



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

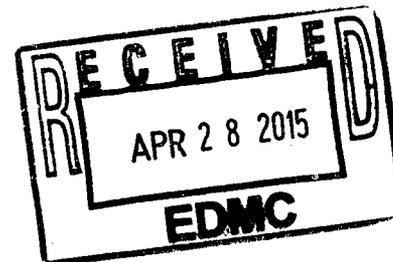
3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

April 24, 2015

15-NWP-032

Mr. Kevin W. Smith, Manager
Office of River Protection
United States Department of Energy
PO Box 450, MSIN: H6-60
Richland, Washington 99352

Mr. Bill K. Johnson, President
Mission Support Alliance, LLC
PO Box 650, MSIN: H1-30
Richland, Washington 99352



Ms. Stacy L. Charboneau, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A7-50
Richland, Washington 99352

Mr. Michael H. Schlender,
Deputy Director for Operations
Pacific Northwest National Laboratory
PO Box 999, MSIN: K1-46
Richland, Washington 99352

Ms. Peggy McCullough, Project Director
Bechtel National, Inc.
2435 Stevens Center Place, MSIN: H4-02
Richland, Washington 99354

Mr. Scott M. Sax, President
Washington Closure Hanford, LLC
2620 Fermi Avenue, MSIN: H4-24
Richland, Washington 99354

Mr. John A. Ciucci, President and CEO
CH2M HILL Plateau Remediation Company
PO Box 1600, MSIN: H7-30
Richland, Washington 99352

Mr. L. David Olson, President
Washington River Protection Solutions
PO Box 850 MSIN: H3-21
Richland, Washington 99352

Re: Withdrawal of the Proposed September 2014 Permit Modification for 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

Reference: See Page 2

Dear Ladies and Gentlemen:

This letter provides notification of the Department of Ecology's (Ecology) decision to withdraw the proposed September 2014 Permit Modification to 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 10, Waste Treatment and Immobilization Plant (WTP Permit).

Ecology held a public comment period September 2 through October 20, 2014, for this proposed permit modification, as required by the Washington Administrative Code (WAC) 173-303-840. We received five sets of comments during the public comment period.

Mr. Kevin W. Smith, et al.
April 24, 2015
Page 2

15-NWP-032

A *Response to Comments* document (Ecology Publication 15-05-004) was published as required by WAC 173-303-840(9) and is available on the Ecology website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1505004.html>. This document provides responses to all the comments received and describes the public involvement actions taken in support of the public comment period.

Ecology carefully considered the technical issues related to the public comments received on the Low Activity Waste (LAW) High Efficiency Particulate Air (HEPA) Preheaters. We met with Bechtel National, Inc. (BNI) and the United States Department of Energy – Office of River Protection (USDOE-ORP) on November 24, 2014, to discuss these issues.

As a result of the public comments, Ecology has the following concerns:

- The spacer rods in the HEPA Preheaters were fabricated using 304-L stainless steel. The corrosion evaluation notes that type 304-L and carbon steel are unacceptable materials. BNI accepted the HEPA Preheaters with unacceptable 304-L stainless steel spacer rods. BNI has initiated a Non-Conformance Report for corrective action (CON-14-01-0180). Ecology has not received the report.
- BNI committed to provide Ecology the revised Process Corrosion Data Sheet (PCDS) with the LAW-026A Package. BNI told Ecology that the PCDS they provided was the latest updated revision. But after further review, we noted that the package did not include the latest version of the PCDS.

These are significant unresolved issues. The supporting information provided with the permit modification is not “true, accurate, and complete” as required by WAC 173-303-810(13). Therefore, Ecology is withdrawing the proposed September 2014 Permit Modification to the WTP Permit.

After final disposition of the corrective action related to the spacer rods, BNI and USDOE-ORP can resubmit the LAW-026A Package with the updated Corrosion Evaluation for Ecology’s review and possible inclusion in a future permit modification.

If there are any questions, please contact Arlene Tortoso, WTP Permit Writer, at arlene.tortoso@ecy.wa.gov or (509) 372-7956.

Sincerely,



Suzanne Dahl
Tank Waste Treatment Section Manager
Nuclear Waste Program

at/jc

cc: See Page 3

Reference: Letter 14-NWP-177, dated August 28, 2014, from S. Dahl, Ecology, to Kevin Smith, et al., “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 Group10, Waste Treatment and Immobilization Plant, WA7890008967*”

cc electronic:

Dave Bartus, USEPA
Dennis Faulk, USEPA
Mary Beth Burandt, USDOE
Cliff Clark, USDOE
Rob Hastings, USDOE
Lori Huffman, USDOE
Tony McKarns, USDOE
Gae Neath, USDOE
Delmar Noyes, USDOE
Bryan Trimmerger, USDOE
Don Sommer, USDOE
Barry Curn, BNI
Barbara Dubiel, BNI
Brad Erlandson, BNI
Roger Landon, BNI
Sandi Murdock, BNI
Walter Remsen, BNI
Dan Robertson, BNI
Jan Schneider, BNI
Moussa Jaraysi, CHPRC
Dru Butler, MSA
Jon Perry, MSA
Ann Shattuck, MSA
Michael Stephenson, PNNL
Lucinda Borneman, WRPS
Rod Skeen, CTUIR
Russell Jim, YN

Ken Niles, ODOE
Robin Priddy, BCAA
Gail Laws, WDOH
John Martell, WDOH
Debra Alexander, Ecology
Robbie Biyani, Ecology
Jennifer Cantu, Ecology
Annette Carlson, Ecology
Nitya Chandran, Ecology
Kelly Elsethagen, Ecology
Tracy Gao, Ecology
Heather John, Ecology
Mandy Jones, Ecology
Dan McDonald, Ecology
Ron Skinnarland, Ecology
Oliver Wang, Ecology
BNI Correspondence Control
CHPRC Correspondence Control
Environmental Portal
Hanford Facility Operating Record
MSA Correspondence Control
NWP Library
PNNL Correspondence Control
USDOE-ORP Correspondence Control
USDOE-RL Correspondence Control
WRPS Correspondence Control

cc: Katherine Kelly, USEPA
Gabriel Bohnee, NPT
Alyssa Buck, Wanapum
Steve Hudson, HAB
John Fowler, ACHP
Donald Redman, USACE
Larry Klimek, USFW
Mike Livingston, WDFW
John Schmidt, WDOH
John Wiesman, WDOH
Ted Maxwell, WSDA
Allyson Brooks, WSDAHP

Shane Early, WSDNR
Gonzaga University Foley Center Library
NWP Central File
NWP Reader File
Portland State University Library,
Government Information
University of Washington Suzzallo Library,
Government Publications
USDOE Public Reading Room, CIC
USEPA Region 10 Correspondence Control
USEPA Region 10 Hanford Field Office
Correspondence Control

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

September 2 – October 20, 2014

Summary of a public comment period and responses to comments

This page is purposely left blank.

PUBLICATION AND CONTACT INFORMATION

This publication is available on the Department of Ecology's (Ecology) website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1505004.html>

For more information contact:

Dan McDonald, Tank Waste Disposal Project Manager
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, WA 99354

Phone: 509-372-7950
Hanford Cleanup Line: 800-321-2008
Email: Hanford@ecy.wa.gov

Washington State Department of Ecology - www.ecy.wa.gov

- Headquarters, Lacey 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Lacey 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

Ecology publishes this document to meet the requirements of Washington Administrative Code 173-303-840 (9).

To request ADA accommodation including materials in a format for the visually impaired, call Ecology 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.

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
September 2 – October 20, 2014**

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

This page is purposely left blank.

TABLE OF CONTENTS

Introduction.....1
2014 Proposed Waste Treatment Plant (WTP) permit modification.....1
Proposed Permit Modification Withdrawn2
Public Involvement Actions.....3
List of Commenters.....4
Response to Comments.....4
Appendix A: Copies Of All Public Notices
Appendix B: Copies Of All Written Comments

This page is purposely left blank.

Introduction

The Washington State Department of Ecology's Nuclear Waste Program (NWP) manages dangerous waste 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 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.

This Response to Comments is prepared for:

Comment period: *Waste Treatment and Immobilization Plant (WTP) Design Changes, September 2 – October 20, 2014*

Permit: *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*

Permittee: *United States Department of Energy - Office of River Protection*

Original issuance date: *September 27, 1994*

Draft effective date: *This permit modification is being withdrawn. The most recent effective date of the previous permit modification is May 15, 2014.*

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

2014 Proposed Waste Treatment Plant (WTP) permit modification

Background

The permit modification consisted of a proposed design change package for a WTP facility. The design change addresses the design of High Efficiency Particulate Air (HEPA) preheaters for the offgas/vessel vent process (LVP) system miscellaneous unit subsystems in the Low-Activity Waste (LAW) facility at the +48 ft.-elevation.

The purpose of the LVP system is to remove particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters.

HEPA preheaters heat offgas to raise the offgas above the dew point. Gases created by the melter combine with gases from vessels in the rest of the facility and are treated before they are discharged. The HEPA preheaters heat and dry the gas so that it can pass through the HEPA filters safely. The offgas then passes through the HEPA filters, which remove particulates.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber, which removes residual acid gases and provides final offgas cooling.

The exhausters (fans) pull offgas through the primary and secondary offgas treatment systems. The exhausters then safely discharge the offgas to the atmosphere through the LAW stacks.

Proposed Permit Modification Withdrawn

After considering issues raised in public comments on the Low Activity Waste High Efficiency Particulate Air preheaters, Ecology decided to withdraw this permit modification.

Reasons for Withdrawing the Proposed Permit Modification

Ecology carefully reviewed and considered the technical issues related to the public comments received on the Low Activity Waste (LAW) High Efficiency Particulate Air (HEPA) preheaters. We also met with Bechtel National, Inc. (BNI) and the United States Department of Energy - Office of River Protection (DOE-ORP) on November 24, 2014, to discuss technical issues.

As a result of the public comments, Ecology has the following concerns:

- The spacer rods in the HEPA preheaters were fabricated using 304-L stainless steel. The corrosion evaluation notes that type 304-L and carbon steel are unacceptable materials. BNI accepted the HEPA preheaters with unacceptable 304-L stainless steel spacer rods. BNI has initiated a Nonconformance Report to document the discrepancy and corrective actions.
- BNI stated that the process corrosion data sheet (PCDS) that was submitted with the LAW-026A package was the most recently updated revision. BNI had previously committed to providing to Ecology the revised PCDS with this package. But after further review, Ecology noted that the package did not include the latest version of the PCDS.

These are significant unresolved issues, and Ecology feels the supporting information provided with the permit modification is not "true, accurate, and complete" as required by WAC-173-303-810(13). Therefore, we are withdrawing this proposed permit modification.

After final disposition of the corrective action related to the spacer rods, BNI and DOE-ORP can resubmit the LAW-026A package with the updated Corrosion Evaluation for Ecology's review and approval through a future permit modification.

Public Involvement Actions

The Nuclear Waste Program (NWP) encouraged public comment on the *Waste Treatment and Immobilization Plant (WTP) Design Changes* during a 45-day public comment period held September 2 through October 20, 2014.

The NWP took the following actions for the public comment period:

- Mailed a public notice announcing the comment period to 729 highly-interested members of the public.
- Provided copies of the public notice to members of the public at Hanford Advisory Board meetings.
- Placed a public announcement legal classified advertisement in the *Tri-City Herald* on August 31, 2014.
- Sent a notice announcing the start of the comment period to the Hanford-Info email list, which has 1,447 recipients.
- Posted the comment period as an event on Ecology's Hanford Education & Outreach Facebook page and @ecyhanford Twitter feed.

No public hearings or meetings were held for this comment period.

The documents listed below were available for review at the [Hanford information repositories](#) located in Richland, Spokane, and Seattle, Washington, and Portland, Oregon. The documents are also available on [NWP's 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 (in advance and at the start of the comment period)
5. Event posted on Ecology Hanford Education & Outreach Facebook and Twitter Pages
6. Radio Advertisement on both KONA (610 AM) and KTCV (88.1 FM)
7. Posting on Ecology's webpage (both on Public Involvement Calendar and Public Comments webpage)

List of Commenters

Commenter Identification:

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

Commenter	Organization	Comment Number	Page Number
Comfort, Margaret	Citizen	#1	4-5
Conlan, Mike	Citizen	#2	5
Smith, Dick	Citizen	#3	6-7
Anonymous	Citizen	#4	7
Anonymous	Citizen	#5	7-10

Response to Comments

The Nuclear Waste Program accepted comments on the design changes to the Waste Treatment Plant (WTP) from September 2 through October 20, 2014. This section provides a summary of comments we received during the public comment period and our responses, as required by WAC 173-303-840(9).

Comments are grouped by individual, and each comment is addressed separately. The 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 Margaret Comfort, September 9, 2014:

The cursory, non technical, glib description of the "changes to the WTP permit" do not describe "What changes are being proposed?" What is described in it is the process, not changes. Even a layperson can see that the details of useful information are woefully lacking. Describe the changes in detail, and clearly. The description provides no evidence, no unbiased scientific documentation to ensure safety for long term containment of deadly ingredients. The information presented is insultingly simple and incomplete. Cursory is not what is needed here. Evidence based scientific research backed by unbiased studies is necessary and sadly wanting.

The fact that there is a time constraint in order to maintain funding is unacceptable. This toxic waste has been a threat for at least 67 years; a lifetime. Get an extension for funding and then monitor the clean up progress with unbiased professional oversight. Report on an incremental timeline set some goals, be professional.

True containment of hazardous waste cannot be a political football. The danger it poses is far too great. Radioactive waste and toxic chemicals escaping is a state of emergency. Get a time limit waiver and real oversight for goodness sake. We obviously need some scrubbers to uncover the political pressures that perpetuate this half baked "clean up" that lasts a lifetime. Money spent so far has gone where? Audit the companies involved, control them and then only pay for safe results..

We have been burdened with lethal leftover weaponry products which continually emit "friendly fire" that poisons civilians. Many American soldiers gave their lives to protect this soil and the people of their country. This toxic hazardous waste continuously endangers us all. Time constraints must be over ruled. Declare a state of emergency and assemble and unbiased scientific oversight by a panel of scientists with no monetary ties and contain this nightmare. Be transparent, honest, clear, unbiased and thorough from now on. Get this job done!

Ecology Response:

Ensuring that the WTP is designed, constructed, and operating in a timely and compliant manner will facilitate the proper treatment and disposal of tank waste. This is a top priority for Ecology.

Ecology understands that the WTP Permit is complex. We strive to encourage public participation by providing simplified information to the public that explains the complex technical design and construction of the WTP. The focus sheets that accompany each comment period are one way we provide information.

More technical design documents were provided during the public comment period. Please see Appendix A, which includes copies of all public notice documentation issued with this permit modification.

We understand that the long duration of construction at the WTP is a significant concern to many members of the public, and we share that concern. Ecology's expectation is that the USDOE and its contractor will design and construct the WTP in a safe, efficient, and compliant manner to ensure protection of human health and the environment.

Comment #2 from Mike Conlan, September 18, 2014:

Hanford DOE:

1. cleanup ALL nuclear waste at Hanford,
2. replace ALL single shell tanks.
3. do not allow any more nuclear waste to Hanford.

Mike Conlan Redmond WA

Ecology Response:

1. *Ecology is working to ensure that long-term storage, treatment, and disposal of the waste is protective of human health and the environment.*
2. *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.*
3. *The proposed permit changes are not to allow new waste, but to better manage the waste already at Hanford.*

Comment #3 from Dick Smith, October 4, 2014:

I have been trying to find links to the contents of LAW-026A so I could see what problem needs fixing and how DOE proposes to fix the problem, to no avail. I assume the PE's report presents the problem, but I'm not sure where the solution is described. The various referrals given in your notices seem to be circular, sending one to successive sources, but each one refers the reader to another source, etc., and none contains any information on problem or the solution. Without that information, it is impossible to review and comment on whatever the change(s) is.

Ecology Response (emailed response on October 9, 2014):

The sources that you have mentioned are stored at the Public Information Repositories. Currently we do not link technical drawings on our online notices.

We would be very happy to have a meeting with you at Ecology to discuss these documents and go over them with you. Please provide a time you would be available to meet at the Ecology office and a list of items to discuss and we will gladly go over these issues with you in person.

Thank you so much for your interest in Waste Treatment Plant design changes.

Follow-up Ecology Response to Phone Message Received from Mr. Smith Requesting More Information (emailed on October 15, 2014):

I believe the documents you are looking for are located on this page:

http://www.ecy.wa.gov/programs/nwp/permitting/HDWP/Rev/8c/Draft/9_2_14/index.html

Support documents are under the heading that starts "Proposed Design Package No. LAW-026A..." It looks like this:

**Proposed Design Package No. LAW-026A, Rev. 0, for the LAW Facility LVP System
Miscellaneous Unit (HEPA Preheaters LVP-HTR-00001A/B & 00003A/B)**

<u>LAW-026A Table of Contents</u>	24590-CD-POA-MEE0-00003-03-00004
<u>24590-CM-HC4-HXYG-00240-02-00010</u>	24590-CD-POA-MEE0-00003-03-00005
24590-LAW-P1-P01T-00005	<u>24590-CD-POA-MEE0-00003-03-15-00007</u>
<u>24590-LAW-P1N-P01T-00070</u>	<u>24590-LAW-N1D-LVP-00009</u>
<u>24590-LAW-P1N-P01T-00073</u>	<u>24590-LAW-3YN-LOP-00015</u>
<u>24590-LAW-P1N-P01T-00075</u>	<u>ORP Certification</u>
<u>24590-LAW-M5N-V17T-00030</u>	<u>BNI Certification</u>

Items highlighted and bolded in red are drawings and can be viewed at 3100 Port of Benton Blvd, Richland WA 99354

The report by the Independent Qualified Registered Professional Engineer (IQRPE) is the second link in the section pictured above, but you can also access it in the link below:
http://www.ecy.wa.gov/programs/nwp/permitting/HDWP/Rev/8c/Draft/9_2_14/Documents/24590-CM-HC4-HXYG-00240-02-00010.pdf

Comment #4 from Anonymous, September 4, 2014:

Dear Ms. John:

I received today's announcement of the WTP Permit public comment period, but when I used the link to Ecology's WTP Permit website, all I saw was a message that the page was "not found." Ecology's web page said I should be able to review the documents there.

I would appreciate your help in posting ALL of the submitted documents associated with this change, so that the public can review the bases and completeness of the work. A summary is not sufficient.

Can you please post these to your web site? It is an inconvenience to many to travel to an information repository, and fewer people have DVD drives than previously, due to more use of mobile devices.

To post all of the documents is also consistent with a similar WTP permit public comment period from last October 2013, and it is consistent with the Secretary of Energy's commitment to transparency, and it is consistent with the Hanford Public Involvement Plan.

Thank you.

Ecology Response:

Unfortunately, our website suffered a technical malfunction on that page for a few hours. The problem was resolved on September 3, 2014.

Ecology understands the need to provide resources in a variety of formats and will make every effort to make significant documents available both online and in hard copy form.

Comment #5, Anonymous, September 5, 2014 (Technical drawings and other attachments that accompanied this comment can be found in Appendix B.):

Dear Ms. John:

This letter is a comment in response to the announcement on September 2, 2014 that the Department of Ecology is proposing a modification to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste for the Waste Treatment and Immobilization Plant (WTP).

The proposed changes would allow installation of HEPA Preheaters in the LAW Secondary Offgas/Vessel Vent Process System. Installation of the HEPA Preheaters is not supported by the change package, which has fundamental safety and quality flaws. Please see the highlighted attachments and the evaluation below:

- The corrosion evaluation (24590-LAW-N1D-LVP-00009) cites a "Rev A" mass balance (24590-WTP-MV11T-00005, Rev A). A letter revision represents conceptual design, so

the quality is suspect. The amount of mercury similarly is based on an assumption in the Rev A mass balance, and mercury can affect corrosion. Letter revisions of mass balance calculations frequently have dozens of assumptions requiring verification, so the values used in the corrosion evaluation must be considered to be of indeterminate quality, especially for low concentration constituents that have a significant impact on corrosion.

- The corrosion evaluation, which is a design basis document, shows an incoming concentration of 5.1 g/m³ of NO and 11.1 g/m³ of NO₂. The density of air is about 1.225 kg/m³ at atmospheric conditions. As a result, the off gas entering the heaters has a concentration of 4,000 ppm_v of NO and 57000 ppm_v NO₂.

In spite of this the vendor drawings (24590-CD-POA-MEE0-00003-03-0004, Rev 00H and 24590-CD-POA-MEE0-00003-03-0005, Rev 00I) both show in the Design Data Box that the process gas is "air" (not process gas) and each has a check box that is clearly marked that there are no "lethal substances." Contrary to the check boxes, NIOSH has established that the "immediately dangerous to life and health" (IDLH) concentration for NO₂ is 20 ppm_v and the IDLH for NO is 100 ppm_v. The incoming gas to the heaters is therefore more than 285 times the lethal concentration. The vendor did not seem to be aware of this when selecting their equipment. As a result, it may not be fit for hazardous chemical service. The vendor did not list the acid gases or chloride present in the corrosion evaluation either. The NIOSH web page is <http://www.cdc.gov/niosh/idlh/intridl4.html>.

- A check of the Mechanical Data Sheet (24590-CD-POA-MEE0-00003-15-0007, Rev 00C) indicates that the vendor was only told that the process input was dry air, steam, and "other." The lethal concentration of NO_x gases was omitted.
- If the vendor for the heaters was not informed of a serious chemical hazard, what of the other equipment? Will the HEPA filters withstand an oxidizing environment from this much NO_x? They are downstream of the heaters.
- The Process Corrosion Data Sheet (Note 4 from Sheet 6 of 24590-LAW-N1D-LVP-00009) for the heaters shows a maximum incoming relative humidity of 68%, based on a mass balance that is the same as is referenced in the mechanical data sheet as an input to the vendor. In contrast, most heaters in nuclear applications that are upstream of HEPA filters are designed to handle 100% relative humidity if the incoming air can be moist. What design features prevents the humidity from exceeding 68%? Was the mass balance (24590-LAW-M4C-LOP-00001, Rev 2A) designed to actually generate a defensible maximum humidity case or was this just the highest value that happened to occur when comparing cases that do not maximize the water? If this humidity can't be protected or specifically shown to be bounding, then the heaters may be undersized. Incoming air to the plant may reasonable be expected to be at 100% humidity, and this is also true of vessel vents and wetted gas streams that are upstream. This may not have been evaluated in the mass balance. The corrosion evaluation assumes the heaters are always dry, without a method for ensuring this is so, and while assuming a non-conservative humidity input. If a treatment train is switched over and the heater is turned off, cooling of air at 100% humidity will produce condensate that contains dissolved chlorides.
- The Corrosion Evaluation noted on page 1 that type 304-L and Carbon Steel are unacceptable materials. The Mechanical Systems Data sheet indicates this is a Quality Level "Q" procurement. The two vendor drawings provided to Ecology, however, each

only included the first of three sheets. The first sheet notes that the “bill of materials” is located on Sheet #3, which was not part of the package submitted to Ecology. So it is impossible verify if appropriate materials were used or if commercial grade materials were qualified for a “Q” application. Resistance of small parts to the oxidizing environment of the NOx appears to have been ignored, at least in the mechanical systems data sheet. This leaves the construction of the heaters open to question.

- In addition, the new flow sheet proposed by DOE to take waste directly from tank farms to LAW vitrification will eliminate dilutions in pretreatment. This could increase the concentrations of nitrate, sulfate, chloride, and other constituents in the LAW vitrification feed. The result could be conditions that are made more harsh in the LAW melter off gas. Why install equipment when a new flow sheet is being proposed? This equipment may not be suitable under either current or changed process conditions.
- The above discrepancies are only a few examples from a spot check. Yet they call into question the value of the signatures in the certifications that were signed by the ORP and Bechtel Managers, attesting under penalty of law that the system used to produce these work products was designed to “assure that qualified personnel properly gather and evaluate the information being submitted.”

There are well known quality defects in the WTP design (per DOE/IG-0894; GAO-06-602T; 12-WTP-0399, GAO-13-38; and 13-NWP-092) and yet here are these certifying signatures with no evidence provided that either DOE or Bechtel performed a QA check of this package for symptoms of the multiple extents of condition, or the consequences of the continuing lack of a nuclear safety and quality culture. And at the same time, DOE’s Office of the Inspector General identifies on their web page that they are performing a FY 14 audit of corrective actions at WTP.

I think that the public deserves better if their friends, neighbors, and family will be working in this plant. When the heaters are not designed for hazardous service, no one thoroughly checks the documents, the materials lists are missing, and the design inputs are non-conservative, the signatures appear to provide a false front of confidence that could lead to a fatality. Note also that the drawings not provided on Ecology’s web site for this review period were part of the electronic submittal in letter 14-ECD-025, which is available to the public on the TPA Administrative Record Web page. There was no need to make access by reviewers more difficult, since the files were already available as pdfs.

Ecology previously stated in response to prior comments on the WTP Permit (from October 2013), that quality was a concern. But between the last public review and now, apparently nothing was changed.

Ecology Response:

Ecology agrees with your concerns, and we are withdrawing the permit design package LAW-026A for the Low Activity Waste Facility High-Efficiency Particulate Air preheaters because of the technical information you brought to our attention.

Your comment details your concerns related to the Corrosion Evaluation and the Mechanical Data Sheet included in the package. Ecology reviewed the technical and quality control issues documented in your letter. We also discussed these issues with DOE-Office of River Protection (ORP) and Bechtel National Inc. (BNI).

After further review, BNI determined that four spacer rods on each unit were mistakenly fabricated from Type 304L stainless steel instead of Type 316L stainless steel. In following with BNI procedures, a Non Conformance Report (NCR) was generated which will be transmitted to Ecology in accordance with the Dangerous Waste Permit (DWP).

BNI had previously committed to providing to Ecology a revised Process Corrosion Data Sheet (PCDS) with the Corrosion Evaluation submitted with this package. However, Ecology found that the Corrosion Evaluation did not include the latest version of the PCDS. BNI has informed us that the Corrosion Evaluation is being updated with new calculations and will be presented in a new format.

We recognize that the original package submitted was incomplete. We will make sure all the technical concerns are addressed and resolved with the permittees before re-issuing the LAW-026A package for public review.

Ecology is also concerned that the existing quality assurance/quality control (QA/QC) systems within DOE-ORP and BNI did not prevent the vendor from manufacturing the spacer rods with the incorrect material. They also failed to determine that the material was incorrect prior to accepting the rods from the vendor on delivery. We will raise this issue to DOE and BNI for further investigation to ensure that the necessary QA/QC steps are established and correctly implemented.

To date, BNI has examined the processes that resulted in this problem occurring and has implemented actions to prevent this type of occurrence in the future.

Based on these issues, Ecology feels the supporting information provided with the permit modification package is not "true, accurate, and complete" as required by WAC-173-303-810(13). Therefore Ecology is withdrawing this permit modification.

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. Notice sent to the Hanford-Info email list
5. Event posted on Ecology Hanford Education & Outreach Facebook page
6. Radio Advertisement contract
7. Posting on Ecology's webpage (both on Public Involvement Calendar and Public Comments webpage)



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**

September 2014

This page is intentionally left blank.

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 are tables, provided by the Permittees, listing the design documents and drawings they 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 40 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 September 2, 2014, and ends on October 20, 2014.

Comments must be post-marked, received by e-mail, or hand-delivered no later than close of business (5:00 p.m. PST) October 20, 2014. Direct all written comments to:

Heather John
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 Heather John, Ecology, at 800-321-2008.

4.0 Proposed Modifications to the WTP Permit

This proposed permit modification contains the following package. New or revised documents submitted with the package are listed below. See Table 1 at the end of this document for the entire list of package documents.

Design Package No. LAW-026A, Rev. 0, for Miscellaneous Unit Subsystems for LAW Facility LVP System (HEPA Preheaters LVP-HTR-00001A/B & -00003A/B)

This design package addresses the design of the Offgas/Vessel Vent Process (LVP) System miscellaneous unit subsystems in the Low-Activity Waste (LAW) Facility at the +48-foot elevation for the High-Efficiency Particulate Air (HEPA) preheaters.

The purpose of the LVP system is to remove gases and particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters.

In the LVP system, melter offgas is combined with vessel vent offgas and heated in the HEPA preheaters to raise the offgas above the dew point. The heated offgas then passes through the HEPA filters to remove particulates. The offgas is treated to remove mercury, iodine, and acid gasses by activated carbon adsorption units, a recuperative heat exchanger, an electric heater, a catalytic oxidation unit, and a catalytic reduction unit. The catalytic oxidation unit oxidizes volatile organic compounds and carbon monoxide to form water and carbon dioxide; the catalytic reduction unit reduces oxides of nitrogen to form nitrogen and water using ammonia.

The offgas is then directed through the LAW melter offgas caustic scrubber to remove residual acid gasses, primarily sulfur oxides and carbon dioxide, and to provide final offgas cooling. Liquid effluent from the LAW melter offgas caustic scrubber is recirculated through the LAW caustic collection tank (LVP-TK-00001). The exhausters maintain negative pressure across the primary and secondary offgas equipment and discharge the treated offgas to the atmosphere through the LAW stacks.

This design package consists of:

- An assessment report signed by an Independent, Qualified, Registered, Professional Engineer (IQRPE) certifying the HEPA Preheater Design.
- A general arrangement plan.
- Drawing change notices for the general arrangement plan.
- A Process Flow Diagram change notice.
- Vendor mechanical drawing of the LVP HEPA Preheaters.
- Vendor mechanical data sheet for the LVP HEPA Preheaters.
- Corrosion evaluation for the LVP HEPA Preheaters.
- System description change notice for incorporation into the administrative record.

The complete list of documents included in the package is indicated by a "Y" in the "Included Column" on Table 1.

4.1 Incorporation of Class 1 and Class 11 Permit Modifications (PCNs) and Permit Equivalency Notices (PENs)

This proposed permit modification incorporates the Class 1 and Class 11 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 11 Modification** provides the updated *IQRPE Structural Integrity Assessment Report for LAW LVP Caustic Collection Tank (LVP-TK-00001)* in Appendix 9.11.
- **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.

4.2 Supplemental Design Information

Table 1 lists the design information included in this proposed permit modification and the proposed location in the WTP Permit. At issuance of the final WTP Permit, Ecology will specify where each drawing or report 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.

This page is intentionally left blank.

Table 1 – Design Information Submitted by Permittees

***Design Package No. LAW-026A, Rev. 0
for the LAW Facility LVP System Miscellaneous Unit
(HEPA Preheaters LVP-HTR-00001A/B & 00003A/B)***

For Incorporation into the WTP Permit

Table of Contents

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
IQRPE Independent Assessment Report	24590-CM-HC4-HXYG-00240-02-00010	00A	III.10.H.5.c.i	Y	Incorporate IQRPE report into Appendix 9.11
Permit Drawings					
General Arrangement Plan	24590-LAW-P1-P01T-00005	5	III.10.H.5.c.ii	Y	Incorporate Rev. 5 into Appendix 9.4, and remove Rev. 4
Drawing Change Notice for 24590-LAW-P1-P01T-00005	24590-LAW-P1N-P01T-00070			Y	Incorporate into Appendix 9.4
Drawing Change Notice for 24590-LAW-P1-P01T-00005	24590-LAW-P1N-P01T-00073			Y	Incorporate into Appendix 9.4
Drawing Change Notice for 24590-LAW-P1-P01T-00005	24590-LAW-P1N-P01T-00075			Y	
Process Flow Diagram	24590-LAW-M5-V17T-00010	4	III.10.H.5.c.ii	N	In Appendix 9.1
Drawing Change Notice for 24590-LAW-M5-V17T-00010	24590-LAW-M5N-V17T-00030			Y	Incorporate into Appendix 9.1
Piping & Instrumentation Diagram	24590-LAW-M6-LVP-00001002	0	III.10.H.5.c.ii	N	In Appendix 9.2
Mechanical Drawing					
Vendor – Mechanical Drawing for the LAW HEPA Filter Preheater	24590-CD-POA-MEE0-00003-03-00004 24590-CD-POA-MEE0-00003-03-00005	00H 00I	III.10.H.5.c.ii III.10.H.5.c.vi	Y	For incorporation into Appendix 9.6

Engineering Document Title	Document Number	Revision	Permit Conditions	Included	Remarks
Mechanical Data Sheets					
Vendor – HEPA Filter Preheater	24590-CD-POA-MEE0-00003-03-15-00007	00C	III.10.H.5.c.ii	Y	For incorporation in Appendix 9.6
Engineering Specifications					
Pressure Vessel Design and Fabrication	24590-WTP-3PS-MV00-T0001	4	III.10.H.5.c.ii III.10.H.5.c.iii	N	In Appendix 7.7
Seismic Qualification Criteria for Pressure Vessels	24590-WTP-3PS-MV00-T0002	3	III.10.H.5.c.ii III.10.H.5.c.iii	N	In Appendix 7.7
Positive Material Identification (PMI) for Shop Fabrication	24590-WTP-3PS-G000-T0002	8		N	In Appendix 7.7
Secondary Containment Design	24590-WTP-PER-CSA-02-001	10	III.10.H.5.c.ii III.10.H.5.c.iii	N	In Appendix 7.5
Underground Pipe Protection	Not applicable	-	III.10.H.5.c.iv	N/A	There are no underground pipes in the LAW facility El. 3 ft. and above
Corrosion Evaluation – HEPA Filter Preheater	24590-LAW-N1D-LVP-00009	1	III.10.H.5.c.iii III.10.H.5.c.v	Y	Incorporate Preheater Corrosion Evaluation in Appendix 9.9
LAW Vitrification Offgas System Bypass Analysis	24590-LAW-PER-PR-03-001	2	III.10.H.5.c.ix	N	In Appendix 9.18
Installation for Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-CON-02-001	6	III.10.H.5.c.x	N	In Appendix 7.2

For Incorporation into the Administrative Record

Table of Contents

Engineering Document Title	Document Number	Revision	Permit Condition	Included	Remarks
Structural Support Calculations for Off Spec, Non-Standard or Field Fabricated Miscellaneous Treatment Subsystems	Not Applicable - See Remarks	-	III.10.H.5.c.iii	N	There are no Off Spec, Non-Standard, or Field Fabricated Miscellaneous Unit Subsystems in the LAW Facility (Preheaters are vendor fabricated.)
System Description for LOP and LVP: LAW Melter Offgas	24590-LAW-3YD-LOP-00001	3	III.10.H.5.c.vii	N	In Administrative Record (CCN 261065)
System Description Change Notice – Update Chapter 6 Description of HEPA Preheaters	24590-LAW-3YN-LOP-00015	N/A	III.10.H.5.c.vii	Y	For incorporation into the Administrative Record
Material and Energy Balance	24590-WTP-RPT-PT-02-005	6	III.10.H.5.c.viii	N	In Administrative Record, ORP letter 11-ESQ-224 dated 10/25/11, Submittal of Mass and Energy Balance Information (CCN 241137)
	24590-WTP-RPT-PET-10-022	0			
	24590-WTP-MRR-PET-10-010	0			
Toxic Vapors and Emissions from WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-002	3	III.10.H.5.c.xi	N	In Administrative Record (CCN 178564)
Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems	24590-WTP-PER-PR-03-001	1	III.10.H.5.c.xii	N	In Administrative Record (CCN 078481)

Waste Treatment and Immobilization Plant (WTP) Design Changes

The [Washington State Department of Ecology](#) (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 Permit). The proposed changes are located in Part III, Operating Unit 10.

The permittees are:

[United States Department of Energy](#)
[Office of River Protection](#)
P.O. Box 450
Richland, Washington 99352

[Bechtel National, Inc.](#)
2435 Stevens Center Place
Richland, Washington 99354

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.

The proposed design change package addresses the design of High Efficiency Particulate Air (HEPA) preheaters for the offgas/vessel vent process (LVP) system miscellaneous unit subsystems in the Low-Activity Waste (LAW) facility at the +48 ft.-elevation.

Ecology invites you to review, ask questions, and comment on this WTP Permit change. The comment period begins September 2, 2014, and ends October 20, 2014.

WTP overview

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

- [Pretreatment \(PT\)](#). Waste will be pumped from the Hanford tanks via underground pipes to the PT Facility's interior waste

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

September 2, 2014 –
October 20, 2014

To Submit Comments

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

Heather John
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:

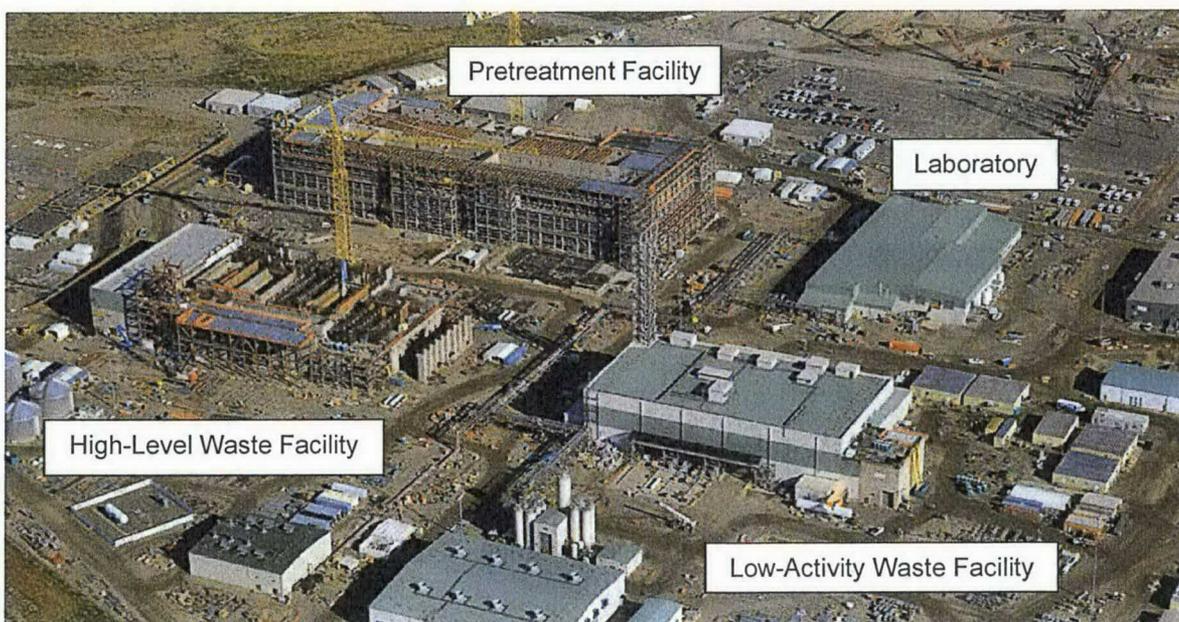
Heather John
800-321-2008
Hanford@ecy.wa.gov

Please see page 4 for definitions of specialized terms used in this publication.

feed receipt vessels. The waste treatment process will begin in the PT Facility, where waste will be divided into high-level solids and low-activity liquids.

- LAW treatment. In the LAW Facility, concentrated low-activity waste will be mixed with silica and other glass-forming materials. The mixture will be fed into the LAW's melters and heated.
- High-Level Waste (HLW) treatment. In the HLW Facility, high-level waste will be mixed with glass-forming materials in two 90-ton melters and heated to 2,100 degrees Fahrenheit.

At the heart of treatment is vitrification, or immobilizing waste in glass. In the PT Facility, tank waste will be separated into LAW and HLW. The waste is then sent to the appropriate vitrification facility, mixed with glass formers, and piped to large heating containers called melters.



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

During vitrification, the melters will heat tank waste and silica glass formers to 2,100°F (1,150°C). Then, the molten liquid will be poured and sealed in stainless-steel disposal containers. In these containers, the vitrified waste will cool into solid glass logs.

In glass form, the waste is still radioactive. However, the solid waste will be extremely durable and waterproof. This will protect people and the environment for thousands of years as the radioactivity decays. The proposed change to the WTP Permit includes the following permit design package. This package will allow new construction in the LAW Facility.

Design Package No. LAW-026A, Rev. 0, LAW Facility LVP System Miscellaneous Unit (HEPA Preheaters LVP-HTR-00001A/B & -00003A/B)

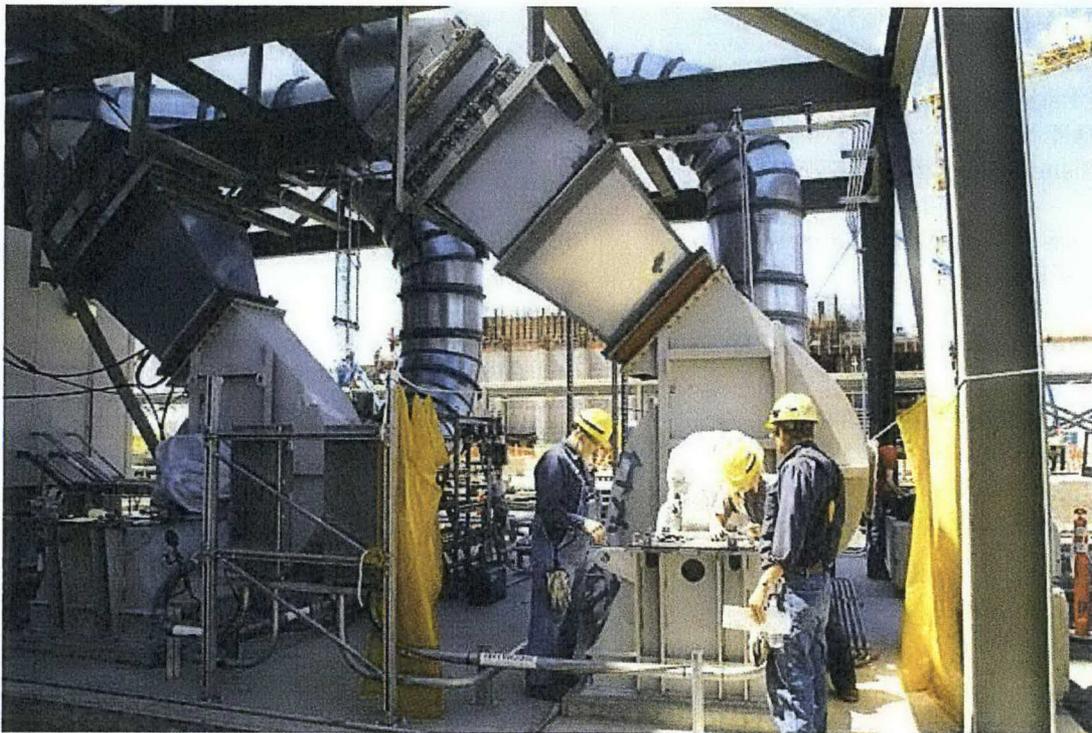
The LAW Vitrification Facility permit package LAW-026A addresses the design of offgas/vessel vent process (LVP) system. The design focuses on miscellaneous unit subsystems in the LAW facility at the

+48 ft.-elevation for the HEPA preheaters. Offgas is a gaseous radioactive and hazardous byproduct of tank waste treatment.

The purpose of the LVP system is to remove particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters.

HEPA preheaters heat offgas to raise the offgas above the dew point. Gases created by the melter combine with gases from vessels in the rest of the facility and are treated before they are discharged. The HEPA preheaters heat and dry the gas so that it can pass through the HEPA filters safely. The offgas then passes through the HEPA filters which remove particulates.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber which removes residual acid gases and provides final offgas cooling. The exhausters are fans that pull offgas through the primary and secondary offgas treatment systems. The exhausters safely discharge the offgas the atmosphere through the LAW stacks.



Millwrights carefully measure alignment holes for ventilation equipment outside of the Low-Activity Waste (LAW) Facility, in May 2014 (photo courtesy of Bechtel).

View the full proposal

This document is a summary of the proposed WTP Permit changes. The full proposal is available beginning September 2, 2014, on Ecology's Nuclear Waste Program website (www.ecy.wa.gov/programs/nwp/commentperiods.htm) or at Hanford's public information repositories. (see locations on page 4)

Public Information Repositories

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

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

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

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

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

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 chemical or mixed radioactive and chemical 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, requires 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): Federal law authorizing the U.S. Environmental Protection Agency (EPA) to manage hazardous waste, including the generation, transportation, treatment, storage, and disposal of hazardous and other solid waste and waste in underground tanks. At Hanford, EPA has delegated regulatory authority to the State.

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 50,000 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 are 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.



3100 Port of Benton Blvd.
Richland, WA 99354

**Public Comment Period on
Hanford's Waste Treatment Plant
Permit Modification**

September 2, 2014 – October 20, 2014

Submit questions or comments to:

Hanford@ecy.wa.gov

Special accommodations:

To request ADA accommodation for disabilities, or printed materials in a format for the visually impaired, call Ecology 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.

**The Washington State Department of Ecology Announces a
45-Day Public Comment Period for Modifications to 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 10, Waste Treatment and Immobilization Plant (WTP)
Permit**

September 2, 2014, through October 20, 2014

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

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

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 the WTP.

The proposed change to the WTP Permit includes the following permit design package that will allow new construction in the Low-Activity Waste (LAW) Facility.

Design Package No. LAW-026A, Rev. 0, LAW Facility Offgas/Vessel Vent Process (LVP) System Miscellaneous Unit High Efficiency Particulate Air (HEPA) Preheaters LVP-HTR-00001A/B & -00003A/B

The LAW Facility permit package LAW-026A addresses the design of offgas/vessel vent process (LVP) system. The design focuses on miscellaneous unit subsystems in the LAW Facility at the +48 ft.-elevation for the HEPA preheaters. Offgas is a gaseous radioactive and hazardous byproduct of tank waste treatment.

The purpose of the LVP system is to remove particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters.

HEPA preheaters heat offgas to raise the offgas above the dew point. Gases created by the melter combine with gases from vessels in the rest of the facility and are treated before they are discharged. The HEPA preheaters heat and dry the gas so that it can pass through the HEPA filters safely. The offgas then passes through the HEPA filters, which remove particulates.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber, which removes residual acid gases and provides final offgas cooling. The exhausters are fans that pull offgas through the primary and secondary offgas treatment systems. The exhausters safely discharge the offgas, treated to meet regulatory emission standards, to the atmosphere through the LAW stacks.

This is a brief summary of the changes proposed for the WTP Permit. To review the proposed modification in detail beginning September 2, 2014, 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: Valarie Peery 509-372-7950

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

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

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

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

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 Heather John at hanford@ecy.wa.gov or (800) 321-2008.

Classified Legals

base course, top course, concrete curb, gutter, and sidewalk, HMA Cl. 1/2 In., Commercial HMA Cl. 3/8 In., pathway, pavement restoration, imported trench backfill, 2-inch pressure sewer line, water services, fire hydrant, storm drainage catch basins and manholes, percolation trenches, illumination, rectangular rapid flashing beacon system, irrigation, tree planting, slope protection rock, striping and related work in accordance with the technical specifications, drawings and contract documents.

All bid proposals shall be accompanied by a bid proposal deposit in cash, certified check, cashier's check, or surety bond in an amount equal to five percent (5%) of the amount of such bid proposal. Should the successful Bidder fail to enter into such contract and furnish satisfactory performance bond or quality assurance submittals within the time stated in the contract documents, the bid proposal deposit shall be forfeited to the City of West Richland. Each Bidder shall warrant that he has not entered into collusion with another bidder or any other person, and does not discriminate in any manner against any person based solely on race, color, sex or creed.

Only properly executed proposals submitted on the forms furnished by the City of West Richland will be accepted. The City of West Richland reserves the right to reject any or all bids, to waive any informality, to accept any bid deemed to be responsive in the best interest of the City of West Richland, and reserves the right to re-advertise for new proposals.

Upon request each firm, company, and/or corporation shall receive a CD containing a PDF of all contract documents, specifications and plans by contacting the Public Works Department of the City of West Richland by either phone (509) 545-4334 or email: ika@westrichland.org or by mail, 3801 W. Van Giesen, West Richland, Washington.

This project includes Federal Funds and is subject to the wage provisions of the Washington State Public Works Laws, Federal Davis-Bacon, and related acts.

The City of West Richland is an Equal Opportunity Employer, Minority and Women-Owned businesses are encouraged to bid.

The City of West Richland, in accordance with Title VI of the Civil Rights Act of 1964 and 78 Stat. 252, 42 USC 2000d-42 and Title VI of the Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined in 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

#14-7509 8/17 & 8/24 & 8/31/2014

NEPA and related laws and authorities, and allows Tri-County Partners Habitat for Humanity to use Program funds.

OBJECTIONS TO RELEASE OF FUNDS
HUD will accept an objection to its release of funds and the City of Richland's certification for a period of fifteen days following the anticipated submission date or its actual receipt of the request (whichever is later) only if they are on one of the following bases: (a) the certification was not executed by the Certifying Officer of the City of Richland; (b) the City of Richland has omitted a step or failed to make a decision or finding required by HUD regulations at 24 CFR Part 58; (c) the grant recipient has committed funds or incurred costs not authorized by 24 CFR Part 58 before approval of a release of funds by HUD; or (d) another Federal agency acting pursuant to 40 CFR Part 1504 has submitted a written finding that the project is unsatisfactory from the standpoint of environmental quality. Objections must be prepared and submitted in accordance with the required procedure (24 CFR, Part 58) and shall be addressed to HUD at: DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, 909 FIRST AVENUE, SUITE 200, SEATTLE, WA 98104-1090. Potential objectors should contact HUD to verify the actual last day of the objection period. Cynthia D. Johnson, City Manager, #14-7565 8/31/2014

NOTICE OF FINDING OF NO SIGNIFICANT IMPACT AND NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS

DATE OF NOTICE: August 31, 2014
City of Kennewick
210 West 6th Ave.
Kennewick WA 99336-0108 (509)585-4432
Carol Hughes Evans, Community Development Coordinator
These notices shall satisfy two separate but related procedural requirements for activities to be undertaken by the Housing Authority City of Kennewick, project sponsor and general partner in Kennewick Affordable Housing, LLLP.

REQUEST FOR RELEASE OF FUNDS
On or about September 17, 2014 the City of Kennewick will submit a request to the Seattle Office of Housing and Urban Development (HUD) for the release of Housing Choice Voucher (Section 8) program funds and HUD 811 PRA program funds in order to commit 20 units of project-based rental assistance to the project commonly known as the Volland Street project. An AHAP with the project investor will be executed at the closing of the LIHTC financing package and a RAC will be executed with the Department of Commerce for the 811 PRA units. Construction costs for the project is estimated at \$6,612,844 and includes a Washington State Housing Trust Fund loan, equity from the Low Income Housing Tax Credit program, Benton-Franklin County grant funds and term debt. The 32-unit affordable housing project will be located at 386 Union Street in Kennewick.

FINDING OF NO SIGNIFICANT IMPACT #14-7513 8/21-8/31/2014

NOTICE OF PUBLIC HEARING

PLEASE TAKE NOTICE that Nolvra Salinas and Charles Schlichty have filed a petition (APPL2014-001) requesting a variance to the minimum rear yard setback requirements of the R-1 Zone for a patio cover on the following described property:

Legal: Lots 19 & 96, Chapel Hill Phase I
Address: 6306 Thistle Down Drive, Pasco WA

THEREFORE, LET ALL CONCERNED TAKE NOTICE that a Public Hearing will be held by the Hearing Examiner of the City of Pasco, Washington, in the City Council Chambers, Pasco City Hall, 525 North 3rd Avenue at the hour of 3:30 p.m., Wednesday, September 3, 2014, so that all concerned may appear and present testimony on the matter.

State law permits only one open record public hearing on this matter. This will be the only opportunity to provide input on this issue. For additional information, please contact the Pasco City Planner at (509) 545-3441.

David I. McDonald
Planning Commission Secretary
Pasco, Washington
#14-7533 8/24 & 8/31/2014

REQUEST FOR PROPOSALS CARPET AND ADHESIVE PURCHASE - TRAC CENTER - ATRIUM
The Franklin County Board of Commissioners is requesting sealed Proposals for purchase of Carpet and Adhesive for the TRAC Center - Atrium.

Additional required plans and specifications for this Request for Proposal are available at:
• TRAC, 6600 Burden Blvd, Pasco, WA 99301
• <http://www.co.franklin.wa.us/rfp/>
Three original sealed Proposals must be submitted in a CLEARLY MARKED manila envelope stating: "Request for Proposal - Carpet and Adhesive - TRAC Center - Atrium." Proposals must be submitted no later than 3:00 p.m., Pacific Standard Time, September 2, 2014, to the Franklin County Commissioners' Office located at 1016 N. 4th Avenue, A103, Pasco WA 99301. Proposals timely received will be opened publicly and read aloud at 9:00 a.m. in the commissioner's meeting room on September 3, 2014. All proposals received after 3:00 p.m., Pacific Standard Time, on September 2, 2014 will be rejected and returned unopened to the submitting Contractor. The County retains the right to reject any and all bids and to waive minor irregularities in the bidding process. Please direct any questions to Troy Woody, TRAC General Manager, at (509) 542-5921.

FINDING OF NO SIGNIFICANT IMPACT #14-7513 8/21-8/31/2014

Immobilization Plant (WTP) will be capable of treating 56 million gallons of dangerous radioactive and chemical waste from the The 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 the WTP.

The proposed change to the WTP Permit includes the following permit design package that will allow new construction in the Low-Activity Waste (LAW) Facility.

Design Package No. LAW-026A, Rev. 0, LAW Facility Offgas/Vessel Vent Process (LVP) System Miscellaneous Unit High Efficiency Particulate Air (HEPA) Preheaters VPHTR-0001A/B & -0003A/B

The LAW Facility permit package LAW-026A addresses the design of offgas/vessel vent process (LVP) system. The design focuses on miscellaneous unit subsystems in the LAW Facility at the +48 ft. elevation for the HEPA preheaters. Offgas is a gaseous radioactive and hazardous byproduct of tank waste treatment.

The purpose of the LVP system is to remove particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters. HEPA preheaters heat offgas to raise the offgas above the dew point. Gases created by the melter combine with gases from vessels in the rest of the facility and are treated before they are discharged. The HEPA preheaters heat and dry the gas so that it can pass through the HEPA filters safely. The offgas then passes through the HEPA filters, which remove particulates.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber, which removes residual acid gases and provides final offgas cooling. The exhausters are fans that pull offgas through the primary and secondary offgas treatment systems. The exhausters safely discharge the offgas, treated to meet regulatory emission standards, to the atmosphere through the LAW stacks.

This is a brief summary of the changes proposed for the WTP Permit. To review the proposed modification in detail beginning September 2, 2014, 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: Valerie Peery 509-372-7950

Child Care Licensed 301

Lic'd home daycare in Rhd has openings for infant & up. Preschool & structured environment. (509)946-3363

Public Notices 435

In accordance with the Revised Code of Washington (RCW 46.55.130) P&K/Tri-City Towing #5884 will sell, to the highest bidder; a total of 10 vehicles. '94 Sea Ray Boat & Trailer, '98 Yamaha Ski & Trailer, '99 Seadoo Trailer, 1958 Wizard Boat & Trailer, '87 Toyota Corolla, '00 Honda Element, '03 Olds Alero. The auction will be on Thursday, Sept 4th @ 10:00am at 502 Wellisan Way, Richland, WA. Prior inspection will be same day between 8am-10am.

Agricultural 524

Are you ready to take your orchard management skills to the next level? We are an established fruit company looking for an orchard operations manager to join our team and assist in farming several hundred acres located in Southeast Washington State. This person will have managerial experience and preferably 2-4 years of college education, computer skills and ability to keep accurate records. Bilingual is preferred. Must have current private applicators license. Responsibilities include supervising all farming operations, record keeping, and payroll. The Company in new orchard acquisitions and developing existing and new comes with an excellent salary package for the right person as well as health insurance, housing, pickup, 401k, and vacation benefits. All applicants must pass a pre-employment drug test. If this sounds like the opportunity you are looking for and you would like to make more money and be a decision maker, send a resume and salary requirement to: TCH B&B 8236 333 W Canal Dr, Kennewick, WA, 99336

Schools 325

Class A CDL Training TRUCK DRIVING Is a High Wage Career! Job Placement Ask about Funding Options

- VA Approved
- NO HIDDEN FEES
- NO FUEL SURCHARGES

CALL TODAY!!!
1-888-547-0772

DTS DRIVER TRAINING
A SOLUTIONS LLC

400 Announcements

Lost & Found 425
Found Pomeranian dog Male, on 42nd and lone amyblaine21@gmail.com 509-619-2029

Handicapped male adult left his adult trike in driveway & is now missing. Any info please call 586-4779

Public Notices 435

Public Notice for Class 3 Permit Modification Perma-Fix Northwest
Richland, Inc. (PFNW-R) is providing this notice regarding the Class 3 permit modification for the approval of an evaporation process to treat mixed waste. The PFNW-R contact is Mr. Richard Grondin at 509-375-7026. The Department of Ecology contact person is Stephanie Schleit, 800-321-2008.

A copy of the Class 3 Permit Modification Request is available for review and copy by contacting the Department of Ecology Office, at (509)-372-7950. Additionally, a copy of the permit modification can be viewed at the Richland Public Library at 955 Northgate Dr. in Richland, WA.

The 60-day public comment period begins August 31, 2014 and ends October 31, 2014. Any comments should be submitted in writing by October 31, 2014 to

Columbia Rural Electric Association
A Touchstone Energy Cooperative

A Lineman scholarship is available for eligible applicants wishing to pursue a career in the electric industry as a journey lineman. Training such as this can provide the foundation for starting a long and exciting career in the electric industry for individuals just beginning a career or changing to a new career. Training can result in recruits in the electric industry becoming more knowledgeable, skillful and valuable to their employers. Columbia REA has the desire to contribute to the evolution of the electric industry by providing an opportunity for the education in this exciting and necessary industry. This scholarship was established in remembrance of Jeff Meredith, a journeyman with Columbia REA. The Jeff Meredith Scholarship is for \$2,500 and for one year only. The Jeff Meredith Scholarship is available to any applicant; it is not a requirement to be a member or a dependent of Columbia REA. Applications are available Columbia REA's offices in Dayton and Walla Walla or can be downloaded from the Columbia REA web site at <http://www.columbia-rea.coop/content/scholarships>

The deadline for submitting applications is September 15, 2014. Columbia REA is a member owned electric cooperative serving customers in Columbia & Walla Walla Counties in Washington and Umatilla County in Oregon.

GRIFOLS

Biomat USA
You can save lives and earn up to \$260 every month by donating blood-plasma.

Please bring a valid photo ID, proof of Social Security number, and proof of address to donate.

Please visit us at: 101 N. Union St Suite 108 Kennewick, WA or call at:

500 Jobs careerbuilder.com

Agricultural 524
Morrow County Grain Growers, Inc. is seeking an individual

Help Wanted 530

ARE YOU READY TO BE A LOCAL HERO?
Many children in our community need your help to succeed in school and in life.

Become an AmeriCorps Literacy Tutor!
Full time only.

- \$920/mo stipend
- \$5,645 education award to continue school or pay back student loans

REGIONAL SERVICE CORPS

Visit: www.rscs.us to learn more.

From: Brown, Madeleine (ECY) <mabr461@ECY.WA.GOV>
Sent: Wednesday, July 30, 2014 12:21 PM
To: HANFORD-INFO@LISTSERV.WA.GOV
Subject: Advance notice for a comment period to modify permit for Hanford's Waste Treatment Plant

**The Washington State Department of Ecology Announces a
45-Day Public Comment Period for Modifications to 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 10, Waste Treatment and Immobilization Plant (WTP)
Permit**

September 2, 2014, through October 20, 2014

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

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

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 the WTP.

The proposed change to the WTP Permit includes the following permit design package that will allow new construction in the Low-Activity Waste (LAW) Facility.

Design Package No. LAW-026A, Rev. 0, LAW Facility Offgas/Vessel Vent Process (LVP) System Miscellaneous Unit High Efficiency Particulate Air (HEPA) Preheaters LVP-HTR-00001A/B & -00003A/B

The LAW Facility permit package LAW-026A addresses the design of offgas/vessel vent process (LVP) system. The design focuses on miscellaneous unit subsystems in the LAW Facility at the +48 ft.-elevation for the HEPA preheaters. Offgas is a gaseous radioactive and hazardous byproduct of tank waste treatment.

The purpose of the LVP system is to remove particulates from the combined primary offgas and vessel vent streams. The LVP system consists of preheaters, HEPA filters, mercury adsorbers, a catalytic oxidizer/reducer, a caustic scrubber, a caustic collection tank, and exhausters.

HEPA preheaters heat offgas to raise the offgas above the dew point. Gases created by the melter combine with gases from vessels in the rest of the facility and are treated before they are discharged. The HEPA preheaters heat and dry the gas so that it can pass through the HEPA filters safely. The offgas then passes through the HEPA filters, which remove particulates.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber, which removes residual acid gases and provides final offgas cooling. The exhausters are fans that pull offgas through the primary and secondary offgas treatment systems. The exhausters safely discharge the offgas, treated to meet regulatory emission standards, to the atmosphere through the LAW stacks.

This is a brief summary of the changes proposed for the WTP Permit. To review the proposed modification in detail beginning September 2, 2014, 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: Valarie Peery 509-372-7950

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

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

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

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

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 Heather John at hanford@ecy.wa.gov or (800) 321-2008.

From: Bohrmann, Dieter (ECY) <DBOH461@ECY.WA.GOV>
Sent: Tuesday, September 02, 2014 12:09 PM
To: HANFORD-INFO@LISTSERV.WA.GOV
Subject: Public Comment Period starts today on proposed changes to Hanford Waste Treatment Plant Permit

This is a message from the Washington Department of Ecology

The Washington State Department of Ecology Announces a 45-Day Public Comment Period for Modifications to 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 10, Waste Treatment and Immobilization Plant (WTP) Permit

Comment period: September 2 through October 20, 2014

Why It Matters

The WTP is being designed and built to treat the 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 the WTP.

The proposed change to the WTP Permit includes the following permit design package that will allow new construction in the Low-Activity Waste (LAW) Facility:

- **Design Package No. LAW-026A, Rev. 0, LAW Facility Offgas/Vessel Vent Process (LVP) System Miscellaneous Unit High Efficiency Particulate Air (HEPA) Preheaters LVP-HTR-00001A/B & -00003A/B**

For more information or to review the proposed modification in detail, visit Ecology's 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.

For more information, please contact Heather John at hanford@ecy.wa.gov or (800) 321-2008.

SOCIAL MEDIA NOTICES

 Ecology's Hanford Education & Outreach Network shared a link.
September 2

Ecology is starting a public comment period today for proposed changes to the Hanford Waste Treatment Plant permit. The comment period will run through October 20. See our website for more information.

<http://www.ecy.wa.gov/programs/nwp/commentperiods.htm>

NWP Public Comment Periods
www.ecy.wa.gov



For more information on any of the comment periods, email hanford@ecy.wa.gov or call the Hanford Cleanup line at 800-321-2008. In addition to what's available on our website, documents open for public comment are available at the...

Like · Comment · Share

 Heather John likes this.



Dieter Bohrmann @ecyhanford · Sep 2

Public comment period starts today on proposed changes to #Hanford Waste Treatment Plant permit 1.usa.gov/1nSG63x #cleanup #nuclear

1

1

**Washington Department of Ecology
Hanford Public Meeting 2014**

Presented to: Dieter Bohrmann

By: Pauline Dennis



- 15- 30 second commercials airing 6a-7p on KONA AM
- 7-30 second commercials airing 12a-12a at no charge, on KONA AM

Airing Sunday, August 31st through Tuesday, September 2nd, 2014.

Investment: \$105.00

By signing below I, an authorized representative, agree to purchase the above mentioned schedule. I also agree to pay according to Cherry Creek Radio's credit policy, net 30 days. We require a 30 day written notice of cancellation. The last run date you will be obligated to pay for will be 30 calendar days from the day we receive the written notice of cancellation.

Dieter Bohrmann 8/26/14
Approved By Date
Washington Dept. of Ecology
Business



RADIO AD SCRIPT:

The Washington Department of Ecology invites you to comment on proposed changes to the permit for Hanford's Waste Treatment Plant (or vit plant). The vit plant will treat the 56 million gallons of radioactive and chemical waste in Hanford's underground storage tanks. Treating the waste will reduce the risk to people and the environment.

The proposed permit change allows new construction in the Low-Activity Waste Facility. A public comment period runs from September 2nd through October 20th. You can review the draft permit online at www.ecy.wa.gov.

For more information call the Hanford cleanup line, 800-321-2008.

From: Bohrmann, Dieter (ECY)
Sent: Friday, August 29, 2014 11:56 AM
To: John, Heather (ECY)
Subject: FW: Commercial
Attachments: Wa Dept of Ecology - Commernt Period 1 - 08-28-14 - 30.mp3; Wa Dept of Ecology - Commernt Period 2 - 08-28-14 - 30.mp3

From: Pauline Dennis [mailto:PDennis@CherryCreekRadio.com]
Sent: Friday, August 29, 2014 10:19 AM
To: Bohrmann, Dieter (ECY)
Subject: Commercial

Hi Dieter,

Please see attached spots. Let me know if you approve. We do have time to re-voice if needed.

P.S. Thank you for your understanding. I apologize profusely. One of most embarrassing things I have done.=-(

Sincerely,

Pauline Dennis
Marketing Consultant
Cherry Creek Radio



2823 W. Lewis St.
Pasco, WA 99301
(P) 509.547.1618
(C) 509.554.2662
(F) 509.546.2678

Cherry Creek Radio does not discriminate in advertising sales based on race or ethnicity. Any provision in any order or agreement for advertising that purports to discriminate on the basis of race or ethnicity, even if handwritten, typed or otherwise made a part of a particular contract, will be rejected.

From: Ed Dailey <ed.dailey@ksd.org>
Sent: Thursday, August 28, 2014 7:49 AM
To: John, Heather (ECY)
Subject: RE: PSA Assistance

No problem ...Done

From: John, Heather (ECY) [mailto:hejo461@ECY.WA.GOV]
Sent: Wednesday, August 27, 2014 2:39 PM
To: Ed Dailey
Cc: Bohrmann, Dieter (ECY); Wireman, Ginger (ECY)
Subject: RE: PSA Assistance

Well, if you could run it two days before and two days after, that would be fantastic, I just didn't know how tight your schedule is.

Thanks!

From: Ed Dailey [mailto:ed.dailey@ksd.org]
Sent: Wednesday, August 27, 2014 1:17 PM
To: John, Heather (ECY)
Subject: RE: PSA Assistance

So only on Sept 2?

From: John, Heather (ECY) [mailto:hejo461@ECY.WA.GOV]
Sent: Wednesday, August 27, 2014 9:49 AM
To: Wireman, Ginger (ECY); Ed Dailey
Cc: Bohrmann, Dieter (ECY)
Subject: RE: PSA Assistance

Thanks for working with us on this, Ed! Here is the script we would like for the ad, which ideally would be played a number of times throughout the day on Tuesday, Sept. 2nd.

The Washington Department of Ecology invites you to comment on proposed changes to the permit for Hanford's Waste Treatment Plant (or vit plant). The vit plant will treat the 56 million gallons of radioactive and chemical waste in Hanford's underground storage tanks, which will reduce the risk to people and the environment. The proposed permit change allows new construction in the Low-Activity Waste Facility. A comment period runs from September 2nd through October 20th. You can review the draft permit at www.ecy.wa.gov.

Please let me know if you have any comments or questions or need any more information from us to get rolling. I really appreciate your help!

Heather

From: Wireman, Ginger (ECY)
Sent: Tuesday, August 26, 2014 8:26 AM
To: Ed Dailey
Cc: John, Heather (ECY)
Subject: RE: PSA Assistance

We'll send you the text. My colleague Heather is in charge of this unit, so she's drafting the language.
Thanks!

ginger

From: Ed Dailey [<mailto:ed.dailey@ksd.org>]
Sent: Monday, August 25, 2014 7:00 PM
To: Wireman, Ginger (ECY)
Subject: RE: PSA Assistance

Yes What should I run?

From: Wireman, Ginger (ECY) [<mailto:GWIR461@ECY.WA.GOV>]
Sent: Monday, August 25, 2014 3:06 PM
To: Ed Dailey
Cc: John, Heather (ECY)
Subject: PSA Assistance

Ed,

Would you be able to run a PSA next Tuesday for a Hanford Vit Plant permit thing?

We found out we need to announce it on the radio, but with such short notice aren't sure we can even buy airtime.

Thank you,
ginger

P.S. Wyatt is starting at EWU next month as a jazz performance major.

Ginger Wireman
Community Outreach & Environmental Education Specialist
Nuclear Waste Program - WA State Dept. of Ecology
509-372-7935

Like us on FB <https://www.facebook.com/HanfordEducation>

Contact me for information or to schedule a classroom visit or speaking engagement about Hanford cleanup.

Hanford's Waste Treatment and Immobilization Plant Permit Design Changes

September 2 to October 20, 2014 CLOSED - Ecology is drafting a response to comments

[Show/Hide details...](#)

The Department of Ecology proposes a modification to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste for the Waste Treatment and Immobilization Plant (WTP). Located east of Hanford's 200 East Area, WTP is under construction. It will treat the 56 million gallons of waste in Hanford's 177 underground tanks to convert it to a stable glass form in a process called vitrification. It consists of four main facilities: Pretreatment, Low-Activity Waste, High-Activity Waste, and a Laboratory to support this work. The co-permittees are the U.S. Department of Energy Office of River Protection and Bechtel National, Inc.

What changes are being proposed?

The proposed change to the WTP Permit includes the following permit design package that will allow new construction in the Low-Activity Waste (LAW) Facility. The LAW Facility permit package LAW-026A addresses the design of offgas/vessel vent process (LVP) system. The design focuses on miscellaneous unit subsystems in the LAW Facility at the +48 ft.-elevation for the HEPA preheaters. Offgas is a gaseous radioactive and hazardous byproduct of tank waste treatment.

The offgas is treated to remove mercury, iodine, and acid gases. It is then directed through the LAW melter offgas caustic scrubber, which removes residual acid gases and provides final offgas cooling. The exhausters are fans that pull offgas through the primary and secondary offgas treatment systems. The exhausters safely discharge the offgas, treated to meet regulatory emission standards, to the atmosphere through the LAW stacks.

Submit comments by October 20 to

Heather John
Hanford@ecy.wa.gov
3100 Port of Benton Blvd.
Richland, WA 99354

APPENDIX B: COPIES OF ALL WRITTEN COMMENTS

September 5, 2014

COPY
Review & Recycle

RECEIVED

SEP 09 2014

DEPARTMENT OF ECOLOGY
NWP - RICHLAND

Heather John
Washington Department of Ecology
3100 Port of Benton Blvd. Richland, WA 99354

Dear Ms. John:

This letter is a comment in response to the announcement on September 2, 2014 that the Department of Ecology is proposing a modification to the Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit, Dangerous Waste Portion for the Treatment, Storage, and Disposal of Dangerous Waste for the Waste Treatment and Immobilization Plant (WTP).

The proposed changes would allow installation of HEPA Preheaters in the LAW Secondary Offgas/Vessel Vent Process System. Installation of the HEPA Preheaters is not supported by the change package, which has fundamental safety and quality flaws. Please see the highlighted attachments and the evaluation below:

- The corrosion evaluation (24590-LAW-N1D-LVP-00009) cites a "Rev A" mass balance (24590-WTP-M4C-V11T-00005, Rev A). A letter revision represents conceptual design, so the quality is suspect. The amount of mercury similarly is based on an assumption in the Rev A mass balance, and mercury can affect corrosion. Letter revisions of mass balance calculations frequently have dozens of assumptions requiring verification, so the values used in the corrosion evaluation must be considered to be of indeterminate quality, especially for low concentration constituents that have a significant impact on corrosion.
- The corrosion evaluation, which is a design basis document, shows an incoming concentration of 5.1 g/m³ of NO and 11.1 g/m³ of NO₂. The density of air is about 1.225 kg/m³ at atmospheric conditions. As a result, the off gas entering the heaters has a concentration of 4,000 ppm_v of NO and 5,700 ppm_v NO₂.

In spite of this the vendor drawings (24590-CD-POA-MEE0-00003-03-0004, Rev 00H and 24590-CD-POA-MEE0-00003-03-0005, Rev 00I) both show in the Design Data box that the process gas is "air" (not process gas) and each has a check box that is clearly marked that there are no "lethal substances." Contrary to the check boxes, NIOSH has established that the "immediately dangerous to life and health" (IDLH) concentration for NO₂ is 20 ppm_v and the IDLH for NO is 100 ppm_v. The incoming gas to the heaters is therefore more than 285 times the lethal concentration. The vendor did not seem to be aware of this when selecting their equipment. As a result, it may not be fit for hazardous chemical service. The vendor did not list the acid gases or the chloride present in the corrosion

evaluation either. The NIOSH web page is <http://www.cdc.gov/niosh/idlh/intridl4.html>.

- A check of the Mechanical Data Sheet (24590-CD-POA-MEE0-00003-15-0007, Rev 00C) indicates that the vendor was only told that the process input was dry air, steam, and "other." The lethal concentration of NO_x gases was omitted.
- If the vendor for the heaters was not informed of a serious chemical hazard, what of the other equipment? Will the HEPA filters withstand an oxidizing environment from this much NO_x? They are downstream of the heaters.
- The Process Corrosion Data Sheet (Note 4 from Sheet 6 of 24590-LAW-N1D-LVP-00009) for the heaters shows a maximum incoming relative humidity of 68%, based on a mass balance that is the same as is referenced in the mechanical data sheet as an input to the vendor. In contrast, most heaters in nuclear applications that are upstream of HEPA filters are designed to handle 100% relative humidity if the incoming air can be moist. What design feature prevents the humidity from exceeding 68%? Was the mass balance (24590-LAW-M4C-LOP-00001, Rev 2A) designed to actually generate a defensible maximum humidity case or was this just the highest value that happened to occur when comparing cases that do not maximize the water? If this humidity can't be protected or specifically shown to be bounding, then the heaters may be undersized. Incoming air to the plant may reasonably be expected to be at 100% humidity, and this is also true of vessel vents and wetted gas streams that are upstream. This may not have been evaluated in the mass balance. The corrosion evaluation assumes the heaters are always dry, without a method for ensuring this is so, and while assuming a non-conservative humidity input. If a treatment train is switched over and the heater is turned off, cooling of air at 100% humidity will produce condensate that contains dissolved chlorides.
- The Corrosion Evaluation noted on page 1 that type 304-L and Carbon Steel are unacceptable materials. The Mechanical Systems Data sheet indicates this is a Quality Level "Q" procurement. The two vendor drawings provided to Ecology, however, each only included the first of three sheets. The first sheet notes that the "bill of materials" is located on Sheet #3, which was not part of the package submitted to Ecology. So it is impossible to verify if appropriate materials were used or if commercial grade materials were qualified for a "Q" application. Resistance of small parts to the oxidizing environment of the NO_x appears to have been ignored, at least in the mechanical systems data sheet. This leaves the construction of the heaters open to question.
- In addition, the new flow sheet proposed by DOE to take waste directly from tank farms to LAW vitrification will eliminate dilutions in pretreatment. This could increase the concentrations of nitrate, sulfate, chloride, and other constituents in the LAW vitrification feed. The result could be conditions that are made more harsh in the LAW melter off gas. Why install equipment when a new flow sheet

is being proposed? This equipment may not be suitable under either current or changed process conditions.

- The above discrepancies are only a few examples from a spot check. Yet they call into question the value of the signatures in the certifications that were signed by the ORP and Bechtel Managers, attesting under penalty of law that the system used to produce these work products was designed to “assure that qualified personnel properly gather and evaluate the information being submitted.”

There are well known quality defects in the WTP design (per DOE/IG-0894; GAO-06-602T; 12-WTP-0399, GAO-13-38; and 13-NWP-092) and yet here are these certifying signatures with no evidence provided that either DOE or Bechtel performed a QA check of this package for symptoms of the multiple extents of condition, or the consequences of the continuing lack of a nuclear safety and quality culture. And at the same time, DOE's Office of the Inspector General identifies on their web page that they are performing a FY14 audit of corrective actions at WTP.

I think that the public deserves better if their friends, neighbors, and family will be working in this plant. When the heaters are not designed for hazardous service, no one thoroughly checks the documents, the materials lists are missing, and the design inputs are non-conservative, the signatures appear to provide a false front of confidence that could lead to a fatality. Note also that the drawings not provided on Ecology's web site for this review period were part of the electronic submittal in letter 14-ECD-0025, which is available to the public on the TPA Administrative Record Web page. There was no need to make access by reviewers more difficult, since the files were already available as pdfs.

Ecology previously stated in response to prior comments on the WTP Permit (from October 2013), that quality was a concern. But between the last public review and now, apparently nothing has changed.

Gas Phase Species from Corrosion Evaluation 24590-LAW-N1D-LVP-00009, Rev 1	g/mol	g/m3 corrosion data sheet	moles/m ³ per corrosion data sheet	ppm _v	IDLH ppm _v	ppm _v /IDLH factor
NO	30.00614	5.1	1.70E-01	4,019	100	40.19
NO ₂	46.00554	11.1	2.41E-01	5,705	20	285.24
HCl	36.46064	0.0244	6.69E-04	16	50	0.32
HF	20.00634	0.064	3.20E-03	76	30	2.52
Air	28.964		42.29			
H ₂ O	18.01528					
1 m3 of air =	1.225	kg				
1 m3 of air =	42.29388	moles				
Dry Air Density =	1.225	kg/m ³ at sea level and 15C.				

R11532370

CORROSION EVALUATION

LVP-HTR-00001A&B & LVP-HTR-00003A/B (LAW)
Melters Offgas HEPA Preheater

ISSUED BY
RPP-WTP PDC

- Design Temperature (°F): 250
- Design Pressure (psig): 15/FV
- Location: Room L-304H; out cell

Contents of this document are Dangerous Waste Permit affecting
Operating conditions are as stated on attached Process Corrosion Data Sheet

Operating Modes Considered:

- Equipment is maintainable and replaceable.

Materials Considered:

Material (UNS No.)	Acceptable Material	Unacceptable Material
Carbon Steel		X
Type 304L (S30403)		X
Type 316L (S31603)	X ¹	
6% Mo (N08367/N08926)	X	
Incoloy® 800 (N08800)	X ¹	
Hastelloy® C-22® (N06022)	X	
Ti-2 (R50400)		X

Recommended Material:

- ¹Housing: Type 316 stainless steel (max 0.030% C; dual certified)
The preheater housing is off-gas piping. Pipe Class N11F (N08367) is specified and is acceptable.
- ²Heating element sheath: Incoloy 800

Recommended Corrosion Allowance: Housing – Pipe Class N11F (0.0425 inch)
Heater Element Sheath – 0.0 inch

Process & Operations Limitations:

- None

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.

Concurrence NA
Operations

REV	DATE	REASON FOR REVISION	PREPARER	CHECKER	MET	APPROVER
1	7/18/12	Update design temperature Incorporate revised PCDS Revise mat'l for heater elements; text modified accordingly Recommend Corrosion Allowance New section q-Oxidation Minor edit & format changes Include AEA notice	DLAdler	RBDavis	APR 7/17/12	APRangus DU WILSEY
0	10/27/05	Initial Issue	DLAdler	JRDivine	APR	APRangus

CORROSION EVALUATION

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 the 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.

This bound document contains a total of 7 sheets.

CORROSION EVALUATION

Corrosion Considerations:

The LAW HEPA Preheater uses standard heater element technology: electric element with ceramic oxide packing surrounded by a metallic sheath. The "Commercial Off-The-Shelf" (COTS) heaters are attached to an ASME B16.5 flange, seal welded, and pressure tested. The offgas stream is passed through the HEPA preheaters in order to increase the gas temperature to avoid condensation in the melter offgas HEPA filters.

a General Corrosion

The anticipated dry-air conditions are not conducive to general corrosion and none is expected. The "housing" is the off-gas piping. Either Type 304L or 316L would be satisfactory for the housing. The off-gas piping upwards of the heaters is pipe class N11F (N08367) which is also considered satisfactory. Incoloy® 800 is recommended for the heating elements and sheath because of its oxidation resistance.

Conclusion

Either Type 304L or 316L stainless steel or 6% Mo alloy (N08367) would be satisfactory for the housing. Incoloy® 800 is recommended for the heating elements sheath.

b Pitting Corrosion

Pitting corrosion will only be a concern if moisture is present during normal operation. Shut-down and heat-up thermal transients may allow vapors to condense on the cold surfaces. Locations at crevices, at dead-legs, at low points, and under deposits may host conditions that support corrosion. The constituents in the off-gas vapor phase can be aggressive in oxidizing environments when mixed with moisture. Therefore, a material with a higher pitting corrosion resistance than Type 304L is necessary. Type 316L stainless steel, or better, is recommended for this application.

Conclusion

At the stated operating conditions, pitting corrosion is not a major concern. Recommend Type 316L. Use of N08367 is also acceptable.

c End Grain Corrosion

End grain corrosion only occurs in highly oxidizing acid conditions and is not a concern.

Conclusion:

Not a concern

d Stress Corrosion Cracking

At operations at the stated temperatures, stress corrosion cracking will only be a concern in the presence of moisture. It is assumed that there will be no condensation in the unit during normal operation. Also see Pitting.

Conclusion

At the stated operating conditions, stress corrosion cracking is not a concern.

e Crevice Corrosion

Crevice corrosion will only be a concern if moisture is present. The offgas humidity is controlled so that there will be no condensation.

Conclusion

At the stated operating conditions, crevice corrosion is not a concern.

↑ How? If 100% RH At Shutdown,
what occurs?

f Corrosion at Welds

Assuming dry air and proper welding procedures, corrosion at welds is not anticipated.

Conclusion

At the stated operating conditions, weld corrosion is not a concern.

g Microbiologically Induced Corrosion (MIC)

The stated operating conditions are not suitable for microbial growth.

Conclusion

At the stated operating conditions, MIC is not a concern.

CORROSION EVALUATION**h Fatigue/Corrosion Fatigue**

Extreme temperature cycling or fluctuations are not expected.

Conclusion

At the expected operating conditions, corrosion fatigue is not a concern.

i Vapor Phase Corrosion

Components essentially consist entirely of vapor space so general corrosion comments apply.

Conclusion:

See comments under general corrosion.

j Erosion

The velocity and solids content are sufficiently low that erosion is not a concern.

Conclusion

Erosion is not a concern.

k Galling of Moving Surfaces

There are no unlubricated moving surfaces present.

Conclusion:

Galling is not a concern.

l Fretting/Wear

No metal/metal contacting surfaces are expected.

Conclusion:

Fretting is not a concern.

m Galvanic Corrosion

No significantly dissimilar metals are present. Further, it is assumed no moisture is present.

Conclusion:

Galvanic corrosion is not a concern.

n Cavitation

Cavitation is not expected in an off-gas system.

Conclusion:

Cavitation is not a concern.

o Creep

The design conditions are conducive to creep, specifically for the heating elements. Recommend Incoloy® heating elements for creep resistance.

Conclusion

Incoloy recommended for heating elements.

p Inadvertent Addition of Nitric Acid

Addition of nitric acid to the offgas lines is not a plausible scenario.

Conclusion

Not applicable.

q Oxidation

The design conditions are conducive to oxidation. Recommend Incoloy® heating elements for oxidation resistance.

Conclusion

Incoloy® recommended for heating elements.

CORROSION EVALUATION**References:**

1. 24590-WTP-RPT-PR-04-0001, Rev. 0CD, *WTP Process Corrosion Data*

Bibliography:

1. 24590-LAW-MED-LVP-00006, *Mechanical Data Sheet for 24590-LAW-ME-LVP-HTR-00001A, 24590-LAW-ME-LVP-HTR-00001B - Melters Offgas HEPA Preheater*
2. Davis, JR (Ed), 1987, *Corrosion, Vol 13*, In "Metals Handbook", ASM International, Metals Park, OH 44073
3. Davis, JR (Ed), 1994, *Stainless Steels*, In ASM Metals Handbook, ASM International, Metals Park, OH 44073
4. Jones, RH (Ed.), 1992, *Stress-Corrosion Cracking*, ASM International, Metals Park, OH 44073
5. Sedriks, AJ, 1996, *Corrosion of Stainless Steels*, John Wiley & Sons, Inc., New York, NY 10158

CORROSION EVALUATION

24590-WTP-RPT-PR-04-0001, Rev. 0CD
WTP Process Corrosion Data

PROCESS CORROSION DATA SHEET

Component(s) (Name/ID #) LAW mellers offgas HEPA preheaters (LVP-HTR-00001 A/B)

Facility LAW

In Black Cell? No

Chemicals	Unit ¹	Contract Maximum ²		Non-Routine		Notes
		Leach	No leach	Leach	No Leach	
Aluminum	g/m ³					
HCl	g/m ³	2.16E-02	2.44E-02			
HF	g/m ³	5.66E-02	6.40E-02			
Iron	g/m ³					
NO	g/m ³	4.85E+00	5.10E+00			
NO ₂	g/m ³	9.75E+00	1.11E+01			
Phosphate	g/m ³					
SO ₂	g/m ³	9.79E-02	1.10E-01			
Mercury	g/m ³	2.17E-02	7.20E-04			Assumption 1
Carbonate	g/m ³					
Particulate	g/m ³					Note 5
HNO ₃	g/m ³	2.2E-02	2.2E-02			Assumption 2
HNO ₂	g/m ³	2.9E-02	2.9E-02			Assumption 2
Relative Humidity	%	68%	68%			Note 4
Temperature	*F					Note 3

List of Organic Species:

References

System Description: 24590-LAW-SYD-LOP-00001
 Mass Balance Document: 24590-WTP-M4C-V11T-00305, Rev A
 Normally Associated Streams: LVP03, LVP04
 Off Normal Stream # (e.g., overflow from other vessels):
 P&ID: N/A
 PFD: 24590-LAW-M5-V11T-00010
 Technical Reports: N/A

Notes:

- Concentrations less than 1x 10⁻⁴ g/m³ do not need to be reported; list concentration values to three significant digits max.
- Data developed from a mass balance model which has constituents in the plant feed which are important to corrosion, adjusted to contract maximum values, except as noted.
- The normal operating temperature is 124 °F at the inlet, and 160 °F at the outlet (page 37, 24590-LAW-M4C-LOP-00001, Rev 2A). The maximum operating temperature is 128 °F at the inlet, and 162 °F at the outlet (page 41, 24590-LAW-M4C-LOP-00001, Rev 2A).
- Source: 24590-LAW-M4C-LOP-00001, Rev 2A, page 41 lists inlet relative humidity at 68%, outlet relative humidity at 27%.
- Source: 24590-LAW-M4C-LOP-00001, Rev 2A, page 44.

Not shown as a bounding value.

Assumptions:

- Mercury concentrations are an assumption based on inputs and assumptions identified in Attachment A of 24590-WTP-M4C-V11T-00005, Rev A.
- Based on empirical data from testing per Attachment 2B of 24590-LAW-M4C-LOP-00001, Rev 2A, page 170.

* Referenced document 24590-LAW-M4C-LOP-00001 has been revised. These temperatures remain unchanged.

CORROSION EVALUATION24590-WTP-RPT-PR-04-0001, Rev. 0CD
WTP Process Corrosion Data**6.4.1 LAW Melter Offgas HEPA Preheaters (LVP-HTR-00001 A/B)****Routine Operations**

HEPA filters provide the final particulate removal for the offgas. The combined offgas stream is passed through the HEPA preheaters (LVP-HTR-00001A/B). The electric heaters increase the gas temperature to avoid condensation in the melter offgas HEPA filters (LVP-HEPA-00001A/B, -00002A/B, or -00003).

Non-Routine Operations that Could Affect Corrosion or Erosion

- **Heater element failure** - Heater element failure is detected by measurement of the temperature change across the heaters. These measurements provide a basis to increase power to the other heater. The failed heater is then isolated and full flow would pass through the second one. Failed heater elements are replaced and the heater returned to service.
- **Electrical failure** - The heaters are provided with an uninterruptible power supply (UPS).
- **Heater overheating** - If a heater overheats due to no airflow or heater control failure, an interlock shuts off the heater upon detected high temperature.

INTERLOCK ALLOWS COOLDOWN
AND CONDENSATION

WHAT ENGINEERED FEATURE REMOVES MOISTURE AND
NO_x FROM THE ISOLATED HEATER?



Mechanical Systems Data Sheet

LVP OFF-GAS
HEPA PRE-HEATERS

**DUPLICATE
ORIGINAL**

Component No.
24590-LAW-ME-LVP-HTR-00001A
24590-LAW-ME-LVP-HTR-00001B
24590-LAW-ME-LVP-HTR-00003A
24590-LAW-ME-LVP-HTR-00003B
24590-LAW-JC-LVP-PNL-00014
24590-LAW-JC-LVP-PNL-00015

Data Sheet No. 24590-LAW-MED-LVP-00006 Rev. 0

7W 3/26/14 R11638090 5

002 ϕ OC 7W 3/26/14

Project:	RPP-WTP	P&ID's:	24590-LAW-ME-LVP-00001054		
Project No:	24590	EQ Datasheet:	TBD		
Environmental Qualification	YES (By BUYER) 24590-LAW-UOD-WY16T-00001		Calculation No. 24590-LAW-W4C-LOP-00001 24590-LAW-MEC-LVP-00003 24590-LAW-MEC-LVP-00005 24590-LAW-M6C-20-00006		
Project Site:	Hanford				
BLDG	20, LAW	SYSTEM	LVP	QUALITY LEVEL: Q SEISMIC CATEGORY: SC-II	SAFETY CLASS: SS
Description:	LVP HEPA Off-gas Pre-Heaters				

ETHAL Concentration
ENO, PMD
NO2
Not identified
HF and
H2 not identified

PROCESS DESIGN

Process Input	Unit	One Melter (Minimum)	Two Melter (Normal)	Two Melter (Maximum)	Two Melter (Bounding)
Dry Air	SCFM	1024	2553	2607	3178
Steam	SCFM	85	321	343	785
Others	SCFM	21	15.4	28	45
Design Pressure (Note 1)	PSIG	15/FV	15/FV	15/FV	15/FV
Design Temperature	°F	250	250	250	250
Temperature In	°F	104	124	126	146
Temperature Out	°F	140	160	162	182
ΔT	°F	36	36	36	36

COMPONENT DESIGN

Input	Unit	One Melter (Minimum)	Two Melter (Normal)	Two Melter (Maximum)	Two Melter (Bounding)
Maximum Operating Pressure	psig	15	15	15	15
Maximum Operating Temperature	°F	182	182	182	182
Maximum Temperature Differential	°F	36	36	36	36

24590-CD-PDA-MEED-00003-15-00007, Rev.
7W 3/26/14



Mechanical Systems Data Sheet

**LVP OFF-GAS
HEPA PRE-HEATERS**

Component No.
 24590-LAW-ME-LVP-HTR-00001A
 24590-LAW-ME-LVP-HTR-00001B
 24590-LAW-ME-LVP-HTR-00003A
 24590-LAW-ME-LVP-HTR-00003B
 24590-LAW-JC-LVP-PNL-00014
 24590-LAW-JC-LVP-PNL-00015

Data Sheet No.	Rev.
24590-LAW-MED-LVP-00006	0

--	--	--	--

Design Notes

- LVP HEPA Pre-Heaters have a design pressure value of FV and 15 psig to correspond with the pipe design temperature of 250°F. Hydrostatic test pressure shall be 1.5 times 15 psig.
- *: SELLER to confirm/complete values.
- Heating elements to be sized to raise offgas temperature by 20°C (36°F) from inlet to outlet.
- Contents of this document are Dangerous Waste Permit affecting.
- Equipment cyclic data listed below. Fatigue Assessment to be done in accordance with para. AD-160 of ASME Section VIII Division 2, Rules for Construction of Pressure Vessels - Alternative Rules, (2004 edition, w/ 2005-2006 Addenda).
- Please note that source, special nuclear, and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at the US Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts that, pursuant to the 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 radio nuclides is provided for process description only.

EQUIPMENT CYCLIC DATA

Load Type	Min	Max	Number of Cycles	Comment
Design Pressure psig	FV	15	480	
Operating Pressure psig	-3	-2	480	
Operating Temperature °F	59	235	480	
Contents Specific Gravity	-	-	480	AIR @ 68.0% Relative Humidity Inlet
Contents Level inch	N/A	N/A		
Localized Features				
Nozzles	N/A			
Supports	N/A			

	Mechanical Systems Data Sheet LVP OFF-GAS HEPA PRE-HEATERS	Component No. 24590-LAW-ME-LVP-HTR-00001A 24590-LAW-ME-LVP-HTR-00001B 24590-LAW-ME-LVP-HTR-00003A 24590-LAW-ME-LVP-HTR-00003B 24590-LAW-JC-LVP-PNL-00014 24590-LAW-JC-LVP-PNL-00015
		Data Sheet No. Rev. 24590-LAW-MED-LVP-00006 0

Heater Specification

<u>Input</u>	<u>Unit</u>	<u>Description</u>
Type/Brand	-	Chromalox Flanged Immersion Heater
Model Number	-	TMIS-72-039P-E2XX TMIS-72-075P-E2XX
Active Safety Heater Power	kW	39=(13 x 3)
Maximum Power @ Design Temperature	kW	39
Minimum Power @ Minimum Temperature	kW	13
Heating Element Material	-	Incoloy 800
Heating Element Density	W/in ²	5
Passive Safety Heater Power	kW	75
Maximum Power @ Design Temperature	kW	75
Minimum Power @ Minimum Temperature	kW	0
Design Specification & Qualification	-	ASME Section VIII, Division 1
Mechanical Connection		
<u>Input</u>	<u>Unit</u>	<u>Description</u>
Lifting Lugs	-	Required for Heater Flange

	Mechanical Systems Data Sheet LVP OFF-GAS HEPA PRE-HEATERS	Component No. 24590-LAW-ME-LVP-HTR-00001A 24590-LAW-ME-LVP-HTR-00001B 24590-LAW-ME-LVP-HTR-00003A 24590-LAW-ME-LVP-HTR-00003B 24590-LAW-JC-LVP-PNL-00014 24590-LAW-JC-LVP-PNL-00015
		Data Sheet No. Rev. 24590-LAW-MED-LVP-00006 0

Flange Size, Type/Rating	in	24, ASME B16.5 RF CL 150
Flange Material	-	Alvac AL6XN(B462/UNS 08367)
Pressure Boundary Enclosure Materials (Heating Element Tubes)		Incoloy 800
Body Flange Gasket	-	Spiral Wound (HAST C-FG, 1/8" SS, CL 150, B16.20, B16.5)
Mounting	-	Horizontal OR Vertical (flanged to piping assembly, see Attached Sketch)
Electrical (Note 2)		
<u>Input</u>	<u>Unit</u>	<u>Description</u>
UL Listing	-	Required NRTL certification
Number of Circuits (Active Safety Heater)(Note 3)	-	3
Number of Circuits (Passive Safety Heater)	-	1
Terminal Seals	-	Hermetic Seals (1000°F)
Terminal Enclosure	-	NEMA 2, Explosion Resistant
Terminal Enclosure Standoff	in	6
Controls & Instrumentation		
Control Panels (Remote)	-	NEMA 4, UL Listed
Buyer's Connection	-	Profibus Control Signal
Over-temperature Protection Thermocouple	-	Yes, Type K, (Heater mounted) 1 per Circuit

	Mechanical Systems Data Sheet LVP OFF-GAS HEPA PRE-HEATERS	Component No. 24590-LAW-ME-LVP-HTR-00001A 24590-LAW-ME-LVP-HTR-00001B 24590-LAW-ME-LVP-HTR-00003A 24590-LAW-ME-LVP-HTR-00003B 24590-LAW-JC-LVP-PNL-00014 24590-LAW-JC-LVP-PNL-00016	
		Data Sheet No. 24590-LAW-MED-LVP-00006	Rev. 0

Heater Specification Notes

1. *: SELLER to confirm/complete values.
2. BUYER supplies 480 Volts, 3 phase, alternating current to heaters. For passive mechanical boundary heater, manufacturer's standard offering of electrical connection shall be provided.
3. Active electrical safety heaters shall have three independently wired 13 kW elements.



Mechanical Systems Data Sheet

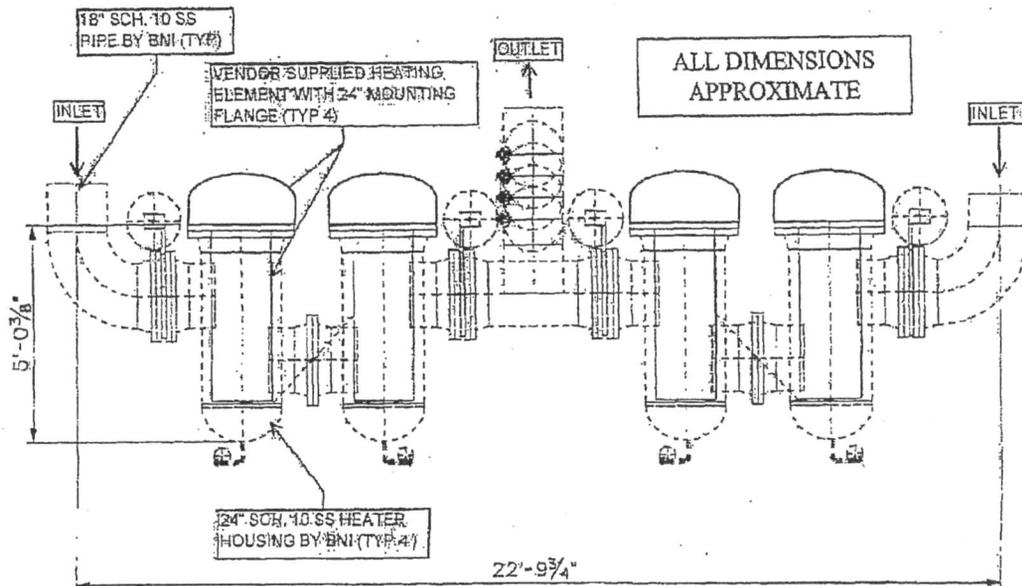
**LVP OFF-GAS
HEPA PRE-HEATERS**

Component No.
24590-LAW-ME-LVP-HTR-00001A
24590-LAW-ME-LVP-HTR-00001B
24590-LAW-ME-LVP-HTR-00003A
24590-LAW-ME-LVP-HTR-00003B
24590-LAW-JC-LVP-PNL-00014
24590-LAW-JC-LVP-PNL-00015

Data Sheet No.
24590-LAW-MED-LVP-00006

Rev.
0

**Figure 1:
(Conceptual Design)**



LVP HEPA PRE-HEATER Piping Arrangement to be provided by BUYER. Piping configuration conceptual design (above) provided for clarity. SELLER scope is heating units and standard offering remote mounted control panels only.

Heater length in pipe maximum 48". Heater length outside pipe maximum 22.25". Total heater length maximum 70.25"

Units consist of one 75 kW unit and one 39 kW unit (3, 13kW elements). Piping, Orientation, and installation by BUYER.

	Mechanical Systems Data Sheet LVP OFF-GAS HEPA PRE-HEATERS	Component No. 24590-LAW-ME-LVP-HTR-00001A 24590-LAW-ME-LVP-HTR-00001B 24590-LAW-ME-LVP-HTR-00003A 24590-LAW-ME-LVP-HTR-00003B 24590-LAW-JC-LVP-PNL-00014 24590-LAW-JC-LVP-PNL-00015			
		<table border="1"> <tr> <td>Data Sheet No.</td> <td>Rev.</td> </tr> <tr> <td>24590-LAW-MED-LVP-00006</td> <td>0</td> </tr> </table>	Data Sheet No.	Rev.	24590-LAW-MED-LVP-00006
Data Sheet No.	Rev.				
24590-LAW-MED-LVP-00006	0				

(BNI Internal Notes):

Design Codes for LVP HEPA Preheaters

- Preheater element assemblies ASME Section VIII Division 1 (SELLER)
 - Preheater element assemblies NDE will be by (SELLER)
 - Visual Examination (VT)
 - Dye Penetrant Examination (PT)
 - Hydrostatic Examination in accordance with ASME Section VIII Division 1

Quality Notes

(Note: SELLER's Quality Assurance plan shall be commercially acceptable and able to fulfill the technical requirements of this material requisition upon successful audit/survey by BNI to the requirements of CM Datasheet of Quality Assurance Program.

BUYER shall have right of access to SELLER's facilities (technical, commercial, and quality personnel) /subcontractors(technical, commercial, and quality personnel) to conduct audits, surveys, and surveillances during the course of this procurement to make sure that all quality and technical requirements are being met. It is not the intent of the BUYER to evaluate the SELLER's compliance to ASME NQA-1 (2000) requirements. The BUYER will satisfy all ASME NQA-1 (2000), Commercial Grade Dedication, Equipment Environmental, and Seismic Qualification requirements of this procurement.

↑ WHERE IS THIS DOCUMENTED VS THE BILL OF MATERIALS?

Equipment Qualification

The equipment environmental and seismic qualification will be performed by the BUYER. SELLER equipment designs shall not be considered complete until determined sufficient by BUYER's equipment qualification. Fabrication of SELLER designs or shipment of standard off-the shelf items shall not commence before completion of equipment qualification, except to provide identical test unit(s) if test is required. (Note: 24590-QL-MRA-J000-00001: Equipment Qualification Services)

Commercial Grade Dedication

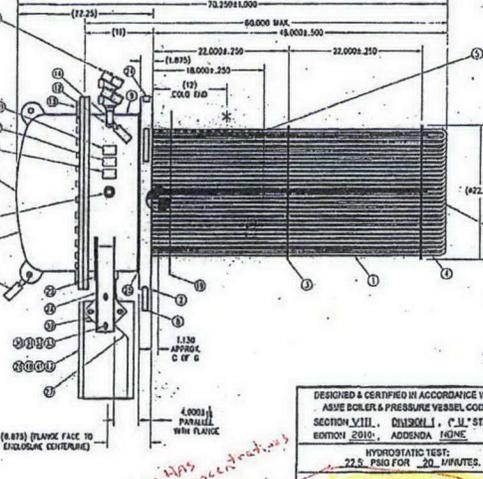
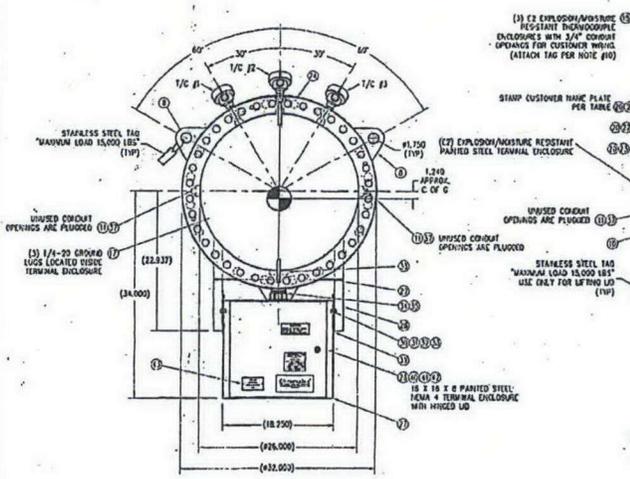
(Note, BNI Internal Reference: BUYER to dedicate LVP HEPA Pre-Heaters to Quality Level Q, Seismic Category III through special tests and inspections under BUYER's Commercial Grade Dedication program which will verify the nuclear safety functions of the LVP HEPA Pre-Heaters. SELLER does not have any Commercial Grade Dedication or ASME NQA-1 (2000) scope for this material requisition.) [Internal Note: BNI to CGD under 24590-WTP-3PS-G000-T0019: Engineering Specification for Acquisition of Commercial Items and Services for Use in Safety Applications at WTP]

HP 155-073232-082

GEONTEL NATIONAL
 PROJECT: RPP-NTP
 PROJECT NO: 24590
 TO I&E: 24590-CD-POA-MED-00010, RCL 0
 EQUIPMENT NO: LVP-HTR-000010, LVP-HTR-000020
 LOCATION: MIDLAND, TX

NOT FOR PRODUCTION USE

ITEM	REV	DESCRIPTION	DATE	BY	CHKD	APP'D
ALL	1	ISSUED SET OF DRAWING, REVISED PER 155-073232-082, 1/13/2012	1/13/2012	MDR	MDR	MDR
ALL	2	ISSUED SET OF DRAWING, REVISED PER 155-073232-082, 1/13/2012	1/13/2012	MDR	MDR	MDR
ALL	3	ISSUED EXTERNAL VIBRATION ENCLOSURE, ADDS 8 INCH 1/4 HAZARD MOUNT (NOTE: 1/4 HAZARD MOUNT IS REQUIRED FOR ALL 1/4 HAZARD MOUNTS)	1/13/2012	MDR	MDR	MDR
ALL	4	ISSUED EXTERNAL VIBRATION ENCLOSURE, ADDS 8 INCH 1/4 HAZARD MOUNT (NOTE: 1/4 HAZARD MOUNT IS REQUIRED FOR ALL 1/4 HAZARD MOUNTS)	1/13/2012	MDR	MDR	MDR
ALL	5	ISSUED P/N FOR HEAT EX. 24" 150 F CONST. ALVAC AL6XN*ASME*	1/13/2012	MDR	MDR	MDR
ALL	6	ISSUED EXTERNAL VIBRATION ENCLOSURE, ADDS 8 INCH 1/4 HAZARD MOUNT (NOTE: 1/4 HAZARD MOUNT IS REQUIRED FOR ALL 1/4 HAZARD MOUNTS)	1/13/2012	MDR	MDR	MDR
ALL	7	ISSUED EXTERNAL VIBRATION ENCLOSURE, ADDS 8 INCH 1/4 HAZARD MOUNT (NOTE: 1/4 HAZARD MOUNT IS REQUIRED FOR ALL 1/4 HAZARD MOUNTS)	1/13/2012	MDR	MDR	MDR
ALL	8	ISSUED EXTERNAL VIBRATION ENCLOSURE, ADDS 8 INCH 1/4 HAZARD MOUNT (NOTE: 1/4 HAZARD MOUNT IS REQUIRED FOR ALL 1/4 HAZARD MOUNTS)	1/13/2012	MDR	MDR	MDR



CUSTOMER N/P STAMPING	
HEATER #1	LVP-HTR-000010
HEATER #2	LVP-HTR-000020
HEATER #3	-

DESIGNED & CERTIFIED IN ACCORDANCE WITH ASME BOILER & PRESSURE VESSEL CODE SECTION VIII, DIVISION 1, "U" STAMP
 SECTION 2010, ADDENDA NONE
 22.5 PSIG FOR 20 MINUTES.
DESIGN DATA
 HEATED MEDIUM: AIR
 LETHAL SUBSTANCE: YES NO
 DESIGN PRESSURE: 15 PSIG/100 KPA
 EXTERNAL MAWP: 15 PSIG
 PROCESS DESIGN TEMP.: 150 °F
 MFL TEMP. (DHW): 120 °F

ASME
 APPROVED FOR CONSTRUCTION
 BY: _____
 DATE: _____
 SERIAL NO: _____
 USER DATA APPROVAL DATE: _____
 MIN. FLOW RATE: 1130 GPM
 MAX. FLOW RATE: _____
 OPERATING PRESSURE: 15 PSIG
 OPERATING TEMPERATURE: 182 °F

SEE SHEET #3 FOR BILL OF MATERIALS

← Are materials correct?
 Commercial Grade Dedication?
 NO 304 L or Carbon Steel?

*off gas has
 Lethal Concentration
 NOX AND NH3*

U	PART	MATERIAL		SIZE		QTY	UNIT	DATE
		NO.	DESCRIPTION	INCH	MM			
		15	304	4	250		PCS	2013
		15	304	4	250		PCS	2013
		15	304	4	250		PCS	2013

Chromalox	
CAT. NO.	TMS-72-03SP-EXX
P/N	155-073232-082
REV.	3
DATE	1/13/2012

Chromalox		Ogden, Utah 84404	
CONTRACT NO.		WWW.CHROMALOX.COM	
IMMERSION HEATER FLANGED			
SIZE	24"	TEMP.	150 F CONST.
TYPE	ALVAC AL6XN*ASME*	DESIGN NO.	D07131155-073232-082 9
DATE	1/13/2012	REV.	1

24590-CD-POA-MED-00010-05-00004 Rev 000 H

SHEETS 2+3
 are missing
 from the
 Permit Package



Mechanical Systems Data Sheet

**LVP OFF-GAS
HEPA PRE-HEATERS**

Component No.

- 24590-LAW-ME-LVP-HTR-00001A
- 24590-LAW-ME-LVP-HTR-00001B
- 24590-LAW-ME-LVP-HTR-00003A
- 24590-LAW-ME-LVP-HTR-00003B
- 24590-LAW-JC-LVP-PNL-00014
- 24590-LAW-JC-LVP-PNL-00015

Data Sheet No.

24590-LAW-MED-LVP-00006

Rev.

0

APPROVALS

0	PURCHASE, Supersedes 24590- LAW-MED-LVP- 00005, REV 5	J. Wood	G. Goolsby	D. Krahn	M. R. O'Neill	D. Wilsey
<i>Revision</i>	<i>Issued for</i>	<i>Originator</i>	<i>Checker</i>	<i>E&NS</i>	<i>Reviewer</i>	<i>Approver</i>

September 2, 2014

COPY
Review & Recycle

RECEIVED

SEP 04 2014

DEPARTMENT OF ECOLOGY
NWP - RICHLAND

Ms. Heather John
Washington Department of Ecology
3100 Port of Benton Boulevard
Richland, WA 99354

**Subject: WTP Plant Permit Design Changes Public Comment Period of
September 2 to October 20, 2014**

Dear Ms. John:

I received today's announcement of the WTP Permit public comment period, but when I used the link to Ecology's WTP Permit website, all I saw was a message that the page was "not found." Ecology's web page said I should be able to review the documents there.

I would appreciate your help in posting ALL of the submitted documents associated with this change, so that the public can review the bases and completeness of the work. A summary is not sufficient.

Can you please post these to your web site? It is an inconvenience to many to travel to an information repository, and fewer people have DVD drives than previously, due to more use of mobile devices.

To post all of the documents is also consistent with a similar WTP permit public comment period from last October 2013, and it is consistent with the Secretary of Energy's commitment to transparency, and it is consistent with the Hanford Public Involvement Plan.

Thank you.

From: [Bohrmann, Dieter \(ECY\)](#)
To: [John, Heather \(ECY\)](#); [Carlson, Annette \(ECY\)](#); [Tortoso, Arlene \(ECY\)](#)
Subject: Fwd: Public Comment on WTP design changes to WTP permit
Date: Saturday, October 04, 2014 12:18:47 PM

FYI ...

Sent from my iPhone

Begin forwarded message:

From: Richard I Smith <ri_smith@hotmail.com>
Date: October 4, 2014 at 10:07:56 AM PDT
To: "Dieter Bohrmann " <dboh461@ecy.wa.gov>, "Madeline Brown " <mabr461@ecy.wa.gov>
Subject: Public Comment on WTP design changes to WTP permit

I have been trying to find links to the contents of LAW-026A so I could see what problem needs fixing and how DOE proposes to fix the problem, to no avail. I assume the PE's report presents the problem, but I'm not sure where the solution is described. The various referrals given in your notices seem to be circular, sending one to successive sources, but each one refers the reader to another source, etc., and none contains any information on problem or the solution. Without that information, it is impossible to review and comment on whatever the change(s) is.

Dick Smith

From: [Bohrmann, Dieter \(ECY\)](#)
To: [John, Heather \(ECY\)](#)
Subject: FW: Public Comment on Proposed Updates
Date: Thursday, October 09, 2014 1:24:00 PM

From: Mike [<mailto:mikeconlan@hotmail.com>]
Sent: Thursday, September 18, 2014 6:41 PM
To: Hanford (ECY)
Subject: Public Comment on Proposed Updates

Hanford DOE:

1. cleanup ALL nuclear waste at Hanford,
2. replace ALL single shell tanks.
3. do not allow any more nuclear waste to Hanford.

Mike Conlan Redmond WA

From: [Bohrmann, Dieter \(ECY\)](#)
To: [John, Heather \(ECY\)](#); [Carlson, Annette \(ECY\)](#); [Chandran, Nitya \(ECY\)](#)
Cc: [Palomarez, Adam \(ECY\)](#)
Subject: FW: Comments on WTP draft permit 9-2-2014
Date: Tuesday, September 09, 2014 11:11:57 AM

FYI ...

-----Original Message-----

From: Margaret Comfort [mailto:ms.cmfrt@yahoo.com]
Sent: Tuesday, September 09, 2014 11:09 AM
To: Hanford (ECY)
Subject: Comments on WTP draft permit 9-2-2014

Re: "What changes are being proposed"

The cursory, non technical, glib description of the "changes to the WTP permit" do not describe "What changes are being proposed?". What is described in it is the process, not changes. Even a layperson can see that the details of useful information are woefully lacking. Describe the changes in detail, and clearly. The description provides no evidence, no unbiased scientific documentation to ensure safety for long term containment of deadly ingredients. The information presented is insultingly simple and incomplete. Cursory is not what is needed here. Evidence based scientific research backed by unbiased studies is necessary and sadly wanting.

The fact that there is a time constraint in order to maintain funding is unacceptable. This toxic waste has been a threat for at least 67 years; a lifetime. Get an extension for funding and then monitor the clean up progress with unbiased professional oversight. Report on an incremental timeline set some goals, be professional.

True containment of hazardous waste cannot be a political football. The danger it poses is far too great. Radioactive waste and toxic chemicals escaping is a state of emergency. Get a time limit waiver and real oversight for goodness sake. We obviously need some scrubbers to uncover the political pressures that perpetuate this half baked "clean up" that lasts a lifetime. Money spent so far has gone where? Audit the companies involved, control them and then only pay for safe results..

We have been burdened with lethal leftover weaponry products which continually emit "friendly fire" that poisons civilians. Many American soldiers gave their lives to protect this soil and the people of their country. This toxic hazardous waste continuously endangers us all. Time constraints must be over ruled. Declare a state of emergency and assemble and unbiased scientific oversight by a panel of scientists with no monetary ties and contain this nightmare. Be transparent, honest, clear, unbiased and thorough from now on. Get this job done!