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AFS-10-0199

ISSUED BY
RPP-WTP PDC

June 3, 2010

RPP-WTP
RECEIVED

JUN 03 2010

BY PDC

Ms. Susan Parr
Subcontract Formation Specialist
Bechtel National RPP-WTP Project
2435 Stevens Center Place
Richland, Washington 99354

Dear Ms. Parr:

**BECHTEL NATIONAL, INC. CONTRACT NO. 24590-CM-HC4-HXYG-00211
IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT FOR LAW ASX
SECONDARY CONTAINMENT (SAMPLER CABINETS) – IA-3003444-000**

The structural integrity assessment of the subject secondary containment 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 secondary containment 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) 371-1975, 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/enclosures (2)

AREVA Federal Services LLC

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Tel.: 509 375 8096 - Fax: 509 375 8495 - www.areva.com

**IQRPE STRUCTURAL INTEGRITY ASSESSMENT REPORT
FOR
LAW ASX SECONDARY CONTAINMENT (SAMPLER CABINETS)**

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
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"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 ASX Secondary Containment (Sampler Cabinets), 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 ten (10) pages numbered one (1) through ten (10).



T Hundal

Signature

6/3/10

Date

**IQRPE Structural Integrity Assessment Report for LAW ASX
Secondary Containment (Sampler Cabinets)**

IA-3003444-000

Scope	Scope of this Integrity Assessment	This assessment addresses the structural integrity of LAW ASX Secondary Containment provided by a sampler cabinet housed in each Autosampler Unit (ASX-SMPLR-00012 and -00013). These autosampler units are located in Room L-0301 at Elevation 48'-0" of the LAW facility as shown on General Arrangement Plan drawing 24590-LAW-P1-P01T-00005.
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, <i>Dangerous Waste Regulations</i> , WAC-173-303-640, <i>Tank Systems</i> .

<p>References</p>	<p><u>Engineering & Procurement Subcontract Document (EP):</u></p> <p>24590-QL-SRA-HAHH-00001, Rev. 13, Autosampling System (ASX), Exhibit D-Scope of Work, Exhibit E-Technical Specifications, and Exhibit F-List of Drawings.</p> <p><u>Specifications:</u> Following specifications along with their respective revision numbers and change notices are included in EP document listed above:</p> <p>24590-WTP-3PS-G000-T0001, General Specification for Supplier Quality Assurance Program Requirements; 24590-WTP-3PS-G000-T0002, Engineering Specification for Positive Material Identification (PMI); 24590-WTP-3PS-G000-T0003, General Specification for Packaging, Shipping, Handling, and Storage Requirements; 24590-WTP-3PS-G000-T0014, General Specification for Supplier Design Analysis ; 24590-WTP-3PS-MV00-T0003, Engineering Specification for Pressure Vessel Fatigue Analysis; 24590-WTP-3PS-G000-T0015, General Specification for Environmental Qualification of Mechanical Equipment; 24590-WTP-3PS-FB01-T0001, Engineering Specification for Structural Design Loads for Seismic Category III/IV Equip. and Tanks; 24590-WTP-3PS-SS00-T0001, Engineering Specification for Welding of Structural Steel Carbon; 24590-WTP-3PS-SS00-T0002, Engineering Specification for Welding of Structural Stainless Steel and Welding of Carbon Steel to Stainless Steel; 24590-WTP-3PS-AFPS-T0001, Engineering Specification for Shop Applied Special Protective Coatings for Steel Items and Equipment; 24590-WTP-3PS-MHSS-T0002, Engineering Specification for Autosampling System (ASX).</p> <p><u>Vendor Drawings (Status Code 1 Drawings *):</u></p> <p>24590-QL-HC4-HAHH-00001-06-00057, Rev. 00G, Autosampling System ASX-SMPLR-00012, Outline Dim & Mtg Det Sheet 1 of 2; 24590-QL-HC4-HAHH-00001-06-00058, Rev. 00H, Autosampling System ASX-SMPLR-00012, Outline Dim & Mtg Det Sheet 2; 24590-QL-HC4-HAHH-00001-06-00059, Rev. 00G, Autosampling System ASX-SMPLR-00013, Outline Dim & Mtg Det Sheet 1 of 2; 24590-QL-HC4-HAHH-00001-06-00060, Rev. 00H, Autosampling System ASX-SMPLR-00013, Outline Dim & Mtg Det Sheet 2; 24590-QL-HC4-HAHH-00001-06-00834, Rev. 00B, Autosampling System ASX-SMPLR-00012 and 00013, Internal Base Details Sht 1 of 4; 24590-QL-HC4-HAHH-00001-06-00835, Rev. 00C, Autosampling System ASX-SMPLR-00012 and 13, Internal Base Table Sheet 2; 24590-QL-HC4-HAHH-00001-06-00836, Rev. 00C, Autosampling System ASX-SMPLR-00012 and 13, Internal Base Table Sheet 3; 24590-QL-HC4-HAHH-00001-06-00837, Rev. 00B, Autosampling System ASX-SMPLR-00012 and 13, Internal Base Table Sheet 4; 24590-QL-HC4-HAHH-00001-06-00844, Rev. 00B, Autosampling System ASX-SMPLR-00012 and 00013, Internal Base Table Assembly Sheet 1 of 3; 24590-QL-HC4-HAHH-00001-06-00845, Rev. 00B, Autosampling System ASX-SMPLR-00012/00013, Internal Base Table Assembly Sht 2; 24590-QL-HC4-HAHH-00001-06-00846, Rev. 00B, Autosampling System ASX-SMPLR-00012/00013, Internal Base Table Assembly Sht 3; 24590-QL-HC4-HAHH-00001-06-00847, Rev. 00B, Autosampling System ASX-SMPLR-00012 and 00013 Trough Shield Plate Sheet 1 of 1; 24590-QL-HC4-HAHH-00001-06-00523, Rev. 00E, Autosampling System ASX-SMPLR-00012, Process Pipe & Support Subassy Sht 1 of 3; 24590-QL-HC4-HAHH-00001-06-00771, Rev. 00C, Autosampling System ASX-SMPLR-00012, Process Pipe & Support Subassy Sheet 2; 24590-QL-HC4-HAHH-00001-06-00772, Rev. 00B, Autosampling System ASX-SMPLR-00012, Process Pipe & Support Subassy Sheet 3;</p>
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References (cont'd)	<p>Vendor Drawings (Status Code 1 Drawings *) (cont'd):</p> <p>24590-QL-HC4-HAHH-00001-06-00224, Rev. 00G, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sht 1 of 6; 24590-QL-HC4-HAHH-00001-06-00225, Rev. 00F, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sheet 2; 24590-QL-HC4-HAHH-00001-06-00767, Rev. 00D, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sheet 3; 24590-QL-HC4-HAHH-00001-06-00768, Rev. 00D, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sheet 4; 24590-QL-HC4-HAHH-00001-06-00769, Rev. 00C, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sheet 5; 24590-QL-HC4-HAHH-00001-06-00770, Rev. 00B, Autosampling System ASX-SMPLR-00013, Shielded Autosampler Assembly Sheet 6; 24590-QL-HC4-HAHH-00001-06-00959, Rev. 00B, Autosampling System ASX-SMPLR-00012, Glovebox Subassembly Sheet 1 of 3; 24590-QL-HC4-HAHH-00001-06-00960, Rev. 00B, Autosampling System ASX-SMPLR-00012, Glovebox Subassembly Sheet 2; 24590-QL-HC4-HAHH-00001-06-00961, Rev. 00B, Autosampling System ASX-SMPLR-00012, Glovebox Subassembly Sheet 3; 24590-QL-HC4-HAHH-00001-06-01504, Rev. 00B, Autosampling System ASX-SMPLR-00012, Glovebox Shell Detail Sheet 1 of 2; 24590-QL-HC4-HAHH-00001-06-01505, Rev. 00B, Autosampling System ASX-SMPLR-00012, Glovebox Shell Detail Sheet 2; 24590-QL-HC4-HAHH-00001-06-01506, Rev. 00B, Autosampling System ASX-SMPLR-00013, Glovebox Shell Detail Sheet 1 of 2; 24590-QL-HC4-HAHH-00001-06-01507, Rev. 00B, Autosampling System ASX-SMPLR-00013, Glovebox Shell Detail Sheet 2.</p> <p>* Status Code 1 Drawing: Bechtel National Inc.'s Code indicating that BNI has "reviewed and approved the drawing for fabrication."</p> <p><u>Plant Drawings:</u> 24590-LAW-P1-P01T-00005, Rev. 3, LAW Vitrification Building General Arrangement Plan at El. 48'-0"; 24590-LAW-P1-P01T-00007, Rev. 8, LAW Vitrification Building General Arrangement Section A-A B-B, C-C, and S-S; 24590-LAW-DB-S13T-00131, Rev. 5, LAW Vitrification Building Main Building Partial Conc Forming Plan, Zone 1 @ El. (+) 48'-0"; 24590-LAW-DB-S13T-00132, Rev. 6, LAW Vitrification Building Main Building Partial Conc Forming Plan, Zone 2 @ El. (+) 48'-0"; 24590-LAW-M6-ASX-00007001, Rev. 0, P&ID LAW Autosampling System Isolok Details ASX-SMPLR-00013; 24590-LAW-M6-ASX-00009001, Rev. 0, P&ID LAW Autosampling System Isolok Details ASX-SMPLR-00012; 24590-LAW-M6-ASX-00009002, Rev. 0, P&ID LAW Autosampling System Isolok Details ASX-SMPLR-00012.</p> <p><u>Data Sheet:</u> 24590-LAW-M2D-ASX-00001, Rev. 3, LAW Autosampling System (ASX) Data Sheet for Autosamplers (ASX-SMPLR-00012 and 00013).</p> <p><u>System Description:</u> 24590-WTP-3YD-ASX-00001, Rev. 0, System Description for the Autosampling System (ASX).</p> <p><u>Permit Document:</u> 24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design.</p>
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	Information Assessed	Source of Information	Assessment
Design	<p>The sampler cabinets secondary containment design standards and codes used are appropriate and adequate for their intended use.</p>	<p>Drawings, Specifications, Engineering & Procurement Subcontract Document, and Data Sheet listed above under References;</p> <p>AISC-M016-89 Manual of Steel Construction, Allowable Stress Design, 9th Edition, American Institute of Steel Construction;</p> <p>ANSI/AISC N690-1994, Specification for the Design, Fabrication, and Erection of Safety Related Structures for Nuclear Facilities, American National Standards Institute;</p> <p>UBC 1997, Uniform Building Code;</p> <p>AWS D1.1, Structural Welding Code-Steel, American Welding Society;</p> <p>AWS D1.6, Structural Welding Code-Stainless Steel, American Welding Society;</p> <p>ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers;</p> <p>ASME B13.3, Pressure Piping, American Society of Mechanical Engineers;</p> <p>ASME AG-1-1997 (including AG-1a-2000 Addenda), Code on Nuclear Air and Gas, American Society of Mechanical Engineers;</p> <p>AGS-G001-1998, Guidelines for Gloveboxes, 2nd Edition.</p>	<p>The Specification for Autosampler System and the Engineering & Procurement Subcontract Document require that the sampler cabinets be designed, fabricated, tested, and delivered in accordance with the requirements specified in the codes and standards listed in the Source of Information column in this section. The Data Sheet for Autosampler Units (ASX-SMPLR-00012 and -00013) requires that these units be designed for temperature range of 59° F to 113° F and pressure range of (-) 4 in. w.g. to (+) 22.3 in. w.g. The Data Sheet also provides applicable nozzle and fatigue loads. The drawings show that overall dimensions of each shielded autosampler unit are about 68" wide x 82" long x 88" high. Each autosampler unit houses the upper and lower secondary containment components (liner plates, leak collection trough, leak detector inside the glovebox). The overall dimensions of each glovebox are about 42" wide x 68" long x 37" high. The autosampler glovebox is built with varying thicknesses of 304L or 316L stainless steel plates, 3/16" being the minimum thickness. The codes and standards listed in the Source of Information column are appropriate and adequate to provide secondary containment for the intended use of collecting and transporting samples of LAW process waste.</p>

	Information Assessed	Source of Information	Assessment
<p>Design (cont'd)</p>	<p>The sampler cabinets component enclosure, supports, and foundation design include full weight of sampler cabinets.</p>	<p>Specifications, Data Sheet, and Drawings listed above under References;</p> <p>24590-WTP-DC-ST-01-001, Rev. 12 Structural Design Criteria; 24590-WTP-DB-ENG-01-001, Rev. 10 Basis of Design; 24590-WTP-DC-ENG-06-001, Rev. 0, Design Criteria for Equipment Seismic and Environmental Qualification; 24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	<p>The Specification for Autosampling System identifies the system to be of commercial grade (CM) quality and the seismic category to be SC-III. The drawings show that the secondary containment enclosure components, the sampler cabinet, are an integral part of or are located within the bounds of a glovebox structure. All secondary containment liners and components within the glovebox are fully welded to confine any waste spillage within the enclosed sampler cabinet which has the leak detection device to alarm any spillage incidents. The glovebox structure is attached to and supported by structural steel framing members. The framing members are enclosed in shielding steel plates around them on three sides except the rear side that faces the concrete wall. The Structural Design Criteria uses appropriate applicable standards to define design loads and load combinations. The Specification for the Autosampling System, the Design Criteria for Equipment Seismic and Environmental Qualification, and the Data Sheet require that along with dead weights of the components, the weight of the glovebox filled with water, and the specified temperature and pressure environmental conditions should be appropriately included in the loads and load combinations. The Structural Analysis document and drawings reviewed show that the secondary containment components of the sampler cabinets have been adequately designed to provide the required containment for any spilled waste fluids. Review of the autosampler units Structural Analysis also shows that the support system for each unit has adequate strength to sustain the aforementioned loads and is in turn anchored (welded) to the steel embed plates in the concrete floor slab. Furthermore, Chapter 14 of the Basis of Design document requires that the foundation underlying the autosampler units supports must be adequate to sustain the full load of the units, which is out of scope of this assessment. The assessment of the adequacy of the underlying foundation slab is part of a separate integrity assessment report for the secondary containment of the plant items on this floor (Elevation 48'-0").</p>

Information Assessed		Source of Information	Assessment
Design (cont'd)	Design calculation approach and design basis of support and foundation with design standard and codes references such as AISC codes are adequate.	<p>Drawings listed above under References;</p> <p>24590-WTP-DB-ENG-01-001, Rev. 10, Basis of Design;</p> <p>24590-WTP-DC-ST-01-001, Rev. 12, Structural Design Criteria;</p> <p>24590-WTP-DC-ENG-06-001, Rev. 0, Design Criteria for Equipment Seismic and Environmental Qualification;</p> <p>AISC-M016-89 Manual of Steel Construction, Allowable Stress Design, 9th Edition, American Institute of Steel Construction;</p> <p>ANSI/AISC N690-1994, Specification for the Design, Fabrication, and Erection of Safety Related Structures for Nuclear Facilities, American National Standards Institute;</p> <p>24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	<p>The Basis of Design document provides many fundamental general requirements for support and foundation design. The Structural Design Criteria document references adequate detailed design criteria for the design of support steel framing and concrete foundations and footings. AISC-M016-89 and ANSI/AISC N690-1994 codes are referenced for support design of SC-III structural steel components. Structural Analysis and drawings reviewed show that the upper and lower secondary containment components housed in the gloveboxes are adequately designed to meet the applicable code requirements.</p>
Foundation Design	Foundation material is compatible with the support structure.	Specification and Drawings listed in above under References.	<p>Specification for Autosampling System requires that stainless steel material be used for the ASX sampler cabinet confinement enclosure components including upper and lower liner plates. The drawings show that the ASX Autosampler Units (ASX-SMPLR-00012 and -00013) are located in Room L-0301 at Elevation 48'-0" level of the LAW building. The carbon steel support structure frame base plates of the autosampler units are welded (anchored) to the carbon steel plates embedded in concrete floor slab. The base plates and embed plates are compatible with each other.</p>

	Information Assessed	Source of Information	Assessment
Foundation Design (cont'd)	Foundation will withstand the effects of frost heave.	24590-WTP-DC-ST-01-001, Rev. 12, Structural Design Criteria.	The Structural Design Criteria requires all structural foundations for outdoor components to extend below the 30" frost line from the finished grade (Elevation 0'-0"). Room L-0301 housing the ASX autosampler units are inside/interior of the building at Elevation 48'-0", therefore, they are not subjected to the detrimental effects of frost heave.
Seismic	Seismic considerations have been adequately addressed.	<p>Drawings listed above under References;</p> <p>24590-WTP-PER-CSA-02-001, Rev. 9 Secondary Containment Design;</p> <p>24590-WTP-DC-ST-01-001, Rev. 12, Structural Design Criteria;</p> <p>24590-WTP-DC-ENG-06-001, Rev. 0, Design Criteria for Equipment Seismic and Environmental Qualification;</p> <p>UBC 1997, Uniform Building Code;</p> <p>AISC M016-89, Manual of Steel Construction - Allowable Stress Design, Ninth Edition;</p> <p>ANSI/AISC N690-1994, Specification for the Design, Fabrication, and Erection of Safety Related Structures for Nuclear Facilities, American National Standards Institute;</p> <p>24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	The Secondary Containment Design, Structural Design Criteria, and Design Criteria for Seismic and Environmental Qualification documents provide detailed information of design methodology, materials, loads, and load combinations applicable for the Sampler Cabinets. The Specification for Autosampling system identifies the Quality Level of the system to be CM and the Seismic Classification as SC-III. The ASX system design loads combinations are taken from UBC 97 code and analysis for SC-III secondary containment enclosure is performed in accordance with the Specification for Structural Design Loads for Seismic Category III/IV Equipment and Tanks document. The ANSI/AISC N460-1994 code is used for the design of SC-III secondary containment enclosure stainless steel material and AISC M016-89 is used for carbon steel support frame structure. The frame structure is designed to sustain all applicable loads including seismic and its bases are adequately welded to the embedded steel plates in concrete floor slab supporting the autosampler units. The Structural Analysis document and drawings reviewed shows that the sound engineering techniques are used for the analysis purposes.

	Information Assessed	Source of Information	Assessment
Compatibility	<p>The stored waste is compatible with its secondary containment and leak detection hardware based on a detailed chemical and physical analysis of the wastes used and other information sources.</p>	<p>Drawings listed above under References;</p> <p>24590-WTP-DB-ENG-01-001, Rev. 10, Basis of Design; 24590-WTP-PER-M-02-001, Rev. 3, Material Selections for Building Secondary Containment/Leak Detection; 24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design; 24590-WTP-PER-J-02-002, Rev. 4, Leak Detection in Secondary Containment Systems; 24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	<p>The Basis of Design document states that the secondary containment components are to be appropriately lined and any leaks or spills will be removed within 24 hours of a leak detection or in as timely a manner as possible. Based on a detailed chemical and physical analysis of the wastes and other process information sources, the Material Selections document identifies appropriate corrosion resistant materials (stainless steel) for the ASX autosampler units secondary containment components and leak detection hardware. The drawings and Structural Analysis reviewed show that the 304L stainless steel or better material as recommended in Material Selections document is used for the fabrication of the ASX sampler cabinets. The Secondary Containment Design document provides adequate typical construction details including attachment details for the leak detection equipment to be used for secondary containment where required.</p>
Strength	<p>The design shows that the secondary containment has sufficient strength and thickness to prevent failure owing to pressure gradients, static head during a release, physical contact with the waste, climatic conditions, and the stress of daily operations (e.g., vehicular traffic).</p>	<p>Drawings listed above under References;</p> <p>24590-WTP-DB-ENG-01-001, Rev. 10, Basis of Design; 24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design; 24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	<p>The LAW general arrangement drawings show ASX autosampler units are located inside the building. Pressure gradients, static head during a release, physical contact with the waste, climatic conditions, and the stresses of daily operations are adequately stated as design goals in the Basis of Design document. The Secondary Containment Design document describes and provides references to the design methodology, materials of construction, loads, and load combinations (including seismic loads) for the LAW facility secondary containment components. The secondary containment enclosures being considered are located in the room inside the LAW Vitrification Building rather than being directly buried in ground, therefore, pressure gradients and vehicular traffic are not considered applicable load cases. However, the Structural Analysis document reviewed shows that strength of secondary containment enclosure components is sufficient to sustain applicable loads such as static, fluid, and seismic.</p>

	Information Assessed	Source of Information	Assessment
Strength (cont'd)	<p>The secondary containment system has sufficient strength in the presence of operational stresses from site-specific conditions (i.e., frost, precipitation etc.).</p>	<p>Drawings listed above under References;</p> <p>24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design;</p> <p>24590-WTP-3PS-NLLR-T0002, Rev. 1, Engineering Specification for Furnishing, Detailing, Fabrication, Delivery and Installation of Stainless Steel Liner Plates;</p> <p>24590-WTP-PER-M-02-001, Rev. 3, Material Selections for Building Secondary Containment/Leak Detection;</p> <p>24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013.</p>	<p>The LAW facility drawings show that the secondary containment being considered is installed inside the building. Because it is located inside the building, precipitation and frost are not applicable load cases. The Secondary Containment Design document identifies the applicable load cases (operational stresses) from site specific conditions that must be considered in the design. The Engineering Specification for Furnishing Stainless Steel Liner Plates includes specific provisions for protection and repair of completed liners during the construction process. The Material Selections for Building Secondary Containment document addresses the potential effects of operations conditions on metal liner and the associated maintenance requirements. The Structural Analysis document reviewed shows that the secondary containment components are adequately designed and have sufficient strength to sustain the applicable design loads.</p>
Foundation Integrity	<p>The secondary containment is adequately supported by the enclosure structure and foundation below has adequate strength</p>	<p>Drawings listed above under References;</p> <p>24590-QL-HC4-HAHH-00001-11-00049, Rev. 00B, Structural Analysis of ASX-SMPLR-00012 & -00013;</p> <p>24590-WTP-DB-ENG-01-001, Rev. 1O, Basis of Design.</p>	<p>Review of the Structural Analysis and drawings shows that the support system for each sampler cabinet has adequate strength to sustain the applicable design loads and is in turn anchored (welded) to the steel embed plates in the concrete floor slab. Chapter 14 of the Basis of Design document requires that the foundation underlying the cabinet support must be adequate to sustain the loads from the weight of the glovebox filled with water, which is out of scope of this assessment. The assessment of the adequacy of the underlying foundation slab is part of a separate integrity assessment report for the secondary containment for the plant items on this floor.</p>

Information Assessed		Source of Information	Assessment
Infiltration	The design or operation prevents run-on or infiltration of precipitation into the secondary containment.	Drawings listed above under References; 24590-WTP-DB-ENG-01-001, Rev. 1O, Basis of Design.	The Basis of Design document requires the design to provide adequate measures to prevent run-on or infiltration of precipitation. The secondary containment is located inside the LAW Vitrification Building where it is protected from direct precipitation by the building structure as shown in the general arrangement drawings. Therefore this section is not applicable to the secondary containment components being assessed.
	The design includes an external moisture barrier or other means to prevent moisture from entering the room.	Drawings listed above under References; 24590-WTP-DB-ENG-01-001, Rev. 1O, Basis of Design.	The Basis of Design document requires the design include provisions to prevent external moisture intrusion. The ASX Autosampler Units shown on the General Arrangement drawings are inside the LAW Vitrification Building which protects them from precipitation and surface water percolation, therefore, this section is not applicable to them.
Liner System	The containment area is free of cracks or gaps and the design discusses methods of their minimization.	24590-WTP-DB-ENG-01-001, Rev. 1O, Basis of Design; 24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design; 24590-WTP-PER-M-02-001, Rev. 3, Material Selections for Building Secondary Containment/Leak Detection.	The Basis of Design document requires the liner system to be free of cracks and gaps. The Secondary Containment Design document provides current adequate design requirements, and codes and standards to design leak tight liners. This document includes appropriate details for installation of stainless steel components free of cracks and gaps. The Material Selections document provides adequate requirements for the secondary containment components.
	The design has considered the compatibility of the secondary containment elements with the waste and for preventing it from migrating into the concrete slab below.	24590-WTP-PER-M-02-001, Rev. 3, Material Selections for Building Secondary Containment/Leak Detection; 24590-WTP-PER-CSA-02-001, Rev. 9, Secondary Containment Design.	The Material Selections document contains information on the compatibility of secondary containment stainless steel material usage for containing the waste. The Secondary Containment Design document provides standard installation details for the secondary containment components of the sampler cabinets which ensure leak-tight connections that will prevent the migration of the waste onto the concrete slab below.



Master Distribution Schedule for WTP Project Subcontract Management Group

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<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	

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

PDC Document Number	Rev	Document Title	Rev
CCN #169565		IQRPE Structural Integrity Assessment Report For LAW ASX Secondary Containment (Sampler Cabinets) - IA-3003444-000)	

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Susan Parr	X						
Dan Pfluger	X						
Barry Curn	X						
Julie Colby	X						
Dan Robertson	X						



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:	Susan Parr

OUTGOING DISTRIBUTION FOR RETURNED STATED STICKER SUBMITTALS							
Name	MSIN/ E-mail	Original	Copy	Copy of cover sheet / transmittal only	Primary File Index	File Index Alternate	Assigned Action or Remarks