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AFS-14-0134

APR 16 2014

BY PDC



April 15, 2014

Ms. Tess Klatt  
Subcontract Administrator  
Bechtel National, Inc.  
2435 Stevens Center Place  
Richland, Washington 99354

Dear Ms. Klatt:

**BECHTEL NATIONAL, INC. CONTRACT NO. 24590-CM-HC4-HXYG-00240 IQRPE  
STRUCTURAL INTEGRITY ASSESSMENT REPORT FOR LAW LVP HEPA PRE-  
HEATER HOUSINGS (LVP-HTR-00001A/B AND -00003A/B) (IA-3010206-000)**

The integrity assessment of the subject LAW LVP HEPA Pre-heater Housings has been completed per the contract requirements and is enclosed for your use. The assessment found that the design is sufficient to ensure that the LAW LVP HEPA Pre-heater Housings are adequately designed and have sufficient structural strength, compatibility with the waste(s) to be processed/stored/treated, and corrosion protection to ensure that they will not collapse, rupture, or fail.

If you have any questions, please contact Tarlok Hundal at (509) 371-1975, or via email at [tarlok.hundal@areva.com](mailto:tarlok.hundal@areva.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Elizabeth W. Smith'.

Elizabeth W. Smith, C.P.M  
Contract Administrator  
AREVA Federal Services LLC  
Richland Office

Enclosure (1)

LK

cc: D. C. Pfluger, MS5-I w/enclosure (2)

24590-CM-HC4-HXYG-00240-02-00010 Rev 00A

**IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT  
FOR  
LAW LVP HEPA PRE-HEATER HOUSINGS  
(LVP-HTR-00001A/B AND -00003A/B)**

**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.**

**IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT  
FOR  
LAW LVP HEPA PRE-HEATER HOUSINGS  
(LVP-HTR-00001A/B AND -00003A/B)**

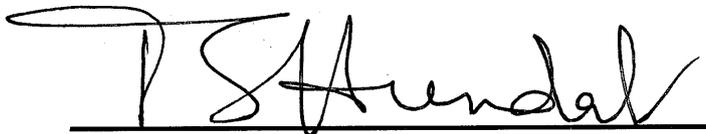
"I, Tarlok Singh Hundal, have reviewed and certified a portion of the design of a new tank system or component located at the Hanford Waste Treatment Plant, owned/operated by Department of Energy, Office of River Protection, Richland, Washington. My duties were independent review of the current design for the LAW LVP HEPA Pre-heater Housings, as required by the Washington Administrative Code, *Dangerous Waste Regulations*, Section WAC-173-303-640(3) (a) through (g) applicable components."

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

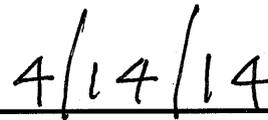
The documentation reviewed indicates that the design fully satisfies the requirements of the WAC.

The attached review is eleven (11) pages numbered one (1) through eleven (11).



  
\_\_\_\_\_

Signature

  
\_\_\_\_\_

Date

<b>Scope</b>	Scope of this Integrity Assessment	<p>The scope of this integrity assessment includes four LAW LVP HEPA Pre-heater Housings (LVP-HTR-00001A/B &amp; -00003A/B), also known as Miscellaneous Units (MUs) or Plant Items associated with the LVP system as shown on P&amp;ID Drawing 24590-LAW-M6-LVP-00001002. The HEPA Pre-heaters are used to increase the nominal temperature of the Melter Offgas to avoid its condensation in the HEPA filters.</p> <p>These HEPA Pre-heater Housings are in-line pipe equipment located in Room L-0304H at Elevation 48'-0" of the LAW facility as shown on General Arrangement Plan Drawing 24590-LAW-P1-P01T-00005.</p>
<b>Summary of Assessment</b>	For each item of "Information Assessed" (i.e., Criteria) on the following pages, the items listed under "Source of Information" were reviewed and found to furnish adequate design requirements and controls to ensure that the design fully satisfies the requirements of Washington Administrative Code (WAC), Chapter 173-303 WAC, <i>Dangerous Waste Regulations</i> , Section WAC-173-303-640 (3) (a) through (g) applicable elements of the <i>Tank Systems</i> .	

<p><b>References</b></p>	<p><b>Material Requisition, Specifications, and Plant Drawings</b></p> <p><u>Material Requisition (MR):</u> 24590-QL-MRA-MEE0-00003, Rev. 1, LVP HEPA Pre-heater, including TCN #s T0001 thru T0006, and SDDR #s MS-12-00035, MS-13-00022 and MS-14-00010..</p> <p><u>Specifications:</u> The following Specifications with their respective revision and Specification Change Notices (SCNs) are listed in the above listed MR: 24590-WTP-3PS-FB01-T0001, Engineering Specification for Structural Design Loads for Seismic Category III &amp; IV Equipment and Tanks; 24590-WTP-3PS-G000-T0001, Engineering Specification for Supplier Quality Assurance Program Requirements;* 24590-WTP-3PS-G000-T0002, Engineering Specification for Positive Material Identification (PMI) for Shop Fabrication; 24590-WTP-3PS-G000-T0003, Engineering Specification for Packaging, Handling, and Storage Requirements; 24590-WTP-3PS-G000-T0014, Engineering Specification for Supplier Design Analysis; 24590-WTP-3PS-MVB2-T0001, Engineering Specification for Welding of Pressure Vessels, Heat Exchangers, and Boilers; 24590-WTP-3PS-P000-T0001, Engineering Specification for Piping Material Classes General Description and Summary; 24590-WTP-3PS-G000-T0019, Engineering Specification for Acquisition of Commercial Items and Services for Use in Safety Applications at WTP.*</p> <p>*Specification not listed in the MR, however, is listed as a daughter document elsewhere in other related document.</p> <p><u>Plant Drawings:</u> 24590-LAW-P1-P01T-00005, Rev. 5, LAW Vitrification Building General Arrangement Plan at El. 48'-0"; 24590-LAW-P1-P23T-00052, Rev. 3, LAW Vitrification Building Equipment Location Plan El. 48'-0"/Area 5; 24590-LAW-M6-LVP-00001002, Rev. 0, (+ DCN #s 00083, 00093, and 00095) P&amp;ID- LAW Secondary Offgas/Vessel Vent Process System HEPA Preheaters; 24590-LAW-M5-V17T-00010, Rev. 4 (+DCN # 000029 &amp; 00030), Process Flow Diagram LAW Secondary Offgas Vessel Vent Process System; 24590-LAW-DD-S13T-00308, Rev. 3, LAW Vitrification Building Main Building LVP-HEPA Equipment Anchorage at Elevation (+) 48'-0"; 24590-LAW-P3-LVP-PW00107001, Rev. 0, LAW Vitrification Building Isometric (LVP-PW-00107-N11F-24); 24590-LAW-P3-LVP-PW00108001, Rev. 0, LAW Vitrification Building Isometric (LVP-PW-00108-N11F-24); 24590-LAW-P3-LVP-PW00109001, Rev. 0, LAW Vitrification Building Isometric (LVP-PW-00109-N11F-24); 24590-LAW-P3-LVP-PW00110001, Rev. 0, LAW Vitrification Building Isometric (LVP-PW-00110-N11F-24); 24590-LAW-LVP-H30174 001, Rev. 0, Eng Pipe Support Drawing Detail Sht 1 of 3; 24590-LAW-LVP-H30174 002, Rev. 0, Eng Pipe Support Drawing Detail Sht 2 of 3; 24590-LAW-LVP-H30174 003, Rev. 0, Eng Pipe Support Drawing Detail Sht 3 of 3.</p>
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<b>References (cont'd)</b>	<b>Vendor Drawings, Mechanical Data Sheet, and System Description</b>	<p><u>Vendor Fabrication Drawings (*Bechtel Status Code 1 or 4 Drawings):</u></p> <p>24590-CD-POA-MEE0-00003-03-00002, Rev. 00H, Weld/NDE Map-Flanged Heater, TMIS-72-039P-E2XX, 155-073232-082 (LVP-HTR-00001B and LVP-HTR-00003B);                  24590-CD-POA-MEE0-00003-03-00003, Rev. 00H, Weld Map Flanged Heater, TMIS-72-075P-E2XX, 155-073232-083, (LVP-HTR-00001A and LVP-HTR-00003A);                  24590-CD-POA-MEE0-00003-03-00004, Rev. 00H, Immersion Heater Flanged, TMIS-72-039P-E2XX, 480V, 39KW, 3-3PH, 5.0 WPSI, 24"-150# Const., ALVAC AL6XN*ASME* (LVP-HTR-00001B and LVP-HTR-00003B);                  24590-CD-POA-MEE0-00003-03-00005, Rev. 00I, Immersion Heater Flanged, TMIS-72-075P-E2XX, 480V, 75KW, 1-3PH, 9.6 WPSI, 24"-150# Const., ALVAC AL6XN*ASME* (LVP-HTR-00001A and LVP-HTR-00003A);                  24590-CD-POA-MEE0-00003-03-00006, Rev. 00A, Flange Drilling, 24"-150# , ALLVAC AL6XN SB-462 (UNS 08367) ( LVP-HTR-00001B and LVP-HTR-00003B).</p> <p>* Bechtel Status Code 1 Drawing is an "as fabricated vendor drawing" approved/accepted by Bechtel.                  Bechtel Status Code 4 Drawing is an "as fabricated vendor drawing" approved without review by Bechtel.</p> <p><u>Vendor Mechanical Systems Data Sheet (a.k.a. Mechanical Data Sheet-MDS):</u></p> <p>24590-CD-POA-MEE0-00003-15-00007, Rev. 00C, LVP Offgas HEPA Pre-heaters (LVP-HTR-00001A/B and -00003A/B).</p> <p><u>System Description:</u></p> <p>24590-LAW-3YD-LOP-00001, Rev. 3, System Description for the LAW Primary Offgas (LOP) and Secondary Offgas/Vessel Vent (LVP) Systems (including SDCN #s 24590-LAW-3YN-LOP-00011, -00012, -00013, and -00015).</p>
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Information Assessed	Source of Information	Assessment
<p><b>Design</b></p> <p>Plant Item design standards are appropriate and adequate for the vessel's intended use.</p>	<p>Material Requisition, Specifications, Drawings, and Mechanical Data Sheet listed above under References;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 1, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 2, Rules for Construction of Pressure Vessels-Alternative Rules, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section IX, Welding and Brazing Qualifications, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section III, Subsection NCA, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section V, Nondestructive Examination, American Society of Mechanical Engineers;</p> <p>ASME B 16.5, Pipe Flanges and Pipe Fittings Standard, American Society of Mechanical Engineers;</p> <p>NFPA 70, National Electrical Code, NFPA-70-1999).</p>	<p>The LAW HEPA Pre-heater Housings (LVP-HTR-00001A/B and -00003A/B) are considered as vessels. They are also interchangeably termed herein as MUs or Plant Items. The Technical Requirements listed in the Material Requisition document for the HEPA Pre-heater Housings and Mechanical Data Sheet require that the design and fabrication be per listed NFPA 70 and ASME codes and standards in the Source of Information column. Supplemental detailed requirements for the HEPA Pre-heater Housings fabrication are specified in various engineering specifications listed in the References section herein. These requirements include items such as, positive material identification, fabrication tolerances, welding procedures, welder qualifications, and testing records, NDE inspections and records, packaging, handling, and storage requirements. The Mechanical Data Sheet (MDS) for these MUs lists their Safety Class as Safety Significant (SS), Quality Level (Q), and Seismic Category (SC-III). The drawings show that each HEPA Pre-heater unit is housed in a 24" pipe, class N11F (AL-6XN 6% Mo, B462-UNS N08367) material which is supported as an in-line equipment. The Specification for Piping Materials Classes document lists properties of the class N11F type pipe. The design requirements specified in the codes and specifications are appropriate and adequate for the intended use of these MUs.</p>

Information Assessed	Source of Information	Assessment
<p><b>Design (cont'd)</b></p> <p>If a non-standard Plant Item is to be used, the design calculations demonstrate sound engineering principles of construction.</p>	<p>Material Requisitions and Engineering Specifications listed above under References;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 1, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 2, Rules for Construction of Pressure Vessels-Alternative Rules, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section IX, Welding and Brazing Qualifications, American Society of Mechanical Engineers; ASME B 16.5, Pipe Flanges and Pipe Fittings Standard, American Society of Mechanical Engineers;</p> <p>24590-CD-POA-MEE0-00003-05-00002, Rev. 00E, Seismic Analysis of Flanged Electric Heater (LVP-HTR-00001A/B &amp; -00003A/3B Housing Units Design Calculation);</p> <p>24590-CD-POA-MEE0-00003-05-00005, Rev. 00D, Flanged Heater Weight and Center of Gravity Calculations (LVP-HTR-00001A/B &amp; -00003A/3B Housing Units Design Calculation);</p> <p>24590-CD-POA-MEE0-00003-05-00006, Rev. 00C, Flange Analysis-ASME Section VIII (LVP-HTR-00001A/B &amp; -00003A/3B Housing Units Design Calculation).</p>	<p>The MUs in the LAW LVP System noted above are non-standard offgas treatment assemblies that are shop fabricated. The Technical Requirements in Material Requisition document require that the ASME code assemblies be delivered after design, fabrication, inspection, and testing. Review of the listed Design Calculations shows that sound engineering principles were used for the design and construction of the HEPA Pre-heater Housings.</p>

Information Assessed	Source of Information	Assessment
<p><b>Design (cont'd)</b></p> <p>Plant Item has adequate strength, after consideration of the corrosion allowance, to withstand the operating pressure, operating temperature, and seismic loads.</p>	<p>Specifications, Mechanical Data Sheet, and Material Requisition listed above under References;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 1, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section IX, Welding and Brazing Qualifications, American Society of Mechanical Engineers;</p> <p>ASME B 16.5, Pipe Flanges and Pipe Fittings Standard, American Society of Mechanical Engineers;</p> <p>ASME B31.3, Process Piping, ASME Code for Process Piping, American Society of Mechanical Engineers;</p> <p>NFPA 70, National Electrical Code, NFPA-70-1999).</p> <p>UBC 1997, Uniform Building Code, International Conference of Building Officials;</p> <p>24590-LAW-N1D-LVP-00009, Rev. 1, Corrosion Evaluation for LAW Melter Offgas HEPA Pre-heaters (LVP-HTR-00001A/B and -00003A/B);</p> <p>24590-LAW-P6C-LOP-10016, Rev. E, Pipe Stress Analysis for LOP System (Design Calculation);</p> <p>24590-LAW-PHC-LVP-40001, Rev. 0, RPP-WTP Engineered Support Calculation for LAW-LVP-H30174, LAW-LVP-H30175, LAW-LVP-H30176, &amp; LAW-LVP-H30177, including ECCN # 00016 (Design Calculation);</p> <p>24590-CD-POA-MEE0-00003-05-00002, Rev. 00E, Seismic Analysis of Flanged Electric Heater (LVP-HTR-00001A/B &amp; -00003A/3B Housing Units Design Calculation).</p>	<p>The Technical Requirement listed in the MR and in MDS for HEPA Pre-heater Housings require that these MUs including all related components and appurtenances be designed and fabricated in accordance with the applicable sections of ASME and NFPA 70 codes and standards listed in the Source of Information column. These codes and standards require specific consideration of operating pressures, temperatures, corrosion allowance, and seismic loads in the design process. The Mechanical Data Sheet identifies the operating pressure and temperature ranges and seismic categories for the subject MUs. A corrosion allowance of 0.0425” is recommended for these MUs as identified in the Corrosion Evaluation document. The UBC 1997 Code specifies the seismic loads for the SC-III equipment. The listed Design Calculation reviewed shows that the applicable loading parameters including the applicable design change notices such as DCNs, TCNs, and SDDR were appropriately considered in the design process and the MU housings will have adequate strength to sustain them during their design life.</p>

Information Assessed	Source of Information	Assessment
<p><b>Foundation</b></p> <p>Plant Item foundation will maintain the load of a full vessel.</p>	<p>Material Requisition, Mechanical Data Sheet, and Drawings listed above under References;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 1, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section VIII, Div. 2, Rules for Construction of Pressure Vessels-Alternative Rules, American Society of Mechanical Engineers;</p> <p>ASME Boiler and Pressure Vessel (B&amp;PV) Code, Section IX, Welding and Brazing Qualifications, American Society of Mechanical Engineers;</p> <p>ASME B31.3, Process Piping, ASME Code for Process Piping, American Society of Mechanical Engineers;</p> <p>ASME B 16.5, Pipe Flanges and Pipe Fittings Standard, American Society of Mechanical Engineers;</p> <p>24590-WTP-DB-ENG-01-001, Rev. 1Q, Basis of Design;</p> <p>24590-CD-POA-MEE0-00003-05-00002, Rev. 00E, Seismic Analysis of Flanged Electric Heater (LVP-HTR-00001A/B &amp; -00003A/3B Housing Units Design Calculation).</p> <p>24590-LAW-DDC-S13T-00061, Rev. 0, Anchorage of LVP Pipe Support Frame near LAW + 48 Pre-Heaters (Design Calculation).</p>	<p>The Technical Requirements listed in MR, MDS, and drawings documents show that the HEPA Pre-heater Housings are inline pipe equipment designed to be supported per applicable ASME codes as listed in the Source of Information column. The Basis of Design document requires that the supports and foundations shall be designed adequately to sustain all applicable loads including the full weight of the Plant Item. The review of Design Calculation report shows that these units are supported as in-line equipment which essentially make them part of that pipe line to handle the applicable full loads of the units. It should be noted that the evaluation of the HEPA Pre-heater Housings foundation is not in the scope of this report. However, it is covered in a separate integrity assessment report.</p>

	Information Assessed	Source of Information	Assessment
<b>Foundation (cont'd)</b>	If in an area subject to flooding, the Plant Item is anchored.	<p>Drawings and Mechanical Data Sheet listed above under References;</p> <p>24590-LAW-DDC-S13T-00061, Rev. 0, Anchorage of LVP Pipe Support Frame near LAW + 48 Pre-Heaters (Design Calculation).</p>	<p>As shown on the referenced drawings, the MUs included in this assessment are located on the 48'-0" floor elevation of the LAW facility. The MDS does not list any flooding condition for submergence of these units, therefore, they need not be evaluated for any buoyant forces. However, in order to sustain any other applicable loads such as seismic loads, these units are mounted with flanged connection as shown on the drawings.</p>
	Plant Item system will withstand the effects of frost heave.	<p>Drawings listed above under References;</p> <p>24590-WTP-DC-ST-01-001, Rev. 13, Structural Design Criteria.</p>	<p>The Structural Design Criteria document requires that all structural foundations extend into the surrounding soil below the 30 inch frost line in order to preclude frost heave. As shown on the referenced general arrangement drawings, the MUs considered in this assessment are installed in the LAW facility at Floor Elev. 48'-0" which is not subject to frost heave. Therefore, the frost heave effect does not apply to these units.</p>

Information Assessed	Source of Information	Assessment
<p><b>Waste Characteristics</b></p> <p>Characteristics of the waste to be stored or treated have been identified (ignitable, reactive, toxic, specific gravity, vapor pressure, flash point, storage temperature)</p>	<p>System Description and Mechanical Data Sheet listed above under References;</p> <p>24590-WTP-PER-PR-03-002, Rev. 3, Control of Toxic Vapors and Emissions from WTP Tank and Miscellaneous Unit Systems;</p> <p>24590-WTP-PER-PR-03-001, Rev. 1, Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems;</p> <p>24590-WTP-M4C-V11T-00004, Rev. C, Calculation of Hydrogen Generation Rates and Times to Lower Flammability Limit for WTP.</p>	<p>The Mechanical Data Sheet presents the operating temperatures and pressures for MUs within the scope of this assessment. The System Description document identifies the offgas being handled by the MUs as hazardous, but not ignitable or flammable. The main safety function of the LVP system MUs is to prevent the escape of toxic and hazardous gas vapors to the environment, from the LAW Secondary Offgas System. MU component's design is required to provide an intact housing pressure boundary during normal and abnormal operations and during and after design level seismic events. Waste characteristics that are hazardous, such as ignitability, reactivity, and toxicity are appropriately addressed in the Control of Toxic Vapors and Emissions document and Prevention of Hydrogen Accumulation document. The System Description and Control of Toxic Vapors and Emissions documents describe that the LAW HEPA Pre-heaters are used to increase the nominal temperature of the Melter Offgas to avoid its condensation in the HEPA filters. The Prevention of Hydrogen Accumulation document indicates that MUs in the LAW facility are not expected to generate hydrogen gas, therefore, they do not pose any hydrogen accumulation hazard. It is also substantiated in the Calculation for Hydrogen Generation Rates document that hydrogen generation is a liquid-phase phenomenon and since these MUs are a dry offgas system, hydrogen generation should not be an issue.</p>
<p>Plant Item is designed to store or treat the wastes with the characteristics defined above and any treatment reagents.</p>	<p>Mechanical Data Sheet and System Description listed above under References.</p>	<p>The Mechanical Data Sheet adequately demonstrates the incorporation of identified waste characteristics into the MU design. Normal and abnormal operating conditions are discussed in the System Description. No reagents are added to the combined offgas stream at the Preheater unit locations.</p>

	Information Assessed	Source of Information	Assessment
<b>Compatibility</b>	The waste types are compatible with each other.	System Description listed above under References.	The MUs herein assessed draw gases from the LAW melter and the process vessels are used to increase the nominal temperature of the Melter Offgas to avoid its condensation in the HEPA filters downstream. The System Description document does not identify any compatibility issues relating to the offgas constituents listed above. Therefore, there are no concerns for compatibility of waste types.
	Plant Item material and protective coatings ensure the vessel structure is adequately protected from the corrosive effects of the waste stream and external environments (expected to not leak or fail for the design life of the system).	Mechanical Data Sheet, Drawings, and System Description listed above under References;  24590-LAW-N1D-LVP-00009, Rev. 1, Corrosion Evaluation for LAW Melter Offgas HEPA Pre-heaters (LVP-HTR-00001A/B and -00003A/B);	The 6% Mo alloy material (B462 UNS N08367) selected in the Corrosion Evaluation document and as listed in the Mechanical Data Sheet (MDS) serves its purpose being corrosion resistant for the anticipated environment. The material selection and their thicknesses with built in margin of safety and corrosion allowance of 0.0425" are adequate for these MUs. The MDS and drawings also show that the material used for sealing flange gaskets as stainless steel spiral wound (HAST-C-FG) is appropriate for the intended service. As these units operate in generally dry and actively ventilated conditions, external corrosion is not considered to be an issue. Therefore, the materials selected are adequate to provide the required 40-year service life as specified in System Description document.
<b>Corrosion Allowance</b>	Corrosion allowance is adequate for the intended service life of the Plant Item.	Drawings listed above under References;  24590-LAW-N1D-LVP-00009, Rev. 1, Corrosion Evaluation for LAW Melter Offgas HEPA Pre-heaters (LVP-HTR-00001A/B and -00003A/B);	The Corrosion Evaluation document specifies corrosion allowance of 0.0425" for the HEPA Pre-heater Housing units. The review of the Design Calculations and drawings show that the units are properly designed accounting for the specified corrosion allowance and that they will adequately sustain the applicable loads during their intended service life of 40 years.

	Information Assessed	Source of Information	Assessment
<b>Pressure Controls</b>	<p>Pressure controls (vents and relief valves) are adequately designed to ensure pressure relief if normal operating pressures in the Plant Item are exceeded.</p>	<p>System Description and Specifications listed above under References.</p>	<p>The System Description document provides a discussion of Normal and Off-Normal operations of the LAW Secondary Offgas LVP System. During normal operations the system is expected to run with little intervention. Since the Preheater units are in-line equipment, the designated pipe line housing them is designed for 15/FV psig, however, the pipe line classified as N11F per Engineering Specification for Piping Material Classes document, has capacity strength to sustain maximum anticipated pressure of up to 230 psig in the system, therefore, it has sufficient built in safety factor to accommodate any pressure increases in the system.</p>



## Master Distribution Schedule for WTP Project Subcontract Management Group

<b>SUBMITTAL TRANSMITTAL:</b> <input type="checkbox"/> First Submittal <input type="checkbox"/> Re-Submittal <input type="checkbox"/> QVRP Package <input type="checkbox"/> RFI <input checked="" type="checkbox"/> No Review Required <input type="checkbox"/> No Review Required Re-Submittal <input type="checkbox"/> Submittal Supplement			
<b>CORRESPONDENCE:</b> <input checked="" type="checkbox"/> With Attachment <input type="checkbox"/> W/O Attachment (letter only) <input type="checkbox"/> RFI <input type="checkbox"/> Fax as Original (Letter Only) <input type="checkbox"/> Fax as Original (With Attachment)			
<input type="checkbox"/> Pre-Award/Award Package		<input type="checkbox"/> Executed Change Order Package	
<input type="checkbox"/> Executed Amendment Package		<input type="checkbox"/> Back Charge <input type="checkbox"/> Closeout Package	

<b>Subcontract Number:</b>	24590-CM-HC4-HXYG-00240
<b>Subcontract Title:</b>	Tank Integrity Design Assessments
<b>Subcontractor Name:</b>	AREVA Federal Services LLC
<b>Subcontract Administrator:</b>	Tess Klatt

PDC Document Number	Rev	Document Title	Rev
24590-CM-HC4-HXYG <del>CCN #266552 - 00240-02-00010</del> 00A DCP 4/16/14		IQRPE Structural Integrity Assessment Report For LAW LVP HEPA Pre-Heater Housings (LVP-HTR-00001A/B and -00003A/B) (IA-3010206-000)	

**DUE BACK TO SUBCONTRACT ADMINISTRATOR NO LATER THAN: N/A**

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