



DEPARTMENT OF
ECOLOGY
State of Washington

Response to Comments

**Modification of the *Hanford Facility*
Resource Conservation and Recovery Act
Permit for the Treatment, Storage, and
Disposal of Dangerous Waste, Part III,
Operating Unit Group 10 (WA7890008967)
Waste Treatment and Immobilization Plant
Risk Assessment Work Plan Revision**

July 20 – September 25, 2015

Summary of a public comment period and responses to comments

January 2016
Publication no. 16-05-002

PUBLICATION AND CONTACT INFORMATION

This publication is available on the Department of Ecology's (Ecology) website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1605002.html>

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Response to Comments

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Assessment Work Plan Revision
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INTRODUCTION

The Washington State Department of Ecology's Nuclear Waste Program (NWP) manages dangerous waste within the state by writing permits to regulate its treatment, storage, and disposal. When a new permit or a significant modification to an existing permit is proposed, NWP holds a public comment period to allow the public to review the change and provide formal feedback. (See [Washington Administrative Code \[WAC\] 173-303-830](#) for types of permit changes.)

The Response to Comments is the last step before issuing the final permit, and its purpose is to:

- Specify which provisions, if any, of a permit will become effective upon issuance of the final permit, providing reasons for those changes.
- Describe and document public involvement actions.
- List and respond to all significant comments received during the public comment period and any related public hearings.

This Response to Comments is prepared for:

Comment period:	<i>Waste Treatment and Immobilization Plant (WTP) Risk Assessment Work Plan Revision, July 20 – September 25, 2015</i>
Permit:	<i>Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 10 (WA7890008967), Waste Treatment and Immobilization Plant</i>
Permittees	<i>U. S. Department of Energy, Richland Operations Office, and Bechtel National Inc.</i>
Original issuance date:	<i>September 27, 1994</i>
Draft effective date:	<i>February 29, 2016</i>

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

This proposal is one of many changes to the original Waste Treatment Plant (WTP) Permit. Periodic updates allow the permittees to continue construction while designing other parts of WTP.

Final Risk Assessment Work Plan (24590-WTP-RPT-ENV-14-002, Rev 0)

The Risk Assessment Work Plan that is currently in the WTP Permit has been revised to update the following issues:

- The document was renumbered and revised to incorporate changes that address previous NWP comments.
- The American Indian scenarios were modified to incorporate the U.S. Department of Energy scenario in the document and to discuss the scenarios of Confederated Tribes of

the Umatilla Indian Reservation and the Yakama Nation in the uncertainty section of the document.

- The process to identify the Constituents of Potential Concern, 24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, was added as Supplement 1.
- Supplement 2 includes 24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant*. Supplement 2 will be updated in accordance with DWP Condition III.10.C.11.b.
- Supplement 3 includes 24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*. Supplement 3 will be updated in accordance with DWP Condition III.10.C.11.b.
- The physical property and toxicity data were moved to Supplement 4, 24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*. Supplement 4 will be updated in accordance with DWP Condition III.10.C.11.b.
- Supplement 5 includes 24590-WTP-RPT-ENV-08-001, *Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol*.

It is expected that these documents will be revised again prior to initiation of operations at the WTP Facility. The public will be notified of any subsequent revisions to the Final Risk Assessment Work Plan.

PUBLIC INVOLVEMENT ACTIONS

NWP encouraged public comment on the *Waste Treatment and Immobilization Plant (WTP) Risk Assessment Work Plan Revision* during a 45-day public comment period held July 20 through September 4, 2015. NWP extended the comment period to September 25, 2015 upon request from the public. This extension allowed for a 66-day public comment period for this modification. No public hearing or meeting was held for this comment period.

We took the following actions to notify and involve the public:

- Mailed a public notice announcing the comment period to the postal list that includes approximately 1,900 members of the public.
- Distributed copies of the public notice at Hanford Advisory Board meetings.
- Placed a legal classified advertisement in the *Tri-City Herald* on July 19, 2015 announcing the start of the comment period.
- Sent three notices to the Hanford-Info email list, which had about 1,450 subscribers at the time.
 - June 12, 2015: Advance notice of the upcoming comment period.
 - July 20, 2015: Comment period starts.
 - August 27, 2015: Comment period extension announced.

The documents listed below were available for public review at the Hanford information repositories located in Richland, Spokane, and Seattle, Washington, and Portland, Oregon. The documents were also available on Ecology's Nuclear Waste Program - Public Comment Periods webpage.

- Public notice
- Transmittal letter
- Statement of Basis for the proposed WTP Permit Modification
- Draft WTP Permit Modification

The following public notices for this comment period are in [Appendix A](#) of this document:

1. [Statement of Basis](#)
2. [Public notice](#) (Comment Period Summary)
3. Classified advertisement in the *Tri-City Herald*
4. Notices sent to the Hanford-Info email list
5. Posting on Ecology's on [Public Involvement Calendar](#)

LIST OF COMMENTERS

Commenter Identification:

The table below lists the names of organizations or individuals who submitted a comment on the WTP Permit modification and where you can find NWP's response to the comment(s).

Commenter	Organization	Comment Number	Page Number
Conlan, Mike	Citizen	1	5
Kroening, Nancy	Citizen	2	5 - 7
Anonymous	Citizen	3	7 - 17
Baggett, George	Citizen	4	17 - 18

RESPONSE TO COMMENTS

Description of Comments:

NWP accepted comments on the Risk Assessment Work Plan for the Waste Treatment Plant (WTP) from July 20 through September 25, 2015. This section provides a summary of comments 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. NWP's responses directly follow each comment in italic font. Verbatim copies of all written comments are attached in [Appendix B](#) and below.

Comment #1 from Mike Conlan, July 15, 2015:

- 1) "Remove all nuclear waste,
- 2) Do not allow anymore nuclear waste into the facility,
- 3) Replace all the single storage tanks,
- 4) Stop all the nuclear leakage entering the Columbia River."

Ecology Response:

Ecology is working to ensure that long-term storage, treatment, and disposal of the waste is protective of human health and the environment. The proposed permit changes are not to allow new waste, but to better manage the waste already at Hanford.

Single-shell tanks are not in the scope of this comment period. Ecology does agree the tanks pose a threat. We believe a better approach to addressing it is to remove the waste from the single-shell tanks and put it in the compliant double-shell tanks to prepare for eventual treatment in the Waste Treatment Plant now being built.

Stopping any potential nuclear waste from impacting the Columbia River is not within the scope of the WTP Permit. Prevention of groundwater and surface water impacts are addressed in operations associated with other units.

Comment #2 from Nancy Kroening, July 28, 2015:

"Dear Dieter Bohrmann:

I received this document and I celebrate the solidification of the nuclear waste. It is the right thing to do! However, the document I received did not explain how much nuclear material will escape into the air (and water) from solidification. Please give us an approximate total which will be released into agricultural fields and into rural and urban communities and how far is the "plume" is expected to go.

Also, why does the waste have to be heated to such a high temperature? And will the condensate be captured and then re-glassified until it is no longer a danger? How many workers are expected to have health problems and what kinds of problems? How will they and their families be compensated?

Risk assessments are always a guess, but they are important and need to be as accurate as humanly possible. How many cases of cancer can be expected from carrying out this process. This is personal because my neighbor in Seattle was a down-winder and a co-worker was a down-winder. One died quickly of a brain tumor and one suffered thyroid cancer for some time. Also, I have relatives who live in the immediate area.

It seems to me that hearings ought to be held in areas directly affected.”

Ecology Response:

The scope of the Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant, Rev. 0 (24590-WTP-RPT-ENV-14-002, herein referred to as the RAWP) is limited to an assessment of potential impacts due to WTP emissions.

The RAWP was created to specifically address the risk assessment methodology (that is, how exposure will be computed and what exposure scenarios will be assessed) due solely to emissions from the three main WTP facilities: Pretreatment, Low Activity Waste (LAW) Facility, and High-Level Waste (HLW) Facility.

An assessment of the potential impacts due to disposal of solidified (vitrified) waste can be found in the disposal facility performance assessment, including an assessment of potential groundwater impacts (DOE/EIS-0391 – Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland Washington).

The risk assessment methodology in the RAWP does not provide a total release; rather, an emissions estimate is performed to quantify a release rate for potential contaminants from WTP facilities. After air dispersion modeling of those emissions, the predicted air concentration and contaminant deposition rates are used with exposure duration to compute the receptor’s potential dose, and corresponding incremental cancer risk or toxic effect.

The air dispersion model covers a 105 km by 105 km grid centered on the WTP and incorporates weather data to predict wind speed, direction, and seasonal variations. Rather than computing the dose from exposure to an agricultural field, or rural or urban area, specific receptors exposures scenarios are assessed at discrete (point) locations. These locations correspond to air dispersion model grid points where the maximum or the 90th upper percentile of the predicted air concentration and deposition rates is predicted to occur (regardless of whether those locations are actually inhabited). For example, one of the several exposure scenarios assessed is for a subsistence farmer (and his family), living offsite (downwind), who grows and consumes his own food during the entire 40-yr operating period of the WTP.

The risk assessment methodology doesn’t just include assessing his dose due to agriculture ingestion, but livestock (who graze on the agriculture) ingestion, air inhalation, incidental soil inhalation and ingestion, and Columbia River water ingestion are all valid exposure pathways.

Regarding the question of waste heating, during vitrification the waste is combined with glass formers and pumped into a melter that must operate at a sufficiently high temperature to melt glass. Through extensive research with waste melters, the composition (e.g., the amount of waste and type of glass formers) and temperature for vitrifying the waste has been established. The melter temperature range (950°C - 1150°C) has been shown to produce a durable glass, absent of crystal impurities that degrade glass durability. This high temperature facilitates the incorporation of waste components into the glass matrix at a molecular level and the resultant glass is highly durable.

The vitrification offgas system will generate condensates such as submerged bed scrubber and wet electrostatic precipitator’s effluents. These effluents are expected to contain some sediment as these offgas controls are specifically designed to remove large and moderate particulate matter from the offgas stream. The condensates will be collected in the liquid effluent system and recycled to the treated LAW evaporator in the Pretreatment Facility.

Condensed water from this process is expected to contain only trace contaminants, and will be routed to Hanford's Effluent Treatment Facility for further treatment and disposal. The sediment will be left behind in the concentrated effluent and will eventually find its way back to the melter for incorporation into the vitrified glass.

It is beyond the scope of the risk assessment to provide an estimate of the total number of impacted individuals (such as workers). The risk assessment does attempt to bound an individual exposure and provide information to be considered in establishing operating permit conditions. Risk driving constituents and their mode of action (toxic effects) will be identified in the Pre-Demonstration Test Risk Assessment Report. Conservative assumptions are made regarding the location of receptors, the food intake of some receptors, the uncertainty factors applied to toxicity thresholds and cancer slope factors, the exclusive diets, range, and exposure duration of ecological receptors, etc.

The desire for an accurate prediction of the potential impact to human health and the environment is appreciated, but because the risk assessment process requires a simplification of human lifestyles, and there are so many uncertainties, a conservative approach is generally applied.

We acknowledge your comment about public hearings. For this proposed modification to the WTP Permit, Ecology did not feel there was enough public interest to hold a hearing.

Comment #3, Part I, from Anonymous, August 2, 2015:

“Dear Mr. Bohrmann:

On July 20, 2015 the Department of Ecology (Ecology) proposed a modification to the Hanford Dangerous Waste (RCRA) Permit, specific to the Waste Treatment and Immobilization Plant (WTP) (Department of Ecology Publication 15-05-007). See <http://www.ecy.wa.gov/programs/nwp/commentperoids.htm>. The title is “Waste Treatment Plant Risk Assessment Work Plan Modification.”

This letter provides comments in response to Ecology's invitation for public review and comment.

- **Change Package Lacks Certifying Signatures**

Contrary to the requirement of WAC-173-303-810, the documents provided by Ecology for review did not include the certifications that are required for permit modifications. The managers of Bechtel National Inc. and DOE/Office of River Protection (DOE) are required to sign a certification that states:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather the and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

As shown below, the proposed permit change is not true, accurate, or complete. Further, the public cannot tell if this change was initiated unilaterally by Ecology or if it arose from DOE/Bechtel. This is a notable departure for previous permit modification requests where

certifications were part of the documents made available to the public (for example, 10-ESQ-231, 14-ECD-0025). A search of the TPA administrative record turned up no evidence of a transmittal of Ecology from DOE with the requisite signatures for this change request. Ecology's letter of July 14, 2015 (15-NWP-124) did not cite an actual DOE letter, just an undocumented proposal."

Ecology Response:

Ecology recognizes your concern about the lack of certification for the Final Risk Assessment Work Plan, as it appears to be a departure from the regular process associated with Agency Initiated Permit Modifications.

The Risk Assessment Work Plan was previously incorporated into the WTP Permit through a permit modification and associated public comment period. When it was originally incorporated into the WTP Permit, it was submitted with an attached Certification Statement. The permittees needed to revise the Risk Assessment Work Plan, and the necessary revisions were processed as a Class ¹1 Modification as detailed in WAC 173-303-830(4)(a). Ecology made a decision to share the revised Risk Assessment Work Plan in a public comment period to allow an opportunity for the members of the public to review and comment.

Class ¹1 Modifications do not require Certification Statements that are detailed in WAC 173-303-810(13). Since the Class ¹1 modification necessary for the Final Risk Assessment Work Plan did not require a Certification Statement as detailed in WAC 173-303-810(13), one was not provided with the document.

Comment #3, Part II, from Anonymous, August 2, 2015:

- **“Change Package is not True, Accurate, or Complete**

Ecology's July 2015 Statement of Basis document, Table 1, invokes permit conditions that apply to the main content of the proposed permit change, which updates the Environmental Risk Assessment Work Plan and associated supplementary documents. The Environmental Risk Assessment Work Plan is supposed to assess pre-demonstration tests and the final facility. A relevant question is “what equipment and processes will it actually address?”

Permit conditions III.10.C.11 a.i through a.vii require this submittal to use current data – data that are current at the time of submittal for toxicity, emissions based on current waste characterization and emission testing, air modeling based on the most current WTP Unit design, current transport properties; process description from the most current WTP Unit design, and all supporting calculation based to be the most current WTP Unit Design.

Ecology's July 2015 Statement of Basis document (page 3) further states that the permit modification provides supporting information for construction of five regulated portion of WTP, namely pretreatment (PT), low-activity waste facility (LAW), high-level waste facility (HLW), laboratory (LAB), and balance of facilities (BOF).

Contrary to the permit conditions, which requires this change package to contain *the current status of the design*, the Environmental Risk Assessment Work Plan, 24590-WTP-RPT-ENV-14-002, Rev 0, is dated **July 16, 2014**. The supporting summary documents that are cited in turn by the work plan include:

24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, Rev C, Preliminary Calculation dated July 14, 2003.

24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plan*, Rev 2, dated February 23, 2006.

24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, Rev 0, dated February 8, 2011.

24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*, Rev 0, dated June 17, 2001.

24590-WTP-RPT-ENV-08-001, *Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol*, Rev 2, dated June 25, 2014.

Ecology's Statement of Basis and DOE/Bechtel's Work Plan both fail to address the current state of WTP Designs, which are in such profound disarray that no true, accurate, or complete Environmental Risk Assessment Work Plan is possible.

For example, the DOE proposal of March 31, 2014 to amend the consent decree, states: "*the overwhelming technical judgment is that the WTP cannot operate under the current design, and therefore a new approach is needed.*" And: "*It has become clear...that unresolved technical issues could prevent the Pretreatment Facility from operating safely as currently designed*" http://energy.gov/sites/prod/files/2014/03/f14/Proposal%203-31%20FINAL_0.pdf

The DOE proposal of March 31, 2014 includes "re-work" facilities planned in response to the WTP design failure. These include "DFLAW" and "LAWPS," which are new designs that will certainly impact both the WTP air and liquid effluents. This "current state" of the design is not addressed in the permit change package.

A second example is the WTP High-Level Waste Facility Design and Operability Review and Recommendations study. A report from this study (which looked only at some of the HLW systems) was documented in two volumes (DOE/ORP-2014-01 Volumes 1 and 2). These reports are dated September 2014. The files were made briefly available to be public, but they are no longer available on a public web page. They are stamped "approved for public release" and a copy is included as part of this comment. DOE/ORP-2014-01 specifically calls out design and quality failures in the HLW off-gas system.

Appendix B states, for example, that the high-level waste melter off-gas treatment process (HOP) system "may be incapable of achieving permit performance requirements for some constituents (e.g. dioxins, furans)." High Efficiency Mist Eliminators (HEMEs) may not seal properly, and the Wet Electrostatic Precipitator (WESP) appears subject to degradation. Impacts of sulfur on down stream beds are unanalyzed. There is an indeterminate capability to ensure the selective/thermal catalytic oxidizer ("SCO" or "TCO") bed is aligned and integrity is not compromised following catalyst replacement. There are many more examples – literally hundreds of vulnerabilities and failures in the design, many of which affect effluent composition and release.

While DOE has claimed that the LAW facility is nearly complete, the LAW facility contains the same sort of off-gas equipment as HLW. A similarly detailed review of the LAW facility (and also the LAB and BOF), if reported with the same attention to detail as the HLW report, would find very similar failures. The LAW facility is like HLW in that it contains and treats concentration of NOx gas that are immediately dangerous to life and health. The LAB and BOF also contain hazardous chemicals, including anhydrous ammonia.

A third example is GAO's most recent report on WTP, GAO-15-354, dated May 2015. This report shows that the design failures and technical challenges continue to the present. This is contrary to having a design that is amenable to providing any sort of data relevant to environmental risk evaluation. See <http://www.gao.gov/assets/680/670080.pdf>.

A fourth example is the recent DOE Office of Enforcement Consent Order and associated \$800,000 fine signed by Bechtel in June 2015. The findings of the Office of Enforcement include failure to make the WTP design and safety basis consistent (this will cause design changes), defective vessel construction, and deficient quality assurance and corrective actions management. These problems have not been corrected. They show that the current design is in a shambles that represents an unreliable, fictional, facility with respect to the potential risk to the environment. [http://energy.gov/sites/prod/files/2015/06/f23/BNI%20Signed%20Consent%20Order%20\(NCO-2015-02\).pdf](http://energy.gov/sites/prod/files/2015/06/f23/BNI%20Signed%20Consent%20Order%20(NCO-2015-02).pdf) .”

Ecology Response:

The content of the Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant, Rev. 0 (24590-WTP-RPT-ENV-14-002, herein referred to as the RAWP) reflects the current state of the risk assessment effort as of the date of its publication. However, the permittees and Ecology acknowledge that the content of Supplements 1 through 5 of the RAWP may require updating prior to performance demonstration testing to comply with permit condition III.10.C.11.a.i through III.10.C.11.a.vii. For example, Section 4.1.1 of the RAWP states,

“The organic and inorganic COPCs that can be carried through the quantitative risk evaluation is identified in Supplement 4. Note the data available are continually changing. Therefore, the PRA and FRA will update this information.”

The RAWP was created to specifically address the risk assessment methodology (that is, how exposure will be computed and what exposure scenarios will be assessed). The RAWP has been supplemented with the recognition that inputs to the risk assessment may require updating as a result of stakeholder input, new toxicological data, new tank characterization data, design evolution, or other pertinent or unforeseen circumstances.

The use of supplementing the risk assessment methodology with additional documents to address the potentially changing inputs provides both the permittees and regulatory agencies with a mechanism to more effectively document and manage change. It also provides an efficient mechanism to ensure permit conditions are met.

The comment's assertion that Supplement 1, Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits (24590-WTP-RPT-ENV-10-001) is not current is incorrect. As of the publication of the RAWP (July 14, 2014), Supplement 1 (dated February 8, 2011) was (and still is) considered current.

Supplement 1 updates the constituent list previously provided in the Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant, Rev. 0 (24590-WTP-RPT-ENS-03-006, dated July 7, 2003). Specifically, Supplement 1 documents the revised list of constituents of potential concern (COPC). The COPC had to be updated due to the 2009 revision to the toxics air pollutants list in Washington Administrative Code (WAC) 173-460.

Supplement 1 documents the application of the COPC selection strategy originally agreed to and documented in the Regulatory Data Quality Objectives Supporting Tank Waste Remediation System Privatization Project, Rev. 0 (Wiemers and others 1998) as modified by the subsequent Regulatory Data Quality Objectives Optimization Report (BNI 2004) and is considered current. It is acknowledged that the constituent list and selection rationale presented in Supplement 1 may require a revision in the future if additional tank characterization data become available, if the toxic air pollutants list is revised, or other drivers are identified.

It is acknowledged that data presented in Supplement 2, Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-PO-03-008) does not reflect the most current constituent list presented in Supplement 1. Supplement 2 will be revised (or superseded) prior to issuance of the Pre-Demonstration Test Risk Assessment Report (refer to permit condition III.10.C.11.b).

Supplement 3, Estimated Organic Emissions from Process Cells (24590-WTP-HAC-50-00001) was based on several assumptions concerning waste composition and valve/fitting leakage rates that cannot be verified, hence the “Preliminary” designation. As such, the current version of Supplement 3 is adequate for estimates (such as the risk assessment), but is not suitable for design. To avoid the implication that the RAWP may be suitable for design, the calculation in Supplement 3 is to be cancelled and will be superseded by a report or study (to be developed) specifically created to support the risk assessment. That report or study will be clearly identified as “not appropriate for design” due to the assumptions applied within the report.

Supplement 4, Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENS-07-002) is to be superseded in the near future by Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENV-14-003). It is anticipated by all responsible parties that an additional revision or amendment to Supplement 4 will be required prior to issuance of the Pre-Demonstration Test Risk Assessment Report since toxicity data from the U.S. Environmental Protection Agency’s (EPA) Regional Screening Levels for Chemical Contaminants at Superfund Sites is updated on a biannual basis.

Supplement 5, Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENV-08-001) describes the air dispersion modeling approach currently in place to support the environmental risk assessment process. The Department of Ecology has accepted the modeling protocol document. The air dispersion model inputs and settings in the document were determined to adequately model Hanford Site weather conditions.

However, the regulatory versions of the air dispersion model CALPUFF have been updated since Supplement 5 was issued. These CALPUFF updates are not likely to generate significantly different estimates of air concentration and deposition than what is currently shown as an example in the document. These CALPUFF updates do not justify a document revision, since the document’s primary purpose is to establish CALPUFF model inputs and settings, and these have not changed. Please refer to the response to Comment #3, Part IV for additional detail.

The comment’s general assertion concerning project quality deficiencies is beyond the scope of this public comment period. The RAWP was designed to document the permittee’s environmental risk assessment methodology as negotiated with Ecology and EPA. The purpose

of the RAWP is not to address design adequacy, classify or analyze facilities, or support a safety function or analysis. While the commenter's concerns regarding quality, design, and safety basis are noted, addressing them is not within the scope of this public review.

Comment #3, Part III, from Anonymous, August 2, 2015:

- **“An Extent of Condition QA Review of Previous Permit Packages is Needed**

Ecology's Statement of Basis shows that, of 180 design packages, 150 have already been completed. With the depth of the problems identified and described above, I would appreciate your consideration of an extent of conditions of the quality and completeness and relevance of the prior submittals. Many may be challenged by poor quality of continued construction of a conceptual and unworkable design, similar to the proposed change above. Even today's proposed modification includes a REV C Preliminary Calculation. This is the third WTP permit change proposal in the last two years (100% of WTP Public Comment Submittals) to rely on conceptual, preliminary data, indicating that improvements to the quality assurance program have not been effective.

WTP quality defects in design have been identified routinely for many years now (per DOE/IG-0894; GAO-06-602T; 12-WTP-0399, GAO-13-38; and 13-NWP-092). As a result, the impact on the WTP RCRA permit is an area that should be questions. Can any of it still be claimed to be valid? Using design information submitted “in order of construction” is a practice that allows portions of the facility to be built that are later found to be unusable because they were not integrated properly with the rest of the design.

See also:

March 16, 2006 Preliminary Notice of Violation (Safety Inconsistencies/Quality Issues) – <http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/eas/EA-2006-03.pdf>

DOE/IG-0764, May 2007, Quality assurance Standards Not Met for the Integrated Control Network at WTP – <http://energy.gov/sites/prod/files/igprod/documents/IG-0764.pdf>

October 4, 2007 Preliminary Notice of Violation (Deficiencies in Design Changes, Supplier Quality, commercial Grade dedication, including repetitive failures) – <http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/eas/EA-2007-05.pdf>

September 22, 2010 Consent Order (Inadequate Commercial Grade Dedication) – http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/consentorders/BNI_Consent_Order_%28NCO-2010-03%29.pdf

DOE/IG-0871, October 2012, Management Alert (One-System Proposal for Commissioning and Startup of WTP – Insufficient Analysis of the Phased Approach to start the LAW Facility 15 months early) – <http://energy.gov/sites/prod/files/IG-0871.pdf>

Ecology Response:

While the commenter's request for an extent of condition review is duly noted, the request is not within the scope of this public review.

Comment #3, Part IV, from Anonymous, August 2, 2015:

“A cursory review of the documents submitted and proposed to be included in the Dangerous Waste Permit shows that they also contain areas that indicate the quality should be questioned and reviewed. For example:

24590-WTP-RPT-ENV-14-002, *Environmental Risk Assessment Work Plan*, 24590-WTP-RPT-ENV-14-002, Rev 0, July 16, 2014.

The work plan refers to use of software, and it refers to 24590-CM-HC4-HKYM-00001-01-00002, Rev 00A, *Modeling Verification and Methods Report*, River Protection Project, Hanford Tank Waste Treatment and Immobilization Plant. There is no way to verify if this is the most recent version or it applies to the selected software. At Revision 0A, it could be out of date.

The work plan cites 24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, but it does not provide the revision or the date of the reference. The reference is a preliminary calculation from 2003 that is not suitable for final design.

The work plan refers to 24590-WTP-RPT-PT-02-005, Rev 6, *Flowsheet Bases, Assumptions, and Requirements*. There is no discussion of whether assumptions in this document that are unverified were used, and no discussion of the impact of the assumptions on risk assessment results. How many unverified assumptions exist for off-gas equipment?

24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, Rev C, Preliminary Calculation dated July 4, 2003.

This calculation is a letter revision – and it is clearly stamped “preliminary.” As a result it is not suitable for supporting construction at WTP, much less to be considered to be an evaluation to the “current” configuration of the plant.

24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plan*, Rev 2, dated February 23, 2006.

This report incorporates design changes at WTP only through 2006.

This report uses as input steady state flowsheet results that are out of date (24590-WTP-MRR-PO-05-020). The charge balance for the feed was based on assumptions that were not analyzed for the impact to the results.

This report references an estimate of additional organic constituents from a letter dated 2005, CCN: 128557.

24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, Rev 0, dated February 8, 2011.

This report identifies constituents of potential concern, but is post-dates the integrated emissions baseline report, and has a different (smaller) list of COPCs. Which are correct? Are the changes justified?

24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*, Rev 0 dated June 17, 2011.

This report is published at Rev 0, but the history page (page ii) states that it is an “Initial Draft.” This report also refers to the previous (superseded) environmental risk work plan 24590-WTP-

RPT-ENS-03-006, so it is not integrated with the current work plan that was submitted as a permit modification.

24590-WTP-RPT-ENV-08-001, Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol, Rev 2, dated June 25, 2014.

This protocol uses “off-the-shelf” software, but appears to make modification to its basic configuration. While a “model verification effort” was mentioned, a current verification and validation report was not cited.

This protocol refers to system descriptions and other documents that are undated, so it is not possible to understand whether the inputs are current.

The discussion above suggests that a quality check of the collection of document is needed, including assumptions.

Summary

The proposed permit modification has no value, in light of the uncertainty in the radiochemical processes and equipment and the poor quality work products at WTP.

Review of this proposed permit modification indicates that future permit modifications are premature until the designs, new projects, and quality failures are addressed in a 100% extent of condition, followed by systematic integration and reconciliation of errors.

This review also suggests that any future permit modification packages would benefit from a thorough multidisciplinary quality assurance review that is independent of DOE, Bechtel and Ecology.”

Ecology Response:

Modeling Verification and Methods Report (24590-CM-HC4-HKYM-00001-01-00002) is the current and only version of the report. Modeling Verification and Methods Report was independently developed by a specialist (doctorate in atmospheric science) to verify air dispersion model settings and methods as being able to adequately represent actual field conditions. The report was provided to the Ecology lead on air dispersion modeling who concurred with the recommended model settings and inputs. Those settings and inputs were implemented in Supplement 5, Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENV-08-001).

The report and Supplement 5 utilized the regulatory version (v5.8) of the CALPUFF air dispersion model that was available at that time (2009). Since that time the CALPUFF model has been revised (v5.8.4). The memorandum “AERMOD Technical Assistance – Modification of CALPUFF and CALMET Final Report” (AMEC 2013) describes the differences in previous and newly approved CALPUFF versions as well as quantifying those differences in a series of test cases. The EPA has indicated that they only approved those portions of the Model Change Bulletins that are recognized as bug fixes (http://www3.epa.gov/scram001/dispersion_prefrec.htm#calpuff).

An analysis of Model Change Bulletins (MCB) indicated that most fixes were not likely to have any impact to the air modeling scenario described in Supplement 5. MCB E-P-2 and MCB F-P-2(a,c) are the only two changes likely to have any impact. MCB E-P-2 corrected a bug in wet flux calculation that ignored puffs that did not extend to the ground. MCB F-P-2(a,c) addressed

near building cavity concentrations and receptor-specific sigmas downwind of the PRIME wake. The receptor locations are far enough that computed puffs do extend to ground level, and receptor locations are miles from building and PRIME wake effects. Therefore, the effect of the errors in the previous version (5.8) of CALPUFF are not likely to have effected model results. It is not likely that the updated version of CALPUFF will produce results that will be different or have any substantive effect on estimated exposures and risk.

To validate the conclusions regarding the net impact of the update to CALPUFF, prior to the Pre-Demonstration Test Risk Assessment, a year's worth of data will be run with the newest approved version of CALPUFF for comparison to the results for the same year run with CALPUFF v.5.8.

Ecology will determine whether the differences in results (if any) could correspond to net increase of predicted exposure and risk. If they do correspond to a net increase, the permittee will adopt the currently approved version of CALPUFF (or other approved model determined by Ecology to be appropriate) for use in the risk assessment process.

The cited calculation, Estimated Organic Emissions from Process Cells (24590-WTP-HAC-50-00001) is cited without a revision number because it is Supplement 3 of the RAWP. As explained in the response to comment #3 Part II, the RAWP has been supplemented with stand-alone documents with the recognition that those documents may require updating. Omitting the calculation revision and date in the body avoids the issue of having to update the RAWP narrative in the instance that Supplement 3 is updated. This is the advantage of appending the RAWP with stand-alone supplements (some of which are subject to periodic updating) as opposed to direct incorporation within the RAWP.

The comment's assertion that a preliminary calculation is not suitable for design work is correct. However, the environmental risk assessment is a permitting effort and will not be used to address design adequacy, classify or analyze facilities, or support a safety function or analysis. Additionally, to avoid the implication that the RAWP may be suitable for design, the calculation in Supplement 3 is to be cancelled and will be superseded by a report or study (to be developed) specifically created to support the risk assessment. That report or study will be clearly identified as "not appropriate for design" due to the assumptions applied within the report.

It is beyond the scope of the RAWP to verify assumptions of Flowsheet Bases, Assumptions, and Requirements, Rev. 6 (24590-WTP-RPT-PT-02-005). Flowsheet Bases, Assumptions, and Requirements was developed in accordance with the permittee's internal procedures and quality assurance program. The commenter's concerns regarding project quality are noted, but are also beyond the scope of this public comment period.

The comment's assertion that Supplement 3, Estimated Organic Emissions from Process Cells (24590-WTP-HAC-50-00001) is not appropriate for design is correct. Supplement 3 was based on several assumptions concerning waste composition and valve/fitting leakage rates that cannot be verified, hence the "Preliminary" designation. As such, the current version of Supplement 3 is not suitable for design. To avoid the implication that the RAWP may be suitable for design, the calculation in Supplement 3 is to be cancelled and will be superseded by a report or study (to be developed) specifically created to support the risk assessment. That report or study will be clearly identified as "not appropriate for design" due to the assumptions applied within the report.

The permittees and Ecology acknowledge that data presented in Supplement 2, Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-PO-03-008) does not reflect the most current constituent list presented in Supplement 1. Accordingly, Supplement 2 does not contain quantities, anticipated equipment decontamination factors, and other related details relative to the missing constituents. Supplement 2 does, however, reflect the current WTP baseline configuration. Supplement 2 will be revised (or superseded) as needed prior to issuance of the Pre-Demonstration Test Risk Assessment Report (refer to permit condition III.10.C.11.b).

The permittees and Ecology acknowledge that charge balance assumptions in Supplement 2 were not analyzed for their impact on the results. Such a study was deemed beyond the scope of the report and unnecessary, given uncertainties in waste composition. The Project's means of dealing charge uncertainty is the same as with waste composition uncertainties; bounding feed vectors are presumed and modeled to provide a conservative emissions estimate that will bound the corresponding risk assessment. This approach leads to a conservative risk assessment that is sufficient for permitting purposes.

The comment correctly identifies that Supplement 1, Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits (24590-WTP-RPT-ENV-10-001) post-dates Supplement 2, Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-PO-03-008). Supplement 1 is considered current, and it is acknowledged that Supplement 2 will require updating to comply with permit conditions. Note that Supplement 1 may require a revision in the future if additional tank characterization data become available, the toxic air pollutants list is revised, or other drivers are identified.

The comment correctly identifies that Supplement 4, Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENS-07-002) is marked as an "Initial Draft" but references the previous document number assigned to the RAWP. This is an inaccuracy resulting from document renumbering. Note that several permittee document numbers are being changed as a result of a change in the permittee's organizational structure.

When Supplement 4 was originally approved in 2011, the existing version of the RAWP was numbered 24590-WTP-RPT-ENS-03-006. The RAWP document number will be updated when this supplement is superseded in the near future by Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENV-14-003). Note that the cited document number does not affect the technical content of the document. A review of 24590-WTP-RPT-ENS-03-006 will indicate that the document is superseded by the current RAWP.

Supplement 5, Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant (24590-WTP-RPT-ENV-08-001) describes the use of the CALPUFF air dispersion model. The model was run without modification to its configuration. It is acknowledged that use of non-default settings in the model may make it appear as if such configuration modifications were made; however, the model was run as configured by EPA (the supplier), using settings and inputs approved by Ecology. Use of non-default settings does not equate to reconfiguration of the model.

The "model verification report" is not, and was not, meant to be a formal verification and validation as defined by the International Organization for Standardization. The Modeling

Verification and Methods Report was a report to document that air dispersion model settings and methods generated results that adequately represented actual field conditions. The discussion in Supplement 5, as it relates to the system descriptions, is background information about the permitted facilities, and is part of the template for air model protocol documents provided by Ecology. The engineering data that is germane to air dispersion modeling (the stack parameters in Table 3-1) is still current.

References:

AMEC. 2013. Memorandum “AERMOD Technical Assistance – Modification of CALPUFF and CALMET Final Report” from James Paumier, AMEC, to James Thurman, EPA OAQPS, EPA Contract EP-W-09-02, Task Order 0437, AMEC Project 6480110437 (available at http://www3.epa.gov/scram001/models/calpuff/CALPUFF_Update_Memo_12032013.pdf)

BNI. 2004. *Regulatory Data Quality Objectives Optimization Report, 24590-WTP-RPT-MGT-04-001, Rev 0, February 5, 2004, Bechtel National, Inc., Richland, Washington.*

Wiemers KD, Lerchen ME, Miller M, and Meier K. 1998. *Regulatory Data Quality Objectives Supporting Tank Waste Remediation System Privatization Project, PNNL-12040, Rev 0, December 1998. Pacific Northwest National Laboratory, Richland, Washington.*

Comment #4 from George Baggett, September 8, 2015:

“My specific concern about vitrification is based on decay heat generated after the glass has solidified and the ingots are placed into storage. If a significant amount of decay heat results in compromising the glass ingot and/or ruptures the stainless steel casing after storage, what would be the ramification of such a breach. If this is a viable scenario, has this been addressed within the risk assessment?”

I clearly see the benefit of success for this project, and remain hopeful all physical characteristics of the waste material to be stored have been taken into consideration.”

Ecology Response:

The scope of the Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant, Rev. 0 (24590-WTP-RPT-ENV-14-002) is limited to an assessment of potential impacts due to WTP emissions. An assessment of the potential impacts due to disposal of vitrified waste can be found in the disposal facility performance assessment (DOE/EIS-0391 – Final Tank Closure and Waste Management Environmental Impact Statement for the Hanford Site, Richland Washington).

In response to your concern regarding the impact of heat generation on the integrity of the vitrified waste, BNI and DOE have conducted extensive research, and have concluded that degradation of the glass product with possible rupture of the canister due to radionuclide decay heat is not considered a viable scenario.

All vitrified high-level waste canisters produced in the United States are limited by repository requirements to less than 1500 watts thermal output and a canister centerline temperature of less than 400 °C. At the WTP, almost all canisters are expected to be in the range 50 to 300 watts, with a standard canister heat output of less than 100 Watts for normal operation. In some planning scenarios, the WTP may be asked to “spike” the glass with high heat producing isotopes up to the 1500 watt limit. Under no circumstances will the WTP produce a canister of greater than 1500 Watts.

After initial cool down from the vitrification process (approximately 50 hours), a 1500 watt canister is modeled to have a surface temperature of less than 100 °C and a glass centerline temperature of less than 400 °C. The value of less than 400 °C is significant because WTP glass compositions have been tested to have transition temperatures between 450 °C and 490 °C. The transition temperature marks the approximate point where the glass transitions from a metastable undercooled liquid to an inert vitreous or ridged state.

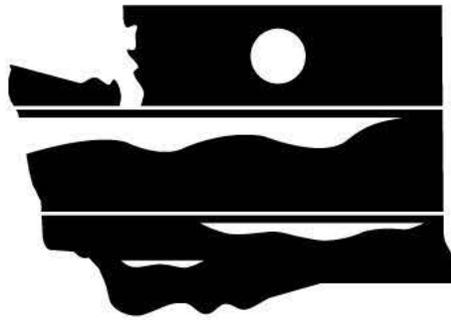
In the vitreous state the glass matrix is stable, essentially unchanging due to thermal conditions. In particular, the specific volume of the glass becomes insensitive to temperature changes, so that the glass waste form does not shrink or expand resulting in additional mechanical stress on the external canister. At 100 °C, the stainless steel canister is not challenged by mechanical or thermal stresses. The conservative estimated life for the integrity of a stored canister in 38 °C air is over 300 years.

The WTP uses a 100 °C surface temperature as an analogue for a glass centerline temperature of less than 400 °C. Production canisters are not instrumented for temperature, so the centerline temperature can only be inferred from the surface temperature. Cooling studies have always shown that a surface temperature of less than 100 °C results in a centerline temperature of less than 400 °C.

APPENDIX A: COPIES OF ALL PUBLIC NOTICES

Public notices for this comment period:

1. Statement of Basis
2. Public notice (focus sheet)
3. Classified advertisement in the *Tri-City Herald*
4. Notices sent to the Hanford-Info email list
5. Posting on Ecology's Public Involvement Calendar



DEPARTMENT OF
ECOLOGY
State of Washington

Statement of Basis

**Proposed Permit Modification of the
*Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste
Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste,
Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant,
WA7890008967***

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Statement of Basis

Proposed Permit Modification of the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant, WA7890008967

Permittees

United States Department of Energy
Office of River Protection
PO Box 450
Richland, Washington 99352

Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

The Washington State Department of Ecology (Ecology) developed this Statement of Basis to fulfill the requirements of Washington Administrative Code (WAC) 173-303-840(2)(f)(iv).

The Statement of Basis provides information on Ecology's decision to modify the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste*, Part III, Operating Unit Group 10, Waste Treatment and Immobilization Plant (WTP), hereafter called the "WTP Permit."

This modification includes supporting technical information and engineering drawings for construction on the regulated portions of the WTP:

- Pretreatment Facility (PTF)
- Low-Activity Waste (LAW) Facility
- High-Level Waste (HLW) Facility
- Laboratory (LAB) Facility
- Balance of Facilities (BOF)

This modification also incorporates format changes to the WTP Permit appendices and changes to supporting information. Ecology chose to prepare a Statement of Basis as described in WAC 173-303-840(2)(f)(iv), rather than a Fact Sheet.

We prepared a Statement of Basis for previous major WTP Permit modifications. This process will be followed for all permit modifications that incorporate similar design package information and other changes to the WTP Permit Conditions.

This Statement of Basis is divided into four sections:

- 1.0 Hanford Facility Resource Conservation and Recovery Act Permit (Site-Wide Permit)
- 2.0 The WTP Permitting Process
- 3.0 Procedures for Reaching a Final Decision on the Draft WTP Permit Modification
- 4.0 Proposed Modifications to the WTP Permit

Also included at the end of the Statement of Basis is a table, listing the new and revised documents submitted for incorporation into the WTP Permit.

1.0 Hanford Facility Resource Conservation and Recovery Act Permit (Site-wide Permit)

Ecology first issued the Site-wide Permit in 1994. The Site-wide Permit provides standard and general facility conditions, as well as unit-specific conditions for the operation, closure, and post-closure care of mixed and dangerous waste treatment, storage, and disposal (TSD) units at Hanford.

Approximately 40 TSD units are operating or closing under Resource Conservation and Recovery Act final status standards.

Conditions of the Site-wide Permit are presented in six parts:

Part I	Standard Conditions
Part II	General Facility Conditions
Part III	Unit-Specific Conditions for Final Status Operating Units
Part IV	Corrective Action for Past Practice Units
Part V	Unit-Specific Conditions for Units Undergoing Closure
Part VI	Unit-Specific Conditions for Units in Post-Closure

The WTP TSD Unit was added to Part III of the Site-wide Permit on September 25, 2002. The WTP Permit portion was effective on October 25, 2002. The WTP TSD Unit is currently being constructed under final permit status standards.

The Washington State Dangerous Waste Regulations in WAC 173-303-830 describe the types of changes or modifications that may be made to a Dangerous Waste Permit issued by Ecology.

The WTP Permit is modified as needed, typically one or more times a year, to incorporate Class 1, ¹1, 2, and 3 modifications; Agency-Initiated modifications; and minor changes in grammar, consistency, and presentation.

2.0 The WTP Permitting Process

We are using a phased (or stepped) approach to permit the WTP TSD Unit. The first phase was completed on September 25, 2002, with issuance of a final Dangerous Waste Permit allowing construction of the LAW, PTF, HLW, LAB, and BOF facilities to start.

A WTP Interim Compliance Schedule for the United States Department of Energy provides Ecology additional detailed information addressing the submittal of design documents necessary to support construction of the rest of the WTP TSD Unit, and its eventual operation.

This second phase of permitting is included in the compliance schedule, and requires the Permittees to submit design and other information for Ecology approval before regulated portions of the WTP TSD Unit are constructed.

The third phase of permitting is implementation of the last portion of the compliance schedule. This requires updating portions of the Dangerous Waste Permit Application and then modifying the WTP Permit prior to facility start-up operations. These portions (for example, Contingency Plan, Closure Plan, and Training Plan) of the WTP Permit are operational in nature and cannot be completed before the design is nearly complete.

When the three phases of permitting are completed, the WTP TSD Unit will comply with all the applicable requirements of WAC 173-303. Then, after receiving written permission from Ecology, the Permittees can begin treatment and storage of dangerous and mixed waste at the WTP.

The design submittals (second permitting phase) were structured to allow the Permittees to provide design information in roughly the same order as the WTP facilities are constructed.

The design packages start at the lowest level of the facilities (below-grade levels) and are submitted for regulated areas of each level before construction begins. This process was adjusted for some design packages. When the facility process systems are installed on more than one level, the design packages will address the associated components for each level. This prevents confusion caused by one process system description being segmented into multiple design packages.

The WTP Permit organizes design packages into three general groups by the type of regulated equipment:

1. Primary containment (for example, tanks, miscellaneous units [evaporators and melters], and containment buildings)
2. Secondary containment
3. Other associated regulated equipment (for example, ancillary equipment, equipment associated with miscellaneous units, and instrumentation)

Using tank systems as an example, secondary containment packages include details of the design of secondary containment that must be in place in regulated areas when the floors and walls are built for that level of each facility (for example, the floor slope, and sump locations).

The installation of tanks and other large equipment usually follows construction of the floors and walls. Therefore, a tank package on that level will be included in the WTP Permit before installation. The tank package would contain, for example, structural details for those tanks or miscellaneous units showing nozzle locations, unit volumes, and tank shell thickness.

The last equipment usually installed on a level for a tank system is the ancillary equipment (for example, piping, pumps, process instrumentation, and electrical equipment). Therefore, the ancillary equipment package provides details for the equipment on that level that will be included in the WTP Permit before installation. Information in the package would include, for example, materials of construction, and pump types and their operating limits.

Because each WTP facility consists of multiple levels, many design packages are required. Of the estimated 180 design packages, approximately 30 remain to be incorporated in the WTP Permit.

The primary containment, secondary containment, and the other associated regulated equipment design packages for different levels require repetitive information submittals in each package. Using tank systems as an example, most tanks will use the same construction specifications.

The WTP Permit allows the Permittees to reference the previously submitted design information, so some design packages consist mostly of references to information already provided.

3.0 Procedures for Reaching a Final Decision on the Draft WTP Permit Modification

The Washington State Hazardous Waste Management Act (Chapter 70.105, Revised Code of Washington) and the rules declared in WAC Chapter 173-303 regulate the management of dangerous waste in Washington State. WAC 173-303-800 requires facilities that treat, store, and/or dispose of dangerous waste to obtain a permit for these activities.

Regulatory requirements for public notice and involvement on permit modifications are described in WAC 173-303-840(3) and (4). As required by WAC 173-303-840(3)(d), draft modifications to the WTP Permit will have at least a 45-day public comment period. The public comment period for this proposed permit modification begins on July 20, 2015, and ends on September 4, 2015.

Comments must be post-marked, received by e-mail, or hand-delivered no later than close of business (5:00 p.m. PST) September 4, 2015. Direct all written comments to:

Dieter Borhmann
Washington State Department of Ecology
3100 Port of Benton Blvd.
Richland, Washington 99354
E-mail address: hanford@ecy.wa.gov

In accordance with WAC 173-303-840(10)(c), when a permit is modified, only the conditions subject to modification are open for comment. All other aspects of the existing Permit remain in effect for the duration of the modification.

Ecology will consider and respond to all written comments on this permit modification submitted by the deadline. Ecology will then make a final permit decision, which will become effective 30 days after Ecology provides notice of the decision to the Permittees and to all who commented. If the final decision includes substantial changes to the WTP Permit because of public comment, we will initiate a new public comment period.

Ecology will provide a Response to Comments document and a notification of the final permit decision to the Permittees and all others who commented. The final permit decision may be appealed within 30 days after issuance of that decision.

Copies of the WTP Permit, including the proposed permit modifications, are available for review at the Hanford Public Information Repositories. For additional information, call the Hanford Cleanup Hotline toll-free at 800-321-2008 or email hanford@ecy.wa.gov.

Hanford Public Information Repositories

Richland

United States Department of Ecology
Nuclear Waste Program Resource Center
3100 Port of Benton Boulevard
Richland, Washington 99354
Contact: Valarie Peery (509) 372-7950

United States Department of Energy
Administrative Record
2440 Stevens Drive
Richland, Washington 99354
Contact: Heather Childers (509) 376-2530

United States Department of Energy
Reading Room
2770 Crimson Way
Richland, Washington 99354
Contact: Janice Parthree (509) 375-3308

Portland

Portland State University
Branford Price Millar Library
1875 Southwest Park Avenue
Portland, Oregon 97207
Contact: Claudia Weston (503) 725-4542

Seattle

University of Washington Suzzallo Library
PO Box 352900
Seattle, Washington 98195
Contact: Hilary Reinert (206) 543-5597

Spokane

Gonzaga University
Foley Center
502 East Boone Avenue
Spokane, Washington 99258
Contact: John Spencer (509) 313-6110

This Statement of Basis and Public Notice for the proposed permit modification is also available online at <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>. If special accommodations are needed for public comment, contact Dieter Bohrmann, Ecology, at 800-321-2008.

4.0 Proposed Modifications to the WTP Permit

This proposed permit modification contains the following new or revised documents listed below.

Final Risk Assessment Work Plan (24590-WTP-RPT-ENV-14-002, Rev 0)

The Risk Assessment Work Plan that is currently in the WTP Permit has been rewritten and revised to update the following issues:

- The document was renumbered and revised to incorporate changes that address previous Ecology comments.
- The American Indian scenarios were modified to incorporate the U.S. Department of Energy scenario in the document and to discuss the scenarios of Confederated Tribes of the Umatilla Indian Reservation and the Yakama Nation in the uncertainty section of the document.
- The process to identify the Constituents of Potential Concern, 24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, was added as Supplement 1.
- Supplement 2 includes 24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant*. Supplement 2 will be updated in accordance with DWP Condition III.10.C.11.b.
- Supplement 3 includes 24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*. Supplement 3 will be updated in accordance with DWP Condition III.10.C.11.b.
- The physical property and toxicity data were moved to Supplement 4, 24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*. Supplement 4 will be updated in accordance with DWP Condition III.10.C.11.b.
- Supplement 5 includes 24590-WTP-RPT-ENV-08-001, *Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol*.

It is expected that these documents will be revised again prior to initiation of operations at the WTP Facility. The public will be notified of any subsequent revisions to the Final Risk Assessment Work Plan.

4.1 Incorporation of Class 1 and Class ¹ Permit Modifications (PCNs) and Permit Equivalency Notices (PENs)

This proposed permit modification incorporates the Class 1 and Class ¹ PCNs, and PENs listed below. These were previously approved by Ecology in accordance with WAC 173-303-830(4)(a) and are listed here as a courtesy.

- **24590-LAW-PCN-ENV-13-004, Class 1 Modification** provides updated General Arrangement drawings for the Low Activity Waste Facility at plan elevations (-)21'0", 3'0", 22'0", and 28'0" in Appendix 9.4.
- **24590-LAW-PCN-ENV-13-005, Class ¹ Modification** provides the updated *IQRPE Structural Integrity Assessment Report for LAW LVP Caustic Collection Tank (LVP-TK-00001)* in Appendix 9.11; and the updated Mechanical Data Sheet for the LAW Caustic Collection Tank, and replaces the Equipment Assembly Drawing for LVP-TK-00001 with vendor drawings provided in 24590-LAW-VDCN-M-13-00001 in Appendix 9.6.

- **24590-LAW-PEN-ENV-14-0001, Permit Equivalency Notice** provides the revised *IQRPE Structural Integrity Assessment Report for LAW LVP HEPA Filter Housings (LVP-HEPA-00001A/2A/3A and 00001B/2B)*, in Appendix 9.11.
- **24590-LAW-PCN-ENV-14-0003, Class 1¹ Modification** provides the updated piping and instrumentation diagrams (P&IDs) for the Low Activity Waste Radioactive Liquid Waste Disposal System Process and Effluent Cell Sumps, in Appendix 9.2.
- **24590-HLW-PCN-ENV-13-001, Class 1¹ Modification** provides the updated piping and instrumentation diagrams (P&IDs) for the High Level Waste Melter Process System, in Appendix 10.2.
- **24590-WTP-PCN-ENV-14-0003, Class 1 Modification** provides updated editorial corrections to various permit conditions, Appendix 1.0 (Compliance Schedule), and Appendix 12.2 (Balance of Facilities Piping and Instrumentation Diagrams).
- **24590-WTP-PCN-ENV-14-0004, Class 1 Modification** provides updated Piping and Instrumentation diagram (P&ID) 24590-WTP-M6-50-00002, Revision 5, *Symbols and Legends* (Sheet 2 of 8), in Appendix 7.2.
- **24590-WTP-PCN-ENV-14-0005, Class 1¹ Modification** provides the updated *Engineering Specification for Alterations and Repair of On-Site Stamped ASME Code Vessels and Boilers for Subcontract* (24590-WTP-3PS-MVB2-T0002), in Appendix 7.7.
- **24590-LAW-PCN-ENV-14-0006, Class 1¹ Modification** provides the updated *WTP Interim Compliance Schedule, item 23, "Submit engineering information for LAW Vitrification Miscellaneous Treatment Unit sub-system,"* in Appendix 1.0

4.2 Supplemental Design Information

This Agency-Initiated Modification has no associated Supplemental Design Information. At issuance of the final WTP Permit, Ecology will specify where each new document associated with the Final Risk Assessment Work Plan resides in the WTP Permit.

Paper copies of the page changes to the WTP Permit that result from this modification will be placed in the Administrative Record.

The letter issuing the final WTP Permit decision to the Permittees and Hanford contractors will include the current WTP Permit, with the modifications, on a DVD.

4.3 Identifying Changes in this Proposed Permit Modification

As the WTP TSD Unit is constructed, Ecology will modify the WTP Permit for many reasons, including to clarify text, add new conditions, delete existing conditions, correct errors, or add information. To communicate the changes, proposed permit modifications will include page changes showing all significant proposed changes to the WTP Permit. The text to be deleted will be struck-out with a single line, and the new text will be double-underlined. Only the text being changed in the current modification will be indicated by double-underlines and strikeouts.

Newly added documents and drawings are provided for review in this proposed permit modification. New document and drawing numbers and titles are shown in bold text in the affected appendix drawing lists.

When a WTP Permit modification is issued, “clean” pages incorporating permit modifications will be issued to the Permittees and placed in the Administrative Record. All double-underlines and strikeouts will be removed. Documents and drawings listed in the appendices will not be bolded and will be incorporated by reference only.

Ecology publication number 07-05-006, *Responsiveness Summary* (September 27, 2007), explains the reason for replacing permit version documents with source documents to which the WTP is constructed. Source documents are in a state of constant revision as design details are finalized and additional information is added to provide clarity and to correct typographical errors.

The Permittees use Document Change Notices to track changes not yet incorporated into source documents. In some cases, Document Change Notices are issued at the time of Ecology’s review. These are not provided for public comment, but will appear in the next revision of the WTP Permit for review. Source documents have been replacing permit version documents since September 2007.

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Table 1 – Documents Provided for Incorporation into the Permit
Final Risk Assessment Work Plan and Supplemental Documentation
For Incorporation into the WTP Permit

Table of Contents

Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant	24590-WTP-RPT-ENV-14-002	0	III.10.C.11.a	Y	Incorporate Rev. 0 into Appendix 6.2
Supplement 1 – Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits	24590-WTP-RPT-ENV-10-001	0	III.10.C.11.a.iii	Y	Incorporate Rev. 0 into Appendix 6.2.1
Supplement 2 – Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plant	24590-WTP-RPT-PO-03-008	2	III.10.C.11.a.vii	Y	Incorporate Rev. 2 into Appendix 6.2.2
Supplement 3 – Estimated Organic Emissions from Process Cells	24590-WTP-HAC-50-00001	C	III.10.C.11.a.vii	Y	Incorporate Rev. C into Appendix 6.2.3
Supplement 4 – Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant	24590-WTP-RPT-ENS-07-002	0	III.10.C.11.a.ii III.10.C.11.a.v	Y	Incorporate Rev. 0 into Appendix 6.2.4
Supplement 5 - Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol.	24590-WTP-RPT-ENV-08-001	2	III.10.C.11.a.iv	Y	Incorporate Rev. 2 into Appendix 6.2.5

Waste Treatment Plant Risk Assessment Work Plan Revision

The [Washington State Department of Ecology](http://www.ecy.wa.gov) (Ecology) is proposing a change to the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Revision 8C*. This change affects the *Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste* for the Waste Treatment and Immobilization Plant (WTP).

The permittees are:

[U.S. Department of Energy Office of River Protection](http://www.epa.gov)

P.O. Box 450

Richland, Washington 99352

[Bechtel National, Inc.](http://www.bechtel.com)

2435 Stevens Center Place

Richland, Washington 99354

The proposed changes address the Environmental Risk Assessment Work Plan for WTP.

This proposal is one of many changes to the original WTP Permit. Periodic updates allow the permittees to continue construction while designing other parts of WTP.

WTP Overview

WTP has three facilities that will separate and process Hanford's tank waste for long-term disposal:

- [Pretreatment](#).
- [Low-Activity Waste](#) treatment.
- [High-Level Waste](#) treatment.

At the heart of treatment is [vitrification](#), or immobilizing waste in solid glass. In the Pretreatment Facility, tank waste is separated into low-activity waste and high-level waste. The waste is then sent to the appropriate vitrification facility, mixed with glass formers, and piped to large heating containers called melters.

During vitrification, the melters will heat tank waste and silica glass formers to 2,100 degrees Fahrenheit. Then, the molten liquid will be poured and sealed in stainless-steel disposal containers, where it will cool into solid glass logs.

WHY IT MATTERS

The proposed permit changes affect the [Waste Treatment and Immobilization Plant](#) (WTP). WTP will immobilize, in glass, 56 million gallons of dangerous radioactive and chemical waste stored in 177 underground storage tanks at [Hanford](#).

Some waste from the tanks has polluted groundwater that flows toward, and can seep into, the Columbia River. Safely treating tank waste is an important goal to help protect people and the environment.

PUBLIC COMMENT PERIOD

July 20-Sept. 4, 2015

To Submit Comments

Please send comments by email (preferred), U.S. mail, or hand deliver them to:

Dieter Bohrmann
3100 Port of Benton Blvd.
Richland, WA 99354
Hanford@ecy.wa.gov

Public Hearing

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
800-321-2008
Hanford@ecy.wa.gov

Special accommodations: To request ADA accommodation including materials in a format for the visually impaired, call the Nuclear Waste Program at 509-372-7950. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

In glass form, the waste is still radioactive. However, the solid waste will be extremely durable and waterproof, which will protect people and the environment for thousands of years as the radioactivity decays.

Because the vitrification process has the potential to create airborne emissions, an Environmental Risk Assessment must be completed.



The Waste Treatment Plant, commonly called the vit plant, in September 2013 (photo courtesy of Bechtel).

Environmental Risk Assessment Work Plan for WTP

The WTP Permit requires the Permittees to submit an Environmental Risk Assessment Work Plan (RAWP). The RAWP and supplemental documents will be included in the WTP Permit.

The Environmental Risk Assessment will evaluate the human health and ecological risk from potential airborne emissions from the WTP. The RAWP will provide the concepts, methods, and data used in the Environmental Risk Assessment.

The permittees have submitted the final RAWP and supplemental documents. These will replace documents currently in the WTP Permit.

Reviewing the Proposed Changes

Ecology invites you to review and comment on this proposed WTP Permit change. The comment period runs from July 20 through September 4, 2015. See the box on the right side of page 1 for information on how to submit comments.

During the public comment period, documents will be available for review on [Ecology's website](#) and at the locations listed on page 3.

Hanford's Information Repositories and Document Review Locations

Richland

Ecology Nuclear Waste Resource Center
3100 Port of Benton Blvd.
Richland, WA 99354
Contact: Valarie Peery
509-372-7950

Dept. of Energy Administrative Record
2440 Stevens Drive, Room 1101
Richland, WA 99354
Contact: Heather Childers
509-376-2530

Department of Energy Reading Room
2770 Crimson Way, Room 101L
Richland, WA 99354
Contact: Janice Parthree
509-375-3308

Portland

Portland State University
Branford Price Millar Library
1875 SW Park Avenue
Portland, OR 97207
Contact: Claudia Weston
503-725-4542

Seattle

University of WA Suzzallo Library
P.O. Box 352900
Seattle, WA 98195
Contact: Hilary Reinert
206-543-5597

Spokane

Gonzaga University Foley Center
502 E Boone Avenue
Spokane, WA 99258
Contact: John Spencer
509-313-6110

TERMS TO KNOW

Dangerous Waste Permit: A State-issued permit allowing facilities to store, treat, and/or dispose of dangerous waste.

Deep geologic repository: A long-term nuclear waste disposal site excavated underground, below 980 feet, in a stable geologic environment.

High-level waste: Results from reprocessing spent nuclear fuel. This includes liquid produced during reprocessing and solids derived from this liquid waste that contain fission products in sufficient concentrations and other highly radioactive material that, by law, require permanent isolation.

Low-activity waste: Remains after as much radioactivity as is technically and economically practical has been separated from high-level waste. When vitrified, it may be disposed of as low-level radioactive waste in a near-surface facility at Hanford.

Offgas: A gaseous radioactive and hazardous byproduct of tank waste treatment.

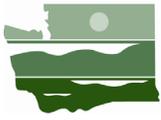
Resource Conservation & Recovery Act (RCRA): Law authorizing the U.S. Environmental Protection Agency to manage hazardous waste, including the generation, transportation, treatment, storage, and disposal of hazardous and other solid waste and waste in underground tanks.

Underground storage tank: A tank that is entirely below the surface of and covered by the ground. At Hanford, two types of underground storage tanks have capacities ranging from fifty thousand to one million gallons.

The single-shell tanks have one steel liner encased in reinforced concrete, and do not comply with State environmental laws. The double-shell tanks have two steel liners in reinforced concrete and contain potential leaks, in compliance with the law.

Vitrification: Immobilizing waste by mixing it with glass formers and melting the mixture into a glass form that cools into a solid.

Waste Treatment and Immobilization Plant: Facility to thermally treat and vitrify tank waste at Hanford.



DEPARTMENT OF
ECOLOGY
State of Washington

3100 Port of Benton Blvd.
Richland, WA 99354

**Public Comment Period on
Hanford's Waste Treatment Plant
Risk Assessment Work Plan
Revision**

July 20 – Sept. 4, 2015

Submit questions or comments to:

Hanford@ecy.wa.gov

Apartments - Kennewick 203

Apartments - Kennewick 203

Apartments - Kennewick 203

Apartments - Kennewick 203

Medical/Dental 555

Office/Clerical 560

Professional 570

Unified Legals

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.

Cathy Robinson, CPPO, CPPB
Purchasing Manager

CITY OF RICHLAND NOTICE OF PUBLIC HEARING

The Richland City Council will conduct a public hearing to receive public comments on amending the 2015-2020 Transportation Improvement Program at its meeting on July 21, 2015 at 7:30 p.m. in the Richland City Hall Council Chamber, 505 Swift Blvd. Comments may be emailed to smelendrez@ci.richland.wa.us or mailed to City of Richland Public Works PO Box 190 MS-26, Richland, WA 99352 by 5:00 p.m. on 7/21/2015. The proposal will be available for review 7/16/2015 at the City Clerk's Office or City website www.ci.richland.wa.us. For more information, contact Public Works at 509-942-7500 or smelendrez@ci.richland.wa.us. #15-9003 7/19/2015

ATEC Center Big Bend Community College, Bldg. 1800, 7611 Bolling Street NE, Moses Lake, WA 98837

From Moses Lake take Patton Blvd to Bolling Street NE; turn left. Parking lot will be on your right. ATEC Center will be on your left.

From Ephrata take Randolph Rd NE to Patton Blvd, turn left. Travel to Bolling Street NE, turn left. Parking lot will be on your right; ATEC Center will be on your left.

Interested parties are welcome to attend and will have the opportunity to provide comments regarding this contracting action. The negotiators do not plan to respond at the session to comments from observers. Copies of the proposed contract will be available at the session.

For additional information regarding the negotiation, please contact: Michael Cobell, Bureau of Reclamation, Pacific Northwest Regional Office, Boise, at (208) 378-5223, or Amy Rodman, Bureau of Reclamation, Ephrata Field Office, at (509) 754-0238. #15-9003 7/17 & 7/18 & 7/19/2015

east of George Washington Way. The property is zoned under the City of Richland's Business Research Park, (Sec 23.28); uses include: office, research and development, light manufacturing and neighborhood retail and commercial. All lots have access to electric, water, sewer and irrigation infrastructure. For more information on location please see the Port of Benton website www.portofbenton.com

Interested parties must submit a development proposal for the parcel detailing the intended uses of the parcel to be developed within 12 months. The Port is seeking quality development that will complement what is already in place, attract investment, create jobs and expand the tax base. The development proposal shall become a covenant in the sale.

Offers accepted until 10:00 a.m. Friday July 31, 2015 at the Port of Benton offices located at 3250 Port of Benton Blvd, Richland WA 99354. Proposals should include name of purchaser, proposed purchase price and use.

The Port of Benton Commission reserves the right to reject any and all proposals and to accept any bid, or to waive minor informalities and accept the proposal that is in the best interest of the owner.

Final acceptance of any decision pertaining to purchase of Port-owned property is subject to approval by the Port of Benton Commission.

For more information, contact Diahann Howard at (509) 375-3060 or www.portofbenton.com. #15-8970 7/12 & 7/19/2015

The Washington State Department of Ecology Announces a 45-Day Public Comment Period for Modifications to the Hanford Facility Resource Conservation & Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit 10, Waste Treatment and Immobilization Plant (WTP) Permit

July 20, 2015, through September 4, 2015

The Washington State Department of Ecology is proposing a modification to the WTP Permit. The Permittees are: United States Department of Energy Office of River Protection PO Box 550 Richland, Washington 99352

Why It Matters
The Waste Treatment and Immobilization Plant (WTP) will be capable of treating 56 million gallons of dangerous radioactive and chemical waste from the 177 underground storage tanks at the Hanford Site north of Richland, Washington. Treating the waste will reduce the risk to people and the environment. The proposed modifications affect facilities that are part of

Edison Village Green Apts
1, 2 & 3 BR available. Call and ask for prices. 783-1053

Medical/Dental 555



School Nurse Needed

Pasco School District is now accepting applications for a school nurse position. Candidates must be currently licensed with the State of Washington. For a complete job description and further requirements and application process see posting online at: www.psd1.org or apply at Pasco School District, 1215 W. Lewis, Pasco, 99301, Pasco School District is an Equal Opportunity Employer

TRI-CITIES Cancer Center

TRI-CITIES CANCER CENTER FULL-TIME MEDICAL ASSISTANT

The Tri-Cities Cancer Center is seeking a full-time (40 hours/week) Medical Assistant. Duties involve coordinating patient contact, tracking patients through complex care scenarios and maintaining accurate records that may be used for research and cancer follow-up programs. Oncology or other specialty care experience preferred. Minimum requirements: Current active Medical Assistant-Certified WA State Certification, Current AHA HCP (BLS) card.

The Tri-Cities Cancer Center will reward your talents with a competitive salary, based on experience. Interested candidates should submit a cover letter and resume to: Tri-Cities Cancer Center, Attn: Human Resources, 7350 W. Deschutes Ave., Kennewick, WA 99336 or to: humanresources@tccancer.org Open until filled. EOE m/f/d/v

Sunnyside COMMUNITY HOSPITAL & CLINICS

HOME HEALTH DIRECTOR

Sunnyside Community Hospital & Clinics is currently seeking a Home Health Director. In this role, you will manage all aspects of this new program for our hospital. The Home Health Director

At Planned Parenthood of Greater Washington & North Idaho (PPGWNI)

We provide a broad range of reproductive health care services for women and men, honest education and fearless advocacy. We operate 9 health centers across Central and Eastern WA with administrative centers in Spokane and Yakima, WA.

We have 2 professional FT clinical-based opportunities available with a competitive compensation package. The **Clinical Training Manager** proactively works within a multi-disciplinary clinical team to ensure high quality clinical training programs for nurses and medical assistants with established regulations, protocols and policies. This includes developing and delivering hands-on curricula/training, annual assessments, and function as the in-house trainer for CPR, and also provides for employee health needs such as reviewing pre-screening results of TB tests. The **Program Manager -Surgical & Specialty Services** is responsible for ensuring safe and consistent medical and surgical care in accordance with regulations, protocols and policies. Services include but are not limited to: surgical, vasectomy, colposcopy, LEEP & ESSURE. This individual will be responsible making sure services are staffed and resourced for optimal care and quality medical outcomes. Hands-on observation and auditing of services is required to achieve a highly trained staff, ready access to resources, and appropriate appointment scheduling to minimize wait times and increase patient access and satisfaction.

Positions require a valid state license (RN preferred) and 3-5 years of relevant experience in an outpatient or ambulatory surgery environment or in a medical practice that performs in-office procedures. Knowledge of women's health, ultrasound, medical health education and clinical practices required. Must be able to think critically, work to establish regulations and protocols and be proficient with EMR technology. Bilingual English/Spanish preferred. Individuals with experience working with underserved populations strongly encouraged to apply.

Candidates that are collaborative, self-motivated and can work in a proactive manner with the ability to gather information, analyze facts and formulate solutions will work well in this position. Must have own personal vehicle with insurance and a valid driver's license - travel 50-70%. Apply on-line at: www.ppawni.org

Wanted: Full Time Bilingual and Bilingual (Spanish/English) Office Assistant with typing and computer skills to serve as assistant to immigration attorney. Knowledge of word processing software required. Salary Dependent upon qualifications. Send Resume to Tom Roach, Roach & Bishop Law Offices, LLP, 9221 Sandifur Parkway Suite C, Pasco, WA 99301 or to: troach@roachlaw.com

WASHINGTON STATE UNIVERSITY

CARSON COLLEGE OF BUSINESS Admissions Coordinator

Rewarding work! Make a difference! The Office of Graduate Programs in the Carson College of Business at WSU in Pullman, WA, is seeking a creative, hard worker to join our outstanding team. The Admissions Coordinator is part of a dynamic office which serves multiple graduate business programs across the WSU campuses and online. Duties include but are not limited to: organizing and maintaining graduate student files and records; advising students, staff, faculty and/or the public regarding program content, policies, procedures and activities; creating official university records; application and file review; and credential evaluation.

Required qualifications: High school graduation or equivalent and two years of experience in the program specialty OR equivalent education/experience; two (2) years of experience in management of student records in a higher education setting; Demonstrated experience interpreting and applying academic rules, policies, and procedures; outstanding oral and written communication skills; ability to respectfully engage and communicate with people from diverse backgrounds; excellent time management skills; attention to detail; and demonstrated professionalism.

For position requirements, full job description and how to apply, visit: www.wsujobs.com Closing date for applications is July 20, 2015. WSU is an EO/AA Educator and Employer

Columbia Basin College

College Outreach & Retention Specialist (2 Full-Time Positions) FT Exempt Positions

Salary: \$38,000 - \$42,000 Annually
Closing Date: Open Until Filled (First consideration closes Aug 9, 2015 @ 11:59 p.m. PST)

The College Outreach & Recruitment Specialists will represent CBC in outreach and recruitment efforts in the K-12 system and the community. These positions will be responsible to present various informational and program workshops to promote CBC in general, as well as specific programs to prospective students.

Applications will ONLY be accepted through our website at: <http://www.columbiabasin.edu/jobs> CBC is an EEO/AA Employer. Protected groups are encouraged to apply.

Columbia Basin College

Instruction & Classroom Support Technician 1

FT State-Funded Classified Position
Salary: \$32,112 - \$42,756 Annually
Closing Date: Open Until Filled (First consideration closes July 27, 2015 @ 11:59 p.m. PST)

CBC seeks an Instruction & Classroom Support Tech 1 who will perform routine duties to assist in the individualized or group instruction of students in the Basic Skills Department. The position will perform other individual support duties, including input of data, monitoring of attendance and other recordkeeping.

Applications will ONLY be accepted through our website at: <http://www.columbiabasin.edu/jobs> CBC is an EEO/AA Employer. Protected groups are encouraged to apply.

Columbia Basin College

Retention & Transfer Specialist for Student Support Services/TRIO

FT Exempt
Salary: \$38,000 - \$42,000 Annually
Closing Date: Open Until Filled (1st consideration closes 07/26/15 @ 11:59 p.m. PST)

The Retention and Transfer Specialist for Student Support Services/TRIO is a grant funded position that will provide academic and career advising to enhance retention and student success of Student Support Services participants at CBC. The position may also assist in developing, presenting and facilitating workshops relevant to student success.

Applications will ONLY be accepted through our website at: <http://www.columbiabasin.edu/jobs>

Pasco School District - Bus Barn Expansion INVITATION TO BID

PASCO SCHOOL DISTRICT No. 1
1215 W. Lewis Street
Pasco, WA 99301

HDJ Design Group
1115 Burden Blvd. Suite E
Pasco, WA 99301
Phone 509-547-5119

You are invited to bid on a General Contract for construction in the City of Pasco or Pasco School District. Construction of the Pasco School District - Bus Barn Expansion. Preliminary Estimate: Base Bid: \$650,000

Proposals will be accepted by the District until 2:00 p.m., prevailing time, on August 7th, 2015 at the Pasco School District Booth building at 1215 W. Lewis Street, Pasco, WA. Bid proposals will be opened publicly and read aloud at 2:00 p.m. Interested parties are invited to attend.

ELECTRONIC BIDS WILL NOT BE ACCEPTED
mandatory Pre-Bid Conference for all General Contractor prospective bidders, will be held Wednesday, July 29th, 2015 at 10:00 A.M. at the project location, 3412 Stearman Avenue, Pasco, WA. We will be in front of the Transportation office fronting Stearman Avenue.

Plans and Specifications are available, beginning July 22nd, 2015, through a HDJ Design Group (509) 547-5119. Printed paper sets are available at \$50 per set. 2 sets to General Contractors and 1 set for subcontractors. The cost is refundable provided the documents are returned in good condition within 10 days after bid opening. Additional sets may be purchased at cost, non-refundable. E-mailed PDFs and specifications are available at NO Cost (highly encouraged).

Request for Services Day Treatment Behavior Intervention Program Kennewick School District No. 17
Proposal Due Date: July 28, 2015

Kennewick School District request proposals for providing day treatment behavior intervention services during the 2015-2016 school year commencing September 1, 2015 and ending June 10, 2016 to students ages 8-18 who reside within the Kennewick School District or affiliated school district boundaries which are referred and/or approved by the Kennewick School District and who qualify as delayed per section 34 CFR303-Part B of the Individuals with Disabilities Education Act, as amended. Proposals are to identify relevant qualifications and experience providing services in accordance with the Statement of Work. The Statement of Work may be obtained by contacting Matthew Scott at 509-222-5089. Proposals will be accepted until 4:00 pm July 28th, 2015 at Kennewick School District 1000 W. 4th Ave. Kennewick, WA 99336. #15-8986 7/12 & 7/19/2015

Richland School District - Site Grading INVITATION TO BID

RICHLAND SCHOOL DISTRICT No. 400
615 Snow Avenue
Richland, WA 99352
509-967-6000
DESIGN
WEST ARCHITECTS
254 East Main Street
Pulman, WA 99163
509-332-3113

You are invited to bid on a General Contract for site grading work in the City of West Richland for Richland School District.

Site Grading of the building pad for the Richland School District - Site Grading including site clearing, grading and building pad preparation. Preliminary Estimate: Base Bid: \$900,000

Bid security amounting to five percent (5%) of the total Base Bid and Bid Alternates must accompany each Bidder's proposal in accordance with Instructions to Bidders.

No bidder may withdraw his proposal after the date and time set for opening thereof or before Award of Contract. Unless said award is delayed beyond 30 days, Substantial Completion shall be achieved in compliance with the project specifications.

The project requires compliance with prevailing wage under RCW 39.12.

The District reserves the right to accept or reject any or all proposals and in particular, to reject a proposal not accompanied by the required bid security or data required. The process shall comply with WAC 180-29-105, RCW 28A.335.190 and RCW 43.19.1906.

The owner hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunities to submit bids, and will not be discriminated against on the grounds of race, color, sex, handicap, or national origin in consideration for an award. This project is subject to the Franklin County prevailing wage requirements. **#15-9010 7/19 & 7/26/2015**

Reclamation Announces Negotiations with the East Columbia Basin Irrigation District for Long-term Renewal Master Water Service Contract

The Bureau of Reclamation invites interested members of the public to observe a working session with the East Columbia Basin Irrigation District (District). The purpose of this session will be for Reclamation and the District to arrive at mutually agreeable terms and conditions for a long-term renewal contract that would continue authorization of Columbia Basin Project (Project) irrigation water service to up to 30,000 acres of irrigable lands located within the District that are currently authorized for such service under Master Water Service Contract No. 14-06-100-9165, as supplemented. The current contract is due to expire on July 2, 2020.

The proposed renewal contract would authorize the District to deliver a base quantity of up to 90,000 acre-feet of Project water annually to up to 30,000 First Phase Continuation Acres located within the District, and continue delivery of additional water to land irrigated under the District's repayment contract during the peak period of irrigation water use annually. The delivery of Project water beyond July 2, 2020, is dependent upon the execution of the proposed contract, which is to provide for the terms and conditions of water delivery and the water service charge to be paid annually to the United States for water delivered by the District.

This contract will reflect existing Federal Reclamation law and policy governing water service contracts. The goal of the negotiations is to arrive at a mutually agreeable contract. The negotiation session will be held:

July 22, 2015 at 10:30 am.

Proposals will be accepted by the District until 2:00 PM, prevailing time, on **Thursday, August 6, 2015** at the Richland School District Building at **701 Stevens Drive, Richland, WA**. Bid proposals will be opened publicly and read aloud at 2:00pm. Interested parties are invited to attend.

A Pre-Bid Conference, optional for all prospective bidders, will be held **Thursday, July 23, 2015 at 10:00 AM** at the project site, 3259 Belmont Avenue, West Richland, Washington.

Drawings and Specifications are available, beginning **July 15, 2015**, through the Architect. Printed paper sets are available at \$50 per set (limit 2 sets to General Contractors and 1 set for subcontractors). The cost is refundable provided the documents are returned in good condition within 10 days after bid opening. Additional sets may be purchased at cost, non-refundable. E-mailed PDF drawings and specifications are available at no cost (highly encouraged).

Contact Chelsea Holstad, Office Manager with Design West Architects by e-mail at cholstad@designwestpa.com to request documents.

Bid security amounting to five percent (5%) of the total Base Bid and Bid Alternates must accompany each Bidder's proposal in accordance with Instructions to Bidders.

Bid documents will be available for examination during the bidding period at the following locations:

- Associated Builders & Contractors, Inc. - Spokane Valley, WA
- Associated General Contractors - Coeur d'Alene, ID & Spokane, WA
- Hermiston Plan Center - Hermiston, OR
- Spokane Regional Plan Center - Spokane, WA
- Tri-City Construction Council - Kennewick, WA
- Walla Walla Valley Plan Center - Walla Walla, WA
- Wenatchee Plan & Copy Center - Wenatchee, WA
- Yakima Plan Center - Yakima, WA

No bidder may withdraw his proposal after the date and time set for opening thereof or before Award of Contract, unless said award is delayed beyond 45 days. Substantial Completion shall be achieved in compliance with Section 01 10 00 of the project specifications.

The project requires compliance with prevailing wage under RCW 39.12.

The District reserves the right to accept or reject any or all proposals, and in particular, to reject a proposal not accompanied by the required bid security or data required. The process shall comply with WAC 180-29-105, RCW 28A.335.190 and RCW 43.19.1906. **#15-8996 7/19 & 7/26/2015**

Technology and Business Campus Richland, Washington

The Port of Benton is offering three parcels surplus to the Port's needs for sale within the highly desirable Technology and Business Campus located in north Richland part of the Tri-Cities Research District. The vacant parcels range in size 3.12 - 4.17 acres.

Properties are located just

the WTP. The proposed changes address the Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant in accordance with the dangerous waste permit condition III.10.C.11.a.

The permittees have submitted the final Environmental Risk Assessment Work Plan and associated supplemental documentation to support the Environmental Risk Assessment to Ecology for inclusion in the WTP Permit. This Risk Assessment Work Plan and supplemental documentation will replace the following documents that are currently in the WTP Permit.

- **24590-WTP-RPT-ENS-03-006, Rev 0** - Environmental Risk Assessment Work Plan for the Hanford Tank Waste Treatment and Immobilization Plant
- **24590-RPT-W375-EN00001, Rev 1** - Final Work Plan for Screening Level Risk Assessment for the RPP-WTP
- **DOE-01-EQD-021** - Ecology/EPA Technical Comment on Hanford River Protection Privatization Project Review of BNFL Final Work Plan for Screening Level Risk Assessment for the RPP-WTP

This is a brief summary of the changes proposed for the WTP Permit. To review the proposed modification in detail beginning July 20, 2015, visit the Washington State Department of Ecology website at <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>.

You can also review the proposed modification at one of the Hanford Public Information Repositories:

- Washington State Department of Ecology Nuclear Waste Program Resource Center 3100 Port of Benton Boulevard Richland, Washington 99354 Contact: Vatarie Peery 509-372-7950

- United States Department of Energy Administrative Record 2440 Stevens Drive Richland, Washington 99354 Contact: Heather Childers 509-376-2530

- United States Department of Energy Reading Room 2770 Crimson Way Richland, Washington 99354 Contact: Janice Parthree 509-372-7443

- Portland State University Branford Price Millar Library 1875 Southwest Park Avenue Portland, Oregon 97207 Contact: Claudia Weston 503-725-4542

- University of Washington Suzzallo Library PO Box 352900 Seattle, Washington 98195 Contact: Hilary Reinert 206-543-5597

- Gonzaga University Foley Center 502 East Boone Avenue Spokane, Washington 99258 Contact: John Spencer 509-313-6110

Your views and concerns are important to the Washington State Department of Ecology. For more information on the public comment period, please contact Dieter Bohrmann at hanford@ecy.wa.gov or (800) 321-2008. **#15-8998 7/19/2015**

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Font: Proportional Font

Subject: 30-Day Advance Notice for Public Comment Period on Proposed Waste Treatment Plant Permit Changes  [Reply](#)
From: "Bohrmann, Dieter (ECY)" <DBOH461@ECY.WA.GOV>
Reply-To: DOE1@RL.GOV
Date: Fri, 12 Jun 2015 20:37:49 +0000
Content-Type: multipart/alternative

Parts/Attachments:  [text/plain](#) (12 lines) , [text/html](#) (27 lines)

This is a message from the Washington Department of Ecology

Ecology is initiating a modification to the Hanford permit with a public comment period expected to start by the end of July.

The proposed changes address the Environmental Risk Assessment Work Plan for the Waste Treatment and Immobilization Plant (WTP) permit. In support of the risk assessment, the U.S. Department of Energy Office of River Protection and Bechtel National, Inc. (the permittees) have submitted the final Environmental Risk Assessment Work Plan and associated supplemental documentation to Ecology for inclusion in the permit. This work plan and associated documentation will replace documents that are currently in the WTP permit.

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

Email Hanford@ecy.wa.gov or call 800-321-2008 for more information.

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Subject: [Comment period starts today on proposed change to Hanford Waste Treatment Plant permit](#)  [Reply](#)
From: "Bohrmann, Dieter (ECY)" <DBOH461@ECY.WA.GOV>
Reply-To: DOE1@RL.GOV
Date: Mon, 20 Jul 2015 19:29:13 +0000
Content-Type: multipart/alternative

Parts/Attachments:  [text/plain](#) (25 lines) , [text/html](#) (45 lines)

This is a message from the Washington Department of Ecology

The Washington Department of Ecology proposes a modification to the Waste Treatment and Immobilization Plant (WTP) Permit. The permittees are the U.S. Department of Energy Office of River Protection and Bechtel National, Inc.

What Changes are Being Proposed?

The proposed changes address the Environmental Risk Assessment Work Plan for the WTP permit. In support of the risk assessment, the permittees have submitted the final Environmental Risk Assessment Work Plan and associated supplemental documentation to Ecology for inclusion in the permit. This work plan and associated documentation will replace documents that are currently in the WTP permit.

Please see Ecology's [comment periods web page](#) for a list of documents available for review during this comment period. For more information, see Ecology's [focus sheet](#).

Submit Comments by September 4, 2015 to:

Dieter Bohrmann
Hanford@ecy.wa.gov (preferred)
3100 Port of Benton Blvd.
Richland, WA 99354
Fax 509-372-7971

Public Meeting

A public meeting is not scheduled, but if there is enough interest, Ecology will consider holding one. To request a hearing or for more information, contact:

Dieter Bohrmann
Hanford@ecy.wa.gov
509-372-7950

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Subject: Comment period extended for proposed WTP Permit modification
From: "Bohrmann, Dieter (ECY)" <DBOH461@ECY.WA.GOV>
Reply-To: DOE1@RL.GOV
Date: Thu, 27 Aug 2015 19:43:46 +0000
Content-Type: multipart/alternative

 [Reply](#)

Parts/Attachments:  [text/plain](#) (25 lines) , [text/html](#) (56 lines)

This is a message from the Washington Department of Ecology

The Washington Department of Ecology is extending the public comment period on a proposed modification to the Waste Treatment and Immobilization Plant (WTP) Permit. The comment period began on July 20 and was scheduled to end on September 4. **It has been extended until September 25.**

What Changes are Being Proposed?

The proposed changes address the Environmental Risk Assessment Work Plan for the WTP permit. In support of the risk assessment, the permittees (U.S. Department of Energy Office of River Protection and Bechtel National, Inc.) have submitted the final Environmental Risk Assessment Work Plan and associated supplemental documentation to Ecology for inclusion in the permit. This work plan and associated documentation will replace documents that are currently in the WTP permit.

Please see Ecology's [comment periods web page](#) for a list of documents available for review during this comment period. For more information, see Ecology's [focus sheet](#).

Submit Comments by September 25, 2015 to:

Dieter Bohrmann
Hanford@ecy.wa.gov (preferred)
3100 Port of Benton Blvd.
Richland, WA 99354
Fax 509-372-7971

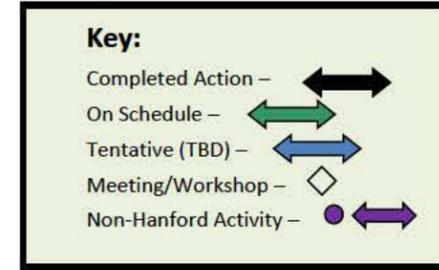
Public Meeting

A public meeting is not scheduled, but if there is enough interest, Ecology will consider holding one. To request a hearing or for more information, contact:

Dieter Bohrmann
Hanford@ecy.wa.gov
509-372-7950

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EVENTS IN PROGRESS/COMING SOON	September 2015	October 2015	November 2015
Tri-Party Agreement milestone change package for M-91 (TRU waste storage, retrieval, and repackaging) July 6 – August 21 September 25 Extended Public meeting August 11, 5:30 pm Richland Public Library	45-day comment period-extended 		
Waste Treatment Plant Risk Assessment Work Plan Revision July 20 – September 4 September 25 Extended	45-day comment period-extended 		
Closure Plan for FS-1 (Outdoor Container Storage Pad) – 2nd comment period for Class 3 permit change to close unused areas (1st comment period October 2013 – January 2014) 45-day comment period August 3 – September 18	45-day comment period 		
Ecology to propose delisting the 1100 Area from state Hazardous Sites List 30-day comment period – September 17 – October 16	30-day comment period 		
Proposed Plan for an Amendment to the Environmental Restoration Disposal Facility (ERDF) Record of Decision 30-day comment period – October		30-day comment period 	



COMPLETED EVENTS	June 2015	July 2015	August 2015
Environmental Assessment to transfer land to local economic development organization. 30-day comment period July 13 – August 12 Public meeting July 30, 5-7 p.m. Hampton Inn, Richland		30-day comment period 	
Closure Plan for the 207-A Retention Basin – Class 3 permit change 60-day comment period June 30 – August 28 (followed by 45-day comment period) Public meeting August 5, 5:30 pm Richland Public Library		60-day comment period 	

HOLDING BIN
Ventilation upgrades and grouting hot cells A-F at Hanford's Waste Encapsulation and Storage Facility (WESF) – Second comment period for Class 3 permit change 45-day comment period – TBD (Fall 2015)
Tri-Party Agreement milestone change package for characterizing and remediating groundwater, soil, and buildings. 45-day comment period – TBD (Fall 2015)
Class 3 permit changes to close parts of T-Plant, Central Waste Complex/Waste Receiving and Processing Facility, and Trenches 31&34. Will be in batches. 45-day comment periods – TBD (Fall 2015)
River Corridor 100-D/H Area Proposed Plan 30-day comment period – TBD (Fall 2015)
River Corridor 100-N Area Proposed Plan 30-day comment period – TBD (2016)
Class 3 permit modification to put all Solid Waste Operating Complex (SWOC) units in final permit conditions 60-day comment period, with meeting, in 2016 (followed by 45-day comment period)
Site-Wide Permit, Rev 9 TBD, 2017 or 2018

	September 2015	October 2015	November 2015	December 2015	January 2016
Federal Holidays	September 7	October 12	November 11 November 26	December 25	January 1 January 18
Hanford Advisory Board (HAB) http://www.hanford.gov/page.cfm/hab	September 9-10		November 4-5		
HAB Committee Weeks http://www.hanford.gov/?page=455 River and Plateau (RAP) Health, Safety and Environmental Protection (HSEP) Tank Waste (TWC) Public Involvement and Communications (PIC) Budgets and Contracts (BC)	September 22-24	October 6-8	November 17-19	December 8-10	January 12-14
Environmental Management Site Specific Advisory Board Chairs Meeting	September 1-3 Santa Fe, NM				
TPA Quarterly Meetings	September 8		November 3 (Placeholder)		
Oregon Hanford Cleanup Board http://www.oregon.gov/ENERGY/NUCSAF/HCB/hwboard.shtml	September 21-22 The Dalles, OR				

DOE Richland Social Media



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DOE Office of River Protection Social Media



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www.flickr.com/riverprotection

WA Department of Ecology Social Media



www.facebook.com/HanfordEducation



www.twitter.com/ecyhanford



www.youtube.com/user/EcologyWA

Additional Online Resources

U.S. Department of Energy: www.hanford.gov

Ecology Nuclear Waste Program: www.ecy.wa.gov/programs/nwp

U.S. Environmental Protection Agency: <http://yosemite.epa.gov/R10/CLEANUP.NSF/sites/Hanford>

Hanford Public Involvement Calendar: www.ecy.wa.gov/programs/nwp/PI/pdf/TPA_PI_Calendar.pdf

Public Comment Periods: www.ecy.wa.gov/programs/nwp/commentperiods.htm

APPENDIX B: COPIES OF ALL WRITTEN COMMENTS

From: Mike <mikeconlan@hotmail.com>
Sent: Wednesday, July 15, 2015 6:59 PM
To: Hanford (ECY)
Subject: Comment on Risk Assessment Work

- 1) Remove all nuclear waste,
- 2) Do not allow anymore nuclear waste into the facility,
- 3) Replace all the single storage tanks,
- 4) Stop all the nuclear leakage entering the Columbia River.

Mike Conlan
Redmond WA

From: nancy newkirk <greeniefrost@yahoo.com>
Sent: Tuesday, July 28, 2015 2:31 PM
To: Hanford (ECY)
Subject: Comments

July 28, 2015

Dieter Bohrmann
3100 Port of Benton Blvd.
Richland, WA 99354

Re: Waste Treatment Plant "Risk Assessment Work Plan Revision

Dear Dieter Bohrmann:

I received this document and I celebrate the solidification of the nuclear waste. It is the right thing to do! However, the document I received did not explain how much nuclear material will escape into the air (and water) from solidification. Please give us an approximate total which will be released onto agricultural fields and into rural and urban communities and how far is the "plume" is expected to go.

Also, why does the waste have to be heated to such a high temperature? And will the condensate be captured and then re-glassified until it is no longer a danger? How many workers are expected to have health problems and what kinds of problems? How will they and their families be compensated?

Risk assessments are always a guess, but they are important and need to be as accurate as humanly possible. How many cases of cancer can be expected from carrying out this process. This is personal because my neighbor in Seattle was a down-winder and a co-worker was a down-winder. One died quickly of a brain tumor and one suffered thyroid cancer for some time. Also, I have relatives who live in the immediate area.

It seems to me that hearings ought to be held in areas directly affected.

Thank you for your responses to my questions.

Sincerely,

Mrs. Nancy Kroening
123 East Calavar Road
Phoenix, AZ 85022

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AUG 05 2015

Department of Ecology
NWP-15-05-007

August 2, 2015

Dieter Bohrmann
Washington Department of Ecology
3100 Port of Benton Boulevard
Richland, WA 99354

Dear Mr. Bohrmann:

On July 20, 2015 the Department of Ecology (Ecology) proposed a modification to the Hanford Dangerous Waste (RCRA) Permit, specific to the Waste Treatment and Immobilization Plant (WTP) (Department of Ecology Publication 15-05-007). See <http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>. The title is "Waste Treatment Plant Risk Assessment Work Plan Modification."

This letter provides comments in response to Ecology's invitation for public review and comment.

I. Change Package Lacks Certifying Signatures

Contrary to the requirements of WAC-173-303-810, the documents provided by Ecology for review did not include the certifications that are required for permit modifications. The managers of Bechtel National Inc. and DOE/Office of River Protection (DOE) are required to sign a certification that states:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel gather the and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

As shown below, the proposed permit change is not true, accurate, or complete. Further, the public cannot tell if this change was initiated unilaterally by Ecology or if it arose from DOE/Bechtel. This is a notable departure from previous permit modification requests where certifications were part of the documents made available to the public (for example, 10-ESQ-231, 14-ECD-0025). A search of the TPA administrative record turned up no evidence of a transmittal to Ecology from DOE with the requisite signatures for this change request. Ecology's letter of July 14, 2015 (15-NWP-124) did not cite an actual DOE letter, just an undocumented proposal.

II. Change Package is not True, Accurate, or Complete

Ecology's July 2015 Statement of Basis document, Table 1, invokes permit conditions that apply to the main content of the proposed permit change, which updates the Environmental Risk Assessment Work Plan and associated supplementary documents. The Environmental Risk Assessment Work Plan is supposed to assess pre-demonstration tests and the final facility. A relevant question is "what equipment and processes will it actually address?"

Permit conditions III.10.C.11 a.i through a.vii require this submittal to use current data – data that are current at the time of submittal for toxicity, emissions based on current waste characterization and emission testing, air modeling based on the most current WTP Unit design, current transport properties; process description from the most current WTP Unit design, and all supporting calculations based to be on the most current WTP Unit Design.

Ecology's July 2015 Statement of Basis document (page 3) further states that the permit modification provides supporting information for construction of five regulated portions of WTP, namely pretreatment (PT), low-activity waste facility (LAW), high-level waste facility (HLW), laboratory (LAB), and balance of facilities (BOF).

Contrary to the permit condition, which requires this change package to contain *the current status of the design*, the Environmental Risk Assessment Work Plan, 24590-WTP-RPT-ENV-14-002, Rev 0, is dated **July 16, 2014**. The supporting summary documents that are cited in turn by the work plan include:

24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, Rev C, Preliminary Calculation dated July 14, 2003.

24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plan*, Rev 2, dated February 23, 2006.

24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, Rev 0, dated February 8, 2011.

24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*, Rev 0, dated June 17, 2011.

24590-WTP-RPT-ENV-08-001, *Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol*, Rev 2, dated June 25, 2014.

Ecology's Statement of Basis and DOE/Bechtel's Work Plan both fail to address the current state of WTP Designs, which are in such profound disarray that no true, accurate, or complete Environmental Risk Assessment Work Plan is possible.

For example, the DOE proposal of March 31, 2014 to amend the consent decree, states: *“the overwhelming technical judgment is that the WTP cannot operate under the current design, and therefore a new approach is needed.”* And: *“It has become clear...that unresolved technical issues could prevent the Pretreatment Facility from operating safely as currently designed”* http://energy.gov/sites/prod/files/2014/03/f14/Proposal%203-31%20FINAL_0.pdf

The DOE proposal of March 31, 2014 includes “re-work” facilities planned in response to the WTP design failure. These include “DFLAW” and “LAWPS,” which are new designs that will certainly impact both the WTP air and liquid effluents. This “current state” of the design is not addressed in the permit change package.

A second example is the WTP High-Level Waste Facility Design and Operability Review and Recommendations study. A report from this study (which looked only at some of the HLW systems) was documented in two volumes (DOE/ORP-2014-01 Volumes 1 and 2). These reports are dated September 2014. The files were made briefly available to the public, but they are no longer available on a public web page. They are stamped “approved for public release” and a copy is included as part of this comment. DOE/ORP-2014-01 specifically calls out design and quality failures in the HLW off-gas system.

Appendix B states, for example, that the high-level waste melter off-gas treatment process (HOP) system “may be incapable of achieving permit performance requirements for some constituents (e.g. dioxins, furans).” High Efficiency Mist Eliminators (HEMEs) may not seal properly, and the Wet Electrostatic Precipitator (WESP) appears subject to degradation. Impacts of sulfur on downstream beds are unanalyzed. There is an indeterminate capability to ensure the selective/thermal catalytic oxidizer (“SCO” or “TCO”) bed is aligned and integrity is not compromised following catalyst replacement. There are many more examples - literally hundreds of vulnerabilities and failures in the design, many of which affect effluent composition and release.

While DOE has claimed that the LAW facility is nearly complete, the LAW facility contains the same sort of off-gas equipment as HLW. A similarly detailed review of the LAW facility (and also the LAB and BOF), if reported with the same attention to detail as the HLW report, would find very similar failures. The LAW facility is like HLW in that it contains and treats concentrations of NO_x gas that are immediately dangerous to life and health. The LAB and BOF also contain hazardous chemicals, including anhydrous ammonia.

A third example is GAO’s most recent report on WTP, GAO-15-354, dated May 2015. This report shows that the design failures and technical challenges continue to the present. This is contrary to having a design that is amenable to providing any sort of data relevant to environmental risk evaluation. See <http://www.gao.gov/assets/680/670080.pdf>.

A fourth example is the recent DOE Office of Enforcement Consent Order and associated \$800,000 fine signed by Bechtel in June 2015. The findings of the Office of Enforcement

include failure to make the WTP design and safety basis consistent (this will cause design changes), defective vessel construction, and deficient quality assurance and corrective actions management. These problems have not been corrected. They show that the current design is in a shambles that represents an unreliable, fictional, facility with respect to the potential risk to the environment.

[http://energy.gov/sites/prod/files/2015/06/f23/BNI%20Signed%20Consent%20Order%20\(NCO-2015-02\).pdf](http://energy.gov/sites/prod/files/2015/06/f23/BNI%20Signed%20Consent%20Order%20(NCO-2015-02).pdf).

III. An Extent of Condition QA Review of Previous Permit Packages is Needed

Ecology's Statement of Basis shows that, of 180 design packages, 150 have already been completed. With the depth of the problems identified and described above, I would appreciate your consideration of an extent of condition of the quality and completeness and relevance of the prior submittals. Many may be challenged by poor quality or continued construction of a conceptual and unworkable design, similar to the proposed change above. Even today's proposed modification includes a REV C Preliminary Calculation. This is the third WTP permit change proposal in the last two years (100% of WTP Public Comment Submittals) to rely on conceptual, preliminary data, indicating that improvements to the quality assurance program have not been effective.

WTP quality defects in design have been identified routinely for many years now (per DOE/IG-0894; GAO-06-602T; 12-WTP-0399, GAO-13-38; and 13-NWP-092). As a result, the impact on the WTP RCRA permit is an area that should be questioned. Can any of it still be claimed to be valid? Using design information submitted "in the order of construction" is a practice that allows portions of the facility to be built that are later found to be unusable because they were not integrated properly with the rest of the design.

See also:

March 16, 2006 Preliminary Notice of Violation (Safety Inconsistencies/Quality Issues) - <http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/eas/EA-2006-03.pdf>

DOE/IG-0764, May 2007, Quality Assurance Standards Not Met for the Integrated Control Network at WTP- <http://energy.gov/sites/prod/files/igprod/documents/IG-0764.pdf>

October 4, 2007 Preliminary Notice of Violation (Deficiencies in Design Changes, Supplier Quality, Commercial Grade Dedication, including repetitive failures) - <http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/eas/EA-2007-05.pdf>

September 22, 2010 Consent Order (Inadequate Commercial Grade Dedication) - http://energy.gov/sites/prod/files/hss/Enforcement%20and%20Oversight/Enforcement/docs/consentorders/BNI_Consent_Order_%28NCO-2010-03%29.pdf

DOE/IG-0871, October 2012, Management Alert (One-System Proposal for Commissioning and Startup of WTP – Insufficient Analysis of the Phased Approach to start the LAW Facility 15 months early) - <http://energy.gov/sites/prod/files/IG-0871.pdf>

IV. The Submitted Documents Themselves Should be Reviewed for Quality

A cursory review of the documents submitted and proposed to be included in the Dangerous Waste Permit shows that they also contain areas that indicate the quality should be questioned and reviewed. For example:

24590-WTP-RPT-ENV-14-002, *Environmental Risk Assessment Work Plan*, 24590-WTP-RPT-ENV-14-002, Rev 0, July 16, 2014.

The work plan refers to use of software, and it refers to 24590-CM-HC4-HKYM-00001-01-00002, Rev 00A, *Modeling Verification and Methods Report*, River Protection Project, Hanford Tank Waste Treatment and Immobilization Plant. There is no way to verify if this is the most recent version or if it applies to the selected software. At Revision 0A, it could be out of date.

The work plan cites 24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, but it does not provide the revision or the date of the reference. The reference is a preliminary calculation from 2003 that is not suitable for final design.

The work plan refers to 24590-WTP-RPT-PT-02-005, Rev 6, *Flowsheet Bases, Assumptions, and Requirements*. There is no discussion of whether assumptions in this document that are unverified were used, and no discussion of the impact of the assumptions on risk assessment results. How many unverified assumptions exist for off-gas equipment?

24590-WTP-HAC-50-00001, *Estimated Organic Emissions from Process Cells*, Rev C, Preliminary Calculation dated July 14, 2003.

This calculation is a letter revision – and it is clearly stamped “preliminary.” As a result it is not suitable for supporting construction at WTP, much less to be considered to be an evaluation of the “current” configuration of the plant.

24590-WTP-RPT-PO-03-008, *Integrated Emissions Baseline Report for the Hanford Tank Waste Treatment and Immobilization Plan*, Rev 2, dated February 23, 2006.

This report incorporates design changes at WTP only through 2006.

This report uses as input steady state flowsheet results that are out of date (24590-WTP-MRR-PO-05-020). The charge balance for the feed was based on assumptions that were

not analyzed for the impact to the results.

This report references an estimate of additional organic constituents from a letter dated 2005, CCN: 128557.

24590-WTP-RPT-ENV-10-001, *Constituents of Potential Concern for the WTP Air and Dangerous Waste Permits*, Rev 0, dated February 8, 2011.

This report identifies constituents of potential concern, but is post-dates the integrated emissions baseline report, and has a different (smaller) list of COPCs. Which are correct? Are the changes justified?

24590-WTP-RPT-ENS-07-002, *Chemical Parameters and Toxicological Inputs for the Environmental Risk Assessment for the Hanford Tank Waste Treatment and Immobilization Plant*, Rev 0, dated June 17, 2011.

This report is published at Rev 0, but the history page (page ii) states that it is an "Initial Draft." This report also refers to the previous (superseded) environmental risk work plan, 24590-WTP-RPT-ENS-03-006, so it is not integrated with the current work plan that was submitted as a permit modification.

24590-WTP-RPT-ENV-08-001, *Hanford Tank Waste Treatment and Immobilization Plant Risk Assessment Air Quality Modeling Protocol*, Rev 2, dated June 25, 2014.

This protocol uses "off-the-shelf" software, but appears to make modifications to its basic configuration. While a "model verification effort" was mentioned, a current verification and validation report was not cited.

This protocol refers to system descriptions and other documents that are undated, so it is not possible to understand whether the inputs are current.

The discussion above suggests that a quality check of the collection of documents is needed, including assumptions.

Summary

The proposed permit modification has no value, in light of the uncertainty in the radiochemical processes and equipment and the poor quality work products at WTP.

Review of this proposed permit modification indicates that future permit modifications are premature until the designs, new projects, and quality failures are addressed in a 100% extent of condition, followed by systematic integration and reconciliation of errors.

This review also suggests that any future permit modification packages would benefit from a thorough multidisciplinary quality assurance review that is independent of DOE, Bechtel, and Ecology.



Calculation Cover Sheet

ISSUED BY
RPP-WTP-PDC
PH 7/16/03
DATE

Sheet i

RIVER PROTECTION PROJECT-WASTE TREATMENT PLANT				JOB NO.: 24590			
CALC NO. 24590-WTP-HAC-50-00001				GROUP E&NS			
SUBJECT Estimated Organic Emissions from Process Cells							
CALCULATION STATUS		<input checked="" type="checkbox"/> PRELIMINARY	<input type="checkbox"/> COMMITTED PRELIMINARY		<input type="checkbox"/> CONFIRMED		
DESIGNATION		<input type="checkbox"/> SUPERSEDED				<input type="checkbox"/> VOIDED	
COMPUTER PROGRAM/TYPE	N/A <input checked="" type="checkbox"/>	SCP <input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> STAND-ALONE <input type="checkbox"/> NETWORKED	PROGRAM NAME		VERSION/RELEASE NO.	
Notes/Comments							
<p>The software tool used was Microsoft Excel Version 97.</p> <p>Originator – John Sipkowski Reviewer – Lee Bostic Approver – Phil Peistrup</p>							
C	Preliminary Calculation. Complete revision based upon updated source data. Reformatted to include Excel tables as an appendix.	39	A-29	J. Sipkowski <i>[Signature]</i>	L. Bostic <i>[Signature]</i>	P. Peistrup <i>[Signature]</i>	7/14/03
B	Preliminary Calculation. Table 1 from Version A deleted. The summary was revised accordingly.	47	47	J. Sipkowski	L. Bostic	P. Peistrup	10/3/02 PH 7-15-03
A	Preliminary Calculation	48	48	J. Sipkowski	L. Bostic	P. Peistrup	8/22/02 <i>PH</i> 7-15-03
NO.	REASON FOR REVISION	TOTAL NO OF SHEETS	LAST SHEET NO	BY	CHECKED	APPROVED/ ACCEPTED	DATE
RECORD OF REVISIONS							

Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA) are regulated at the U. S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that pursuant to AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.

History Sheet

Rev	Date	Reason for revision	Revised by
0	17 Jun 11	Initial Draft	David Blumenkranz

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SEP 08 2015

DEPARTMENT OF ECOLOGY
RMP - RICHLAND

August 31, 2015

Dieter Bohrman
3100 Port of Benton Blvd.
Richland, WA 99354

RE: Comment on the Waste Treatment Plant Risk Assessment Work Plan
Revision

My specific concern about vitrification is based on decay heat generated after the glass has solidified and the ingots are placed into storage. If a significant amount of decay heat results in compromising the glass ingot and/or ruptures the stainless steel casing after storage, what would be the ramifications of such a breach. If this is a viable scenario, has this been addressed within the risk assessment?

I clearly see the benefit of success for this project, and remain hopeful all physical characteristics of the waste material to be stored have been taken into consideration.

Thank you,


George Baggett