Decision : Contact the Development Services Division at 210 W. 6th Avenue, Kennewick, WA 99336 or via telephone at (509) 585-4280.
Appeal : Any person aggrieved by the decision of the Kennewick Hearing Examiner on this proposal may appeal to the Superior Court of Benton County within twenty-one (21) days of the date of decision.

Steve Donovan, Planner
210 W. Sixth Avenue / PO Box 6108, Kennewick WA 99336

The City of Kennewick welcomes full participation in public meetings by all citizens and does not discriminate on the basis of disability, pursuant to the requirements of the American with Disabilities Act of 1990, pub. L 101-336. No qualified individual with a disability shall be excluded or denied the benefit of participating in such meetings. If you wish to use auxiliary aids or require assistance to comment at this public meeting, please contact the City of Kennewick, Steve Donovan,Development Services Department at (509) 585-4361 or TDD (509)585-4425 or through the Washington Relay Service Center TTY at #711 at least ten days prior to the date of the meeting to makearrangements for special needs.

210 W Sixth Avenue/PO Box 6108, Kennewick WA 99336
#2052092 10/25/2015

CITY OF PASCO
NOTICE OF PUBLIC HEARING

PLEASE TAKE NOTICE that the Pasco City Council will hold a Public Hearing on November 16, 2015, at 7:00 p.m., in the Council Chambers, at 525 N. 3rd Ave, to consider vacating N Main Ave. and Cincinnati St. adjacent to Blocks 48, 49 and 62 Frey's Addition.
Debra Clark, City Clerk

CITY OF PASCO
NOTICE OF PUBLIC HEARING

PLEASE TAKE NOTICE that the Pasco City Council will hold a Public Hearing on November 16, 2015, at 7:00 p.m., in the Council Chambers, at 525 N. 3rd Ave, to consider vacating W. Irving St east of Rd 27 Ave.
Debra Clark, City Clerk

CITY OF PASCO
NOTICE OF PUBLIC HEARING

PLEASE TAKE NOTICE that the Pasco City Council will hold a Public Hearing on November 16, 2015, at 7:00 p.m., in the Council Chambers, at 525 N. 3rd Ave, to consider vacating W. Margaret St. between Rd 46 and Rd 45..
Debra Clark, City Clerk
#2050458 10/25 & 11/8/2015

Going nowhere *FAST*?

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sponsive bid as defined in RCW 39.04. All work related to this contract must be completed by March 5, 2016.
The Quincy-Columbia Basin Irrigation District (District), P.O. Box 188 / 1720 South Central Ave., Quincy, WA 98848 will receive bids until 2:00 P.M., November 19, 2015. Bids received after the time of announced opening will not be accepted and will be returned unopened. Bidder's failure to perform onsite inspection for field conditions will subject bid to being declared non-responsive.
For a copy of the Bidding Documents, contact the District office at (509) 787-3591 Monday through Friday 7:30 A.M. to 4:00 P.M.
A pre-bid site visit is scheduled for 1:30 pm on Thursday, November 12, 2015, at the project site along the West Canal – Location is 0.8 miles East of the intersection of SR 28 and Road J NW, Quincy, WA. A representative of each bidder is requested to attend the pre-bid site visit.
Each bid shall be accompanied by a bid security in certified or cashier's check or bid bond on District form and in an amount equal to at least 5% of the amount of such bid. All bid proposals must be on the form provided and if Successful Bidder fails to enter into the contract within the time specified in the specifications, the bid proposal deposit shall be forfeited. The Successful Bidder will be required to furnish the additional bond(s) prescribed in the Bidding Documents and be required to sign the Non-Collusion and Debarment Affidavit, as found in the Bidding Documents. In order to submit a Bid on public work, Bidders and their Subcontractors shall hold such licenses and registrations as required by State Statutes and Codes and federal and local Laws and Regulations. Bidders will be required to comply with State of Washington RCW 39.30.060 relating to identification of Subcontractors.
The District reserves the right to reject any or all bids and to waive any irregularities as informalities.
#2029429 10/18 & 10/25/ 2015

CITY OF PASCO
REQUEST FOR QUALIFICATIONS
FOR
CONSTRUCTABILITY REVIEW
SERVICES
COLUMBIA WATER SUPPLY PROJECT

The City of Pasco, Washington is requesting a Statement of Qualifications to provide **professional engineering services** from qualified consultants that are registered to do so in the State of Washington to perform a constructability review of the Columbia Water Supply Project 90% Design Plans and Specifications. For additional information, and for the full Request for Qualifications, please contact Precilla Andaya, Administrative Assistant, City of Pasco Public Works, 525 N. 3rd Avenue, PO Box 293, Pasco, WA 99301, (509) 543-5738. Statement of Qualifications must be submitted in writing on or before **November 9, 2015 at 11:00 a.m.** to be considered responsive.
The City of Pasco in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.
DATED: October 22, 2015
#2051603 10/25 & 10/11/2015

Going nowhere *FAST*?

e your Legal Announcement, Call 585-7213.

Appendix B: Copies Of All Written Comments

RECEIVED

NOV 23 2015

DEPARTMENT OF ECOLOGY
NWP - RICHLAND

November 23, 2015

Mr. Philip Gent
Department of Ecology
3100 Port of Benton Blvd.
Richland, WA 99354

Re: Public comments, draft order DE11NWP-001, Rev. 3

Dear Mr. Gent:

Enclosed are my comments on draft order of approval DE11NWP-001, Revision 3. This draft order approves upgrades and modification to certain tank farm ventilation systems and installation of two (2) mixer pumps per tank farm during Waste Feed Delivery operations. These comments generally note:

1. that the permittee cannot act on Ecology's final order until all relevant requirements under WAC 173-401 and 40 C.F.R. 70 have been satisfied;
2. that sampling only for ammonia overlooks emissions of all other regulated air pollutants previously measured in emissions from tank farm tanks; and
3. that the proposed sampling merely perpetuates a level of ignorance regarding the composition of tank emissions that existed when the tanks were first used.

Several of the comments quote from the *Hanford Tank Vapor Assessment Report*[1] (TVAR). Based on this report Attorney General Bob Ferguson filed a lawsuit[2] in federal district court against the U.S. Department of Energy, and its contractor, Washington River Protection Solutions, for failure to control hazardous chemical vapors from tank farm emissions that continue to jeopardize worker health and safety. It is not surprising Ecology overlooks this report. After all, had any previous Ecology Order contained adequate sampling requirements, all harmful emissions would have been characterized; injury from these emissions could have been avoided; and there would be no basis for the Washington State Attorney General to file such a lawsuit. This draft order not only counters actions by Attorney General Ferguson, but also acts in opposition to existing knowledge and sound science. Sound science is predicated, in part, on the fact that each chemical compound is unique and has unique physical and chemical properties. Ecology overlooks this fact when it requires ammonia to be used as a surrogate compound for the measuring of other toxic air pollutants (TAPs).[3]

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[1] W.R. Wilmarth et al., *Hanford Tank Vapor Assessment Report*, SRNL-RP-2014-00791, Rev.0, Oct. 30, 2014. Available at: http://srnl.doe.gov/documents/Hanford_TVAT_Report_2014-10-30-FINAL.pdf

[2] http://www.atg.wa.gov/news/news-releases/ag-sues-federal-government-over-hanford-worker-safety

[3] "Ammonia will be used as a surrogate compound for the measuring of the other TAPs . . . A maximum concentration of ammonia in part per million (ppm) by volume of ammonia emitted will be used to ensure exceedance of TAPs doesn't occur . . ." Condition 3.5, draft Order DE11NWWP-001, Rev. 3, at 10-11

The *Hanford Tank Vapor Assessment Report* (TVAR) was prepared by an independent panel of experts. This independent panel of experts was given full access to data and Hanford Site personnel without influence from any Hanford Site contractor or the U.S. Department of Energy. The Washington State Department of Health (Health) also participated. Ecology apparently didn't participate and Ecology has not published a reason why it didn't. Additionally, the U.S. Department of Energy and Hanford Site personnel were given an opportunity to review a pre-publication draft of the TVAR. The U.S. Department of Energy and its contractors have not publicly challenged the TVAR. Health has not publicly challenged the TVAR. It is now problematic for the U.S. Department of Energy, its contractors, or Ecology to ignore or to reject findings and recommendations expressed in the TVAR. Unless Ecology now wishes to challenge the independent panel of experts, Ecology is obligated to implement their recommendations, particularly with regard to sampling needed to accurately characterize emissions. To do otherwise will result in using emission data and sampling techniques known to be inaccurate and unrepresentative.

I hope Ecology finds my comments useful.

Regards,

Bill Green
424 Shoreline Ct.
Richland, WA 99354

Enclosure
cc: w/encl. via email
P. Gent, Ecol.

Comment 1: A new public review will be required before conditions in this Notice of Construction (NOC) can be added to Hanford's Air Operating Permit (AOP). According to Ecology's announcement, this NOC for modification of Order DE11NWP-001 for the operation of ventilation systems in the 241-APP, 241-SY, and 241-AY/AZ tank farms ". . . will be added to the Hanford Air Operating Permit when it is next revised". However, the current public review conducted under WAC 173-400 does not meet the minimum requirements for public review pursuant to WAC 173-401, *The Operating Permit Regulation*. The specific deficiencies include:

- failure to publish a public notice in the *Permit Register* [WAC 173-401-805 (2)];
- failure to provide a thirty day comment period as specified in WAC 173-401-800 (3); and
- failure to provide notification via Ecology's mailing list. [WAC 173-401-800 (2)(c)]

WAC 173-400-111 (2), requires that a notice of construction application designated for incorporation into the source's AOP must be processed in accordance with the operating permit program procedures and deadlines. Such procedures and deadlines are codified at WAC 173-401. It is apparent from the bulleted items above that the application was not processed in accordance with the procedures required to revise an AOP. Therefore, a new public review will be required before conditions in this NOC can be added to Hanford's AOP.

Comment 2: There is no question the requirements of 40 C.F.R. 61 subpart H apply to activities contemplated by this NOC; yet, neither the application offered to the public for review or the draft order address these federal requirements. The U.S. Environmental Protection Agency (EPA) has already cautioned Ecology regarding the applicability subpart H requirements in Hanford air permitting actions[1, 2].

Furthermore, WAC 173-400 doesn't allow the permittee to overlook emissions addressed by any applicable NESHAP, such as 40 C.F.R. 61 subpart H, in its application, independent of whether Ecology chooses to enforce that NESHAP. "At a minimum, the application must provide information on the nature and amounts of emissions . . . increased as part of a modification. . ." WAC 173-400-111 (1)(b) An increase in emissions of radionuclides cannot be avoided during activities covered by this NOC, yet the permittee's application offered to the public for review overlooks radionuclides.

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[1] "Title V and part 70 requirements do apply, of course, to issues relating to whether Ecology has included all requirements of Subpart H, and any other "applicable requirements," as defined in 40 C.F.R. § 70.2, in the Hanford Title V Permits." *In the matter of U.S. Department of Energy-Hanford Operations*, Order on Petition Nos. X-2014-01 and X-2013-01, n. 14 at 15

[2] "The EPA notes, with limited exceptions not relevant here, that the NSPS and NESHAP standards are federally enforceable against affected sources under the CAA independently of whether such standards have been adopted by a state as a matter of state law. In addition, they are also ''applicable requirements'' for purposes of the title V program, 40 CFR 70.2, and as such a title V permit must contain emission limitations and standards that assure compliance with any such applicable requirements at the time of permit issuance, 40 CFR 70.6(a)." 79 Fed. Reg. 59,654 (Oct. 3, 2014)

Comment 3: Actions contemplated by this NOC cannot occur until after the Hanford Site Air Operating Permit (AOP) has been appropriately amended or modified (revised).

On May 29, 2015, the Administrator of the U.S. Environmental Protection Agency (EPA) published an objection[1] regarding the most recent two (2) versions of Hanford's *final*[2] AOP. The Administrator's objection is based on Ecology's inadequate record with respect to addressing requirements of 40 C.F.R. 61 subpart H in the Hanford's AOP[3]. The Administrator notes addressing her objection may involve changes to, or the addition of, some requirements in Hanford's AOP controlling radionuclide air emissions[4]. State law does provide the permittee with the ability to prevent Ecology from changing the permit to address the Administrator's objection [RCW 70.94.161 (7); WAC 173-401-700 (1)(g)], and "[b]y WA rules, NOCs take precedence over AOP work."[5] However, exercising those provisions doesn't allow the permittee to act on terms and conditions not properly added to the *final* version of its AOP. Furthermore, it is uncertain whether a *final* AOP can exist when there is an outstanding objection by the Administrator, perhaps in part because "a state's response to an EPA objection triggers a new EPA review and petition opportunity"[6]. The net affect here is that while U.S. DOE can obtain all the approvals it wants under WAC 173-400 for the conduct of new or revised activities, it cannot act on terms and conditions in these approved orders until its AOP has been properly revised. By not consenting to changes addressing the Administrator's objection and/or by re-directing Ecology's permitting efforts elsewhere, U.S. DOE only looses time it could be spending on clean-up under conditions contemplated by this draft order and under conditions approved in other recent orders issued pursuant to WAC 173-400.

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[1] ". . . I grant the Petitioner's request to object to the Hanford Title V Permit on the basis that Ecology's record is inadequate with respect to addressing Subpart H [40 C.F.R. 61 subpart H] in the Hanford Title V Permit." *In the matter of U.S. Department of Energy-Hanford Operations*, Order on Petition Nos. X-2014-01 and X-2013-01 at 20
Available at: http://www2.epa.gov/sites/production/files/2015-08/documents/hanford_response2014.pdf

[2] '"Final permit" means the version of a chapter 401 permit issued by the permitting authority that has completed all review procedures required by this chapter and 40 CFR §§ 70.7 and 70.8.' WAC 173-401-200 (15)

[3] ". . . I grant the Petitioner's request to object to the Hanford Title V Permit on the basis that Ecology's record is inadequate with respect to addressing Subpart H in the Hanford Title V Permit." *In the matter of U.S. Department of Energy-Hanford Operations*, Order on Petition Nos. X-2014-01 and X-2013-01 at 20

[4] "If, . . . Ecology concludes that Attachment 2 [the NERA License] incorrectly characterizes a certain requirement as "state-only," Ecology must ensure that the final title V permit appropriately characterizes that requirement as federally enforceable prior to issuing the final title V permit. To the extent this first requires a revision to the NERA License, Ecology must delay issuance of the final title V permit until the NERA License is revised consistent with title V deadlines for permit issuance." *Id*. n.11 at 13

[5] "Currently USDOE has submitted three Notice of Construction Applications and should have another one submitted to me by the end of the month. By WA rules, NOCs take precedence over AOP work. The NOCs are also required by USDOE to meet legal requirements to empty a leaking Double Shell Tank (AY-102) or to resolve an HPV [high priority violation]." Email from P. Gent, Ecology, to D. Hardesty, EPA Region 10, *Subject: Hanford AOP response to comments*, Aug. 5, 2015.

[6] *In the matter of U.S. Department of Energy-Hanford Operations*, Order on Petition Nos. X-2014-01 and X-2013-01, n.17 at 23

Comment 4: (Draft Order Finding 3 "Existent operations of . . . date May 7, 2008.") Rescind approval order 94-07, Rev. 3 dated May 7, 2008, because it is now known both the permittee's application and resulting order of approval greatly underestimate actual emissions from operations at 241-AY and 241-AZ Tank Farms. The 2008 application and conditions in the order relied upon characterization of tank contents and overlooked spikes in emissions associated with waste-disturbing activities. Experts have now determined:

- it is the composition of tank headspace rather than the contents of the tanks that determines the composition of emissions from the tanks; and
- waste-disturbing activities greatly increase the concentration and composition of head space gases and vapors.

In the *Hanford Tank Vapor Assessment Report*[1] (TVAR), published in 2014, an independent panel of experts found that:

> "It is the head space composition [rather than tank contents] that determines the composition of the vent, stack, and most fugitive emissions. . ."[2]

Also, this panel of experts found huge increases in concentration and composition of toxic vapors and gases in the head space accompanying waste disturbing activities.

> Waste disturbing activities can greatly alter the concentration and composition of the head space gases and vapors. Past head space characterization did not evaluate the effect of waste disturbing activities on the chemicals in the head space and their concentrations."[3]

and:

> Disturbance of the waste materials may alter the chemical processes taking place in the tank, as well as release vapors trapped in the salt cake or sludge."[4]

and:

> "In briefings received by the TVAT [the independent panel of experts] while visiting the Hanford site, it was reported that transient spikes are observed in vapor concentrations at the beginning of retrieval operations. This observation calls into question assumptions of the head space being well mixed and head space composition being constant over time. It further calls into question any assumption that sampling during quiescent conditions would be reasonably representative of conditions while the waste materials are being disturbed. <u>We understand that the transient spikes were reported to be as much as three orders of magnitude[a] greater than the baseline quiescent levels.</u> An assumption that releases are always diluted is questionable in that most of the passively ventilated SSTs are not subject to active ventilation. Furthermore, the tanks that are subject to active ventilation periodically revert to a passively vented condition due to both planned and unplanned power interruptions."[5] (emphasis added)
>
> [a] "[A]n increase of one order of magnitude is the same as multiplying a quantity by 10." An increase of three orders of magnitude is the equivalent of multiplying by 1,000, or 10^3. (http://whatis.techtarget.com/definition/order-of-magnitude)

Because the application relied upon for NOC Order 94-07 and the resulting conditions in NOC Order 94-07 were created about six (6) years before the TVAR was available, that application and order of approval could not have reflected the findings in this report, particularly with regard to the source and composition of emissions, and the huge increases in emissions associated with waste disturbing activities.

[1] W.R. Wilmarth et al., *Hanford Tank Vapor Assessment Report*, SRNL-RP-2014-00791, Rev.0, Oct. 30, 2014. (Available at: http://srnl.doe.gov/documents/Hanford_TVAT_Report_2014-10-30-FINAL.pdf)

[2] *Id*. at 23
[3] *Id*. at 23
[4] *Id*. at 27
[5] *Id*. at 26

Comment 5: (Conditions 1.3.4, 3.5, 3.5.2, and 3.5.3) Using ammonia emissions as a surrogate compound for the measuring of all other TAPs during active mixing, retrieval, or Waste Feed Delivery operations will seriously understate the huge increases in emissions already documented for some of the most toxic and hazardous chemicals in these tanks. An independent panel of experts examined analyses of samples taken from Tank C-101 before waste transfer, at the start of waste transfer, and mid-way through the waste transfer operation. During these periods, Mercury emissions increased more than 900% of the *occupation exposure limit*; emissions of N-Nitrosodimethylamine (NDMA) increased more than 2,300% of the *occupational exposure limit*; and Formaldehyde emissions increased slightly more than 64% of the *occupational exposure limit*[1]. Yet, Ammonia emissions increased only about18% of the *occupation exposure limit* .[2] In briefings provided to these same experts by Hanford Site personnel ". . . it was reported that transient spikes are observed in vapor concentrations at the beginning of retrieval operations. . . . the transient spikes were reported to be as much as three orders of magnitude greater than the baseline quiescent levels."[3] An increase of three orders of magnitude is the equivalent of multiplying by 1,000, or by 10^3.

Ecology's proposal to consider all toxic air pollutants (TAPs) expected from tank emissions to be ammonia is highly questionable. While this substitution certainly simplifies monitoring required of the permittee, it also greatly simplifies the periodic table and re-writes centuries of scientific discoveries and thought. However, until Ecology similarly lobotomizes WAC 173-460 and the federal *Clean Air Act*, Ecology is obligated to address the greatly elevated concentration of TAPs and *Hazardous Air Pollutants* (HAPs) documented by experts to occur during active mixing, retrieval, or Waste Feed Delivery operations. No Ecology Order can re-write either a regulation or a statute.

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[1] W.R. Wilmarth et al., *Hanford Tank Vapor Assessment Report*, SRNL-RP-2014-00791, Rev.0, Oct. 30, 2014 at 27. (This federally-funded report was prepared by an independent panel of experts, commissioned through the Savannah River National Laboratory. Available at: http://srnl.doe.gov/documents/Hanford_TVAT_Report_2014-10-30-FINAL.pdf)
Based on this report Attorney General Bob Ferguson filed a lawsuit in federal district court against the U.S. Dept. of Energy, and its contractor, Washington River Protection Solutions, for failure to control hazardous chemical vapors that continue to jeopardize worker health and safety.
[2] *Id*. at 27
[3] *Id*. at 26

Comment 6: (Condition 3.5) In Condition 3.5, Ecology proposes measuring all expected emissions of HAPs and TAPs from this project as if they were ammonia. [HAPs because a very significant number of TAPs are also *Hazardous Air Pollutants* (HAPs) federally regulated in accordance with section 112 of the *Clean Air Act*.] By measuring only for ammonia, thereby eliminating measurement of all other HAPs and TAPs emissions

expected from this project, Ecology overlooks emissions used as inputs to models that determine the risk this project poses to the public. The determination of risk to the public should rely on the most accurate and complete information for all expected HAPs and TAPs.

Comment 7: (Condition 3.3 "TAPs Emission Assessment") Condition 3.3 requires the permittee develop a sampling and analysis plan (SAP). However, Condition 3.3 is deficient because it:

- does not specify a date by which this SAP is to be developed;
- does not require a pre-issuance review by Ecology;
- does not require publication of the sampling results; and
- does not require the SAP to be revised as new information becomes available.

Absent a specific date, the permittee is free to postpone development of the SAP forever. Without at least the threat of a review by Ecology, the permittee is allowed to overlook sound science in developing and implementing the SAP. Publication of the results from sampling is needed to ensure sampling actually occurred and occurred in accordance with the SAP. And, absent a requirement to reassess and revise the SAP based on sampling results, the permittee can ignore ever considering such sampling results.

Comment 8: (Condition 3.4 "Ammonia Emission Assessment") This condition requires a "quarterly assessment of ammonia stack emissions". A quarterly assessment is insufficient to detect a bolus event (a brief episodic spike in the release rates of a relatively high concentration of contaminates). In 2014, an independent panel of experts commissioned through the Savannah River National Laboratory issued the federally-funded *Hanford Tank Vapor Assessment Report*[1] which determined the existence of bolus events. "[U]nder certain weather conditions, concentrations approaching 80% of the head space concentration could exist 10 feet downwind from the release point. . ."[2] A quarterly assessment of ammonia emissions would almost certainly fail to capture emissions from such bolus events.

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[1] W.R. Wilmarth et al., *Hanford Tank Vapor Assessment Report*, SRNL-RP-2014-00791, Rev.0, Oct. 30, 2014. (Available at: http://srnl.doe.gov/documents/Hanford_TVAT_Report_2014-10-30-FINAL.pdf)
[2] *Id.* at 9

Comment 9: (Table 5 "Ammonia Concentration Limits at Varying Temperatures") At any given temperature Table 5 informs that ammonia from "New AP Exhauster" is considerably more toxic than ammonia from other tanks/exhausters and, therefore, merits a lower limit. Please explain why ammonia from one source is more toxic than ammonia from another similar source and how it is even possible to ensure any of these limits are never exceeded absent continuous monitoring. Continuous monitoring is known to exist on at least one tank, Tank SX-103[1]. Therefore, it is certainly possible to equip other tanks with such monitoring.

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[1] W.R. Wilmarth et al., *Hanford Tank Vapor Assessment Report*, SRNL-RP-2014-00791, Rev.0, Oct. 30, 2014. At 26-27

Comment 10: (Table 5 "Ammonia Concentration Limits at Varying Temperatures", pg. 11 of 27) Ecology exceeds its authority when it sets limits in an order for chemicals that are not addressed in regulation. While ammonia is a regulated chemical with specified limits, regulation overlooks ammonia as a TAP-surrogate or TAPs as ammonia-equivalents along with associated methodology to arrive at specific limits. Ecology must first complete the rulemaking process before it can lawfully regulate TPA surrogates or ammonia equivalents. EPA did use a somewhat similar approach, though on a much more modest scale, in regulating green house gases or GHGs. EPA defined GHGs as a collection of six well-mixed chemicals - CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 - expressed these chemicals as CO_2 equivalents or CO_{2e}, and based the equivalents on each chemical's global warming potential. However, before GHGs and associated methodology for establishing equivalents were regulated, EPA first completed the rulemaking process, and did so only after significant involvement by the scientific community. Ecology's efforts in this draft order seem directed at inventing credibility for perpetuating ineffectual monitoring without benefit of known science and without first satisfying applicable statutory requirements.

Comment 11: (page 11 of 27, line 4) There appears to be one or more missing or extra words in line 4 on page 11 (". . .and AP tank farms during tank at three given . . ."). This should probably be corrected before Ecology issues this order as final.

References

Emission Unit ID: 56

200W P-296SY-001

296-P-23

This is a MINOR, ACTIVELY ventilated emission unit.

241-SY TANK FARM

Emission Unit Information

Stack Height: 17.30 ft. 5.27 m. Stack Diameter 0.51 ft. 0.16 m.

Average Stack Effluent Temperature: 68 degrees Fahrenheit. 20 degrees Celsius.

Average Stack ExhaustVelocity: 83.07 ft/second. 25.32 m/second.

Abatement Technology ALARACT WAC 246-247-040(4)

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

Zone or Area	Abatement Technology	Required # of Units	Additional Description
	Deentrainer	1	
	Heater	Non-Operational	
	Prefilter	1	
	HEPA	2	In series
	Fan	1	

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(3)	TOTAL ALPHA TOTAL BETA	1 week sample/4 times per year.

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit (241-SY B Train - western most unit) is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241-SY Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations will be regulated and/or permitted under the applicable regulations and/or permits for the activity being performed and the emission units associated with the activity. This emission unit is operated in alternation with the "A" train (296-S-25) when "B" train is not operational. The emission unit operates intermittently.

Emission Unit ID: 93

200E P-296A042-001

296-A-42

This is a MAJOR, ACTIVELY ventilated emission unit.

241-AY/AZ TANK FARM

Emission Unit Information

Stack Height: 55.00 ft. 16.76 m. Stack Diameter 0.83 ft. 0.25 m.

Average Stack Effluent Temperature: 75 degrees Fahrenheit. 24 degrees Celsius.

Average Stack ExhaustVelocity: 30.56 ft/second. 9.31 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
	Condenser	1	(In the common exhaust train) At common header. Downtime to be reported by the Tank Farm air emissions notification procedure.
	Water Chiller	1	(In the common exhaust train) Downtime to be reported by the Tank Farm air emissions notification procedure.
	HEME	1	(In the common exhaust train) Downtime to be reported by the Tank Farm air emissions notification procedure.
	Heater	1	(In the common exhaust train) 2 parallel flow paths with 1 operational. Downtime to be reported by the Tank Farm air emissions notification procedure.
	HEPA Filter Stages/Bank	2	(In the common exhaust train) 2 parallel flow paths. 1 filter per stage/ bank, Downtime to be reported by the Tank Farm air emissions notification procedure.
	Chiller Pump	1	(In the common exhaust train) Downtime to be reported by the Tank Farm air emissions notification procedure.
	Fan	1	(In the common exhaust train) 2 parallel flow paths. 1000 CFM Downtime to be reported by the Tank Farm air emissions notification procedure.

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(2)	40 CFR 61, Appendix B Method 114	Sr-90, Cs-137, Am-241	Continuous

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AY/AZ Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations 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 primary exhauster ventilation system that operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
296-A-42 Exhauster Operation (Replaces NOC 901)	AIR 15-822	8/19/2015	971

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 2.42E+00 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 4.83E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).

2) This approval applies only to those activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The authorized activities of this NOC are to install, remove, and operate waste management systems (e.g., mixer pumps, transfer pumps, sluicing, and other required equipment) in tanks 241-AZ-101, 241-AZ-102, 241-AY-101, and 241-AY-102 for the receipt and transfer of waste. Emissions from these tanks are ventilated through exhauster 296-A-42. Based on operational needs, a tank may be isolated from the common header to facilitate installation of a portable exhauster which would be authorized under a separate license.

The 241-AY-101, 241-AY-102, 241-AZ-101, and 241-AZ-102 tanks are double shell tanks (DST). The inner shell is constructed from heat treated, stress-relieved steel. The outer shell is constructed of non-stress relieved steel. The two shells are separated by a 2.5 ft. annulus and contained inside a concrete shell.

The 241-AY and 241-AZ tanks are part of a Resource Conservation and Recovery Act treatment, storage, and/or disposal unit. The tanks contain mixed waste in the form of liquids or contained solids (suspended or settled). The contents in each of the four tanks may be mixed periodically to control gas entrapment in the settled solids, to control temperature, for chemical treatment to control corrosion, or for waste retrieval. Contained solids will be mobilized, as required, as part of this process by hydraulic action of the mixer pumps, sluicers, or by use of air-lift circulators in each of the tanks. During such activities, as well as during storage, the ventilation system maintains the vapor space in each tank below atmospheric pressure.

PRIMARY EXHAUSTER

The air flows from the tanks to a common header. The common header is the point in the overall system at which ventilation flow is provided to the abatement control system. Also, a portion of each tank’s exhaust can be recirculated to assist in moisture control.

The recirculation system is not part of the primary abatement control system and the use is optional. The recirculation fan can be removed and replaced with a spool piece, to allow recirculation system’s condenser and

moisture separator to reduce the loading of the overall system moisture removal equipment.

The tank farm exhaust system provides ventilation for all 241-AZ and 241-AY tank primary vapor spaces. The system removes heat, water vapor, and particulates, and maintains a negative pressure on the tanks. The existing ventilation and abatement control systems for the 241- AY/AZ Tank Farm will be used during the transfer of waste to and from the 241-AY and 241-AZ tanks, unless supplemental ventilation is available. Based on operational needs, a tank may be isolated from the common header to facilitate installation of a portable exhauster which would be authorized under a separate license.

Inlet air for the 241-AZ and 241-AY tanks is provided through the inlet air filters. Air is exhausted from each tank independently through exhaust ducts. The discharge to atmosphere will flow through a condenser, high-efficiency mist eliminator, heater, and two stages of HEPA filters in series. For purposes of calculating abated emissions, only the HEPA filter control efficiencies are used.

The abatement control system consists of two filtration trains and a single stack. Each train consists of a heater, two stages of HEPA filters in series and fan that can ventilate all the tanks. Only one train operates at a time.

SALTCAKE DISSOLUTION WASTE RETRIEVAL SYSTEM

The saltcake dissolution waste retrieval system may be used to retrieve soluble saltcake waste. This method retrieves the soluble portion of the waste only, resulting in very few of the solids being pumped from the tank. The saltcake dissolution waste retrieval system deployed is for water, chemical agent, or catalyst liquid to be added to the tank using a variety of spray nozzles or "sprinklers". The approach is to sprinkle the waste surface with water, chemical agent, or catalyst liquid. The added water, chemical agent, or catalyst liquid must stay in contact with the saltcake for a long enough period of time for the brine to become saturated. Once the brine is saturated, it is pumped to a receiver tank, staging tank, storage DST, or other staging/storage vessel associated with the supplemental treatment, packaging, or disposal. Salt solution will be removed using the existing saltwell pump or other pump placed into the tank.

A tank not equipped with a saltwell pump, a transfer pump (progressive cavity, vertical turbine) can be installed and operated.

Remotely directable water distribution devices will be located in risers spaced as far apart as practical. A combination of spraying water, chemical agent, or catalyst liquid to dissolve the saltcake can be used in conjunction with directing a flow of water or recirculating water at the waste to move it to the pump suction to allow the pumping of waste from the tank. Recirculated waste from the pump may be sent back to the tank as an alternative to using water to direct dissolution waste to the pump suction.

MODIFIED SLUICING WASTE RETRIEVAL SYSTEM

Modified sluicing can be used for some waste retrieval. Modified sluicing is the introduction of liquid at low to moderate pressures and volumes into the waste. The liquid dissolves and breaks apart solid materials and suspends them in the waste slurry. A transfer pump installed in the tank provides the motive force to transfer the liquid slurry to a receiver tank.

Modified sluicing introduces sluice liquid in a controlled fashion using multiple sluicing nozzles at varying pressures and flows, then pumps out the resultant waste slurry. This maintains minimal liquid inventories within the tank at all times. The liquids that could be used in modified sluicing include water, recirculated supernatant/water from the receiving DST, recirculated supernatant/water, chemical agent, or catalyst liquid.

VACUUM WASTE RETRIEVAL SYSTEM

A vacuum waste retrieval system can be used for waste retrieval activities. The vacuum waste retrieval system is introduced into the tanks by means of an articulating mast system (AMS). The AMS has a horizontal reach and rotational capabilities of 360 degrees. The AMS has a retracted position and can be extended vertically. Air is mixed at the suction end of the AMS enabling the required vertical lift for the waste to a topside receiver tank, batch vessel, or a staging single shell tank (SST), storage DST, or other staging/storage vessels associated with supplemental treatment, packaging, or disposal.

The AMS will be deployed through and attached to standard riser flanges that are available on the tanks. Cameras can also be installed in other risers for in-tank viewing and control of the AMS.

For the 200-series tanks in the 241-C, 241-U, 241-B, and 241-T Tank Farms, a vacuum retrieval process tank, staging tank, staging SST, storage DST, or other staging/storage vessel will be deployed. The receiver tank will receive waste in batches from whichever tank is connected into the vacuum retrieval system. The vacuum pressure used to draw up the waste from the tank to the receiver tank is relieved back into the tank being retrieved.

MOBILE RETRIEVAL SYSTEM

A Mobile Retrieval System (MRS) can be used to retrieve waste from some tanks. The MRS consists of two in-tank systems. The first is a robotic crawler inserted through one riser the second is an AMS inserted through a second riser. The AMS retrieves the sludge from the tank using a vacuum with assisting pneumatic conveyance. The AMS vacuum tube has a horizontal reach and can be extended to the bottom of the tank. The arm rotates 360 degrees. The vacuum will be directed through the AMS in the tank to the end effector, which is in contact with the waste. The pneumatic conveyance-assisted vacuum retrieval system will draw the waste up through the vacuum to the waste vessel in the vessel skid in batches. The AMS is then valved out while the waste vessel is emptied and pumped out through the over ground transfer lines to a DST, a staging SST, or other treatment/disposal options. When the waste vessel is nearly empty, the transfer line will be valved out and the AMS will be valved back in and another batch of waste will be removed from the tank. This process will be repeated until waste near the center of the tank is removed. The robotic crawler will be remotely controlled to move and/or wash waste toward the center of the tank.

MOBILE ARM RETRIEVAL SYSTEM

The Mobile Arm Retrieval System (MARS) is a waste retrieval system used to retrieve waste. The MARS employs two design options similar to currently permitted systems: 1) a sluicing retrieval option which is intended for retrieval of non leaker tanks, and 2) a vacuum retrieval option is intended for retrieval of assumed leaker tanks. Both options use an arm and sluicing jets and/or a high pressure water scarifier to break up the waste. The sluicer uses waste supernatant recycled from the DST to form a liquid jet using a nozzle. The scarifier uses filtered, pressurized water that comes from a high pressure water skid.

The equipment portion of the MARS includes a vertical, carbon steel mast (square cross section) as the main structural member. Attached to the vertical mast is a carbon fiber robotic arm. The arm is attached to a traveler that raises and lowers the arm relative to the vertical mast. The arm rotates 360 degrees - 380 degrees on a turntable located in the pit box. The arm also pivots up and down from an elbow at the traveler (hydraulic system) and extends and retracts (hydraulic system). The end of the arm articulates. The arm thus provides for a large range of motion such that the sluicing devices (recycle sluicer, water scarifier) located at the end of the arm can aim at most portions of the tank and from varying (e.g., short) distances.

The containment box which encloses the MARS will be ventilated by two parallel installed radial filters. The purpose of these filters is to minimize contamination from migrating up from the tank into the containment box via the open space on the large riser during retrieval operations. Minimization of contamination inside the containment box is desired should entry into the box ever be required for repairs. Inflow through these filters during retrieval is estimated to reach up to 60 cubic feet per minute (cfm). A valve will be installed between the

filters and the containment box so filters can be isolated from the box. However, because the location of the valve will be approximately 12 feet above ground and difficult to reach without properly installed and inspected scaffolding, the valve will be left open at all times until retrieval of the tank is complete. Once retrieval is complete the valve will be closed.

REMOTE WATER LANCE

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of high pressure systems, operating controls, cables, and hoses. The in-tank components will be comprised of umbilical, in-tank vehicle, high pressure nozzle(s), or the high pressure mixer.

The high pressure water systems will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and from 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.
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3) **The Annual Possession Quantity is limited to the following radionuclides (Curies/year):**

Ac - 227 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Am - 241 8.20E+04 Contr butes GREATER than 0.1 mrem/yr to the MEI and represents GREATER than 10% of the unabated PTE.	Am - 243 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
Ba - 137 m Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	C - 14 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Cd - 113 m Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
Cm - 242 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Cm - 243 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Cm - 244 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
Co - 60 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Cs - 134 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Cs - 137 1.10E+07 Contr butes GREATER than 0.1 mrem/yr to the MEI and represents GREATER than 10% of the unabated PTE.
Eu - 152 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Eu - 154 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Eu - 155 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
H - 3 Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents		

less than 25% of the abated dose.

I - 129

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Nb - 93 m

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 59

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 63

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Np - 237

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pa - 231

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 238

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 239

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 240

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 241

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 242

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 226

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 228

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ru - 106

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sb - 125

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Se - 79

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sm - 151

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sn - 126

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sr - 90 1.80E+07

Contr butes GREATER than 0.1 mrem/yr to the MEI and represents GREATER than 10% of the unabated PTE.

Tc - 99

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Th - 229

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Th - 232

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 232

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 233

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 234

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 235

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 236

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 238

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Y - 90

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Zr - 93

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

4) RELEASE RATES-WDOH Log Approval

The annual possession quantity (APQ) shall be tracked on a WDOH approved log. WDOH authorizes approval of the Tank Waste Information Network System (TWINS) as the logging mechanism for APQs of radionuclide source terms (WAC 246-247-080(7)).

5) WDOH ALTERNATE APPROVAL- Release Fractions

The PTE calculation shall be based on the inventory of material to be managed (tank inventory and supernate)

using the release fraction for the tank inventory of 1.0 E-3 for tank inventory and 8.0 E-5 for supernate.

6) WDOH NOTIFICATION-Change in PTE Calculations
The department will be notified if radionuclides other than Cs-137, Sr-90, and Am-241 are identified that contribute greater than 10% of the PTE or greater than 0.1 mrem/yr TEDE to the MEI (WAC 246-247-040(5) and WAC 246-247-110(8)).

7) WDOH NOTIFICATIONS-Differential Pressure Out of Range
The differential pressure readings for the pre-filters and both stages of HEPA filters shall be monitored recorded and trended a minimum of weekly. The exhaust system will be configured to automatically shut down at 5.9 inches of water (or less) pressure differential across the HEPA filter(s) for the first filter in series or multiple filters in series as indicated by the local readout. If the final HEPA filter in the system exceeds 5.9 inches of water pressure differential across the filter, the cause will be determined and WDOH will be notified through normal established channels (WAC 246-247-040(5) and WAC 246-247-060(5)).

8) STANDARDS-Stack Monitoring Systems
The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1969 and the applicable stack monitoring system inspection requirements referenced in 40 CFR 61 App. B, Method 114, Table 2 - Maintenance, Calibration, and Field check requirements (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(2)).

9) ABATEMENT TECHNOLOGY-HEPA Filter Testing
The HEPA filters are in-place leak tested annually in accordance with a written procedure that addresses testing and visual inspections based on ASME N510 and ASME N511, and shall have a minimum efficiency of 99.95%. In addition, HEPA filter replacement requires in-place leak testing of the HEPA filters (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(2)).

10) ABATEMENT TECHNOLOGY-Filter Protection
The relative humidity shall be maintained below 70%. If the relative humidity cannot be directly measured, the ventilation system exhauster operating temperature will be monitored daily to ensure that the appropriate temperature is maintained, based on psychometric charts and engineering calculations, so that the relative humidity remains below 70%. Daily Monitoring is not required over weekends and holidays when no waste disturbing activities are occurring (WAC 246-247-040(5) and WAC 246-247-060(5)).

11) ABATEMENT TECHNOLOGY-Temperature Values in the Airstream
The airstream temperature is also monitored to verify that it is below the 200°F limit established for continuous operation and 250°F limits established for periodic operation to protect the HEPA filters (WAC 246-247-040(5)).

12) ABATEMENT TECHNOLOGY-Ductwork Insulation
All ventilation ductwork that is above ground and not in a temperature controlled building, from the exit of the tank to the inlet of the exhauster filter housing shall be insulated (WAC 246-247-040(5) and WAC 246-247-060(5)).

13) CONTAMINATION CONTROL-Max Operating Pressure
During waste retrieval operations, the maximum pressure for any waste retrieval method shall not exceed 37,000 psig (WAC 246-247-040(5) and WAC 246-247-060(5)).

14) CONTAMINATION CONTROL-Active Ventilation
Tanks shall have active ventilation during waste retrieval operation, unless alternative controls are documented and approved by WDOH. If the exhauster goes down due to off-normal conditions while retrieval is occurring, the system should be placed into a safe configuration, minimizing dose to personnel and the environment. These steps may include: flushing the lines, pumps, and the waste transfer system of slurry solution using DST supernatant or water; pumping down the tank liquid to minimize remaining liquids; and halting waste retrieval (WAC 246-247-040(5) and WAC 246-247-060(5)).

Emission Unit ID: 204

200E P-296AP-001

296-A-40

This is a MINOR, ACTIVELY ventilated emission unit.

241-AP TANK FARM

Emission Unit Information

Stack Height: 19.58 ft. 5.97 m. Stack Diameter 0.55 ft. 0.17 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack ExhaustVelocity: 37.75 ft/second. 11.51 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
	Deentrainer	1	2 parallel flow paths
	Heater	1	2 parallel flow paths
	Prefilter	1	2 parallel flow paths
	HEPA	2	2 parallel flow paths with 2 HEPAs in series
	Fan	1	2 parallel flow paths, 1 in operation at a time

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(3)	TOTAL ALPHA TOTAL BETA	1 week sample/4 times per year

Sampling Requirements Record Sample

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AP Tank Farm during storage, maintenance, and normal operations. Any activity other than storage, maintenance, and normal operations 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 operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
Installation and operation of Waste Retrieval System in Tanks 241-AP-102 and 241-AP-104 (Replaces NOC 666)	AIR 12-310	2/23/2012	828

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 2.17E-05 mrem/year to the Maximally Exposed Individual (WAC 246-247-040(5)). The total limit on the Potential-To-Emit for this Notice of Construction is limited to 4.50E-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.

Install and operate a waste retrieval system (one mixer pump and other required equipment) in the 241-AP-102 and the 241-AP-104 tanks. The pumps will operate in a batch mode as needed. The waste capacity of the tanks will not be altered, nor will the ventilation system.

The 241-AP-102 and 241-AP-104 tanks are 75-foot diameter double-shell tanks (DST) constructed from the latest generation of tank designs, with a reinforced concrete shell and dome, and an insulating concrete base. A heat-treated, stress relieved, primary steel liner and a non-stress-relieved, outer steel liner are separated by a 2.5 foot annulus and contained inside the concrete shell. The tanks have a flat bottom with a usable waste depth of approximately 35 feet (1,160,000 gallons).

Current design calls for modifications to the AP-102 and AP-105 tanks and associated equipment to allow installation and removal of waste retrieval system equipment, and shall be limited to the following major components.

New In-Tank Equipment:

Installation of one mixer pump in each tank for mobilizing the settled solids. The pumps will be equipped with an approximate 300-horse power motor with a variable speed drive to allow operation from approximately 60 percent speed to 100 percent speed. The pump will be capable of pumping waste at a flow rate of approximately 5,200 gallons per minute through each of two, horizontally opposed, discharge nozzles, located approximately 18 inches above the bottom of the tank.

Installation of a high-pressure spray wash system on top of each of the 42-inch risers used for the mixer pumps. The spray wash system will be used for future decontamination of the mixer pumps as they are removed from the tank.

Installation of one transfer pump in each tank for the transfer of waste. The pumps will be capable of maintaining a variable waste transfer at a top rate of up to 140 gallons per minute.

Installation of one closed circuit television for each tank.

New Ancillary Equipment and Buildings:

Construction of an annex to the existing 241-AP-271 Instrument Building to house retrieval instrumentation/electrical equipment and operator stations.

Installation of electrical power and instrument cables and other utility tie-ins and/or upgrades (e.g., sanitary and raw water, and telecommunications).

Upgrade of Existing Pits

Installation of new, double-contained waste transfer piping, water and diluent piping to and from the process pits, and 8-inch diameter annulus ventilation piping. A total of approximately 1,400 linear feet of piping will be installed approximately 5 feet underground.

Installation of jumpers inside existing AP02A, AP02D, and AP04A AP Farm pits.

Installation of three new sets of pit cover blocks for the AP02A, AP02D, AP04A pits.

Removal, Decontamination and Demolition of Existing Equipment:

Removal of one mixer pump from AP-102.

Removal of one transfer pump from AP-102 and one transfer pump from AP-104.

Removal of a slurry distributor from AP-104.

Removal of a drop-leg jumper from AP-102.

Relocation of a dip tube assembly to a different riser (AP-104).

Removal of jumpers form each of the three pits, central pump pit cover blocks, and pump pit cover blocks.

Removal of an existing 2-inch waste line, approximately 15 linear feet.

Use of equipment and containers for removal, cleaning, decontamination, transport, storage, and burial of in-tank components and soil.

Removal of existing 8-inch-diameter annulus ventilation piping, approximately 32 feet.

Construction Activities with the Potential to Emit are:

Construction activities with the potential to emit include soil excavation, work in pump pits, pipe cutting, removal of, and installation of in-tank equipment. Some of these activities are described in, and will be done in accordance with, an applicable Tank Farm ALARACT demonstration, HNF-4327 latest revision, Control of Airborne Radioactive Emissions for Frequently Performed TWRS Work Activities. The specific activities and corresponding ALARACT demonstration are called out as they apply in the following text.

If needed or chosen for use during these activities, the Regulated Guzzler, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (98-EAP-037, DOE/RL-96-75, and DOE/RL-97-50 respectively).

The AP Tank Farm is posted and maintained as a radiological buffer area, free of surface contamination (entrance is made in street clothes). There are no recorded spills or leaks. Therefore, encountering contamination is not expected during soil excavation activities. Because of the possibility of encountering previously undetected subsurface contamination, all work is performed in accordance with the Hanford Site Radiological Control Manual and the RPP As Low As Reasonably Achievable (ALARA) Program requirements. These requirements are carried out through the activity work packages and associated radiological work permit (RWP).

Soil Excavation:

Soil will be excavated inside and outside the AP Tank Farm to install new piping and construct a new pump pit. A total of approximately 1,000 cubic yards shall be excavated, which includes approximately 600 cubic yards inside the tank farm. Backfill shall be made with the original removed soil or controlled density fill (sand, water and a small amount of cement).

Soil excavation activities inside the tank farm fence will be performed in accordance with ALARACT Demonstration 5, TWRS ALARACT Demonstration for Soil Excavation (Using Hand Tools). Clean soil piles may be moved from one place to another within the tank farm with heavy equipment (backhoe, front-end loader, etc.). Soil excavation outside the tank farm fence also may be performed with heavy equipment. The Regulated Guzzler may also be used as described in its NOC for use in the A Tank Farm Complex (98-EAP-037).

Pipe Cutting:

One existing 2-inch diameter waste transfer line will be cut and replaced with a new 3-inch diameter waste transfer line. The cuts will be made, inside a glove bag, using appropriate equipment such as a sawzall or tri-tool. The tie-ins will be made at the new pit nozzles. If any welding is required, the glove bag will be removed and the weld made.

One 12-inch diameter tank riser will be cut to fit into the new pit being constructed. The riser will be opened and an expandable plug will be installed in the riser to maintain containment of the vapor space and prevent material from falling into the tank while the work takes place. In order to perform the cut without a glove bag, the riser will be surveyed/smeared to verify removable contamination levels are equal to or less than 10,000 dpm/100 cm2 beta gamma and 200 dpm/100 cm2 alpha. The cut will be made above the plug with equipment such as a tri-tool or sawzall. If a glove bag is used, it will be removed. The plug will be removed and a flange welded in place. Then the top of the riser flange will be sealed with a temporary shield plug.

Approximately thirty-two feet of 8-inch diameter annulus ventilation pipe will be cut and rerouted. The cuts will be made, inside a glove bag, using appropriate equipment such as a sawzall or tri-tool. The glove bag will be removed and the tie-ins will be made by welding.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Pit Work:

Work to be performed in pump pits includes replacing three existing sets of cover blocks with newly designed cover blocks, core drilling (core drills will be performed as necessary), installing new nozzles, removing existing jumpers, and installing riser extensions (total of two, 42-inch diameter).

Pit access and work will be performed in accordance with ALARACT Demonstrations 6 and 14, TWRS ALARACT Demonstration for Pit Access, and TWRS ALARACT Demonstration for Pit Work. Activities not covered in these ALARACTs are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

At the start of the pit work, the cover blocks will be lifted off and radiologically surveyed to determine appropriate disposal protocol and packaged for disposal. A new cover block will be installed when all work in the pit has been completed.

Core drilling will be performed below grade level, on the outside of the pit. The hole will be drilled from the outside to the inside, with the temporary pit cover in place. The drilling bit will be water-cooled. Nozzle installation will generally proceed immediately after the hole is completed. If immediate nozzle installation is not possible, the hole will be temporarily sealed with a plug, tape, or equivalent device, until the nozzle can be installed.

Installation of new nozzles in existing pits will take place in an open pit. All parts of the nozzle will be assembled ahead of time, and will be lowered into position as a single unit. The piping in the back of the nozzle will be threaded through the hole (from the inside of the pit to the outside) and pulled tight into place from the outside of the pit. Grout shall be used to secure and seal the nozzle into place. The front opening of the nozzle, inside the pit, will be fitted with a temporary cap/seal until a jumper is connected to it. Once the nozzle(s) is installed, the temporary pit cover will be replaced until other work inside the pit requires its removal.

Installation of the 42-inch diameter riser extensions will take place in an open pit. Only the risers that will house a mixer pump will have an extension installed. The depth-verification shield plug left in/on the riser from the previously removed mixer pump shall be removed and replaced with the riser extension that has a temporary shield plug inserted at the bottom end. The riser will be open during this step which takes approximately thirty minutes. The extension will be sealed to the cover block with metal bellows. The extensions shall be equipped with spray was rings that will provide a means of decontamination for future mixer pump removals. They will also provide confinement between the pump and the inside of the pit during future pump removals, which will be possible without removing the pit cover blocks.

Removal of In-Tank Equipment

Various in-tank equipment will be removed from both tanks to make room for the water retrieval equipment, or to be replaced with equivalent equipment built to withstand the mixer pump jet forces. The existing flexible receiver equipment will be used to remove and decontaminate, to acceptable levels, a mixer pump (from a 42-inch riser) and two transfer pumps (from 12-inch risers). The remaining equipment will be removed from 4-inch, 12-inch, and 42-inch risers using the general bag out process (sleeving equipment with plastic or piping as it is removed.

Equipment removal will be performed in accordance with ALARACT Demonstration 13, TWRS ALARACT Demonstration for Installation, Operation, and Removal of Tank Equipment. Activities not covered in this ALARACT are described below.

If needed or chosen for use during these activities, a Portable/Temporary Radioactive Air Emission Unit, and a HEPA Filtered Vacuum Radioactive Air Emission Unit may be used in accordance with the latest revisions of their NOCs (DOE/RL-96-75, and DOE/RL-97-50 respectively).

Decontamination of removed equipment is not anticipated, the fewer decontamination activities undertaken the less exposure possibilities there are to the worker and the environment. Contingency decontamination plans, however, are in place if needed. The most likely equipment to be decontaminated would be sections of the flexible receiver. If contingency decontamination is required a two-roomed decontamination tent will be set up within the tank farm fence. Decontamination work will take place in one room and the other will be maintained "clean".

Flexible Receiver Bagging Process

Use of the flexible receiver involves connecting to and disconnecting from a tank riser or pit; lifting/removing the equipment; washing down/decontaminating the equipment; and bagging the equipment. The flexible receiver can be used in a manual or a completely automated mode. Various flexible receiver equipment includes a washer assembly, a radiation monitoring and camera assembly, a bag cinch and cut assembly, a secondary bag seal assembly, and an appropriately sized receiving bag.

The connection process to risers in a concrete pit is different than that to risers outside at, or below, grade level. For risers in pits, the cover block is removed and replaced with the flex receiver platform. The gap between the pit and the platform is sealed with plastic and tape. There is one opening in the platform that is directly above the equipment/riser. The equipment is lifted off the riser, to slightly above the platform, long enough to position the split plates that will support the equipment when it is lowered back down the platform. Generally this step takes less than fifteen minutes and during this time the riser is open around the equipment as it is raised. The equipment is lowered to rest/seal on the split plates. In some instances a gasket may be used between the split plates an the equipment to enhance the seal. At this point confinement is considered restored and work can take place on the upper portion of the piece of equipment, if needed, to prepare it for removal. Once the preparatory work is complete, the equipment is raised slightly to remove the split plates and then lowered back down to rest/seal on the riser. An adapter spool piece assembly (includes the spool piece, the spray wash unit, and alignment bellows) is placed over and around the riser, and the equipment setting on top of the riser. The adapter

spool piece is equipped with a rubber seal on the bottom, which provides a seal against the floor of the pit, and the alignment bellows are bolted to the platform providing a seal against the platform. An impact limiter is installed on top of the platform, around the opening, as a precaution if the equipment free falls during the remote bagging process. The piece of equipment is again raised to rest/seal on the impact limiter. Subsequent confinement is provided by the gaskets between equipment/assembly pieces and the rubber seal on the bottom of the adapter spool piece. The remainder of the flex receiver equipment is bolted into place above the impact liner.

For risers that cannot accommodate an adapter spool piece (outside risers), a split spool piece is used to bolt the flex receiver equipment to the riser flange. In this instance, a seal against a floor cannot be made, so a glove bag is used to confine contamination. A glove bag, with the spool piece in it, is sealed around the riser, the riser is opened, the equipment is raised slightly to allow installation of the split spool piece onto the riser flange. Generally this step takes less than fifteen minutes and during this time the riser is open (within the glove bag) around the equipment as it's raised. The equipment is lowered back down to rest/seal on the split spool piece and the spray wash unit is bolted to the split spool piece. The remainder of the flex receiver equipment, in its entirety, is swung into position, the bottom component is slipped into the glove bag and then bolted to the spray wash unit within the glove bag.

After the riser connection process has been completed, the equipment is slowly lifted through the riser (approximately 1 foot per minute). The washing process takes place concurrently with lifting and uses preheated water pressurized up to 3,000 pounds per square inch. Washing takes place outside of the vapor space and the run-off is returned to the tank through the riser.

After a section of the equipment has been washed it is pulled through the radiation monitoring assembly. Here, spectrum analysis is performed on the equipment and it is viewed via the camera to determine if the washing process needs to be repeated. This process will be repeated until the equipment shows no visual signs of waste residue.

Once washed and dripped dry, the equipment is pulled into the flex receiver bag (herculite-type), which expands as the equipment is hoisted up into it. Once the equipment is completely in the bag, an absorbent mat is attached inside the bag. The mat can absorb up to 8 gallons of liquid, if needed. Next, a mechanical sealing device cinches the bag closed with wire rope and crimps the bottom of the bag in two places, one below the other. The bag is then cut between the two crimps, leaving a sealed top section containing the equipment, and a sealed bottom section sealing the riser opening. The bag is then hoisted into position for secondary bagging of the first seal. Secondary bagging involves lowering the bagged equipment, sealed end first, into another bag that fits around the bottom of the first bag. The secondary bag is also cinched closed with wire rope. The portion of the first bag that was cinched at the riser is then removed and disposed of and the riser is closed. From here the equipment is ready for waste packaging for storage and/or burial.

LLCE Waste Packaging Process

The waste packaging process takes place immediately after the equipment bagging process. It is called the Long Length Contaminated Equipment (LLCE) Disposal System and was designed specifically for application at Hanford Tank Farms. It packages non-contact, remote handled, radioactive waste, for storage or burial. In general, the process involves pushing the LLCE into a storage/burial container (polyethylene piping, various diameters and lengths) and filling the container with lightweight grout (perlite concrete) to attain a greater than or equal to 90 percent filled container. Cold testing has shown that it takes approximately two hours to fill the largest container and dissection of the container has demonstrated that the voids around the bagged LLCE are filled 100 percent.

The previously bagged equipment is placed into the skid assembly of the tilt trailer (vertical position). The skid assembly is lowered to the horizontal position and the equipment is slowly pushed into the container already in place on the transport trailer. The endcap is welded closed, using electrical current to fuse the polyethylene

together, and leak tested in place. A vent penetration is installed at the top of the end cap for venting displaced air while filling. Another penetration is also put into the endcap for installation of the "trimmie tube" (distributes grout evenly into the container). The vent penetration is fitted with, or piped to, a high-efficiency particulate air (HEPA) filter to satisfy ALARA requirements. At the storage/burial area, the container is removed from the transport trailer and placed for storage or burial.

In-Tank Equipment Installation

Equipment installation will be performed in accordance with TWRS ALARACT Demonstration 13, Installation, Operation, and Removal of Tank Equipment.

Waste Staging and Retrieval Process Overview

The retrieval process at the AP-102 and AP-104 tanks will provide feed stock to a waste treatment facility. The low activity waste received from the source tanks may be conditioned and/or diluted to deliver compliant waste. Mixing and dilution may also take place at the source tanks to meet the waste specifications of AP-102 and -104, i.e., solids content must be within a predetermined amount. In-coming waste will be staged in the tank(s) until enough has been accumulated to send, and the treatment facility is ready to receive, a batch. The mixer pump will then be operated to maintain waste uniformity during staging and to mix the waste for a short period of time before transferring it. The mixer pump will be operated at full speed until waste samples verify that adequate mixing has been achieved. Waste samples will be collected in accordance with TWRS ALARACT Demonstration 7, Tank Waste Grab Sampling. If dilution/conditioning is needed, the pH and temperature of the diluent will be adjusted. Once the waste is verified acceptable, the transfer lines will be preheated/flushed with diluent, and a transfer to the treatment facility will follow. After the transfer, the lines will be flushed again with diluent.

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

Ac - 227	5.65E-03	Am - 241	2.48E+04	Am - 243	3.11E-02
Ba - 137 m	2.20E+06	C - 14	2.04E+02	Cd - 113 m	5.65E+02
Cm - 242	9.87E-01	Cm - 243	4.85E+00	Cm - 244	1.54E+01
Co - 60	7.59E+02	Cs - 134	2.65E+02	Cs - 137	2.32E+06
Eu - 152	4.07E+01	Eu - 154	3.73E+03	Eu - 155	4.73E+03
H - 3	1.41E+03	I - 129	1.10E+01	Nb - 93 m	7.76E+01
Ni - 59	1.30E+01	Ni - 63	1.28E+03	Np - 237	3.10E+01
Pa - 231	2.50E-02	Pu - 238	3.48E+02	Pu - 239	8.17E+02
Pu - 240	2.25E+02	Pu - 241	8.33E+03	Pu - 242	3.19E-02
Ra - 226	4.81E+00	Ra - 228	2.05E+00	Ru - 106	1.39E+01
Sb - 125	1.33E+03	Se - 79	2.19E+01	Sm - 151	7.72E+04
Sn - 126	3.32E+01	Sr - 90	5.54E+05	Tc - 99	1.46E+04
Th - 229	4.74E-02				

		Th - 232	2.32E-01	U - 232	6.32E+00
U - 233	2.42E+01	U - 234	1.01E+01	U - 235	3.90E-01
U - 236	7.00E-01	U - 238	8.79E+00	Y - 90	5.54E+05
Zr - 93	1.06E+02				

4) Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%.
5) All pit work must be performed in accordance with TWRS ALARACT Demonstrations 6 and 14 for Pit Access and, ALARACT Demonstrations for Pit Work.
6) If the wind speeds exceed 30 miles per hour the work in the glove bags will stop. If sustained wind speed exceeds 25 miles per hour pit work must stop. Records of wind speeds reading must be kept and made available to DOH, if requested.
7) Pipe cuts will be made using a sawzall or tri-tool. If removable contamination on only cutting surface is greater than or equal to 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha it must be cut and prepared in a glove bag for welding. If contamination levels are below these levels cutting maybe done outside of a glove bag. Expandable foam and fixatives are approved to fix smearable contamination.
8) Prior to cutting an expandable plug must be in place when a riser is opened in order to maintain constant vapor space and prevent material from falling into the tank during cutting.
9) Sample collection flow rate shall be approximately 120 +/- 12 cubic feet per hour.
10) The use of the regulated Guzzler, Portable/Temporary Radioactive Air Emission Unit and HEPA filtered vacuum radioactive emission units may be used as needed as prescribed by DOH in their latest approved revision.

Emission Unit ID: 886

200 W-296P050-001

296-P-50

This is a MAJOR, ACTIVELY ventilated emission unit.

Tank Farms

Emission Unit Information

Stack Height: 50.00 ft. 15.24 m. Stack Diameter 0.83 ft. 0.25 m.

Average Stack Effluent Temperature: 90 degrees Fahrenheit. 32 degrees Celsius.

Average Stack ExhaustVelocity: 91.72 ft/second. 27.96 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
	Deentrainer	1	Operational at all times, when exhauster is in use.
	Heater	1	Operational at all times, when exhauster is in use.
	Prefilter	1	
	HEPA Filter Stages/Banks	2	In series, two filters per stage/bank
	Fan	1	3000 cfm

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(2)	40 CFR 61, Appendix B Method 114	Sr-90, Cs-137, Am-241, Pu-239/240, Total Alpha, Total Beta	Continuous

Sampling Requirements Record sample

Additional Requirements

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

Operational Status This emission unit, also known as POR127, is a skid/mobile type portable exhauster used to support tank farm operations, such as but not limited to, waste characterization, waste retrieval, decommissioning, deactivation, maintenance, and construction and operation support activities. The emission unit is a portable exhauster that operates intermittently.

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

Project Title	Approval #	Date Approved	NOC_ID
296-P-50 Operation - Phase II Waste Retrieval and Closure (Replaces NOC 825)	AIR 15-808	7/29/2015	942

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

1) The total abated emission limit for this Notice of Construction is limited to 1.31E+00 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 1.61E+03 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).

2) This approval applies only to those activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in (WAC 246-247-030(16)), may be conducted.

The operation of the waste retrieval system(s) for the removal of radioactive wastes from tanks at the Hanford Site.

SALTCAKE DISSOLUTION WASTE RETRIEVAL SYSTEM

The saltcake dissolution waste retrieval system may be used to retrieve soluble saltcake waste. This method retrieves the soluble portion of the waste only, resulting in very few of the solids being pumped from the tank. The saltcake dissolution waste retrieval system deployed is for water, chemical agent, or catalyst liquid to be added to the tank using a variety of spray nozzles or "sprinklers". The approach is to sprinkle the waste surface with water, chemical agent, or catalyst liquid. The added water, chemical agent, or catalyst liquid must stay in contact with the saltcake for a long enough period of time for the brine to become saturated. Once the brine is saturated, it is pumped to a receiver tank, staging tank, storage double shell tank (DST), or other staging/storage vessel associated with the supplemental treatment, packaging, or disposal. Salt solution will be removed using the existing saltwell pump or other pump placed into the tank.

A tank not equipped with a saltwell pump, a transfer pump (progressive cavity, vertical turbine) can be installed and operated.

Remotely directable water distribution devices will be located in risers spaced as far apart as practical. A combination of spraying waster, chemical agent, or catalyst liquid to dissolve the saltcake can be used in conjunction with directing a flow of water or recirculating water at the waste to move it to the pump suction to allow the pumping of waste from the tank. Recirculated waste from the pump may be sent back to the tank as an alternative to using water to direct dissolution waste to the pump suction.

MODIFIED SLUICING WASTE RETRIEVAL SYSTEM

Modified sluicing can be used for some waste retrieval. Modified sluicing is the introduction of liquid at low to moderate pressures and volumes into the waste. The liquid dissolves and breaks apart solid materials and suspends them in the waste slurry. A transfer pump installed in the tank provides the motive force to transfer the liquid slurry to a receiver tank.

Modified sluicing introduces sluice liquid in a controlled fashion using multiple sluicing nozzles at varying pressures and flows, then pumps out the resultant waste slurry. This maintains minimal liquid inventories within the tank at all times. The liquids that could be used in modified sluicing include water, recirculated supernatant/water from the receiving DST, recirculated supernatant/water, chemical agent, or catalyst liquid.

VACUUM WASTE RETRIEVAL SYSTEM

A vacuum waste retrieval system can be used for waste retrieval activities. The vacuum waste retrieval system is introduced into the tanks by means of an articulating mast system (AMS). The AMS has a horizontal reach and rotational capabilities of 360 degrees. The AMS has a retracted position and can be extended vertically. Air is mixed at the suction end of the AMS enabling the required vertical lift for the waste to a topside receiver tank, batch vessel, or a staging single shell tank (SST), storage DST, or other staging/storage vessels associated with supplemental treatment, packaging, or disposal.

The AMS will be deployed through and attached to standard riser flanges that are available on the tanks. Cameras can also be installed in other risers for in-tank viewing and control of the AMS.

For the 200-series tanks in the 241-C, 241-U, 241-B, and 241-T Tank Farms, a vacuum retrieval process tank, staging tank, staging SST, storage DST, or other staging/storage vessel will be deployed. The receiver tank will receive waste in batches from whichever tank is connected into the vacuum retrieval system. The vacuum pressure used to draw up the waste from the tank to the receiver tank is relieved back into the tank being retrieved.

MOBILE RETRIEVAL SYSTEM

A Mobile Retrieval System (MRS) can be used to retrieve waste from some tanks. The MRS consists of two in-tank systems. The first is a robotic crawler inserted through one riser the second is an AMS inserted through a second riser. The AMS retrieves the sludge from the tank using a vacuum with assisting pneumatic conveyance. The AMS vacuum tube has a horizontal reach and can be extended to the bottom of the tank. The arm rotates 360

degrees. The vacuum will be directed through the AMS in the tank to the end effector, which is in contact with the waste. The pneumatic conveyance-assisted vacuum retrieval system will draw the waste up through the vacuum to the waste vessel in the vessel skid in batches. The AMS is then valved out while the waste vessel is emptied and pumped out through the over ground transfer lines to a DST, a staging SST, or other treatment/disposal options. When the waste vessel is nearly empty, the transfer line will be valved out and the AMS will be valved back in and another batch of waste will be removed from the tank. This process will be repeated until waste near the center of the tank is removed. The robotic crawler will be remotely controlled to move and/or wash waste toward the center of the tank.

MOBILE ARM RETRIEVAL SYSTEM

The Mobile Arm Retrieval System (MARS) is a waste retrieval system used to retrieve waste. The MARS employs two design options similar to currently permitted systems: 1) a sluicing retrieval option which is intended for retrieval of non leaker tanks, and 2) a vacuum retrieval option is intended for retrieval of assumed leaker tanks. Both options use an arm and sluicing jets and/or a high pressure water scarifier to break up the waste. The sluicer uses waste supernatant recycled from the DST to form a liquid jet using a nozzle. The scarifier uses filtered, pressurized water that comes from a high pressure water skid.

The equipment portion of the MARS includes a vertical, carbon steel mast (square cross section) as the main structural member. Attached to the vertical mast is a carbon fiber robotic arm. The arm is attached to a traveler that raises and lowers the arm relative to the vertical mast. The arm rotates 360 degrees - 380 degrees on a turntable located in the pit box. The arm also pivots up and down from an elbow at the traveler (hydraulic system) and extends and retracts (hydraulic system). The end of the arm articulates. The arm thus provides for a large range of motion such that the sluicing devices (recycle sluicer, water scarifier) located at the end of the arm can aim at most portions of the tank and from varying (e.g., short) distances.

The containment box which encloses the MARS will be ventilated by two parallel installed radial filters. The purpose of these filters is to minimize contamination from migrating up from the tank into the containment box via the open space on the large riser during retrieval operations. Minimization of contamination inside the containment box is desired should entry into the box ever be required for repairs. Inflow through these filters during retrieval is estimated to reach up to 60 cubic feet per minute (cfm). A valve will be installed between the filters and the containment box so filters can be isolated from the box. However, because the location of the valve will be approximately 12 feet above ground and difficult to reach without properly installed and inspected scaffolding, the valve will be left open at all times until retrieval of the tank is complete. Once retrieval is complete the valve will be closed.

REMOTE WATER LANCE

The completion of tank retrieval may also be aided by a Remote Water Lance (RWL) that is a high pressure water device, or hydro laser. Alternatively, a High Pressure Mixer (HPM) may be used in the same capacity. The systems will consist of both ex-tank and in-tank components. The ex-tank components will be comprised of; high pressure systems, operating controls, cables, and hoses. The in-tank components will be comprised of; umbilical, in-tank vehicle, high pressure nozzle(s), or the high pressure mixer.

The high pressure water systems will provide the water at the desired pressure, not to exceed 37,000 psig. A conditioning system will be used to filter the raw water entering the skid to ensure that no abrasive materials are entrained in the water. The water volumetric flow rate will be on the order of 4 to 18 gpm for the HPM and from 6 to 15 gpm for the RWL. The operating controls will be located in a control trailer outside of the farm fence. The cables and hoses will connect hydraulically powered in-tank vehicle with the ex-tank controls and water skid via the umbilical. The HPM consists of an adjustable height pipe with two pairs of opposed, high pressure, low volume water orifices located on the bottom of the pipe. The mixer is capable of being rotated 360 degrees and has an adjustable height range of approximately 7 feet. The positioning of the mixer is performed remotely using a hydraulic system. Additionally, the mixer has a single orifice on the bottom of the unit that can be used as an operational or installation aid. The in-tank vehicle will house one to four high pressure water nozzles. The RWL will be operated with the nozzle submerged to avoid aerosols in the tank. A rupture disc will be used to prevent reaching pressures above 37,000 psig.

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

Ac - 227

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Am - 241 2.30E+04

Contributes GREATER than 0.1 mrem/yr to the MEI and represents greater than 10% of the unabated PTE

Am - 243

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ba - 137 m

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

C - 14

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cd - 113 m

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 242

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 243

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cm - 244

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Co - 60

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cs - 134

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Cs - 137 2.10E+06

Contr butes GREATER than 0.1 mrem/yr to the MEI and represents greater than 10% of the unabated PTE

Eu - 152

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Eu - 154

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Eu - 155

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

H - 3

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

I - 129

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Nb - 93 m

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 59

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ni - 63

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Np - 237

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pa - 231

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 238

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 239 5.30E+03

Contr butes GREATER than 0.1 mrem/yr to the MEI and represents greater than 10% of the unabated PTE

Pu - 240 1.20E+02

Contributes GREATER than 0.1 mrem/yr to the MEI and represents greater than 10% of the unabated PTE

Pu - 241

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Pu - 242

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 226

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ra - 228

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Ru - 106

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sb - 125

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Se - 79

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sm - 151

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sn - 126

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Sr - 90 5.50E+06

Contributes GREATER than 0.1 mrem/yr to the MEI and represents greater than 10% of the unabated PTE

Tc - 99

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Th - 229

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

Th - 232

Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 232

Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.

U - 233	U - 234	U - 235
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
U - 236	**U - 238**	**Y - 90**
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.	Contr butes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.
Zr - 93		
Contributes less than 0.1 mrem/yr to the MEI, and represents less than 10% of the unabated PTE and represents less than 25% of the abated dose.		

4) RELEASE RATES-WDOH Log Approval
The annual possession quantity (APQ) shall be tracked on a WDOH approved log. WDOH authorizes approval of the Tank Waste Information Network System (TWINS) as the logging mechanism for APQs of radionuclide source terms (WAC 246-247-080(7)).

5) WDOH ALTERNATE APPROVAL-Release Fractions
WDOH accepts that the PTE calculation shall be based on the inventory of material to be managed (tank inventory and supernate) using the release fraction for the tank inventory of 1.0 E-3 for tank inventory and 8.0 E-5 for supernate (WAC 246-247-040(5) and WAC 246-247-060(5)).

6) WDOH ALTERNATE APPROVAL-Non Destructive Analysis Method
A pre-operational Non Destructive Analysis (NDA) of the exhauster(s) HEPA filters and a post-operational NDA will be performed the first time each of the four waste retrieval methods (mobile retrieval system, vacuum retrieval, supernatant sluicing, and saltcake dissolution with supernatant) when placed into service. The post-operational NDA should occur after one cycle or phase of waste retrieval operation is completed, a method replaces another method during a cycle/phase or six months from the in-service date, whichever occurs first. The facility may opt to replace the exhauster's HEPA filters prior to placing a new waste retrieval method in service and eliminate the pre-operational NDA (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(4)).

7) WDOH ALTERNATE APPROVAL-Standards
General WAC 246-247 technology standard exemptions justified and documented in RPP-19233, WAC 246-247 technology standard exemption justification for waste tank ventilation systems, may be applied to Phase II NOC retrieval exhauster operations. (WAC 246-247-040(5) and WAC 246-247-060(5)).

8) WDOH NOTIFICATION-Leak Testing Cannot be Performed
If new or altered section of ductwork cannot be tested due to tie-ins, WDOH will be notified (WAC 246-247-040(5) and WAC 246-247-060(5)).

9) WDOH NOTIFICATION-Change in PTE Calculations
The department will be notified if radionuclides other than Cs-137, Sr-90, Pu-239/240, and Am-241 are identified that contribute greater than 10% of the PTE or greater than 0.1 mrem/yr TEDE to the MEI when a unit is deployed or redeployed (WAC 246-247-040(5) and WAC 246-247-110(8)).

10) WDOH NOTIFICATIONS-Differential Pressure Out of Range
The differential pressure readings for the pre-filters and both stages of HEPA filters shall be monitored recorded and trended a minimum of weekly. The exhaust system will be configured to automatically shut down at 5.9 inches of water (or less) pressure differential across the HEPA filter(s) for the first filter in series or multiple filters in series as indicated by the local readout. If the final HEPA filter in the system exceeds 5.9 inches of water pressure differential across the filter, the cause will be determined and WDOH will be notified through normal established channels (WAC 246-247-040(5) and WAC 246-247-060(5)).

11) WDOH NOTIFICATION-Retrieval Under Passive Ventilation Contitions
Retrieval activities shall occur under passive ventilation only when an exhauster can no longer be operated on a single shell tank due to structural concerns. The justification for structural concerns with the single shell tank shall be documented and provided to WDOH upon request. (WAC 246-247-040(5) and WAC 246-247-060(5))

12) WDOH NOTIFICATIONS-High Reading on Weekly Smear Surveys
Monitoring of breather filters during retrieval activities shall consist of weekly smear surveys 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. Levels above 10,000 dpm/100cm2 beta/gamma and 200 dpm/100cm2 alpha shall be reported to WDOH. (WAC

246-247-040(5) and WAC 246-247-060(5))

13) STANDARDS-Startup Leak Testing
New or altered sections of ductwork shall be leak tested in accordance with the requirements of ASME AG-1 Section SA prior to use. Normal maintenance of the system (e.g., replacing gaskets, replacement of in kind components, flow profile analysis in the ductwork, air sampling from test ports in the duct, and demister flushing) are not considered to be alteration (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(2)).

14) STANDARDS-Stack Monitoring Systems
The emission unit stack monitoring system shall meet the requirements of ANSI/HPS N13.1-1999 including the stack monitoring system inspection requirements also referenced in 40 CFR 61 App. B, Method 114, Table 2 - Maintenance, Calibration, and Field check requirements (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(2)).

15) ABATEMENT TECHNOLOGY-HEPA Filter Testing
The HEPA filters are in-place leak tested annually in accordance with a written procedure that addresses testing and visual inspections based on ASME N510 and ASME N511, and shall have a minimum efficiency of 99.95% (WAC 246-247-040(5), WAC 246-247-060(5), and WAC 246-247-075(2)).
In addition, the following conditions require in-place leak testing of the HEPA filters (the filter system to be retested):
•HEPA filter replacement
•Relocating the ventilation system exhauster

16) ABATEMENT TECHNOLOGY-Filter Protection
The relative humidity shall be maintained below 70%. If the relative humidity cannot be directly measured, the ventilation system exhauster operating temperature will be monitored daily to ensure that the appropriate temperature is maintained, based on psychometric charts and engineering calculations, so that the relative humidity remains below 70%. Daily Monitoring is not required over weekends and holidays when no waste disturbing activities are occurring (WAC 246-247-040(5) and WAC 246-247-060(5)).

17) ABATEMENT TECHNOLOGY-Temperature Values in the Airstream
The airstream temperature is also monitored to verify that it is below the 200°F limit established for continuous operation and 250°F limits established for periodic operation to protect the HEPA filters (WAC 246-247-040(5)).

18) ABATEMENT TECHNOLOGY-Ductwork Insulation
All ventilation ductwork from the exit of the tank to the inlet of the exhauster filter housing, shall be insulated (WAC 246-247-040(5) and WAC 246-247-060(5)).

19) ABATEMENT TECHNOLOGY- Ventilation System Exhauster Suspension from Active Service
The following will be implemented when a ventilation system exhauster that has been connected to a radioactive source is shut down and placed in suspension from active service. The following items will be completed 90 days after suspension from active service. Suspension from active service begins when the permit required preventative maintenance tasks are suspended or 365 days from the last day of operation, whichever is sooner.
•Isolate (e.g., valve or blank off) the ventilation system exhauster unit from the source of radioactivity.
•Isolate (e.g., valve or blank off) the source of radioactivity (e.g., tank) or establish an alternative flow path through a registered emission point (e.g., passive filter or powered exhauster).
•Isolate the flow path downstream of the last stage of HEPA filtration by capping the stack or alternative location if the stack has been removed.
•Provide written notification to WDOH documenting completion of the above.
During suspension from active service, the monitoring and associated recordkeeping are not required to be conducted. In addition, the abatement and monitoring system testing (e.g., aerosol testing of the HEPA filters), maintenance, calibration, field checks, and the associated recordkeeping are not required to be conducted (WAC 246-247-040(5)) and (WAC 246-247-060(5)).

20) ABATEMENT TECHNOLOGY-Ventilation System Exhauster Return to Active Service
The ventilation system exhauster will be evaluated for its ability to meet the regulatory requirements to operate prior to placing the exhauster back in service:
•Verify that parts removed during suspension from active service have been replaced-in-kind and the unit has been returned to full function.
•Conduct abatement and monitoring system inspections and field checks.
•Verify that the abatement and monitoring system testing, maintenance, and calibration have been completed. (Note: some testing, maintenance, and calibration can only be completed when the exhauster is running.) The CAM and sampling system are to be operated during aerosol testing.

WDOH will be notified at least seven calendar days prior to conducting operational testing of the ventilation system exhauster (WAC 246-247-040(5) and WAC 246-247-060(5)).

21) CONTAMINATION CONTROL-Max Operating Pressure
During waste retrieval operations, the maximum pressure for any waste retrieval method shall not exceed 37,000 psig (WAC 246-247-040(5) and WAC 246-247-060(5)).

22) CONTAMINATION CONTROL-Monthly Radiological Survey
While the exhauster is operating, and/or tank waste retrieval is underway, all ductwork connections shall have a radiological survey performed monthly to ensure ductwork connections are not degrading (WAC 246-247-040(5) and WAC 246-247-060(5)).

23) CONTAMINATION CONTROL-Exhauster Alternate Usages
The exhauster will be operated occasionally during periods of non-retrieval in support of tank waste retrieval preparation activities and to aid in evaporation of residual flush water or sluicing liquid that remains in the tank (WAC 246-247-040(5) and WAC 246-247-060(5)).

24) CONTAMINATION CONTROL-Active ventilation
All receiver tanks (including waste retrieval process tanks for tank TRU retrieval (staging) SSTs, storage DSTs, or other staging/storage vessels, but not including batch vessel supporting vacuum retrieval) shall have active ventilation during waste receipt, unless alternative controls are documented and approved by WDOH. If the exhauster goes down due to off-normal conditions while retrieval is occurring, the system should be placed into a safe configuration, minimizing dose to personnel and the environment. These steps may include: flushing the lines, pumps, and the waste transfer system of slurry solution using DST supernatant or water; pumping down the tank liquid to minimize remaining liquids; and halting waste retrieval. (WAC 246-247-040(5) and WAC 246-247-060(5))

Emission Unit ID: 1328

200E P-296A048-001

296-A-48

This is a MAJOR, ACTIVELY ventilated emission unit.

241-AP TANK FARM

Emission Unit Information

Stack Height: 40.00 ft. 12.19 m. Stack Diameter 0.80 ft. 0.24 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack ExhaustVelocity: 46.00 ft/second. 14.02 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
	Deenttrainer	1	Operational at all times, when the exhauster is in use.
	Heater	1	Operational at all times, when the exhauster is in use.
	Prefilter	1	Bank of prefilter NOTE: 1 bank of prefilters not required for abatement control
	HEPA	2	2 HEPA's in series per bank; 2 banks; 1 HEPA per bank required operational.
	Fan	1	

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(2)	40 CFR 61, Appendix B Method 114	137Cs, 90Sr	Continuous

Sampling Requirements Record sample.

Additional Requirements

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

Operational Status This emission unit is a primary exhauster used to support tank farm operations by ventilating the DSTs in 241 AP Tank Farm during storage, maintenance and normal operations. Any activity other than storage, maintenance, and normal operations 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. This emission unit may be operated independently or concurrently with emission unit 296-A-49. The emission unit operates intermittenlty.

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

Project Title	Approval #	Date Approved	NOC_ID
241-AP Tank Farm Ventilation System Upgrade operational permit for "Radioactive Air Emissions NOC for 241-SY, 241-AP, and 241 AY/AZ Tank Farm Ventilation System Upgrade"	AIR 11-916	9/26/2011	818

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 2.62E-01 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 5.09E+02 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).

2) This approval applies to those additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The upgraded ventilation systems will support future tank farm operation activities and waste feed delivery to Hanford's Waste Treatment and Immobilization Plant (WTP).

The ventilation exhausters are being upgraded with increased flow rates to accommodate the increased heat from the mixer pumps, which will be added to mix the waste in the waste tanks prior to transfers and feed delivery to the WTP. The upgraded ventilation systems include replacing the existing exhauster trains with two new identical parallel exhauster trains. The ventilation systems will be installed on new concrete pads. Each exhauster train for the 241-AP ventilation system upgrade is capable of up to 3,000 Standard Cubic Feet per Minute (scfm) flow rate. Operation of the upgraded ventilation systems will support the storage, treatment, retrieval, sampling, mixing, and transfer of the waste in the tanks. Removal of the obsolete exhausters and exhaust filter trains will be performed under separate department approval. Monitoring of the obsolete exhausters shall be in accordance the As Low As Reasonably Achievable (ALARA) principles.

The emissions to the ambient air resulting from the proposed actions covered by this NOC application, in conjunction with other operations on the Hanford Site, shall not exceed the National Emission Standard of 10 millirem (mrem) per year (40 CFR 61, Subpart H).

The new ventilation system shall consist of a de-entrainer system for removal of moisture from vented air, a heater for lowering the relative humidity of the vented air, one bank of pre-filters, two banks of HEPA filters in series, and an exhaust fan. Either subsystem de-entrainer may be used with either HEPA filter subsystem via a ventilation duct cross-tie.

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

Ac - 227	3.33E+00	Am - 241	9.17E+04	Am - 243	4.39E+01
Ba - 137 m	1.44E+07	C - 14	1.12E+02	Cd - 113 m	1.32E+03
Cm - 242	8.25E+01	Cm - 243	8.38E+00	Cm - 244	1.86E+02
Co - 60	1.95E+03	Cs - 134	6.82E+02	Cs - 137	1.52E+07
Eu - 152	6.02E+02	Eu - 154	3.28E+04	Eu - 155	1.90E+04
H - 3	6.34E+02	I - 129	8.39E+00	Nb - 93 m	8.69E+02
Ni - 59	5.06E+02	Ni - 63	4.46E+04	Np - 237	4.79E+01
Pa - 231	1.70E+00	Pu - 238	1.02E+03	Pu - 239	1.44E+04
Pu - 240	3.33E+03	Pu - 241	3.69E+04	Pu - 242	2.87E-01
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Sb - 125	3.63E+03	Se - 79	4.63E+01	Sm - 151	1.83E+06
Sn - 126	1.65E+02	Sr - 90	2.33E+07	Tc - 99	7.24E+03
Th - 229	1.30E+00				

		Th - 232	5.91E+00	U - 232	6.24E+00
U - 233	5.24E+02	U - 234	6.50E+01	U - 235	2.49E+00
U - 236	3.07E+00	U - 238	5.38E+01	Y - 90	2.33E+07
Zr - 93	1.06E+03				

4) CONTROL TECHNOLOGY- Annual HEPA Filter test
Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%. (WAC 246-247-060(5) and WAC 246-247-080(7)).

5) WDOH APPROVED LOG
The Annual Possession Quantity shall be tracked on a WDOH approved log. (WAC 246-247-060(5) and WAC 246-247-080(7)).

6) CONTROL TECHNOLOGY- Ductwork insulation
The ductwork between the de-entrainer and heater, along with the filter housings shall be insulated. (WAC 246-247-040(5) and WAC 246-247-060(5)).

7) CONTROL TECHNOLOGY- Exhauster operation
The exhauster shall be operational during waste transfers, waste disturbing, or vapor space particulate generating activities. In the event there is an unplanned shutdown of the exhauster, waste transfer lines may be flushed. (WAC 246-247-040(5) and WAC 246-247-060(5)).

8) CONTAMINATION CONTROL- ph control
Tank waste will be maintained at a ph of 8 or greater to ensure that the radionuclide C-14 is not emitted as a gas. This condition will be met by maintaining tank sampling and tank analysis documents in accordance with the "Waste Chemistry Limits" outlined in the latest version of document "Operating Specifications for the Double-Shell Storage Tanks, OSD-T-151-00007". (WAC 246-247-060(5) and WAC 246-247-080(7)).

9) CONTAMINATION CONTROL- tracer gas studies
When the tracer gas tests and data collection are conducted on the AP tank farms the tracer gas to be used during the tests is helium. (WAC 246-247-060(5) and WAC 246-247-080(7)).

10) CONTAMINATION CONTROL- Tracer gas injection rate
When the tracer gas tests and data collection are conducted on the AP tank farms the tracer gas helium will be injected into the double shell tanks at a rate not to exceed 10 cubic feet per minute. (WAC 246-247-060(5) and WAC 246-247-080(7)).

11) CONTAMINATION CONTROL- WDOH Notification,Tracer gas vent valves
When the tracer gas tests and data collection are conducted on the AP tank farms the passive filtered vents will be in the open position. If a tracer gas test requires the passive filtered vents to be closed notification to the Washington State Department of Health will be made indicating when the vents will be closed and for how long. (WAC 246-247-060(5) and WAC 246-247-080(7)).

12) CONTAMINATION CONTROL- Operations during tracer gas studies
When the tracer gas tests and data collection are conducted on the AP tank farms no waste disturbing activities will occur. (WAC 246-247-060(5) and WAC 246-247-080(7)).

Emission Unit ID: 1329

200E P-296A049-001

296-A-49

This is a MAJOR, ACTIVELY ventilated emission unit.

241-AP TANK FARM

Emission Unit Information

Stack Height: 40.00 ft. 12.19 m. Stack Diameter 0.80 ft. 0.24 m.

Average Stack Effluent Temperature: 110 degrees Fahrenheit. 43 degrees Celsius.

Average Stack ExhaustVelocity: 46.00 ft/second. 14.02 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
	Deenttrainer	1	Operational at all times, when the exhauster is in use.
	Heater	1	Operational at all times, when the exhauster is in use.
	Prefilter	1	Bank of prefilter NOTE: 1 bank of prefilters not required for abatement control
	HEPA	2	2 HEPA's in series per bank; 2 banks; 1 HEPA per bank required operational.
	Fan	1	

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(2)	40 CFR 61, Appendix B Method 114	137Cs, 90Sr	Continuous

Sampling Requirements Record sample.

Additional Requirements

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

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Project Title	Approval #	Date Approved	NOC_ID
241-AP Tank Farm Ventilation System Upgrade operational permit for "Radioactive Air Emissions NOC for 241-SY, 241-AP, and 241 AY/AZ Tank Farm Ventilation System Upgrade"	AIR 11-916	9/26/2011	818

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 2.62E-01 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 5.09E+02 mrem/year to the Maximally Exposed Individual (WAC 246-247-030(21)).

2) This approval applies to those additional activities described below. No additional activities or variations on the approved activities that constitute a "modification" to the emission unit, as defined in WAC 246-247-030(16), may be conducted.

The upgraded ventilation systems will support future tank farm operation activities and waste feed delivery to Hanford's Waste Treatment and Immobilization Plant (WTP).

The ventilation exhausters are being upgraded with increased flow rates to accommodate the increased heat from the mixer pumps, which will be added to mix the waste in the waste tanks prior to transfers and feed delivery to the WTP. The upgraded ventilation systems include replacing the existing exhauster trains with two new identical parallel exhauster trains. The ventilation systems will be installed on new concrete pads. Each exhauster train for the 241-AP ventilation system upgrade is capable of up to 3,000 Standard Cubic Feet per Minute (scfm) flow rate. Operation of the upgraded ventilation systems will support the storage, treatment, retrieval, sampling, mixing, and transfer of the waste in the tanks. Removal of the obsolete exhausters and exhaust filter trains will be performed under separate department approval. Monitoring of the obsolete exhausters shall be in accordance the As Low As Reasonably Achievable (ALARA) principles.

The emissions to the ambient air resulting from the proposed actions covered by this NOC application, in conjunction with other operations on the Hanford Site, shall not exceed the National Emission Standard of 10 millirem (mrem) per year (40 CFR 61, Subpart H).

The new ventilation system shall consist of a de-entrainer system for removal of moisture from vented air, a heater for lowering the relative humidity of the vented air, one bank of pre-filters, two banks of HEPA filters in series, and an exhaust fan. Either subsystem de-entrainer may be used with either HEPA filter subsystem via a ventilation duct cross-tie.

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

Ac - 227	3.33E+00	Am - 241	9.17E+04	Am - 243	4.39E+01
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Cm - 242	8.25E+01	Cm - 243	8.38E+00	Cm - 244	1.86E+02
Co - 60	1.95E+03	Cs - 134	6.82E+02	Cs - 137	1.52E+07
Eu - 152	6.02E+02	Eu - 154	3.28E+04	Eu - 155	1.90E+04
H - 3	6.34E+02	I - 129	8.39E+00	Nb - 93 m	8.69E+02
Ni - 59	5.06E+02	Ni - 63	4.46E+04	Np - 237	4.79E+01
Pa - 231	1.70E+00	Pu - 238	1.02E+03	Pu - 239	1.44E+04
Pu - 240	3.33E+03	Pu - 241	3.69E+04	Pu - 242	2.87E-01
Ra - 226	3.34E-03	Ra - 228	5.91E+00	Ru - 106	1.14E+01
Sb - 125	3.63E+03	Se - 79	4.63E+01	Sm - 151	1.83E+06
Sn - 126	1.65E+02	Sr - 90	2.33E+07	Tc - 99	7.24E+03
Th - 229	1.30E+00				

		Th - 232	5.91E+00	U - 232	6.24E+00
U - 233	5.24E+02	U - 234	6.50E+01	U - 235	2.49E+00
U - 236	3.07E+00	U - 238	5.38E+01	Y - 90	2.33E+07
Zr - 93	1.06E+03				

4) CONTROL TECHNOLOGY- Annual HEPA Filter test
Each HEPA filter shall be in-place tested annually in accordance with the requirements of ASME AG-1. HEPA filters shall have a minimum efficiency of 99.95%. (WAC 246-247-060(5) and WAC 246-247-080(7)).

5) WDOH APPROVED LOG
The Annual Possession Quantity shall be tracked on a WDOH approved log. (WAC 246-247-060(5) and WAC 246-247-080(7)).

6) CONTROL TECHNOLOGY- Ductwork insulation
The ductwork between the de-entrainer and heater, along with the filter housings shall be insulated. (WAC 246-247-040(5) and WAC 246-247-060(5)).

7) CONTROL TECHNOLOGY- Exhauster operation
The exhauster shall be operational during waste transfers, waste disturbing, or vapor space particulate generating activities. In the event there is an unplanned shutdown of the exhauster, waste transfer lines may be flushed. (WAC 246-247-040(5) and WAC 246-247-060(5)).

8) CONTAMINATION CONTROL- ph control
Tank waste will be maintained at a ph of 8 or greater to ensure that the radionuclide C-14 is not emitted as a gas. This condition will be met by maintaining tank sampling and tank analysis documents in accordance with the "Waste Chemistry Limits" outlined in the latest version of document "Operating Specifications for the Double-Shell Storage Tanks, OSD-T-151-00007". (WAC 246-247-060(5) and WAC 246-247-080(7)).

9) CONTAMINATION CONTROL- tracer gas studies
When the tracer gas tests and data collection are conducted on the AP tank farms the tracer gas to be used during the tests is helium. (WAC 246-247-060(5) and WAC 246-247-080(7)).

10) CONTAMINATION CONTROL- Tracer gas injection rate
When the tracer gas tests and data collection are conducted on the AP tank farms the tracer gas helium will be injected into the double shell tanks at a rate not to exceed 10 cubic feet per minute. (WAC 246-247-060(5) and WAC 246-247-080(7)).

11) CONTAMINATION CONTROL- WDOH Notification,Tracer gas vent valves
When the tracer gas tests and data collection are conducted on the AP tank farms the passive filtered vents will be in the open position. If a tracer gas test requires the passive filtered vents to be closed notification to the Washington State Department of Health will be made indicating when the vents will be closed and for how long. (WAC 246-247-060(5) and WAC 246-247-080(7)).

12) CONTAMINATION CONTROL- Operations during tracer gas studies
When the tracer gas tests and data collection are conducted on the AP tank farms no waste disturbing activities will occur. (WAC 246-247-060(5) and WAC 246-247-080(7)).

BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF U.S. DEPARTMENT OF ENERGY-HANFORD OPERATIONS, BENTON COUNTY, WASHINGTON PERMIT NUMBERS 00-05-006, RENEWAL 2, AND 00-05-006, RENEWAL 2, REVISION A ISSUED BY THE WASHINGTON DEPARTMENT OF ECOLOGY	)	PETITION NUMBERS X-2014-01 AND X-2013-01 ORDER RESPONDING TO THE PETITIONER'S REQUESTS THAT THE ADMINISTRATOR OBJECT TO THE ISSUANCE OF STATE OPERATING PERMITS

ORDER GRANTING IN PART AND DENYING IN PART TWO PETITIONS FOR OBJECTION TO PERMITS

This Order responds to two related petitions submitted to the U.S. Environmental Protection Agency (EPA) by Bill Green of Richland, Washington (Petitioner) pursuant to section 505(b)(2) of the Clean Air Act (CAA or Act), 42 U.S.C. § 7661d(b)(2). The petitions submitted by the Petitioner on April 23, 2013 (2013 Petition), and April 21, 2014 (2014 Petition), request that the EPA object to the title V operating permit (Permit No. 00-05-006, Renewal 2 and Permit No. 00-05-006, Renewal 2, Revision A)[1] issued by the Washington State Department of Ecology (Ecology)

[1]As explained in more detail below, Renewal 2, Revision A is a complete reissuance of the Renewal 2 version of the permit and is currently in effect as the title V operating permit for the Hanford Site. For purposes of this Order, the EPA will refer to the permits as "the Hanford Title V Permit" unless the discussion requires a reference to a specific version of the permit. Additionally, while the 2013 Petition and the 2014 Petition relate to different versions of the Hanford Title V Permit, due to the significant overlap in the issues raised in the two petitions and the similarity of the relevant permit conditions in the two versions of the Hanford Title V Permit, the EPA is responding to both petitions in this Order.

to the U.S. Department of Energy (DOE) for the Hanford Site in Richland, Washington (Hanford Title V Permit). The Hanford Title V Permit was issued pursuant to title V of the CAA, CAA §§ 501-507, 42 U.S.C. §§ 7661-7661f (title V), and Washington Administrative Code (W.A.C.) Chapter (Ch.) 173-401. *See also* 40 C.F.R. part 70 (part 70). This operating permit is also referred to as a title V permit or a part 70 permit.

I. INTRODUCTION

This Order responds to all claims raised in the 2013 Petition and the 2014 Petition (collectively, the Hanford Title V Petitions). The claims are described in detail in Section IV of this Order. In summary, the issues raised are that: (1) the structure of the Hanford Title V Permit does not provide Ecology the authority to issue a permit that assures compliance with all applicable requirements, in particular, 40 C.F.R. Part 61, Subpart H (Subpart H) relating to radionuclide air emissions (radionuclides); (2) the structure of the Hanford Title V Permit does not provide Ecology with authority to enforce the portions of the Hanford Title V Permit relating to Subpart H; (3) Ecology did not comply with the requirements for public participation in issuing the Hanford Title V Permit; (4) the permit issuance procedures for the Hanford Title V Permit prevent access to judicial review; (5) the statement of basis for the Hanford Title V Permit related to radionuclides is inadequate; and (6) the Hanford Title V Permit does not include all applicable CAA § 112 requirements for radionuclides. Although the Petitioner raised some claims only in the 2013 Petition or in the 2014 Petition, due to significant overlap in the issues raised in the two petitions and the similarity of the relevant permit conditions in the two versions of the Hanford Title V Permit, the EPA is responding to both petitions in this Order.

Based on a review of the Hanford Title V Petitions and other relevant materials, including the Hanford Title V Permit, the permit records and relevant statutory and regulatory authorities, and as explained more fully below, I grant the Petitioner's request in part and deny in part for the reasons set forth in this Order.

II. STATUTORY AND REGULATORY FRAMEWORK

A. Title V Permits

Section 502(d)(l) of the CAA, 42 U.S.C. § 766la(d)(l), requires each state to develop and submit to the EPA an operating permit program to meet the requirements of title V of the CAA. The EPA granted interim approval of the title V operating permit program submitted by the State of Washington and its local air agencies effective December 9, 1994. 59 *Fed. Reg.* 55813 (Nov. 9, 1994); *see also 60 Fed. Reg.* 62992 (Dec. 8, 1995) (final interim approval after remand on unrelated issue). The EPA promulgated final full approval of Washington's title V operating permit program effective September 12, 2001, 66 *Fed. Reg.* 42439 (August 13, 2001), and an update to that final approval effective January 2, 2003, 67 *Fed. Reg.* 71479 (December 2, 2002). *See* 40 C.F.R. part 70, Appendix A. The regulations comprising the EPA-approved program in Washington are found in W.A.C. Ch. 171-401.

All major stationary sources of air pollution and certain other sources are required to apply for title V operating permits that include emission limitations and other conditions as necessary to assure compliance with applicable requirements of the CAA. CAA §§ 502(a) and 504(a),

42 U.S.C. §§ 7661a(a) and 7661c(a). The title V operating permit program generally does not impose new substantive air quality control requirements, but does require permits to contain adequate monitoring, recordkeeping, reporting and other requirements to assure sources' compliance with applicable requirements. 57 *Fed. Reg.* 32250, 32251 (July 21, 1992). One purpose of the title V program is to "enable the source, States, the EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements." *Id.* Thus, the title V operating permit program is a vehicle for ensuring that air quality control requirements are appropriately applied to facility emission units and for assuring compliance with such requirements.

B. Regulation of Radionuclides in Washington

Both Ecology and the Washington State Department of Health (Health) have regulatory authority for "radioactive air emissions"[2] in Washington. The Washington Attorney General opinion accompanying Ecology's initial title V program submittal explains that Ecology's authority for radioactive air emissions is under Revised Code of Washington (R.C.W.) Ch. 70.94, the Washington Clean Air Act, and Health's authority is under R.C.W. Ch. 70.98, the Nuclear Energy and Radiation Act (NERA). *Attorney General's Opinion for the Washington State Department of Ecology*, dated October 27, 1993, at 4 (Attorney General Opinion).[3] The Attorney General Opinion further explains that, with respect to the Hanford Site, Health will issue a license addressing radioactive air emissions, and the license will be incorporated as an applicable requirement into the title V operating permit issued by Ecology. *Id*. The Attorney General Opinion also states that the title V operating permit for the Hanford Site will be required, issued, and enforced pursuant to the authorities set forth in R.C.W. Ch. 70.94 and its implementing regulations, including specifically, W.A.C. Ch. 173-401, Ecology's regulation implementing the EPA-approved title V program in Washington.

In December 1993, Ecology and Health revised their existing Memorandum of Understanding regarding regulation of radioactive air emissions at the Hanford Site as part of the title V program approval process to clarify the respective roles of Ecology and Health in the issuance and administration of title V operating permits and performing new source review. The Memorandum of Understanding, which was updated most recently in 2007 in only minor respects not relevant here, states that R.C.W. Ch. 70.98 and W.A.C. Ch. 246-247, both administered by Health, establish radioactive air emissions requirements, which are "'applicable requirements' under Ecology's W.A.C. 173-400-200" and that all air emissions at the Hanford Site, including radioactive air emissions, will be covered under a title V permit. *Memorandum of Understanding between Department of Ecology and the Department of Health Related to the Respective Roles and Responsibilities of the Two Agencies in Coordinating Activities Concerning Hanford Site Radioactive Air Emissions*, dated June 1, 2007, at 2 (MOU). The MOU further provides that DOE is required to submit two copies of its title V permit application, one to Health for the licensing of radioactive air emissions, and one to Ecology for the permitting of

[2] The Attorney General Opinion uses the term "radioactive air emissions," which is not used or defined in either R.C.W. Ch. 70.94 or R.C.W. Ch. 70.98; nevertheless, we understand the term includes radionuclides based on the context in which the Attorney General Opinion applies.

[3] Title V operating permits are referred to as "air operating permits" in Washington. The term "title V permit" or "title V operating permit" is used in this Order for consistency.

nonradioactive air emissions. Thereafter, the MOU provides that Health will issue a radioactive air emissions license, which will be incorporated into DOE's title V permit as an applicable requirement. The MOU states that a title V permit will be issued by Ecology with Health as a signatory reviewer and issuer of the radioactive air emissions license portion of the permit. MOU, at 2, 4. The MOU makes clear, although Health is primarily responsible for the regulation of radioactive air emissions at the Hanford Site, that responsibility does not alter in any way existing statutory authorities of Health or Ecology. *Id.,* at 4.

With respect to the title V permit issuance process, the MOU provides that Health will handle all radioactive air emissions license procedures and Ecology will handle all title V operating permit procedures and requirements. *Id.,* at 7. It further provides that the agencies will hold joint hearings, will jointly assure proper notice of public hearings, and will jointly prepare responses to public comments, but that Ecology is responsible for submitting notices, comments, and the proposed permit to the EPA. *Id.,* at 7. Ecology's procedures for issuing title V permits include provisions for public notice, a 30-day public comment period, opportunity for public hearing and the opportunity for judicial review in state court. *See* W.A.C. 173-401-735; W.A.C. 173-400-800; Attorney General Opinion, at 14, 20-21. As a matter of state law, a NERA license is not subject to a public comment process or the clear right of judicial review at the state level. *See* Letter from Stuart Clark, Washington Department of Ecology, and Gary Robertson, Washington Department of Health, to Bill Green, dated July 16, 2010, at 4-5 (Ecology/Health July 2010 Letter).

With respect to enforcement authority, the MOU states that both Ecology and Health have identical enforcement authorities under R.C.W. 70.94.422. MOU, at 6. This is confirmed by the Attorney General Opinion. Attorney General Opinion, at 16-17. R.C.W. 70.94.422(1) was enacted in 1993, at the same time state of Washington amended the Washington Clean Air Act to provide Ecology with authority to implement the federal title V operating permit program, and gives Health all of Ecology's enforcement powers provided in R.C.W. 70.94.332, 70.94.425, 70.94.430, 70.94.431(1) through (7) and 70.94.435 with respect to radioactive air emissions.[4] Attorney General Opinion, at 16-17. Under the MOU, Health is assigned the primary responsibility for inspections and enforcement actions that involve only radioactive air emissions, and Ecology has responsibility for inspections and enforcement actions that involve only non-radioactive air emissions. MOU, at 6. Although the MOU identifies the process by which such enforcement authorities will be exercised in a coordinated manner, R.C.W. 70.94.422(1), the MOU and the Attorney General Opinion make clear that both Ecology and Health retain their respective enforcement authorities. *See* R.C.W. 70.94.422(1) ("This section does not preclude the department of ecology from exercising its authority under this chapter."); MOU, at 6; Attorney General Opinion, at 16-17.

Consistent with the requirements of 40 C.F.R. part 70, Ecology's definition of "applicable requirement" includes specifically identified requirements of the CAA, including any standard or other requirement under section 112 of the CAA. *See* W.A.C. 173-401-200(4)(a). Ecology has adopted by reference all standards in 40 C.F.R. Part 61, including Subpart H, *see* W.A.C. 173-

[4] These identified provisions authorize Ecology to assess civil and criminal penalties of up to $10,000 per violation per day, seek restraining orders and injunctions, and seek other enforcement remedies, including those required by title V and part 70.

400-075(1), which are standards adopted under section 112 of the CAA. Ecology's definition of "applicable requirement" also includes other requirements of state law, such as NERA and its implementing regulations. *See* W.A.C. 173-401-200(4)(d). As discussed above, the Attorney General Opinion states that the NERA license issued by Health to DOE is an "applicable requirement" under state law. *See* Attorney General Opinion, at 4.

Health has also adopted by reference the 40 C.F.R. Part 61 standards that regulate radionuclides[5] (Radionuclide NESHAPs), including Subpart H. *See* W.A.C. 246-247-035. In 2006, the EPA granted partial approval of Health's request for delegation of authority to implement and enforce the Radionuclide NESHAPs. 71 *Fed. Reg.* 32276 (June 5, 2006) (final approval).[6]

The possibility that a state air permitting authority might rely on the expertise and resources of other state agencies to meet requirements necessary for EPA approval of the state title V operating permit program with respect to sources of radionuclides was specifically acknowledged by the EPA in the early years of the title V program. In guidance issued soon after the promulgation of part 70, the EPA specifically addressed whether the EPA expected all state radionuclide program activities to be carried out by the state air program. *See Memorandum from John S. Seitz, EPA Office of Air Quality Planning and Standards, and Margo Oge, Director, EPA Office of Radiation and Indoor Air, to EPA Regional Division Directors, re: "The Radionuclide National Emissions Standard for Hazardous Air Pollutants (NESHAP) and the Title V Operating Permits Program,*" dated September 20, 1994, at 2 (Radionuclide NESHAP/Title V Guidance). In that memo, the EPA stated, "States would be free to use whatever combination of their personnel they feel is appropriate for [implementing Part 70 permits at sources subject to the Radionuclide NESHAPs]. Such joint efforts would have to be sufficiently described so that EPA and the public can understand how the job will be done." *Id.* The Radionuclide NESHAP/Title V Guidance includes as an attachment an example of an interagency agreement that could be entered into among state agencies to outline their respective obligations for carrying out their respective responsibilities under the CAA.

C. Review of Issues in a Petition

State and local permitting authorities issue title V permits pursuant to the EPA-approved title V programs. Under CAA § 505(a), 42 U.S.C. § 766ld(a) and the relevant implementing regulations found at 40 C.F.R. § 70.8(a), states are required to submit each proposed title V operating permit to the EPA for review. Upon receipt of a proposed permit, the EPA has 45 days to object to final issuance of the permit if the EPA determines that the permit is not in compliance with applicable requirements of the Act. CAA § 505(b)(1), 42 U.S.C. § 7661d(b)(1); *see also* 40 C.F.R. § 70.8(c) (providing that the EPA will object if the EPA determines that a permit is not in compliance with applicable requirements or requirements under 40 C.F.R. part 70). If the EPA does not object to a permit on its own initiative,

[5] 40 C.F.R. Part 61, Subparts B, H, I, K, Q, R, T and W.

[6] The EPA granted Health partial rather than full delegation. Although Health has the authority required by 40 C.F.R. §§ 70.11(a)(3)(ii) and 63.91(d)(3)(i) to recover criminal penalties for knowing violations, Health did not have express authority to recover criminal fines for knowingly making a false material statement or knowingly rendering inadequate any required monitoring device or method, as required by 40 C.F.R. §§ 70.11(a)(3)(iii) and 63.91(d)(3)(i). *See* 71 *Fed. Reg.* 32276.

§505(b)(2) of the Act and 40 C.F.R. § 70.8(d) provide that any person may petition the Administrator, within 60 days of the expiration of the EPA's 45-day review period, to object to the permit.

The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d). In response to such a petition, the Act requires the Administrator to issue an objection if a petitioner demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act. CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(c)(1); *see also New York Public Interest Research Group, Inc. (NYPIRG) v. Whitman*, 321 F.3d 316, 333 n.11 (2nd Cir. 2003). Under section 505(b)(2) of the Act, the burden is on the petitioner to make the required demonstration to the EPA. *MacClarence v. EPA*, 596 F.3d 1123, 1130-33 (9th Cir. 2010); *Sierra Club v. Johnson*, 541 F.3d 1257, 1266-67 (11th Cir. 2008); *Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 677-78 (7th Cir. 2008); *WildEarth Guardians v. EPA*, 728 F.3d 1075, 1081-82 (10th Cir. 2013); *Sierra Club v. EPA*, 557 F.3d 401, 406 (6th Cir. 2009) (discussing the burden of proof in title V petitions); *see also NYPIRG*, 321 F.3d at 333 n.11. In evaluating a petitioner's claims, the EPA considers, as appropriate, the adequacy of the permitting authority's rationale in the permitting record, including the response to comments (RTC).

The petitioner's demonstration burden is a critical component of CAA § 505(b)(2). As courts have recognized, CAA § 505(b)(2) contains both a "discretionary component," to determine whether a petition demonstrates to the Administrator that a permit is not in compliance with the requirements of the Act, and a nondiscretionary duty to object where such a demonstration is made. *NYPIRG*, 321 F.3d at 333; *Sierra Club v. Johnson*, 541 F.3d at 1265-66 ("[I]t is undeniable [CAA § 505(b)(2)] also contains a discretionary component: it requires the Administrator to make a judgment whether a petition demonstrates a permit does not comply with clean air requirements."). Courts have also made clear that the Administrator is only obligated to grant a petition to object under CAA § 505(b)(2) if the Administrator determines that the petitioners have demonstrated that the permit is not in compliance with requirements of the Act. *See, e.g., Citizens Against Ruining the Environment*, 535 F.3d at 667 (stating § 505(b)(2) "clearly obligates the Administrator to (1) determine whether the petition demonstrates noncompliance and (2) object *if* such a demonstration is made") (emphasis added); *NYPIRG*, 321 F.3d at 334 ("§ 505(b)[2] of the CAA provides a step-by-step procedure by which objections to draft permits may be raised and directs the EPA to grant or deny them, *depending on* whether non-compliance has been demonstrated.") (emphasis added); *Sierra Club v. Johnson*, 541 F.3d at 1265 ("Congress's use of the word 'shall' … plainly mandates an objection *whenever* a petitioner demonstrates noncompliance.") (emphasis added). When courts review the EPA's interpretation of the ambiguous term "demonstrates" and its determination as to whether the demonstration has been made, they have applied a deferential standard of review. *See, e.g., Sierra Club v. Johnson*, 541 F.3d at 1265-66; *Citizens Against Ruining the Environment*, 535 F.3d at 678; *MacClarence*, 596 F.3d at 1130-31. A more detailed discussion of the petitioner demonstration burden can be found in *In the Matter of Consolidated Environmental Management, Inc. – Nucor Steel Louisiana*, Order on Petition Nos. VI-2011-06 and VI-2012-07 (June 19, 2013) (*Nucor II Order*), at 4-7.

The EPA has looked at a number of criteria in determining whether the petitioner has demonstrated noncompliance with the Act. *See generally Nucor II Order*, at 7. For example, one such criterion is whether the petitioner has addressed the state or local permitting authority's decision and reasoning. The EPA expects the petitioner to address the permitting authority's final decision, and the permitting authority's final reasoning (including the RTC), where these documents were available during the timeframe for filing the petition. *See MacClarence*, 596 F.3d at 1132-33; *see also, e.g., In the Matter of Noranda Alumina, LLC*, Order on Petition No. VI-2011-04 (December 14, 2012), at 20-21 (denying title V petition issue where petitioners did not respond to state's explanation in response to comments or explain why the state erred or the permit was deficient); *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IV-2010-9 (June 22, 2012) (*2012 Kentucky Syngas Order*) at 41 (denying title V petition issue where petitioners did not acknowledge or reply to state's response to comments or provide a particularized rationale for why the state erred or the permit was deficient). Another factor the EPA has examined is whether a petitioner has provided the relevant analyses and citations to support its claims. If a petitioner does not, the EPA is left to work out the basis for the petitioner's objection, contrary to Congress' express allocation of the burden of demonstration to the petitioner in CAA § 505(b)(2). *See MacClarence*, 596 F.3d at 1131 ("[T]he Administrator's requirement that [a title V petitioner] support his allegations with legal reasoning, evidence, and references is reasonable and persuasive."); *In the Matter of Murphy Oil USA, Inc.*, Order on Petition No. VI-2011-02 (Sept. 21, 2011), at 12 (denying a title V petition claim where petitioners did not cite any specific applicable requirement that lacked required monitoring). Relatedly, the EPA has pointed out in numerous orders that, in particular cases, general assertions or allegations did not meet the demonstration standard. *See, e.g., In the Matter of Luminant Generation Co. – Sandow 5 Generating Plant*, Order on Petition No. VI-2011-05 (Jan. 15, 2013), at 9; *In the Matter of BP Exploration (Alaska) Inc., Gathering Center #1*, Order on Petition No. VII-2004-02 (Apr. 20, 2007), at 8; *In the Matter of Chevron Products Co., Richmond, Calif. Facility*, Order on Petition No. IX-2004-10 (Mar. 15, 2005), at 12, 24. Also, if the petitioner did not address a key element of a particular issue, the petition should be denied. *See, e.g., In the Matter of Public Service Company of Colorado, dba Xcel Energy, Pawnee Station*, Order on Petition No. VIII-2010-XX (June 30, 2011), at 7–10; and *In the Matter of Georgia Pacific Consumer Products LP Plant*, Order on Petition No. V-2011-1 (July 23, 2012), at 6-7, 10–11, 13–14.

III. BACKGROUND

A. The Hanford Site

The Hanford Site occupies approximately 560 square miles in south central Washington, just north of the confluence of the Snake and Yakima Rivers with the Columbia River. The Hanford Site was acquired by the federal government in 1943 and for many years was dedicated primarily to the production of plutonium for national defense and the management of the resulting waste. With the shutdown of the production facilities in the 1970s and 1980s, missions were redirected to decommissioning and site cleanup, and diversified to include research and development in the areas of energy, waste management and environmental restoration. The Hanford Site is a source of radionuclides and is a major stationary source subject to the requirements of title V of the CAA (42 U.S.C. §§ 7602 and 7661) and the EPA-approved title V program for Washington, codified at W.A.C. Ch. 173-401.

B. Hanford Site Title V Permitting History

The first title V permit for the Hanford Site was issued by Ecology in 2001, and was first renewed in 2006. Relevant for purposes of these petitions, DOE submitted an application for the second renewal of the title V permit for the Hanford Site to Ecology and Health, which Ecology announced as complete on September 10, 2011. *Washington Department of Ecology Permit Register*, Vol. 12, No. 18 (September 10, 2011). Health issued Radioactive Air Emissions License FF-01 to DOE for the Hanford Site on February 23, 2012 (NERA License).

Ecology held an initial public comment period on draft Permit No. 00-05-006, Renewal 2 from June 4, 2012, to August 3, 2012. 2013 Petition, Ex. 3, at 1. Ecology reopened the public comment period from December 3, 2012, to January 14, 2013, after acknowledging that the permit application materials were not available during the initial public comment period, but public notice of the reopened public comment period was not published until December 10, 2012. *Id.* at 3-4. Because the reopened public comment period was less than 30 days, Ecology announced that it was extending the reopened public comment period on the draft permit from January 14, 2013, to January 25, 2013. *Id*. at 2. The Petitioner submitted comments on draft Permit No. 00-05-006, Renewal 2, which includes the NERA License, during each of these public comment periods. DOE also submitted comments on draft Permit No. 00-05-006, Renewal 2.

On February 14, 2013, Ecology submitted the proposed Permit No. 00-05-006, Renewal 2 to the EPA for the EPA's 45-day review period, which ended on March 31, 2013. Ecology issued the final permit on April 1, 2013 (Renewal 2 Permit), which would expire on March 31, 2018. As with the previous title V permits for the Hanford Site, the Hanford Title V Permit consisted of a section with standard terms and conditions, and three attachments: "Attachment 1 contains the State of Washington Department of Ecology (Ecology) permit terms and conditions. Attachment 2 contains the State of Washington Department of Health (Health) Radioactive Air Emissions License (FF-01) as permit terms and conditions. Attachment 3 contains the Benton Clean Air Agency (BCAA) permit terms and conditions applicable to the regulations of open burning and asbestos." Most of the requirements of Subpart H that are included in the Renewal 2 Permit as well as most other requirements in the permit regulating radionuclides at the Hanford Site are contained in Attachment 2. Some additional Subpart H requirements are contained in the Standard Terms and Conditions portion of the Renewal 2 Permit (for example, Conditions 5.6, 5.10, 5.11 and 5.12, concerning title V reporting requirements related to Subpart H). On April 23, 2013, the Petitioner submitted a petition to the EPA (the 2013 Petition) requesting that the EPA object to the Renewal 2 Permit.

In May 2013, Ecology announced that it was reopening the public comment period on the entire Renewal 2 Permit from June 30, 2013, through August 2, 2013. In the public notices related to that reopening, Ecology stated that "We are holding another public comment period because we became aware of some confusion in notifications sent to our mailing list. To remove any confusion, and to encourage public comments, we are providing another review of the entire permit and supporting materials." 2014 RTC, Hanford Air Operating Permit, June 30 – August 2, 2013, November 17 – December 20, 2013, Appendix A. Health revised the NERA License on

August 30, 2013.[7] Ecology then held a public comment period on proposed changes to the Renewal 2 Permit from November 17 through December 20, 2013. *Id*. Ecology explained that the proposed changes were "to incorporate new information into the permit," in particular, updating the permit to address several notices of construction that had been issued by Ecology for the Hanford Site and replacing the previous NERA License (issued on February 23, 2012) with the revised NERA License (issued on August 30, 2013) as Attachment 2 to the Hanford Title V Permit. *Id*. The Petitioner commented during both of these public comment periods, and DOE also submitted comments. Ecology submitted to the EPA the proposed permit for what became Permit No. 00-05-006, Renewal 2, Revision A for the EPA's 45-day review period on February 13, 2014, which ended on March 30, 2014. Ecology issued the final permit on May 1, 2014 (Renewal 2, Revision A Permit), which would still expire on March 31, 2018.

Again, as with the previous title V permits for the Hanford Site, the Hanford Title V Permit currently in effect consists of a section with standard terms and conditions, and three attachments. Attachment 2 is the NERA License that was applicable to the Hanford Site when the Hanford Title V permit was issued and most of the Subpart H requirements included in the permit, as well as most other requirements in the permit regulating radionuclides at the Hanford Site, are contained in Attachment 2. Some additional Subpart H requirements are contained in the main body of the permit (for example, Conditions 5.6, 5.10, 5.11 and 5.12, concerning title V reporting requirements related to Subpart H). On April 21, 2014, the Petitioner submitted a petition (the 2014 Petition), requesting that the EPA to object to the Renewal 2, Revision A Permit.

C. Timeliness of the Petitions

Pursuant to the CAA, if the EPA does not object during its 45-day review period, any person may petition the Administrator within 60 days after the expiration of the 45-day review period to object. CAA § 505(b)(2); 42 U.S.C. § 7661d(b)(2). Thus, any petition seeking the EPA's objection to the Renewal 2 Permit was due on or before May 31, 2013, and any petition seeking the EPA's objection to the Renewal 2, Revision A Permit was due on or before May 30, 2014. The 2013 Petition was dated April 23, 2013, and the 2014 Petition was dated April 21, 2014. The EPA therefore finds the Petitioner timely filed both petitions.

D. Previous EPA Correspondence with the Petitioner

The EPA has previously responded in writing to the Petitioner on several issues that overlap with the issues raised in the Hanford Title V Petitions.

First, in a letter dated July 20, 2009, the Petitioner questioned whether Washington's title V program met the title V and 40 C.F.R. part 70 requirements for judicial review of final permit actions and for public comment, affected state review and the EPA review with respect to title V permits issued by Ecology and local air authorities in Washington for sources of radionuclides. The Petitioner noted that for each of the four sources of radionuclides subject to title V permits in

[7] This version of the NERA License has the same issuance and effective date (February 23, 2012) as the previous version, but states that it is "DATED at Richland, Washington the 30th day of August 2013," followed by "Approved by:" and a signature.

Washington, the requirements for radionuclides were contained in a NERA license issued by Health that was then incorporated into the title V permit by Ecology or the local title V permitting authority as an applicable requirement. The Petitioner stated that NERA licenses are enforceable only by Health, that Ecology and local title V permitting authorities in Washington lack authority over such licenses, and identified two specific concerns with this approach. First, the Petitioner alleged that, because a NERA license is not subject to the same requirements for judicial review as title V permits in Washington, Washington's title V program did not comply with the requirements of 40 C.F.R. § 70.4(b)(3)(x) and (xii) for judicial review. Second, the Petitioner stated that title V permitting authorities in Washington do not have jurisdiction for title V operating permit conditions contained in the NERA license portion of the title V permit and that Washington title V permitting authorities therefore lacked authority to address public comments. Finally, the Petitioner asserted that neither NERA nor its implementing regulations require an opportunity for public comment, the EPA review, or affected state review for NERA licenses, which is required for title V operating permits pursuant to 40 C.F.R. §§ 70.7(h) and 70.8(b).

The EPA responded in a letter dated September 29, 2009. *See* Letter from Michelle L. Pirzadeh, Acting Regional Administrator, Region 10, to Bill Green, dated September 29, 2009 (EPA's September 2009 Letter). In that letter, the EPA stated that, to the extent these license requirements are "applicable requirements" as defined in 40 C.F.R. § 70.2, Ecology is required to include the requirements in the title V permit for a subject source, but that the underlying applicable requirements themselves are not subject to the judicial review, public participation and the EPA and affected state review requirements of title V and 40 C.F.R. part 70. *Id*., at 1-2. The EPA also stated that the requirements of title V do not apply to the establishment of or challenge to applicable requirements established under separate statutory or regulatory authority. *Id*., at 2.

Similar issues were raised by the Petitioner in a letter to the EPA titled "Administrative Procedure Act Petition: Concerning Repeal of Portions of Appendix A of 40 C.F.R. Part 70," dated July 1, 2011. In that letter, the Petitioner requested the EPA to exercise its rulemaking authority to repeal the authorization of Ecology and the Puget Sound Clean Air Authority (PSCAA), a local title V permitting authority in Washington, to carry out the title V operating permits program with respect to permits containing the Radionuclide NESHAPs as applicable requirements.[8] The Petitioner asserted that the Washington Clean Air Act, R.C.W. Ch. 70.94, grants only Health the authority to create and enforce title V applicable requirements regulating radioactive air emissions and that Health is not a title V permitting authority and thus cannot enforce the CAA. The Petitioner also asserted that no title V permitting authority in Washington can enforce any title V requirements created by Health. Thus, the Petitioner asserts that applicable requirements created by Health escape any CAA and 40 C.F.R. part 70 permit issuance procedures, including requirements for public participation and the ability to obtain judicial review in state court.

In a response dated October 11, 2012, the EPA concluded that the issues raised in the Petitioner's letter were not grounds for repealing the EPA's approval of Washington's title V program. *See*

[8] The letter also requested the EPA to repeal Health's delegation of the Radionuclide NESHAPs (40 C.F.R. Part 61, Subparts B, H, I, K, Q, R, T and W). The EPA denied this request.

Letter from Dennis McLerran, Regional Administrator, Region 10, to Bill Green, dated October 11, 2012 (EPA's October 2012 Letter). The letter explains that Ecology has incorporated the Radionuclide NESHAPs by reference into its regulations and pointed to Washington statutes and regulations, as well as the Attorney General Opinion and MOU, that make clear that Ecology and PSCAA have authority to implement and enforce the Radionuclide NESHAPs and include such requirements in title V permits, if applicable. The letter further explained that the requirements of title V and part 70, including requirements for public participation and judicial review, do not apply as a matter of federal law when Health issues a license under NERA and its implementing regulations.

IV. EPA DETERMINATIONS ON THE ISSUES RAISED BY THE PETITIONER

Claim 1. Petitioner Claims that the Structure of the Hanford Title V Permit Does Not Provide Ecology the Authority to Issue a Permit that Assures Compliance with All Applicable Requirements, in Particular, Subpart H

This section responds to the claims in Section II.B-3 on pages 16-20 of the 2013 Petition and Section 3.2 and 3.3 on pages 17-25 of the 2014 Petition. We view these claims as related and are responding to them together.

Petitioner's Claim. The Petitioner claims that Ecology, the title V permitting authority for DOE's Hanford Site, does not have the required authority to issue a title V permit that meets all title V requirements controlling emissions of radionuclides at the Hanford Site as required by CAA § 502(b)(5)(A) and 40 C.F.R. §§ 70.1(b), 70.3(c), 70. 6(a) and 70.7(a). 2013 Petition, at 17; 2014 Petition, at 22. The Petitioner acknowledges that Ecology does have authority under state law to regulate radionuclides,[9] has adopted Subpart H by reference in its regulations (W.A.C. 173-400-075), and has authority to enforce Subpart H at the Hanford Site. The Petitioner claims, however, that by choosing not to adopt Subpart H in the Hanford Title V Permit and to instead include the Subpart H requirements in the NERA license as Attachment 2 to the Hanford Title V Permit, Ecology cannot subject Attachment 2 to any requirement of 40 C.F.R. part 70 because Ecology lacks the legal ability to act on requirements developed pursuant to NERA. 2013 Petition, at 11, 13-15; 2014 Petition, at 10-12, 15-16, 20. The Petitioner characterizes this permit structure as "inappropriately transfer[ing] regulation of radionuclides under Subpart H from Part 70 to W.A.C. 246-247 and enforcement of terms and conditions implementing requirements of Subpart H from a permitting authority to Health, an agency that is not a permitting authority." 2014 Petition, at 19-20. The Petitioner also asserts that: (1) Health is the agency that identified terms and conditions in Attachment 2 as "state-only," but only Ecology has authority under title V to make this designation (2013 Petition, at 25; 2014 Petition, at 14-15, 26-27, 30); (2) that Attachment 2 is not a rule promulgated by the EPA or part of the Washington State Implementation Plan and therefore not included in the federal definition of applicable requirement in 40 C.F.R. § 70.2 (2014 Petition, at 7-8) and is also not an applicable requirement under Washington's title V program; and (3) that "any standard or other requirement controlling emissions of hazardous air pollutants, including radionuclides, is subject to inclusion in permits

[9] The Hanford Title V Petitions refer to both "radionuclides" and "radioactive air emissions." Subpart H Radionuclide NESHAPs apply to radionuclide emissions. *See* 40 C.F.R. § 61.91. This Order uses the term radionuclides in discussing the Petitioner's claims as they pertain to Subpart H and other Radionuclide NESHAPs.

issued by a permitting authority" pursuant to title V and part 70 (2013 Petition, at 11; 2014 Petition, at 5).

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on these claims.

The Petitioner has not demonstrated that the structure of the Hanford Title V Permit deprives Ecology of the authority to issue a title V permit to DOE for the Hanford Site containing all federal applicable requirements, including Subpart H, and all federally-enforceable requirements controlling emissions of radionuclides as required by CAA § 502(b)(5) (A) and 40 C.F.R. §§ 70.1(b), 70.3(c), 70. (6)(a) and 70.7(a). These provisions require permitting authorities to have authority to issue permits that include emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements; that permitting authorities have authority to issue permits that provide for compliance with all applicable requirements; that permits for a major source include all applicable requirements for all relevant emission units in the major source; and that each subject source have a permit that assures compliance with all applicable requirements.

The Petitioner is correct that only Health has authority to carry out the requirements of NERA under R.C.W. Ch. 70.98 and W.A.C. Ch. 246-247 and that the NERA License was issued by Health to DOE under that authority. As discussed in the EPA's October 2012 Letter, however, a review of Washington's statutes, regulations and the Washington Attorney General Opinion make clear that Ecology also has certain authorities with respect to radionuclides. Specifically, Ecology has adopted the Radionuclide NESHAPs by reference into its regulations at W.A.C. 173-400-075(1). Furthermore, Ecology has authority, and in fact is required, under R.C.W. 70.94.161(10)(a), W.A.C. 173-401-200(4)(a)(iv) and W.A.C. 173-400-600(1)(a), to include in the Hanford Title V Permit all requirements of Subpart H that apply to the Hanford Site. *See also* Washington Attorney General Opinion, at 4 ("Ecology and local air authorities are also charged with regulatory authority over these same sources pursuant to Ch. 70.94 R.C.W.").

As the Petitioner notes, Ecology has chosen to meet most of its title V obligations with respect to radionuclides at the Hanford Site by incorporating the NERA License issued by Health into the Hanford Title V Permit. The Petitioner acknowledges that Subpart H requirements applicable to the Hanford Site are included in Attachment 2.[10] The Hanford Title V Permit states that "Attachment 2 contains the State of Washington Department of Health (Health) Radioactive Air Emissions License (FF-01) <u>as</u> permit terms and conditions." Permit No. 00-05-006, Renewal 2, Standard Terms and Conditions, at 1; Permit No. 00-05-006, Renewal 2, Revision A, Standard Terms and Conditions, at iii (emphasis added). This language clearly indicates that Ecology is, in issuing the Hanford Title V Permit, adopting the terms and conditions of the Health License—including the Subpart H requirements in Attachment 2—as terms and conditions of the Hanford Title V Permit. Similarly, although Health has, in the first instance in issuing the NERA License, identified certain conditions in the NERA License as "state only," Ecology has, by including the

[10] The Petitioner states on several occasions that all of the Subpart H requirements are in Attachment 2 of the Hanford Title V Permit. *See, e.g.*, 2013 Petition, at 12. In fact, several conditions relating to Subpart H are included in the main body of the permit. *See* Standard Terms and Conditions, Conditions 5.6, 5.10, 5.11 and 5.12.

NERA License in the Hanford Title V Permit "as permit terms and conditions," adopted Health's designation as its (Ecology's) designation of which title V permit conditions it considers to be "state only."[11]

The Petitioner's reliance on language in R.C.W. 70.98 and W.A.C. Ch. 246-247 stating that implementation and enforcement of NERA and its implementing regulations rests with Health ignores the fact that, once incorporated into the Hanford Title V Permit, the permit terms and conditions of the NERA License are terms and conditions of the Hanford Title V Permit. As a result, Ecology's authority with respect to such permit terms and conditions derives from R.C.W. 70.94 and its implementing regulations, including W.A.C. Ch. 173-401. Indeed, the Washington Attorney General Opinion, describing the specific situation in this case (a license issued by Health, but included in a title V permit issued by Ecology), states expressly that:

> The operating permit [issued by Ecology for the Hanford Site] will include components addressing both radioactive (from Health's license) and non-radioactive air emissions. The operating permit will be required, issued, and enforced pursuant to the authorities set forth in 70.94 Ch. R.C.W. [] and its implementing regulations, including specifically Ch. 173-401 W.A.C….

Attorney General Opinion, at 4.

Additionally, the EPA recognizes that at the time the Petitioner filed the Hanford Title V Petitions, W.A.C. 246-247-030(14) stated that "'License' means a radioactive air emissions license, either issued by the department or incorporated by the department as an applicable portion of an air operating permit issued by the department of ecology or a local air pollution control agency, with requirements and limitations listed therein to which the licensed or permitted party must comply." However, Health subsequently revised this regulation "to accurately reflect the Department of Health actions and to clarify related actions by the Department of Ecology and the local air pollution control authorities." Health further stated that "While the radioactive air emissions license is always issued by the Department of Health, incorporation of the license into the air operating permit is done by the Department of Ecology or the local air pollution control authorities under their authority." *See Proposed Rulemaking for Radiation Protection – Air Emissions, W.A.C. 246-247-030 Definitions*. W.A.C. 246-247-

[11] As discussed in response to Claim 3 below, to the extent Ecology receives public comments on title V permits using this permit structure regarding whether certain requirements in Attachment 2 are appropriately characterized as "state-only" for purposes of the federal title V program, Ecology has an obligation, prior to issuing the title V permit, to respond to significant comments by explaining the basis for its determination that the requirement is not "required under the Act or under any of its applicable requirements." *See* 40 C.F.R. § 70.6(b); W.A.C. 173-401-625(2). If, after considering the comments, Ecology concludes that Attachment 2 incorrectly characterizes a certain requirement as "state-only," Ecology must ensure that the final title V permit appropriately characterizes that requirement as federally enforceable prior to issuing the final title V permit. To the extent this first requires a revision to the NERA License, Ecology must delay issuance of the final title V permit until the NERA License is revised consistent with title V deadlines for permit issuance. *See, e.g.*, 40 C.F.R. § 70.7(a)(2) (providing that a permitting authority must "take final action on each permit application (including a request for permit modification or renewal) within 18 months, or such lesser time approved by the Administrator, after receiving a complete application").

030(14) currently states that "The license will be incorporated as an applicable requirement in the air operating permit issued by the department of ecology or a local air pollution control authority when the department of ecology or a local air pollution control authority issues an air operating permit." Accordingly, while the prior language may have been ambiguous, Health's clarifications are consistent with other statutory and regulatory language and the Washington Attorney General Opinion clearly indicating that the title V permit for the Hanford Site is issued by Ecology and that the NERA License is incorporated into the title V permit by Ecology. In short, the Petitioner has not demonstrated that the structure of the Hanford Title V Permit deprives Ecology of the authority to issue a title V permit to DOE for the Hanford Site containing all federal applicable requirements, including Subpart H, and all federally-enforceable requirements controlling emissions of radionuclides.

With respect to the Petitioner's claim that the NERA License issued by Health for the Hanford Site is not an "applicable requirement,"[12] the EPA acknowledges that the EPA's October 2012 Letter to the Petitioner included language on this issue that could have been misconstrued. The EPA did explain in the letter that many provisions in NERA licenses issued by Health and included in title V permits for radionuclides sources are established as a matter of state law and not subject to the requirements of part 70. *See* EPA's October 2012 Letter, at 6, n. 4. Several statements in the letter, however, used the term "applicable requirement" in connection with discussing licenses issued by Health under NERA without indicating whether the EPA was using that term to describe federal "applicable requirements" or state-only "applicable requirements."[13] The EPA is clarifying here that we do not consider a license issued by Health—or requirements of R.C.W. Ch. 70.98 or the regulations issued thereunder that do not meet the definition of "applicable requirement" in 40 C.F.R. § 70.2—to be "applicable requirements" for purposes of Washington's EPA-approved title V program. In contrast, the Radionuclide NESHAPs, including Subpart H, which are adopted in both Ecology's regulations at W.A.C. 173-400-075 and Health's regulations at W.A.C. 246-247-035, are "applicable requirements" under the EPA-approved title V program for Washington because they are standards or other requirements under CAA § 112. *See* 40 C.F.R. § 70.2 (EPA's definition of applicable requirement).[14] Thus, the fact

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[12] Although the Petitioner now contends that the NERA License is not an applicable requirement under state or federal law, the Petitioner's July 29, 2009, letter to the EPA stated that "As required by W.A.C. 246-247-010(5), -060, -060(1), and -060(2)(c), these licenses are incorporated into the [title V permit] as [title V permit]-*applicable requirements*." July 29, 2009, letter at 2 (emphasis added).

[13] The EPA October 2012 letter stated that "Radionuclide regulatory requirements are established by [Health] in a license that is then incorporated by Ecology or PSCAA (as applicable) into part 70 permits as applicable requirements as provided in the MOUs" (at 4); "Licenses issued by [Health] for radionuclide emissions, which incorporate the Radionuclide NESHAPs, are incorporated into the part 70 permits, where applicable, as applicable requirements in air operating permits" (at 5); "The establishment of or changes to such underlying applicable requirements must be made pursuant to the rules that govern the establishment of such applicable requirements, in this case, the RAD NESHAPs promulgated by EPA and the license requirements promulgated by Ecology" (at 6); "In summary, nothing in your Petition calls into question our previous conclusion that Ecology and PSCAA meet the requirements of Title V and part 70 when they issue part 70 permits that contain applicable requirements consisting of a license issued by [Health] regulating radionuclide emissions and containing the requirements of the Radionuclide NESHAPs" (at 6).

[14] The Petitioner contends that a license issued by Health under NERA is also not an "applicable requirement" within the meaning of R.C.W. 70.94.161(10)(d) and W.A.C. 173-401-200(4)(d) because those provisions identify as applicable requirements only the NERA statute itself, R.C.W. Ch. 70.98, "and rules adopted thereunder." The Petitioner also points to the definition of "license" in W.A.C. 246-247-030(14), which, at the time the Petitioner

that a NERA license is not a federal applicable requirement does not demonstrate that the structure of the Hanford Title V Permit deprives Ecology of the authority to issue a title V permit to DOE for the Hanford Site containing all federal applicable requirements, including Subpart H.

With respect to the Petitioner's contention that any federal standard or other requirement controlling emissions of hazardous air pollutants, including radionuclides, is subject to inclusion in permits issued by a permitting authority pursuant to title V and part 70 (2013 Petition, at 11; 2014 Petition, at 5), the Petitioner has not met his demonstration burden on this issue. The only explanation the Petitioner provides for this assertion is in his 2013 Petition, when he points to CAA § 116. That section provides that, except as provided in statutes preempting certain state regulation of mobile sources regulated under title II of the CAA:

> nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or section 7412 of this title, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section.

The Petitioner contends that the CAA and Washington state regulations require both the federal requirement and the state requirement to be included in a title V permit when both apply, stating that "EPA has interpreted CAA § 116 to require a Part 70 permit include both the federal requirement and the state requirement, when both apply, regardless of whether one is more stringent than the other" (2013 Petition, at 25). In support of this assertion, the Petitioner points to a statement in the EPA's partial delegation of authority to Health to implement and enforce the Radionuclide NESHAPs, which stated, "However, if both a State or local regulation and a Federal regulation apply to the same sources, both must be complied with, regardless of whether one is more stringent than the other, pursuant to the requirements of section 116 of the CAA." *See* 71 *Fed. Reg.* 32276, 32278 (June 5, 2006). Nothing in CAA § 116 or in the EPA's partial

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submitted the Hanford Title V Petitions, defined a NERA license as an "applicable portion" of an air operating permit, not as an applicable requirement. We need not address this issue because of our conclusion that a NERA license is not an "applicable requirement" within the meaning of the EPA-approved title V permitting program for Washington. We note, however, that W.A.C. 246-247-030(14) has since been amended to clearly state that a NERA license is an "applicable requirement" under state law to be included in Washington title V permits, as applicable. In addition, both the Attorney General Letter (at 4) and the MOU (at 13) have long interpreted a NERA license to be an "applicable requirement" as a matter of state law under R.C.W. 70.94.161(10)(d) and W.A.C. 173-401-200(4)(d), presumably because a NERA license is issued under R.C.W. Ch. 70.98 and rules adopted thereunder. In any event, whether or not a NERA license is an "applicable requirement" under state law does not change the conclusion we reached in the EPA September 2009 and October 2012 letters, namely, that the public participation, judicial review and other requirements of title V and part 70 do not apply as a matter of federal law to Health when issuing a license pursuant to R.C.W. Ch. 70.98 and W.A.C. Ch. 246-247. Title V and part 70 requirements do apply, of course, to issues relating to whether Ecology has included all requirements of Subpart H, and any other "applicable requirements," as defined in 40 C.F.R. § 70.2, in the Hanford Title V Permits.

delegation of the Radionuclide NESHAPs to Health in any way suggests that the CAA requires that "state-only" requirements be included in a title V permit. Similarly, the EPA's statement in the partial delegation was in no way intended to suggest that both a federal and a "state-only" state regulation must, as a matter of federal law, be complied with. Rather, the EPA was only pointing out that, as provided in and subject to CAA § 116, nothing in the CAA precludes states or local agencies from adopting and enforcing their own standards and requirements regulating air pollution.

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 1.

Claim 2. Petitioner Claims that the Structure of the Hanford Title V Permit Does Not Provide Ecology with Authority to Enforce the Portions of the Hanford Title V Permit Relating to Subpart H

This section responds to the claims in Section II.B-2 on pages 11-16 of the 2013 Petition and Section 3.1 on pages 13-16 of the 2014 Petition. We view these claims as related and are responding to them together.

Petitioner's Claim. The Petitioner claims that Ecology does not have authority to enforce all federally-enforceable requirements in the Hanford Title V Permit controlling emissions of radionuclides as required by CAA § 502(b)(5)(E) and 40 C.F.R. § 70.11(a). The Petitioner claims that by choosing not to adopt Subpart H by reference in the Hanford Title V Permit and instead choosing to address Subpart H requirements by including the NERA License as Attachment 2 to the permit, Ecology has effectively moved enforcement of Subpart H to a state regulation that cannot be enforced by Ecology, as the title V permitting authority, or the public. 2013 Petition, at 11, 13-15; 2014 Petition, at 10-12, 15-16, 20. This is because, the Petitioner asserts, only Health has authority under state law to enforce requirements under NERA, citing to R.C.W. 70.98.050(1), W.A.C. 246-247-002(1)(a), W.A.C. 246-247-030(14) and W.A.C. 246-247-060. 2013 Petition, at 12-13; 2014 Petition, at 4, 10, 15-16. The Petitioner also contends that, although an intergovernmental agreement can assure that an issued title V permit contains all applicable requirements, it cannot grant statutory enforcement authority to an administrative agency, as suggested by Region 10 in its October 11, 2012, letter or by the EPA in guidance (citing to Radionuclide NESHAP/Title V Guidance). 2013 Petition, at 15, n. 24.

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on these claims.

The Petitioner has not demonstrated that Ecology lacks authority to enforce all federally-enforceable requirements in the Hanford Title V Permit controlling emissions of radionuclides as required by CAA § 502(b)(5)(E) and 40 C.F.R. § 70.11(a). Those provisions require that title V permitting authorities have authority to enforce permits, permit fee requirements and the requirement to get a permit, including civil and criminal penalties and injunctive relief.

As discussed above in response to Claim 1, both Ecology and Health have regulatory authority for radioactive air emissions in Washington. The Petitioner is correct that the Health License was issued in the first instance by Health under NERA and that only Health has authority to carry out the requirements of NERA under R.C.W. Ch. 70.98 and W.A.C. Ch. 246-247. By including the

NERA License as an attachment to the Hanford Title V Permits, however, Ecology has issued the terms and conditions of the NERA License as terms and conditions of the Hanford Title V Permit.

As discussed in both the EPA's September 2010 Letter and the EPA's October 2012 Letter, Washington's statutes and regulations provide Ecology with authority to enforce all requirements of the title V permits it issues. Both versions of the Hanford Title V Permit state that they are issued under the authority of R.C.W. Ch. 70.94. Ecology has authority to seek criminal and civil penalties against any person who violates any provision of R.C.W. Ch. 70.94. *See* R.C.W. 70.94.430 (criminal penalty authority); R.C.W. 70.94.431 (civil penalty authority). In addition, in granting to Health all of Ecology's enforcement authorities in R.C.W. 70.94.422, the Washington Legislature made clear that granting such enforcement authority to Health "does not preclude the department of ecology from exercising its authority under this chapter [R.C.W. Ch. 70.94]." *See* R.C.W. 70.94.422(1). These statutory provisions were submitted by Ecology to the EPA as part of its title V program.

The Attorney General Opinion specifically confirms Ecology's authority to enforce provisions of a NERA license issued by Health when included in a title V permit, as Ecology has done in issuing the Hanford Title V Permit that is the subject of these petitions. In discussing Ecology's enforcement authority specifically with respect to the Hanford Site, the letter states:

> In 1993, the State Legislature granted the Washington State Department of Health the enforcement powers listed above with respect to emissions of radioactive air emissions. See R.C.W. 70.94.422(1). As explained in Section I above, Ecology and Health have developed an MOU whereby each agency will have primary responsibility for development of a component of the operating permit. Health's component is identified as a "license" per Ch. 70.98 R.C.W. This license will be incorporated as an applicable requirement into the operating permit issued by Ecology. Each agency will retain enforcement authorities, although the MOU identifies the process through which such authorities will be exercised in a coordinated manner.

Attorney General Opinion, at 17-18.

The MOU also makes clear that both Ecology and Health have enforcement authority with respect to radioactive air emissions from the Hanford Site, stating "Both Ecology and Health have identical enforcement authority under Chapter 70.94 R.C.W…." MOU, at 6. The MOU then states that Health will assume primary responsibility for inspection and enforcement actions that involve only radioactive air emissions, but makes clear that Ecology retains its enforcement authority and may exercise this authority consistent with the MOU under extenuating circumstances. MOU, at 6-7. Ecology and Health more recently confirmed this joint authority to enforce, in particular, the radionuclide provisions of the title V permit issued by Ecology to DOE for the Hanford Site in a letter to the Petitioner dated July 16, 2010. *See* Ecology/Health July 2010 Letter, at 3. In responding to comments raising concerns regarding Ecology's authority to enforce the Hanford Title V Permit, Ecology referred to the Ecology/Health July 2010 Letter, as well as the EPA's October 2012 Letter. 2013 RTC, #s 75 and 77; 2014 RTC, #s 3-4 and 11.

The Petitioner acknowledges that Ecology may have authority to regulate radionuclides, but contends that several other provisions of state law "mute" that authority. The statutory and regulatory provisions the Petitioner relies on to support this contention, however, are NERA and its implementing regulations. Both NERA and its implementing regulations do provide that Health has "sole" responsibility for carrying out NERA and "responsibility" for enforcement of NERA licenses. *See, e.g.,* R.C.W. 70.98.50(1); W.A.C. 246-247-002(1)(a); W.A.C. 246-247-060. As discussed above, however, when Ecology includes the NERA License as an attachment to the Hanford Title V Permits, it is also a requirement of a title V permit issued by Ecology under R.C.W. Ch. 70.94. Therefore, Ecology also has enforcement authority under R.C.W. Ch. 70.94.

Moreover, Ecology's authority does not stem from the MOU or the EPA's Radionuclide NESHAP/Title V Guidance, as the Petitioner contends. Rather, such authority stems from the fact that the NERA License becomes part of a title V permit when included as an attachment to that title V permit, and, as such, is issued under R.C.W. 70.94, and thus subject to Ecology's enforcement authority.

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 2.

Claim 3. Public Participation Claims

Claim 3A responds to the claims in Section II.B-1 on pages 3-9 of the 2013 Petition. Claim 3B responds to the claims in Section II.B-4 on pages 20-29 of the 2013 Petition and Section 3.4 on pages 25-31 of the 2014 Petition. We view these claims as closely related, and we are responding to them as Claims 3A and 3B.

Claim 3A. Petitioner Claims that Public Participation for the Hanford Title V Permit was Inadequate

Petitioner's Claim. The Petitioner claims that public participation for the Hanford Title V Permit was inadequate because Ecology did not comply with W.A.C. 173-401-800 and 40 C.F.R. § 70.7(h) during the Renewal 2 Permit public participation process. Specifically, the Petitioner asserts that Ecology did not provide: 1) adequate notice to the affected public; 2) a minimum of 30-days for public comment; and 3) all required materials "contained in the permit application, draft permit, and relevant supporting material." 2013 Petition, at 4.

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on these claims.

As noted by the Petitioner, Ecology opened the draft Renewal 2 Permit, for public comment on three separate occasions. 2013 Petition, at 4. The first comment period occurred between June 4 and August 3, 2012, but was deemed deficient by Ecology because certain permit application materials were not available during this period. Ecology opened a second period from December 10, 2012, to January 4, 2013, and extended this period from January 14 to January 25, 2013. Within each period, the Petitioner submitted written comments to Ecology for a total of 43 pages of comments.

Due to concerns relating to public participation associated with the Renewal 2 Permit, Ecology "invited public comment on the . . . Renewal 2, Revision A" Permit from June 30 to August 2,

2013. 2014 RTC, 2. During this period, Ecology made "[t]he permit, supporting documents, the previous draft permit, and the Response to Comments for the draft permit" available for review. 2014 RTC, Appendix A. In fact, Ecology explained that "[t]o remove any confusion and to encourage public comments, we are providing another review of the *entire permit* and supporting materials." 2014 RTC, Appendix A (italics added). Ecology held another public comment period for the Renewal 2, Revision A Permit, between November 17 and December 20, 2013. *Id.* During both periods, the Petitioner again submitted extensive written comments.

Ecology's decision to re-open the Renewal 2 Permit in all respects and reissue it as the Renewal 2, Revision A Permit, is relevant to the Petitioner's claims concerning public participation. However, the Petitioner does not consider or take any position on the effect of Ecology's decision to re-open and reissue the permit; nor does the Petitioner raise these claims in his 2014 Petition. As a result, the Petitioner did not demonstrate that Ecology did not comply with the procedural requirements for public participation when it issued the Hanford Title V Permit. Nevertheless, we believe this issue is now moot due to the subsequent public comment periods provided for the Renewal 2, Revision A Permit. Because Ecology did not limit the scope of comments that could be submitted on the Renewal 2, Revision A Permit, the Petitioner had two additional opportunities to submit comments on any issues for which he believed he had an insufficient opportunity to do so on the Renewal 2 Permit. *See LGE Trimble II*, Order on Petition No. IV-2008-3 (Aug. 12, 2009), at 12. In fact, we note that the Petitioner took advantage of every opportunity for public participation and submitted numerous comments. Thus, to the extent a new or extended comment period may have been warranted, it has already been provided.[15]

The Petitioner also did not demonstrate that the unavailability of information during the public comment period deprived the public of the opportunity to meaningfully participate during the permitting process.[16] To guide this analysis under title V, the EPA generally looks to whether the petitioner has demonstrated "that the alleged flaws resulted in, or may have resulted in, a deficiency in the permit's content." *In re Sirmos Division of Bromante Corp.*, Order on Petition No. II-2002-03 (May 24, 2004), at 6. "Without such a showing, it may be difficult to conclude that the ability to comment on the information would have been meaningful." *2012 Kentucky Syngas* Order, at 8. Here, the Petitioner fails to identify what information was missing and also fails to show how that unavailability has resulted in, or may have resulted in, a deficiency in the

[15] We also observe that the Petitioner cites to an order of the Pollution Control Hearings Board in which he characterizes the order as "re-opening [the Renewal 2 Permit] for public review" and "render[ing] issues regarding public review [with respect to the Renewal 2 Permit] as moot." 2014 Petition, at 3, citing *Corrected Order on Motions for Summary Judgment and Request for Dismissal*, PCHB No. 13-055 (July 9, 2013).

[16] To the extent that the Petitioner claims that there was no public comment opportunity on the Subpart H requirements in the Hanford Title V Permit because the NERA License was issued without an opportunity for public comment prior to the public comment period on the Hanford Title V Permit, the Petitioner and DOE in fact submitted extensive comments on Attachment 2 (the NERA License) during the public comment periods for both the Renewal 2 Permit and the Renewal 2, Revision A Permit. As discussed above in response to Claim 1 and below in response to Claim 3B, however, title V and part 70 do not provide an opportunity for public comment on the underlying federal applicable requirements themselves (here, Subpart H) or "state-only" portions of Attachment 2. On the other hand, title V and part 70 do provide an opportunity for public comment during the title V issuance process on whether federal applicable requirements included in Attachment 2 meet the requirements of title V and part 70. Accordingly, whether a requirement is appropriately characterized as federally enforceable or "state only" is an issue for which the title V permitting authority must provide an opportunity for public comment.

permit. Accordingly, the Petitioner's claim with respect to the unavailability of information is also denied for his failure to demonstrate this claim.

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 3A.

Claim 3B. Petitioner Claims that Ecology Did Not Adequately Respond to Public Comments Regarding Subpart H

Petitioner's Claim. The Petitioner claims that Ecology did not provide an opportunity for public comment because Ecology does not and cannot revise Attachment 2 in response to public comments. Specifically, the Petitioner points to several comments submitted to Ecology during the Renewal 2, Revision A Permit public comment process that relate to Subpart H, ranging from "missing or mis-identified control equipment to isotopes incorrectly copied from the [permit] application to correction of typographical errors." 2014 Petition, at 28 (internal citations omitted). Similarly, during the Renewal 2 Permit public comment process, Ecology received public comments stating, for example, that Ecology had incorrectly identified certain provisions regulating radionuclides as "state-only." 2013 Petition, at 23. Nevertheless, the Petitioner argues, Ecology rejected all comments on Attachment 2 by generally explaining that Attachment 2 cannot be changed using the title V public comment process. *See* 2014 Petition, at 28; 2013 Petition, at 23.

EPA's Response. For the reasons provided below, I grant the Petitioner's request to object to the Hanford Title V Permit on the basis that Ecology's record is inadequate with respect to addressing Subpart H in the Hanford Title V Permit.

Ecology's record on whether the Hanford Title V Permit properly addressed all federal applicable requirements is inadequate. In particular, the administrative record for the permit, which includes Ecology's response to comment documents, does not adequately explain the rationale for including certain isotopes listed in the "Radionuclides Requiring Measurement" table of Attachment 2 for emission units 735, 736, 855 and 856. *See* 2014 RTC, #54-57. Similarly, Ecology did not address whether "all additional radioactive air emissions licensing activities . . . are identified and captured in an updated [NERA License] for issuance with the final AOP [air operating permit]." 2013 RTC, #50; see also *id.*, #54 and #63 (identifying closed emission units).

Ensuring compliance with all federal applicable requirements is an essential component of the title V operating permit program. It is not disputed that Subpart H is a federal applicable requirement. However, in responding to multiple comments that the Petitioner identifies, Ecology's RTC document does not provide any analysis to demonstrate whether the Hanford Title V Permit sufficiently addresses Subpart H. Instead, Ecology stated that the title V permit cannot be revised in response to these particular public comments. Specifically, in its RTC document, Ecology states:

> "Attachment # 2 is included in the [title V permit] as an applicable requirement. As an applicable requirement, corrections to the underlying applicable requirements need to be made using the applicable process for that underlying requirement." and

> "The underlying requirements to the Hanford [title V permit] . . . have been finalized prior to revision of the [title V permit] and cannot be changed using the [title V permit] comment resolution process. Corrections to the underlying requirements need to be made using the applicable process for that underlying requirement."

2014 Petition, at 28; 2014 RTC, #s 36 and 48-58. These responses do not address whether Attachment 2 includes the appropriate permit terms and conditions pertaining to the federal applicable requirements of Subpart H. Accordingly, it is not clear from the administrative record that Ecology (in partnership with Health) adequately addressed all federal applicable requirements in the Hanford Title V Permit. For these reasons, I grant the Petitioner's claims and direct Ecology to supplement its record and response to address these concerns, and, if necessary, make any appropriate changes to the Hanford Title V Permit. *See In re Mettiki Coal*, Order on Petition No. III-2013-1 (September 26, 2014), at 5-9; *In re EME Homer City*, Order on Petition No. III-2012-06, III-2012-07; III-2013-02 (July 30, 2014), at 41-42.

We note that in reviewing the record, including Ecology's RTC document, we observed that there may be additional issues that were raised in public comments that may concern whether the permit includes terms and conditions addressing federal applicable requirements. As we have recognized, it is a general principle of administrative law that an inherent component of any meaningful opportunity for public comment is a response by the permitting authority to significant comments. *See, e.g.*, *In re Onyx Environmental Services*, Order on Petition V-2005-1 (February 1, 2006), at 7, citing *Home Box Office v. FCC*, 567 F.2d 9, 35 (D.C. Cir. 1977) ("the opportunity to comment is meaningless unless the agency responds to significant points raised by the public."). A significant comment in this context is one that concerns whether the title V permit includes terms and conditions addressing federal applicable requirements, including monitoring and related recordkeeping and reporting requirements. In reviewing a petition to object to a title V permit because of an alleged inadequate response to a significant comment, the EPA considers whether the petitioner has demonstrated that the permitting authority's response resulted in, or may have resulted in, a deficiency in the content of the permit. *See, e.g.*, *In re Cash Creek* II, Order on Petition IV-2010-4, at 9, 21-22 (June 22, 2012). While we are not determining whether each of these comments is significant, we note that there may have been significant comments for which Ecology did not address a federal applicable requirement and that such failure may have resulted in a flaw in the permit. Comments relating to the radionuclide elements of Attachment 2 may be significant because they may pertain to whether Subpart H has been properly addressed in the Hanford Title V Permit. Accordingly, we expect that Ecology would respond to such significant comments as part of the permit record as Ecology responds to this objection.

As a general matter, as discussed above in response to Claims 1 and 2, Washington statutes and regulations authorize Ecology to issue and enforce Subpart H contained in Attachment 2. As the title V permitting authority, Ecology is required to ensure that Subpart H is adequately addressed in the Hanford Title V Permit. We recognize that in responding to comments on Attachment 2, Ecology cited to the EPA's October 2012 Letter and the Ecology/Health July 2010 Letter as the bases for its inability to address changes to Attachment 2. Ecology's citation to these letters as a full response to these comments, particularly as they may pertain to Subpart H, suggests a misinterpretation of a permitting authority's obligations in the title V permit issuance process.

Washington has identified R.C.W. Ch. 70.98, NERA and the regulations adopted thereunder, as an "applicable requirement" under its title V operating permit program. *See* W.A.C. 173-401-200(4)(d); *see also* R.C.W. 70.94.161(10)(d) (stating that "every requirement in an operating permit shall be based upon the most stringent of the following requirements," and including R.C.W. Ch. 70.94 and the rules adopted thereunder). The two letters relied on by Ecology in its response to comment on the Hanford Title V Permit make the point that there is no requirement under title V or part 70 that Ecology or Health provide an opportunity for public comment on a license issued under R.C.W. Ch. 70.98 and W.A.C. Ch. 246-247, which Ecology has determined is required to be included in the title V permit for Hanford as a matter of state law. *See* W.A.C. 246-247-002(6). The EPA continues to agree with this conclusion.

Ecology's response, however, is inconsistent with the fact that Subpart H is defined as a federal applicable requirement under part 70 (*see* 40 C.F.R. § 70.2) and under Ecology's title V operating permits program (*see* R.C.W. 70.94.161(10)(a) and W.A.C. 173-401-200(4)(a)(iv)). Title V and the part 70 regulations, as well as Ecology's title V regulations, do require a public comment opportunity on how Subpart H is addressed for a particular source in a particular title V permit. In other words, while the underlying requirements of Subpart H are not subject to public comment under title V, the application of Subpart H to a particular source is. This question was not addressed by the letters referred to by Ecology, and Ecology's reliance on these letters to respond to comments on the application of Subpart H to the Hanford Site in the Hanford Title V Permit is misplaced.

There are several ways Ecology can address the CAA requirements regulating radionuclides (specifically Subpart H) under its existing statutory and regulatory scheme consistent with the public participation requirements of title V of the CAA and Ecology's title V operating permit program. For example, Ecology could attach an addendum to the Hanford Title V Permit to correct any omissions or errors – if any – contained in the license with respect to Subpart H, since Ecology also has authority to enforce the NESHAP. Health could also defer final issuance of the NERA license until Ecology completes a public participation process on a draft title V permit for the Hanford Site that includes a draft NERA license as an attachment to the title V permit so that any public comments on the draft title V permit that relate to how Subpart H is addressed in the license and as an attachment to the title V permit can be addressed by Ecology (with assistance from Health) in responding to comments on the draft title V permit. Alternatively, if the NERA license is final when Ecology includes the license as an attachment to the draft title V permit that is put out for public comment, Ecology could work with Health in responding to the substance of any comments that relate to how Subpart H is addressed in the title V permit (including the license as an attachment). To the extent a public comment raises an issue that requires a revision to the license before issuance of a title V permit that meets the requirements of the CAA and Ecology's title V program with respect to Subpart H, and Ecology believes it does not have authority to make those revisions in the title V permit itself, Ecology could defer issuance of the title V permit until the license is revised and can be included as an attachment to the final title V permit. Under this latter option, however, Ecology would also need to be mindful of the timeframes for permit issuance under title V of the CAA and Ecology's title V operating permits program. The EPA observes that there may be other ways that Ecology and Health could collaborate to adapt the licensing and permitting processes to ensure that Hanford Title V Permit is revised as necessary in response to any significant comments on federal

applicable requirements.[17]

For the foregoing reasons, the EPA grants the Hanford Title V Petitions as to Claim 3B.

Claim 4. Petitioner Claims that Permit Issuance Procedures Prevent Access to Judicial Review

This section responds to the claims in Section II.B-5 on pages 29-35 of the 2013 Petition.

Petitioner's Claim. The Petitioner claims that the procedures by which the provisions of the Renewal 2 Permit relating to radionuclide air emissions were issued did not recognize the right of a public commenter to seek judicial review in state court as required by the CAA and federal title V regulations. According to the Petitioner, this is because the key terms of Subpart H for the Hanford Site are contained in Attachment 2 to the Renewal 2 Permit, which is the NERA License that was issued by Health. The Petitioner claims that the NERA License that was included as Attachment 2 was issued without the opportunity for public comment more than a year before Ecology issued the remainder of the Renewal 2 Permit in 2013. Because public comments are a prerequisite to judicial review in state court in Washington, the Petitioner contends, the provisions of Attachment 2 are not subject to judicial review in state court. The Petitioner also claims that because the NERA License was issued by Health and not Ecology, it is beyond the jurisdiction of the Pollution Control Hearing Board (PCHB), the quasi-judicial body that is the exclusive means of administrative appeal for title V permits in Washington and also not subject to appeal in state court because appeal to the PCHB is a prerequisite to judicial review in Washington. 2013 Petition, at 32-34.

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on this claim.

The Petitioner did not demonstrate that the procedures by which the Renewal 2 Permit was issued prevented the opportunity for the public to seek judicial review in state court as required by the CAA and the title V regulations. As the Petitioner notes in his 2013 Petition, the title V program requires an opportunity for judicial review in state court of the final permit action by the applicant, any person who participated in the public comment process pursuant to the CAA and 40 C.F.R. § 70.7(h), or any other person who could obtain judicial review of such action under state law. *See* 40 C.F.R. § 70.4(b)(3)(x); *see also* CAA § 502(b)(6), 42 U.S.C. § 7661a(b)(6). The Attorney General Opinion explains that the Washington Clean Air Act and its implementing regulations make the judicial review procedures of R.C.W. Ch. 43.21B applicable to appeals of title V permits in Washington. *See* R.C.W. § 70.94.161(8); W.A.C. 173-401-735(1); Attorney General Opinion, at 20-21. A title V permit in Washington can be appealed to the PCHB, an independent quasi-judicial board, and the right of appeal is available to anyone who commented

[17] As explained in the *Nucor II Order*, a new proposed permit in response to an objection will not always need to include new permit terms and conditions; for example, when the EPA has issued a title V objection on the ground that the permit record does not adequately support the permitting decision, it may be acceptable for the permitting authority to respond only by providing additional rationale to support its permitting decision. *In re Consolidated Environmental Management, Inc. – Nucor Steal Louisiana*, Order on Petition No. VI-2011-06 and VI-2012-07 (June 19, 2013), p. 14, at n. 10. The EPA also explained its view that a state's response to an EPA objection triggers a new EPA review and petition opportunity. *Id.* at 14-15.

on the draft title V permit. R.C.W. 42,21B.110(1)(d); W.A.C. 173-401-735(1) and (2); Attorney General Opinion at 21. Decisions of the PCHB are reviewable in superior court in Washington. *See* R.C.W. 43.21B.180; Attorney General Opinion, at 23.

The Petitioner contends that the structure of the Renewal 2 Permit, which incorporates the NERA License as Attachment 2, takes away the right to judicial review because there was no public comment opportunity on the NERA License and the PCHB does not have authority to hear appeals concerning NERA licenses in any event. As discussed above in connection with Claims 1 and 2, however, Ecology included Attachment 2 "as permit terms and conditions" of the Renewal 2 Permit, making the terms of the NERA License also terms and conditions of the title V permit issued by Ecology. The Attorney General confirmed that the title V permit issued to DOE for the Hanford Site "will be required, issued, and enforced pursuant to the authorities set forth in Ch. 70.94 R.C.W. and its implementing regulations, including specifically Ch. 173-401 W.A.C." The Petitioner in fact participated in the public participation process for the Renewal 2 Permit and commented on terms and conditions in Attachment 2, which were included as permit terms and conditions of the Renewal 2 Permit. The Petitioner neither shows that he sought and was denied the opportunity for judicial review on the Renewal 2 Permit, nor has the Petitioner demonstrated that Washington's laws preclude an opportunity for judicial review on the Renewal 2 Permit. It is important to note that the Petitioner's comments on the Renewal 2 Permit relating to judicial review made only general statements that Attachment 2 was issued under NERA and thus not subject to judicial review in state court. Therefore, Ecology's responses to those comments—stating that the requirement for judicial review of title V permits in section 502(b)(6) of the CAA does not require judicial review of the underlying permits, licenses, or orders that constitute applicable requirements included in a title V permit—is not incorrect. Indeed, Ecology goes on to correctly respond that "Judicial review of an air operating permit is limited to review of the [title V permit] and whether or not it includes all requirements and otherwise meets the requirements of Title V." 2013 RTC at 4-5.

Consistent with the discussion in response to Claim 3, however, Ecology must provide an opportunity for judicial review on any claims that a title V permit issued by Ecology that includes a NERA license as an attachment as a means of addressing federal applicable requirements fails to comply with the requirements of title V and part 70.[18] On this point, the EPA agrees with the Petitioner when he states that "Terms and conditions contained in Permit Attachment 2 (License FF-01) implementing the requirements of 40 C.F.R. Part 61, Subpart H

[18] The EPA is aware of a PCHB decision issued on summary judgment of an appeal by the Petitioner of a previous title V permit issued by Ecology to DOE for the Hanford Site that also included a NERA license as Attachment 2 of that title V permit. *Green v. State of Washington Department of Ecology, and United States Department of Energy*, PCHB No. 07-012, Summary Judgment Order (August 22, 2007) (2007 PCHB Order). In that Order, the PCHB stated that "To the extent Mr. Green challenges prior requirements imposed by Health in issuing the License [which the PCHB found had been incorporated by Ecology into the title V Permit for the Hanford Site], such challenges are outside the scope of the [title V] air operating permit program and beyond the jurisdiction of this Board." *Id*., at 13. The EPA does not disagree with that conclusion as stated, and, indeed, the EPA has previously advised the Petitioner on previous occasions that neither title V nor the part 70 implementing regulations require an opportunity for judicial review of a license issued by Health under its own authority. EPA's September 2009 Letter, at 2; EPA's October 2012 Letter, at 6. But, as stated above, Ecology must provide an opportunity for judicial review to the extent a claim relates to whether the portion of a NERA license incorporated into a title V permit and implementing federal applicable requirements meets the requirements of title V and part 70.

are subject to the full requirements of the CAA including the requirements for judicial review in state court." 2013 Petition, at 33. The Petitioner has not demonstrated, however, that he either has been denied the right to seek judicial review or would be precluded from seeking the right to seek judicial review on such claims.

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 4.[19]

Claim 5. Petitioner Claims that Ecology's Statement of Basis was Inadequate Related to Its Authority to Regulate Radionuclides in the Hanford Title V Permit

This section responds to the claims in Section II.B-6 on pages 35-40 of the 2013 Petition and Section 3.5 on pages 31-35 of the 2014 Petition. We view these claims as related and are responding to them together.

Petitioner's Claim. The Petitioner claims that Ecology did not provide the legal and factual basis for regulating radionuclides at the Hanford Site pursuant to NERA rather than under the state's approved title V program and the federal title V regulations. 2013 Petition, at 37-39; 2014 Petition, at 33-34. The Petitioner also claims that Ecology did not respond to specific comments the Petitioner raised during the public comment period asserting the same alleged deficiency (that Ecology did not provide the legal and factual basis for regulating radionuclides pursuant to NERA rather than under title V). 2013 Petition, at 38-39; 2014 Petition, at 33-34. In support of this claim, the Petitioner asserts that all radionuclide terms and conditions reside in Attachment 2 of the Hanford Title V Permit, the NERA License that was issued by Health, and only Health is authorized to enforce NERA and its regulations; that Ecology has no authority under NERA and therefore cannot enforce the terms and conditions of Attachment 2; and that Ecology's response to comments does not address the specific concern of a statement of basis deficiency raised by the Petitioner in his public comments. 2013 Petition, at 37-39; 2014 Petition, at 32-34.

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on these claims.

Part 70 requires that the permitting authority provide a statement of basis that sets forth the legal and factual basis for the draft permit conditions (including references to the applicable statutory and regulatory provisions. 40 C.F.R. § 70.7(a)(5). Washington's title V program also has this requirement. *See* W.A.C. 173-401-700(8). The draft Hanford Title V Permit was accompanied by a statement of basis for the main body of the permit and then also a statement of basis for each of the three attachments, including Attachment 2, which is the NERA License.

In reviewing a petition to object to a title V permit because of an alleged failure of the permitting authority to meet a procedural requirement, such as accompanying a permit by a statement of basis meeting the requirements of 40 C.F.R. § 70.7(a)(5), the EPA considers whether the petitioner has demonstrated that the permitting authority's failure resulted in, or may have resulted in, a deficiency in the content of the permit. *See In re Onyx Environmental Services*, Order on Petition No. V-2005-1 (February 1, 2006), at 14. In this case, the Petitioner commented

[19] The Petitioner's claims that a NERA license is not a federal or state "applicable requirement" is addressed in response to Claim 1 above.

during the public comment period that Ecology did not provide the legal and factual basis for regulating radionuclides at the Hanford Site pursuant to NERA rather than under the state's approved title V program and the federal title V regulations. Ecology responded by referring to previous correspondence from the EPA and Ecology to the Petitioner in which both agencies stated that the NERA License was not subject to the public participation and judicial review provisions applicable to title V permits and that Ecology had authority to enforce requirements in a NERA license issued by Health that were included in a title V operating permit issued by Ecology. 2013 RTC, #s 111, 117 and 133; 2014 RTC, #s 10 and 19. The Petitioner also claims that Ecology's response did not adequately address his comments relating to the adequacy of the statement of basis for the Hanford Title V Permit.

As discussed in response to Claims 1 and 2 above, we do not agree that Ecology issued the provisions of the Hanford Title V Permit regulating radionuclides under the authority of NERA. Instead, as discussed above, although the NERA License was issued in the first instance by Health, by including the NERA License as Attachment 2 to the Hanford Title V Permit, Ecology issued the terms and conditions of the NERA License under the authority of R.C.W. 70.94 and Washington's title V permit regulations, W.A.C. Ch. 173-401. In any event, the Petitioner has not demonstrated how Ecology's failure to better explain in the statement of basis the legal and factual basis for addressing requirements for radionuclides under Subpart H in Attachment 2 to the Hanford Title V Permit or Ecology's responses to comments relating to the allegedly inadequate statement of basis resulted in a flaw in the Hanford Title V Permit.

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 5.

Claim 6. Petitioner Claims that the Permit Does Not Include Applicable Clean Air Act Requirements for Radionuclides

This section responds to the claims in Sections 3.6 and 3.7 on pages 35-46 of the 2014 Petition. We view these claims as related and are responding to them together.

Petitioner's Claim. The Petitioner claims that a title V permit must contain federally-enforceable limitations for every hazardous air pollutant (HAP) listed in CAA § 112(b)(1) that the source emits and that, because neither the EPA nor Ecology have established a specific emission limit for radon emissions emanating from the Hanford Site, the EPA or Ecology was required to establish a case-by-case emission limit for such emissions under CAA § 112(j) in the Hanford Title V Permit that would be equivalent to the limit that would apply to radon emissions from the Hanford Site had an emission limit been timely promulgated. 2014 Petition, at 35. The Petitioner further contends that Ecology did not establish a case-by-case limit in the Hanford Title V Permit under CAA § 112(j), and also did not explain its reasons for not doing so in the statement of basis and response to comments. *Id*., at 37-39.

The Petitioner also asserts that the Columbia River should be regulated in the Hanford Title V Permit because it is a diffuse and fugitive source of radionuclides attributable to the Hanford Site and Subpart H regulates diffuse sources such as evaporation ponds, breathing of buildings and contaminated soils, citing to a Memorandum of Understanding between the EPA and DOE

(EPA-DOE MOU) in support of his claim.[20] *Id*., at 43-44. The Petitioner also cites to the definitions of "emission unit," "fugitive emissions," and "potential to emit" in 40 C.F.R. § 70.2, as well as the provisions of 40 C.F.R. §§ 70.3(d)[21] and 70.6(b)(1), in support of his claim that any "potential to emit" fugitive radionuclides attributable to the Hanford Site must be included in the Hanford Title V Permit, along with monitoring, recordkeeping and reporting to assure compliance with such requirements. *Id*., at 41, 43. Alternately, the Petitioner claims that Ecology was required to provide the legal and factual basis for not regulating the Columbia River under Subpart H and CAA § 112(j)(5) in the statement of basis or response to comments. *Id*., at 45.

EPA's Response. For the reasons stated below, I deny the Petitioner's request for an objection to the Hanford Title V Permit on this claim.

As an initial matter, the EPA does not agree, as the Petitioner asserts, that a title V permit must contain federally-enforceable limitations for every HAP that a title V source emits, even if the HAP is not addressed by regulation. Instead, title V and part 70 require that a title V permit must contain all federal "applicable requirements," as that term is defined in 40 C.F.R. § 70.2, that apply to the source's emissions of HAPs. *See, e.g.*, 42 U.S.C. § 7661a(5)(A) ("A requirement that a permitting authority have adequate authority to…issue permits and assure compliance by all sources required to have a permit under this subchapter with each applicable standard, regulation or requirement under this chapter;"); 40 C.F.R. §§ 70.1(b) ("All sources subject to these regulations shall have a permit to operate that assures compliance by the source with all applicable requirements."); 70.6(a)(1) (a permit must include "Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance."); *see also* W.A.C. 173-401-100(2); W.A.C. 173-401-605(1). Contrary to the Petitioner's assertion, the definition of "potential to emit" in 40 C.F.R. § 70.2, coupled with the requirement in 40 C.F.R. § 70.7(b)(1) that "All terms and conditions in a part 70 permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act," does not impose a requirement that all HAPs emitted by a source are subject to a federally-enforceable emission limitation. The phrase "including any provisions designed to limit a source's potential to emit" refers to provisions designed to limit potential to emit that meet the definition of a federal "applicable requirement" or are otherwise established in accordance with title V and part 70.

We also disagree that CAA § 112(j)(5) requires Ecology to establish a case-by-case emission limit for radon emissions from the Hanford Site. Section 112(j) applies to "categories or subcategories of sources *initially listed* for regulation" pursuant to CAA § 112(c). *See* 42 U.S.C. § 7412(e)(1) (emphasis added); see also 42 U.S.C. § 7412(j)(2) (applying section 112(j) "[i]n the event that the Administrator fails to promulgate a standard for a category or subcategory of major sources by the date established pursuant to subsection (e)(1) and (3)"). In accordance with

[20] "Memorandum of Understanding Between the U.S. Environmental Protection Agency and the U.S. Department of Energy Concerning The Clean Air Act Emission Standards for Radionuclides 40 C.F.R Part 61 Including Subparts H, I, O & T," signed on September 29, 1994, by Mary D. Nichols, EPA Assistant Administrator for Air and Radiation, and on April 5, 1995, by Tara J. O'Toole, DOE Assistant Secretary for Environment, Safety and Health, at § 5.

[21] The Petitioner cited to 40 C.F.R. § 70.4(d), but the language he quotes is in 40 C.F.R. § 70.3(d).

CAA § 112(c), the EPA promulgated an "initial" list of sources for regulation in 1992 but specifically excluded sources emitting radionuclides on several grounds, including that the EPA had already promulgated NESHAPs for sources of radionuclides (including radon).[22] *See* 57 *Fed. Reg.* 32576, 31585, 31586 (July 16, 1992).[23] Accordingly, there is no requirement for a case-by-case determination for radon emission limits from the Hanford Site under CAA § 112(j) in the Hanford Title V Permit.

With regard to the Petitioner's claim that the Columbia River should be regulated as a source of radionuclides in the Hanford Title V Permit, the Petitioner has not demonstrated that the permit unlawfully "overlooks the Columbia River as a source of diffuse and fugitive emissions of radionuclides" that must be regulated under the Hanford Title V Permit. By its terms, Subpart H applies to operations at DOE "facilities," which is defined as "all buildings, structures and operations on one contiguous site." 40 C.F.R. § 61.91(b). The Columbia River is not a building, structure or operation and thus not part of the DOE facilities subject to Subpart H. Moreover, the Hanford Site is regulated as a "major source" under the title V program. "Major source" is defined in the Part 70 regulations in part as "any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control (or persons under common control))…." 40 C.F.R. § 70.2; *see also* W.A.C. 173-401-200(34). "Stationary source," in turn, is defined as building, structure, facility or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act." 40 C.F.R. § 70.2; *see also* W.A.C. 173-401-200(19). The Petitioner has not demonstrated that the Columbia River is a stationary source under common control with DOE and we see no reason to conclude that it is part of the title V major source subject to the title V permit for the Hanford Site.[24] [25]

With respect to the Petitioner's claims that neither the statement of basis nor the response to comments adequately addresses the alleged failure of the Hanford Title V Permit to establish a CAA § 112(j) standard for radon or to address the Columbia River as a diffuse and fugitive source of radionuclides from the Hanford Site, the Petitioner has not demonstrated that any alleged failure to more fully address these issues resulted or may have resulted in a flaw in the Hanford Title V Permit. As discussed above, in reviewing a petition to object to a title V permit because of an alleged failure of the permitting authority to meet a procedural requirement, such as accompanying a permit by a statement of basis meeting the requirements of 40 C.F.R. §

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[22] *See* 54 *Fed. Reg*. 51654 (Dec. 15, 1989); 40 C.F.R. Part 61, Subpart H (NESHAP for non-radon radionuclides from DOE facilities); 40 C.F.R. Part 61, Subpart Q (NESHAP for radon from DOE facilities).

[23] To the extent that the Petitioner challenges the initial listing of sources under CAA § 112(c) or the substance of Subparts H and Q, these challenges are untimely and outside the scope of title V in any event.

[24] To the extent the Petitioner alleges that Ecology was required to establish an emission limit for radionuclides (including radon) from the Columbia River under CAA § 112(j)(5), as discussed above, there is no obligation to establish case-by-case limits under that section because sources of radionuclides, including radon, were not listed under CAA § 112(c) and the EPA therefore was not required to promulgate emission standards under CAA § 112(d) for sources of radionuclides as a source category.

[25] Other actions are underway at the Hanford Site to protect the Columbia River from contaminated groundwater pursuant to regulatory authority under the Comprehensive Environmental Response, Compensation and Liability Act, the Resource Conservation and Recovery Act and the Atomic Energy Act. *See, e.g.*, Hanford Site Groundwater Monitoring Report for 2013, DOE/RL-2014-32, Revision 0, August 2014, Executive Summary, Introduction, *available at* http://higrv hanford.gov/Hanford_Reports/Hanford_GW_Report/index.html#.

70.7(a)(5), the EPA considers whether the petitioner has demonstrated that the permitting authority's failure resulted in, or may have resulted in, a deficiency in the content of the permit. *See In re Onyx Environmental Services,* Order on Petition No. V-2005-1 (February 1, 2006), at 14.[26]

For the foregoing reasons, the EPA denies the Hanford Title V Petitions as to Claim 6.

V. CONCLUSION

For the reasons set forth above and pursuant to CAA § 505(b)(2), W.A.C. Ch. 173-401and 40 C.F.R. § 70.8(d), I hereby grant in part and deny in part the Hanford Title V Petitions as to the claims described herein.

Dated: MAY 29 2015

Gina McCarthy,
Administrator.

[26] The Petitioner's contention that Ecology does not have the authority required by CAA § 502(b)(5)(A) and (E) to issue and enforce a permit that assures compliance with all applicable standards, regulations and requirements of title V is addressed in response to Claims 1 and 2 above.

CONVERSION OF MASS RELEASE RATE TO PPM

GIVENS:

$MW_{air} = 28.97$ g/mole

$MW_{NH_3} = 17.03$ g/mole

$\rho_{air} = 1.29$ kg/m^3

M.C. = MOISTURE CONTENT OF STACK

P_{act} = STACK PRESSURE

T_{act} = STACK TEMPERATURE (°K)

$\dot{V}$ = STACK VOLUMETRIC GAS FLOW RATE

$\dot{V}_{dry}$ = CORRECTED STACK FLOW

1 m^3 = 35.315 ft^3

1 kg = 1000 g

1 min = 60 sec

ASSUMPTIONS

1. M.C. = 0%. THIS IS THE MOST CONSERVATIVE ASSUMPTION
2. $\dot{V}$ IS ASSUMED TO BE THE GIVEN VALUES IN TABLE 2, PAGE 34 OF 180 OF THE APPLICATION
3. P_{ACT} = 1 ATM AS IT IS AT THE INTERFACE W/ THE ATMOSPHERE AND MUST BE EQUAL FOR EQUALIBRIUM.
4. MASS RATE IS FROM DISPERSION MODELING DATA IN APPLICATION

SOLUTION:

$$\dot{V}_{dry} = (\dot{V})\left(\frac{273.15K}{T_{ACT}}\right)\left(\frac{P_{ACT}}{1ATM}\right)(1 - m.c.)$$

$$ppm = \frac{(\text{mass RATE})(1{,}000{,}000)}{(\rho_{air})(\dot{V}_{dry})(MW_{NH_3}/MW_{air})}$$

∴ FOR NH_3 AT

$m.c. = \emptyset$

$P_{ACT} = 1\ ATM$

$T_{ACT} = 273.15°K = \emptyset°C = 31.97°F$

$\dot{V} = 1{,}000\ ft^3/min$ (FOR AP EXISTING)

MASS RATE $= 0.378\ g/s$

$$\dot{V}_{DRY} = \left(\frac{1000\ ft^3}{min}\right)\left(\frac{1\ m^3}{35.315\ ft^3}\right)\left(\frac{273.15°K}{273.15°K}\right)\left(\frac{1ATM}{1ATM}\right)(1-\emptyset)$$

$$\underline{\dot{V}_{dry} = 28.317\ m^3/min}$$

$$ppm = \frac{(0.378\ g/s)(1{,}000{,}000)(1\ kg/1000\ g)(60\ s/1\ min)}{\left(\frac{1.29\ kg}{m^3}\right)\left(\frac{28.317\ m^3}{min}\right)\left(\frac{17.031\ g/mole}{28.97\ g/mole}\right)}$$

$$\underline{\underline{ppm = 1056}}$$

INPUTS FOR EACH EXHUASTER SYSTEM

AY/AZ
- MASS RATE = 0.319 g/s
- STACK FLOW = 1000 ft3/min

AP_{EXT}
- MASS RATE = 0.378 g/s
- STACK FLOW = 1000 ft3/min

APNEW
- MASS RATE = 0.378 g/s
- STACK FLOW = 3000 ft3/min

FOR ANY T_{ACT} THE ppm WILL VARY. THE MOST CONSERVATIVE IS TO USE 273.15°K. ANY LOWER THE EMISSIONS WILL BE PARTICULATE SOLID AND NOT VAPOR.