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AREVA

AFS-09-0265

CCN: 200242

July 21, 2009

RPP-WTP
RECEIVED
JUL 22 2009
BY PDC

Ms. Jennifer Broadbent
Subcontract Administrator
Bechtel National, Inc.
2435 Stevens Center Place
Richland, Washington 99354

Dear Ms. Broadbent:

BECHTEL NATIONAL, INC. CONTRACT NO. 24590-CM-HC4-HXYG-00211
IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT FOR LAW RLD ANCILLARY EQUIPMENT (IA-3001885-000)

The structural integrity assessment of the subject ancillary equipment 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 ancillary equipment is adequately designed and has sufficient structural strength, compatibility with the waste(s) to be processed/stored/treated, and corrosion protection to ensure that it will not collapse, rupture, or fail.

If you have any questions, please contact Tarlok Hundal at (509) 373-4438, or via email at tarlok.hundal@areva.com.

Sincerely,

Fred R. Renz
Contract Management
AREVA Federal Services LLC
Richland Office

llm

Enclosure (1)

cc: D. C. Pfluger, MS 5-L w/enclosure (2)

AREVA Federal Services LLC
2101 Horn Rapids Road, RC-19, Richland, WA 99354, P. O. Box 840, Richland, WA 99352
Tel.: 509 375 8096 - Fax: 509 375 8495 - www.areva.com

IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT FOR LAW RLD ANCILLARY EQUIPMENT

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 RLD ANCILLARY EQUIPMENT

"I, Tarlok 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 Radioactive Liquid Waste Disposal (RLD) System Ancillary Equipment, 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

7/21/09

Date

Scope	Scope of this Integrity Assessment	This Integrity Assessment addresses ancillary equipment associated with the Low Activity Waste (LAW) Radioactive Liquid Waste Disposal System (RLD) vessels (RLD-VSL-00003, RLD-VSL-00004, and RLD-VSL-00005) located in the LAW facility. The ancillary equipment such as pipelines, valves, and other items associated with these vessels are conspicuously delineated on the P&ID drawings 24590-LAW-M6-RLD-P0001, -P0002, and -P0003. The RLD vessels (RLD-VSL-00003 and RLD-VSL-00005) located at Elevation 2'-0" in Cell, Room L-0126 and RLD-VSL-00004 is located at El. (-) 21'-0" a C3/C5 Drain Collection Cell, Room L-B001B of the LAW facility. Ancillary equipment located inside the RLD system vessels is addressed separately in the Integrity Assessments for these plant items.
Summary of Assessment		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, *Dangerous Waste Regulations,* WAC-173-303-640, *Tank Systems.*

References	Drawings and System Description	Drawings: 24590-LAW-P1-P01T-00001, Rev. 3, LAW Vitrification Building General Arrangement Plan at El. (-) 21'- 0"; 24590-LAW-P1-P01T-00002, Rev. 5, LAW Vitrification Building General Arrangement Plan at El. 3'- 0"; 24590-LAW-P1-P01T-00007, Rev. 8, LAW Vitrification Building General Arrangement Sections A-A, B-B, C-C, and S-S; 24590-LAW-P1-P01T-00010, Rev. 8, LAW Vitrification Building General Arrangement Section K-K, L-L, and M-M; 24590-LAW-M6-RLD-P0001, Rev. 3, P&ID –LAW Radioactive Liquid Waste Disposal System Plant Wash and SBS Condensate Collection; 24590-LAW-M6-RLD-P0002, Rev. 3, P&ID –LAW Radioactive Liquid Waste Disposal System C3/C5 Drains/Sump Collection; 24590-LAW-M6-RLD-P0003, Rev. 3, P&ID –LAW Radioactive Liquid Waste Disposal System C3/C5 Floor Drains Collection; 24590-LAW-M6-RLD-00001, Rev. 5, P&ID –LAW Radioactive Liquid Waste Disposal System Plant Wash and SBS Condensate Collection; 24590-LAW-M6-RLD-00002, Rev. 5, P&ID –LAW Radioactive Liquid Waste Disposal System C3/C5 Drains/Sump Collection; 24590-LAW-M6-RLD-00003, Rev. 5, P&ID –LAW Radioactive Liquid Waste Disposal System C3/C5 Floor Drains Collection; 24590-LAW-M6-RLD-00004, Rev. 1, P&ID –LAW Radioactive Liquid Waste Disposal System HVAC Coils Condensate Drain System RLD/NLD; 24590-LAW-M6-RLD-00005, Rev. 1, P&ID –LAW Radioactive Liquid Waste Disposal System C3/C5 HVAC Drains; 24590-LAW-M5-V17T-00014, Rev. 5, Process Flow Diagram LAW Liquid Effluent (System RLD); 24590-LAW-P3-RLD-ZF33829001, Rev. 1, LAW Vitrification Isometric (Line No. RLD-ZF-33829-N11F-3); 24590-LAW-P3-RLD-GR00024001, Rev. 3, LAW Vitrification Isometric (Line No. RLD-GR-00024-S11P-1.5); 24590-LAW-P3-RLD-WS20033002, Rev. 0, LAW Vitrification Isometric (Line No. RLD-WS-20033-S11B-1); 24590-LAW-P3-RLD-WU02184001, Rev. 1, LAW Vitrification Isometric (Line No. RLD-WU-02184-S11B-4); 24590-LAW-P3-RLD-ZR04244001, Rev. 0, LAW Vitrification Isometric (Line No. RLD-ZR-04244-C14A-2); 24590-LAW-P3-RLD-ZF03440001, Rev. 3, LAW Vitrification Isometric (Line No. RLD-ZF-03440-N11F-2); 24590-LAW-P3-RLD-ZF00095001, Rev. 2, LAW Vitrification Isometric (Line No. RLD-ZF-00095-S11B-4); 24590-WTP-PH-50-00003001, Rev. 4, Standard Pipe Support Details Cantilever-Cantilever CC; 24590-WTP-PH-50-00004001, Rev. 4, Standard Pipe Support Details Frame - L Shape FL; 24590-WTP-PH-50-00012001, Rev. 6, Standard Pipe Support Details Guide – U Bolts GU; 24590-WTP-PH-50-00012002, Rev. 5, Standard Pipe Support Details Guide – U Strap GU; 24590-WTP-PH-50-00012003, Rev. 4, Standard Pipe Support Details Guide – U Strap GU; 24590-WTP-PH-50-00014001, Rev. 1, Standard Pipe Support Details Rod – Hangers RH; 24590-WTP-PH-50-00014002, Rev. 1, Standard Pipe Support Details Rod – Hangers RH; 24590-WTP-PH-50-00014003, Rev. 1, Standard Pipe Support Details Rod – Hangers RH; 24590-LAW-RLD-H00001, Rev. 0, Pipe Support Drawing; 24590-LAW-RLD-H00202, Rev. 0, Pipe Support Drawing. System Description: 24590-LAW-3YD-RLD-00001, Rev. 0, System Description for LAW Radioactive Liquid Waste Disposal (RLD) System.

Information Assessed		Source of Information	Assessment
Design	Ancillary equipment design standards are appropriate and adequate for the equipment's intended use.	Drawings and System Description listed above under References; 24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-3DP-G04T-00905, Rev. 10, Determination of Quality Levels.	The Pipe Stress Design Criteria identifies ASME B31.3 as the design code for piping systems of the WTP. The Process System Description document states that the RLD system does not have any important to safety function. Drawings show that the ancillary equipment is of commercial quality level (CM) grade and is Seismic Category SC-III/IV. Determination of Quality Levels document and Pipe Stress Design Criteria document provide detailed discussion of quality grades and seismic categories, respectively. The codes and standards used are acceptable and adequate for the design of the ancillary piping for the intended service.

Information Assessed		Source of Information	Assessment
Design (cont'd)	If the ancillary equipment to be used is not built to a design standard, the design calculations demonstrate sound engineering principles of construction.	Drawings and listed above under References; 24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria"; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-LAW-P6C-RLD-00031, Rev. D, Pipe Stress Analysis for LAW RLD System; 24590-LAW-PHC-RLD-00013, Rev. A, Pipe Support Calculation (for Support No. LAW-RLD-H00001); 24590-WTP-3PS-MX00-T0001, Rev. 6, Engineering Specification for Process Bulge Design and Fabrication; 24590-LAW-MXD-RLD-00002, Rev. 5, Mechanical Data Sheet for Process Bulge (RLD-BULGE-00004); 24590-CM-POA-PY33-00001-10-06, Rev. 00B, Containment Layout Drawing (RLD-BULBE-00001: Vendor Submittal; 24590-CM-POA-PY33-00001-09-01. 00B, Design Worksheet for Bulge (RLD-BULGE-00001): Vendor Submittal; 24590-CM-POA-MPH0-00001-05-01, Instructions for Pump Casing Hydrostatic Test: Vendor Submittal; 24590-WTP-3DP-G04T-00906, Rev. 7A, Isometric Drawings and Associated Calculations; 24590-WTP-3DP-G04B-00037, Rev. 15A, Engineering Calculations; 24590-WTP-3PS-PH01-T0002, Rev. 4, Installation of Pipe Supports.	The ancillary equipment is built to design standards. The Pipe Stress Design Criteria specifies that piping is to be designed in accordance with ASME B31.3 Code. The review of the sample isometric and pipe support drawings listed in the References, Pipe Stress Analysis, Pipe Support Calculation, Mechanical Data Sheet, Engineering Specification, Vendor Submittals approved by Bechtel National Inc. (BNI), and of the design process and controls described in Isometric Drawings and Associated Calculations, Engineering Calculations, and Installation of Pipe Supports documents provides adequate assurance that RLD ancillary equipment are properly designed, installed, and verified to meet the requirements of the applicable design criteria established for the project. The review of the aforementioned documents also demonstrates that sound design engineering principles are used for the design and construction of the ancillary equipment.

Information Assessed		Source of Information	Assessment
Design (cont'd)	Ancillary equipment has adequate strength at the end of its design life to withstand the operating pressure, operating temperature, thermal expansion, and seismic loads. Equipment is protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.	24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; ASME Boiler and Pressure Vessel Code, Section III, Division 1, Rules for Construction of Nuclear Power Plant Components, American Society of Mechanical Engineers, 1995; Uniform Building Code (UBC), 1997; 24590-WTP-PER-M-02-002, Rev. 2, Materials for Ancillary Equipment; 24590-WTP-GPG-ENG-004, Rev. 2A, Design Guide Pipe Stress, Pipe Layout and Support Spacing; 24590-WTP-SE-ENS-03-704, Rev. 0, Seismic Evaluation for Design (Seismic Design of Piping and Pipe Supports).	The Pipe Stress Design Criteria requires the use of the ASME B31.3 Code for process piping design. ASME B31.3 requires explicit consideration of operating pressure, operating temperature, thermal expansion/contraction, settlement, vibration, and corrosion allowance in the design of piping. For the seismic design of Seismic Category (SC-III/IV) ancillary equipment, applicable sections of ASME Section III, Division 1, Appendix F, and sections of Uniform Building Code (UBC) are used to supplement the requirements of ASME B31.3. Details of the seismic design methods are discussed in the Pipe Stress Design Criteria and Seismic Evaluation documents. These are appropriate and adequate codes and standards including the Design Guide document, to ensure that the ancillary equipment has adequate strength at the end of its design life to withstand all anticipated loads.

Information Assessed		Source of Information	Assessment
Supports	Ancillary equipment supports are adequately designed.	Drawings listed above under References; 24590-WTP-DC-PS-01-002, Rev. 4, Pipe Support Design Criteria; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; MSS-SP-58, Pipe Hangers and Supports-Materials, Design, and Manufacture, Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.; AISC Manual of Steel Construction, ASD, 9th Edition, American Institute of Steel Construction; ASME Boiler and Pressure Vessel Code, Section III, Division 1, Rules for Construction of Nuclear Power Plant Components, American Society of Mechanical Engineers, 1995; Uniform Building Code (UBC), 1997; 24590-WTP-PER-PS-02-001, Rev. 4, Ancillary Equipment Pipe Support Design; 24590-WTP-PL-PS-01-001, Rev. 2, Verification and Validation Test Plan for Bechtel's ME150 Pipe Support Family of Programs (PCFAPPS); 24590-LAW-PHC-RLD-00013, Rev. A, Pipe Support Calculation (for Support No. LAW-RLD-H00001); 24590-LAW-PHC-RLD-00048, Rev. C, Pipe Support Calculation (for Support No. LAW-RLD-H00202); 24590-WTP-GPG-ENG-005, Rev. 4A, Engineering Design Guide for Pipe Supports; 24590-WTP-PHC-P50T-00002, Rev. 1, Justification for the use of Standard Supports for RPP-WTP-Project; 24590-WTP-PHC-P50T-00001, Rev. 1, U-Bolt Load Capacity Calculation; 24590-WTP-3DP-G04T-00906, Rev. 7A, Isometric Drawings and Associated Calculations; 24590-WTP-3DP-G04B-00037, Rev. 15A, Engineering Calculations; 24590-WTP-PHC-P50-00001, Rev. 1, RPP/WTP Support Standards; 24590-WTP-PHC-P50T-00004, Rev. 0, Qualification of Pipe Straps; 24590-WTP-SE-ENS-03-704, Rev. 0, Seismic Evaluation for Design (Seismic Design of Piping and Pipe Supports).	The Pipe Support Design Criteria document considers all loadings identified in ASME B31.3 including MSS-SP-58 and AISC Manual and also utilizes ASME B&PV Code, Section III, Division 1, Appendix F, to supplement the requirements of ASME B31.3 for seismic design of Seismic Category (SC-III/IV) pipe supports. Bounding load cases are passed to the pipe support designers from the results of the ancillary equipment piping stress analyses. Details of the seismic design methodology are discussed in the Pipe Support Design Criteria document. Examples of typical ancillary equipment supports are shown in the Ancillary Equipment Pipe Support Design document. Analysis is by manual calculation or approved computer programs that have been verified and validated. These are appropriate codes and standards for design of ancillary equipment supports for the RLD system. Ancillary equipment supports are to be designed to allow a minimum of heat to be transferred to the building structures such that the temperature of the building structures does not exceed 150°F for the concrete structure and 200°F for the steel structure. The review of the sample isometric drawings, pipe support drawings, Pipe Support Calculations, and that of the design process and controls described in Isometric Drawings and Associated Calculations, Engineering Calculation and other supports associated documents, provides sufficient assurance that RLD ancillary equipment supports are adequately designed, installed, and verified to meet the requirements of the applicable design criteria established for the project.

Information Assessed		Source of Information	Assessment
Foundations	The system will withstand the effects of frost heave.	Drawings listed above under References; 24590-WTP-DC-ST-01-001, Rev. 12, Structural Design Criteria.	The Structural Design Criteria requires that all outdoor equipment structural foundations shall extend into the surrounding soil below the 30" frost line to preclude frost heave. The RLD ancillary equipment system considered in this assessment is located inside the LAW facility. The LAW facility structural foundations are well below the grade elevation, therefore, the RLD system is not subjected to any frost heave effects.
Connections	Seams and connections are adequately designed.	24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; ASME B16.5, Piping Flanges and Flanged Fittings, American Society of Mechanical Engineers; ASME Boiler and Pressure Vessel Code (B&PV), Section IX, Welding and Brazing Qualifications, American Society of Mechanical Engineers.	The Pipe Stress Design Criteria specifies the ASME B31.3 Process Piping design code for the piping systems. Welding is to be performed in accordance with the requirements of ASME B31.3 and the ASME B&PV Code, Section IX. ASME B16.5 is specified for flange designs. These are appropriate codes and standards for design and fabrication of the RLD System ancillary equipment.
Waste Characteristics	Characteristics of the waste to be stored or treated have been identified (ignitable, reactive, toxic, specific gravity, vapor pressure, flash point, temperature)	System Description listed above under References; 24590-WTP-PER-PR-03-001, Rev. 1, Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit Systems; 24590-WTP-PER-PR-03-002, Rev. 3, Control of Toxic Vapors and Emissions from WTP Tank Systems and Miscellaneous Unit Systems.	The Prevention of Hydrogen Accumulation in WTP Tank Systems and Miscellaneous Treatment Unit System and System Description documents indicate that flammable or explosive concentrations of hydrogen are not expected in the LAW facility systems ancillary equipment. Similarly, the Control of Toxic Vapors and Emissions from WTP Tank Systems and Miscellaneous Unit Systems document provides a summary of the LAW facility ancillary equipment design features that provide for confinement and treatment of chronically toxic vapors and emissions during normal operations, abnormal operations, and during and after a Design Basis seismic event. The above mentioned documents appropriately identify the characteristic of the waste to be handled by the RLD system.

Information Assessed		Source of Information	Assessment
Waste Characteristics (cont'd)	Ancillary equipment is designed to handle the wastes with the characteristics defined above and any treatment reagents.	24590-WTP-PER-M-02-002, Rev. 2, Materials for Ancillary Equipment.	The Materials for Ancillary Equipment document specifies that ancillary equipment materials that contact the waste are to be equal to or better than those of the upstream source vessels. Selection of proper material for the RLD piping and equipment ensures that the ancillary equipment is appropriately designed to handle the waste.
Compatibility	The pH range of the waste, waste temperature and the corrosion behavior of the structural materials are adequately addressed. Ancillary equipment material and protective coatings ensure the ancillary equipment structure is adequately protected from the corrosive effects of the waste stream and external environments. The protection is sufficient to ensure the equipment will not leak or fail for the design life of the system.	24590-WTP-DB-ENG-01-001, Rev. 1N, Basis of Design; 24590-WTP-PER-M-02-002, Rev. 1, Materials for Ancillary Equipment; 24590-WTP-3PS-NN00-T0001, Rev. 2, Engineering Specification for Thermal Insulation for Mechanical Systems; ASTM Annual Book of ASTM Standards, American Society of Testing and Materials.	The Basis of Design document identifies a service design life of 40 years for the ancillary equipment. Detailed materials selection (corrosion) evaluations are conducted for each vessel in the LAW facility during process design to assure a 40-year service life. The Materials for Ancillary Equipment document requires that the material selection and corrosion/erosion allowances for ancillary equipment in contact with the waste will be equal to or better than the material and corrosion allowance of the waste source vessel. The Thermal Insulation specification requires that all insulating materials used on the outside of ancillary equipment be pre-approved for use on austenitic stainless steel in accordance with applicable ASTM standards and tests to preclude external corrosion of ancillary equipment. Therefore, the ancillary equipment will provide the expected design service life.

Information Assessed		Source of Information	Assessment
Corrosion Allowance	Corrosion allowance is adequate for the intended service life of the ancillary equipment.	System Description listed above under References; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" 24590-WTP-DB-ENG-01-001, Rev. 1N, Basis of Design; 24590-WTP-PER-M-02-002, Rev. 2, Materials for Ancillary Equipment; 24590-WTP-PER-PL-02-001, Rev. 6, Piping Material Class Description.	ASME B31.3 is the design code for the WTP piping. Consideration of corrosion, including corrosion allowance, is a mandatory requirement of ASME B31.3 and is appropriately supplemented in the Pipe Stress Design Criteria document. A required service life of 40 years is identified in the Basis of Design for ancillary equipment. Detailed materials selection (corrosion) evaluations are conducted for each vessel in the LAW facility during process design to ensure a 40-year service life. The Materials for Ancillary Equipment document requires that downstream ancillary equipment is to be constructed of equal or better materials, and with the same corrosion allowance as the source vessel. Corrosion/Erosion allowances are listed for the ancillary equipment (each piping class and associated valves, fittings, etc.) in the Piping Material Class Description document.
Pressure Controls	Pressure controls (vents and relief valves) are adequately designed to ensure pressure relief if normal operating pressures in the vessels are exceeded.	24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers.	The Pipe Stress Design Criteria document specifies ASME B31.3 as the design code for the WTP piping. ASME B31.3 requires provision be made to safely contain or relieve any pressure to which the piping may be subjected. ASME B31.3 piping not protected by a pressure relieving device, or that can be isolated from a pressure reliving device must be designed for at least the highest pressure that can be developed.

Information Assessed		Source of Information	Assessment
Pressure Controls (cont'd)	Maximum flows and any unusual operating stresses are identified	Drawings listed above under References; 24590-WTP-DC-PS-01-001, Rev. 6, Pipe Stress Design Criteria including "Pipe Stress Criteria" and "Span Method Criteria;" ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-3PS-P000-T0001, Rev. 6, Engineering Specification for Piping Material Classes General Description and Summary; 24590-WTP-PER-PL-02-001, Rev. 6, Piping Material Class Description; 24590-WTP-3DP-G04T-00906, Rev. 7A, Isometric Drawings and Associated Calculations; 24590-WTP-3DP-G04B-00037, Rev. 15A, Engineering Calculations.	The expected flow paths for the ancillary equipment are identified on the P&ID drawings. The Pipe Stress Design Criteria specifies the ASME B31.3 code for piping design. This code requires piping to be designed to the highest pressure that can be developed in a piping system assuring that maximum operating stresses remain within code allowables. Piping material classes are shown on the P&ID drawings, embedded in the item numbers for each ancillary equipment component. Each ancillary equipment is designed for the highest anticipated temperature and pressure values which are also within the bounding maximum design temperature and pressure values listed for each piping material class in the Piping Material Class General Description document. ASME B31.3 and the associated standards are appropriate and adequate for the design of the ancillary equipment. Furthermore, the fabrication or isometric drawings released for construction by Bechtel National, Inc. (BNI), and the design process and controls described in the Isometric Drawings and Associated Calculations, and Engineering Calculations documents provides adequate assurance that subject ancillary equipment are properly designed, installed, and verified to meet the requirements identified in the applicable design criteria established for the project.

Information Assessed		Source of Information	Assessment
Secondary Containment	Ancillary equipment is designed with secondary containment that is constructed of materials compatible with the waste and of sufficient strength to prevent failure (pressure gradients, waste, climatic conditions, daily operations), provided with a leak-detection system, and designed to drain and remove liquids.	Drawings listed above under References; 24590-LAW-PER-M-02-001, Rev. 5, LAW Facility Sump Data; WAC 173-303, Washington Administrative Code, Chapter 173-303, *Dangerous Waste Regulations*.	The ancillary equipment considered in this assessment is located in and between areas R3/C5 (Room L-B001B) and R5/C5 (Room L-0126), within the LAW building. These LAW rooms are secondary containment concrete structures provided with stainless steel liner plates and sumps (RLD-SUMP-00028, RLD-SUMP-00035, and RLD-SUMP-00036), as shown on the general arrangement drawings and in Sump Data document. The structural integrity assessment of the above mentioned secondary containment structures is outside the scope of this assessment, however, it is conducted in a separate document. It should also be noted that the drawings show that various welded piping spools of the RLD ancillary system route through numerous C2/C3 corridors and rooms before entering the above listed rooms where the RLD vessels are located. These corridors and rooms are not equipped with secondary containment features. Therefore, ancillary equipment located in these rooms and corridors will require daily visual inspections for leaks, as delineated in WAC-173-303-640(4)(f)(ii).

Master Distribution Schedule for WTP Project Subcontract Management Group

SUBMITTAL TRANSMITTAL:	☐ First Submittal	☐ Re-Submittal	☐ QVRP Package	☐ RFI
☐ No Review Required	☐ No Review Required Re-Submittal	☐ Submittal Supplement		
CORRESPONDENCE:	☒ With Attachment	☐ W/O Attachment (letter only)	☐ RFI	
☐ Fax as Original (Letter Only)	☐ Fax as Original (With Attachment)			
☐ Pre-Award/Award Package	☐ Executed Change Order Package			
☐ Executed Amendment Package	☐ Back Charge	☐ Closeout Package		

Subcontract Number:	24590-CM-HC4-HXYG-00211
Subcontract Title:	Tank Integrity Design Assessments
Subcontractor Name:	AREVA Federal Services LLC
Subcontract Administrator:	Jennifer Broadbent

PDC Document Number	Rev	Document Title	Rev
CCN #200242		IQRPE Structural Integrity Assessment Report For LAW RLD Ancillary Equipment (IA-3001885-000)	

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

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Master Distribution Schedule for WTP Project Subcontract Management Group

Subcontract Number:	24590-CM-HC4-HXYG-00211
Subcontract Title:	Tank Integrity Design Assessments
Subcontractor Name:	AREVA Federal Services LLC
Subcontract Administrator:	Jennifer Broadbent

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