Job No. 24590

Bechtel National, Inc.

SUPPLIER DOCUMENT STATUS

1. [X] **Work may proceed.**
2. [ ] **Revise and resubmit. Work may proceed subject to resolution of indicated comments.**
3. [ ] **Revise and resubmit. Work may not proceed.**
4. [ ] **Review not required. Work may proceed.**

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods, or materials developed or selected by the supplier and does not relieve supplier from full compliance with contractual obligations.

REVIEWED									

G-321 Document Category N/A
[From Supplement A to G-321-E (E) or G-321-V (V), as applicable, or "N/A" if SSRS is used]

Supersedes BNI Document No. N/A Rev. _____
[When applicable]

Accepted by [illegible] Print Name [illegible] Signature 3/31/04 Date

Released by N/A Print Name _____ Signature _____ Date
[When applicable]

416 GP&S 7-03

24590-CM-HC4-HXYG-00138-02-00021
REV. 00A

SUBCONTRACT SUBMITTAL

Best Available Copy

R10280853

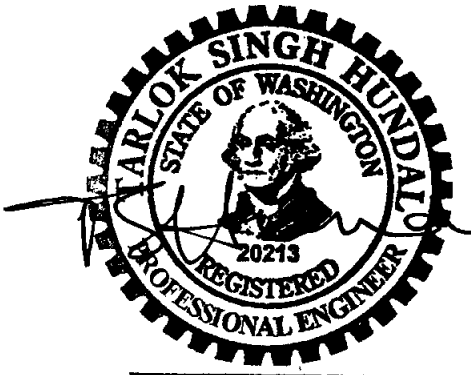
IQRPE REVIEW
OF
PRETREATMENT FACILITY (PTF) TREATED LAW EVAPORATION PROCESS (TLP) ANCILLARY EQUIPMENT

"I, Tarlok S. 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 Pretreatment Facility (PTF) Treated LAW Evaporation Process (TLP) Ancillary Equipment as required by the Dangerous Waste Regulations, namely, WAC 173-303-640(3) applicable paragraphs, i.e., (a) through (g)."

"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 intent fully satisfies the requirements of the WAC.

The attached review is 11 pages numbered 1 through 11.



EXPIRES: 02/15/06

T S Hundal

Signature

3/30/04

Date

24590-CM-HC4-HXYG-00138-02-00021, REV. 00A

STRUCTURAL INTEGRITY ASSESSMENT OF THE PRETREATMENT FACILITY (PTF) TREATED LAW EVAPORATION PROCESS (TLP) ANCILLARY EQUIPMENT

COGEMA-IA-046

REV. 0

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.

Scope	Scope of this Integrity Assessment	This Integrity Assessment addresses the Ancillary Equipment (piping, pipe supports, condensers, and their appurtenances) of the Treated LAW Evaporation Process (TLP) system in the Pretreatment Facility (PTF). They include the following plant items and components: 1. Ancillary Equipment associated with four vessels: Two TLP vessels (TLP-VSL-00009A/B) located in cell P-0117 and cell P-0117A, respectively, at grade (Elev. 0'-0"); one TCP vessel (TCP-VSL-00001); and one RDP vessel (RDP-VSL-00004). The ancillary equipment associated with these four vessels is shown on P&ID drawings 24590-PTF-M6-TLP-P00001, -P00005, -P00006, and –P00007. 2. Ancillary Equipment associated with one TLP Condensate Collection vessel (TLP-VSL-00002) and three TLP Condensers (TLP-COND-00001/2/3). The ancillary equipment associated with these four plant items is shown on P&ID drawing 24590-PTF-M6-TLP-P00002. 3. Ancillary Equipment associated with one TLP Separator (TLP-SEP-00001) and one TLP Reboiler (TLP-RBLR-00001). The ancillary equipment associated with these two plant items is shown on P&ID drawing 24590-PTF-M6-TLP-P00003. 4. Three TLP Condensers (TLP-COND-00001/2/3) located at Elevation 56'-0". Note: Additional ancillary equipment information associated with the above listed vessels and other plant components or items are located in various rooms/cells and at different floor elevations ranging from Elev. (-) 45'-0" to 56'-0" of the PTF. These plant items include, vessels, tanks, condensers, separators, reboilers, pumps, plant wash racks, PSA rack, plant vent headers, demisters, scrubbers, collection header overflows, etc., as shown on the drawings listed in the References below. Ancillary equipment located inside the TLP system vessels and plant items except above listed three condensers is addressed separately in the Integrity Assessments for these vessels and 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 controls and requirements to ensure the design intent fully satisfies the requirements of Washington Administrative Code, WAC-173-303-640, *Dangerous Waste Regulations* for Tank Systems.

References	Drawings, Mechanical Data Sheets, and Plant Item Material Selection Data Sheets	Drawings: 24590-PTF-P1-P01T-P0001, Rev. 2, Pretreatment Facility General Arrangement Plan at El. 0'-0"; 24590-PTF-P1-P01T-P0002, Rev. 1, Pretreatment Facility General Arrangement Plan at El. 28'-0"; 24590-PTF-P1-P01T-P0003, Rev. 0, Pretreatment Facility General Arrangement Plan at El. 56'-0"; 24590-PTF-P1-P01T-P0006, Rev. 1, Pretreatment Facility General Arrangement Plan at El. (-) 45'-0"; 24590-PTF-P1-P01T-P0010, Rev. 3, Pretreatment Facility General Arrangement Section D-D; 24590-PTF-P1-P01T-P0014, Rev. 5, Pretreatment Facility General Arrangement Sect. L-L and Sect. K-K; 24590-PTF-M6-TLP-P0001, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System LAW SBS Condensate Receipt (TLP-VSL-00009A and 9B); 24590-PTF-M6-TLP-P0002, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System Condensers & Condensate Collection TLP-VSL-00002; 24590-PTF-M6-TLP-P0003, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System Separator TLP-SEP-00001; 24590-PTF-M6-TLP-P0005, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System Utility Services PSA Rack; 24590-PTF-M6-TLP-P0006, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System Utility Services PSA Rack; 24590-PTF-M6-TLP-P0007, Rev. 0, P&ID – PTF Treated LAW Evaporation Process System Utility Services Plant Wash Rack; 24590-PTF-M5-V17T-P0005, Rev. 0, Process Flow Diagram Treated LAW Evaporation System TLP. Mechanical Data Sheets: 24590PTF-MED-TLP-00001, Rev. 0, Treated LAW Evaporator Primary Condenser (TLP-COND-00001); 24590PTF-MED-TLP-00002, Rev. 0, Treated LAW Evaporator After-Condenser (TLP-COND-00002); 24590PTF-MED-TLP-00003, Rev. 0, Treated LAW Evaporator Inter-Condenser (TLP-COND-00003). Plant Item Material Selection Data Sheets: 24590-PTF-N1D-TLP-P0002, Rev. 0, Treated LAW Evaporator Primary Condenser (TLP-COND-0001); 24590-PTF-N1D-TLP-P0003, Rev. 0, Treated LAW Evaporator After-Condenser & Inter-Condenser (TLP-COND-00002/3).

References	Material Requisition, Specifications, and System Description	Material Requisition: 24590-QL-MRA-MEVV-00001, Rev. 2 (including Material Requisition Supplement No. S01 to Rev. 2 of the MR): The following Specifications with their appropriate number and revision are included in the above listed Material Requisition: Engineering Specification for Pressure Vessel Design and Fabrication; Engineering Specification for Seismic Qualification Criteria for Pressure Vessels; Specification for Shell and Tube Heat Exchangers Specification for Welding of Pressure Vessels, Heat Exchangers, and Boilers; General Specification for Supplier Quality Assurance Program Requirements; Specification for Positive Material Identification (PMI); General Specification for Packing, Shipping, Handling, and Storage; Engineering Specification for Pressure Vessel Fatigue Analysis; Engineering Specification for Seismic Qualification of Seismic Category I/II Equipment and Tanks; Engineering Specification for Structural Design Loads for Seismic Category III/IV Equipment and Tanks; Engineering Specification for Forced Circulation Vacuum Evaporator System. System Description: 24590-PTF-3YD-TLP-00001, Rev. 0, System Description for Treated LAW Evaporation Process (TLP), including System Description Change Notice (SDCN) No. 24590-PTF-3YN-TLP-00001.

	Information Assessed	Source of Information	Discussion
Design	Ancillary equipment design standards are appropriate and adequate for the equipment's intended use.	Drawings, Specifications, and Mechanical Data Sheets, listed above under References; 24590-WTP-DC-PS-01-001, Rev. 2, 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 VIII, Division 1, Rules for Construction of Pressure Vessels; 24590-WTP-PSAR-ESH-01-002-02, Rev. 1a, Preliminary Safety Analysis Report (PSAR) to Support Construction Authorization: PT Facility Specific Information.	The Pipe Stress Design Criteria specifies ASME B31.3 as the design code for piping systems of the WTP. The P&ID drawings show the ancillary equipment piping and components as Seismic Category (SC-I or III) and Quality Level (QL-1 or Commercial Grade, or Non-Quality Related). The Mechanical Data Sheets that the TLP system condensers are be designed and fabricated to QL-1 and SC-III requirements. The condensers are be designed and fabricated in accordance with the requirements of ASME BPV Code, Section VIII, Division 1 as specified in the Engineering Specification for Pressure Vessel Design and Fabrication supplemented by the requirements in the Engineering Specification for Shell and Heat Exchangers. The Pipe Stress Design Criteria document provides a detailed discussion of seismic categories. Quality Levels are discussed in the PSAR. These codes and standards are acceptable and adequate for the design of the ancillary equipment piping and components for their intended service.
	If the ancillary equipment to be used is not built to a design standard, the design calculations demonstrate sound engineering principles of construction.	Mechanical Data Sheets and Specification listed above under References; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria."	The ancillary equipment is to be built to the design standards. The Pipe Stress Design Criteria specifies that piping is to be designed in accordance with ASME B31.3, Code. The Mechanical Data Sheets indicate that the TLP System condensers are to be designed and fabricated in accordance with the requirements of the ASME B&PV Code, Section VIII, Division 1 as specified in the Engineering Specification for Pressure Vessel Design and Fabrication supplemented by the requirements in the Engineering Specification for Shell and Tube Heat Exchangers.

	Information Assessed	Source of Information	Discussion
Design	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.	Specifications listed above under References; 24590-WTP-DB-ENG-01-001, Rev 1A, Basis of Design; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria"; 24590-WTP-PER-M-02-002, Rev. 1, Materials for Ancillary Equipment; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; DOE-STD-1020-94, Natural Phenomenon Hazards Design Evaluation Criteria for Department of Energy Facilities (including Change Notice #1, January 1996); ASME BPV Code, Section III, Code Case N-411, Subsection NC, Appendix N, and Appendix F; ASME Boiler and Pressure Vessel Code, Section VIII, Division 2, Alternative Rules; UBC, Uniform Building Code, 1997 Edition.	The Basis of Design document specifies that mechanical equipment is to be designed for a nominal plant life of 40 years. The Materials for Ancillary Equipment document specifies that ancillary equipment downstream of a waste source vessel or miscellaneous treatment unit is to be constructed of the same or better material and with the same corrosion allowance as the source vessel or miscellaneous treatment unit. The Pipe Stress Design Criteria requires the use of the ASME B31.3 Code and DOE-STD-1020-94 Standard, for piping design. ASME B31.3 requires explicit consideration of operating pressure, operating temperature, thermal expansion and contraction, settlement, vibration, and corrosion allowance in the design of piping. ASME BPV Code, Section III, Code Case N-411, Subsection NC, Appendix N, and Appendix F, and the Uniform Building Code (UBC) are used to supplement the requirements of ASME B31.3 and DOE-STD-1020-94 for design as applicable to the appropriate Seismic Category of the ancillary equipment. Details of the seismic design methods are discussed in the Pipe Stress Design Criteria document. The Engineering Specification for Pressure Vessel Design and Fabrication addresses the same load cases and corrosion allowance in the design and fabrication process for the TLP Condensers. Supplementary seismic design criteria are specified in the Engineering Specification for Seismic Qualification Criteria for Pressure Vessels to provide for the condensers seismic design analysis. Additional details of the seismic analysis methodology (ASME B&PV Code, Section VIII, Division 2) are furnished in the Engineering Specification for Structural Design Loads for Seismic Category III/IV Equipment and Tanks. These are appropriate and adequate codes and standards 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	Discussion
Supports	Ancillary equipment supports are adequately designed.	Specifications listed above under References; 24590-WTP-DC-PS-01-002, Rev. 2, Pipe Support Design 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, 1995; ASME B&PV Code, Section VIII, Division 1, Rules for Construction of Pressure Vessels; 24590-WTP-PER-PS-02-001, Rev. 4, Ancillary Equipment Pipe Support Design; 24590-WTP-PL-PS-01-001, Rev. 1, Verification and Validation Test Plan for Bechtel's ME150 Pipe Support Family of Programs (PCFAPPS).	The Pipe Support Design Criteria document considers all loadings and loading combinations identified in ASME B31.3 and utilizes ASME BPV Code, Section III, Division 1, Subsection NF and Appendix F, to supplement the requirements of ASME B31.3 for seismic design of the applicable Seismic Category of the pipe supports. Supports for the TLP condensers are to be designed in accordance with the requirements in ASME B&PV Code, Section VIII, Division 1 as specified in the Engineering Specification for Pressure Vessel Design and Fabrication. 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 TLP system. Ancillary equipment supports are to be designed in such a way that the heat transferred from supports to the building structure does not raise the building structure temperature to exceed 150°F for concrete and 200°F for steel.
Foundations	The system will withstand the effects of frost heave.	Drawings and System Description listed above under References; 24590-WTP-DC-ST-01-001, Rev. 2, Structural Design Criteria.	The TLP system ancillary equipment considered in this assessment is located inside the PTF. The Structural Design Criteria requires that all structural foundations shall extend into the surrounding soil below the 30" frost line, to preclude frost heave. The PTF facility structural foundation mat is 8 ft thick and all below the grade elevation, therefore, the ancillary equipment is not subject to the effects of frost heave.

	Information Assessed	Source of Information	Discussion
Connections	Seams and connections are adequately designed.	24590-WTP-DB-ENG-01-001, Rev 1A, Basis of Design; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria"; ASME BPV Code, Section IX, Welding and Brazing Qualifications; ASME B16.5, Piping Flanges and Flanged Fittings.	The Basis of Design specifies that in-cell piping that is non-maintainable will be fully welded. 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 BPV Code, Section IX. ASME B16.5 Code is specified for flange designs. These are appropriate codes and standards for the design and fabrication of the TLP 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-PSAR-ESH-01-002-02, Rev. 1a, Preliminary Safety Analysis Report to Support Construction Authorization: PT Facility Specific Information; Department of Ecology Permit # WA7890008967, *Dangerous Waste Portion of the Hanford Facility Resource Conservation and Recovery Act Permit for the Treatment, Storage, and Disposal of Dangerous Waste,* Chapter 10, and Attachment 51, "Hanford Tank Waste Treatment and Immobilization Plant."	The ancillary equipment associated with the TLP system serves to transfers waste between numerous plant vessels, tanks, and other plant items in the PTF. The ancillary equipment considered in this assessment will handle wastes with the same characteristics as do the source vessels. The waste characteristics of source vessels have been appropriately assessed in separate integrity assessments for the associated vessels. The Preliminary Safety Analysis Report (PSAR) and Part A of the Permit, provide a summary of potential hazardous conditions associated with each Pretreatment Facility vessel and the design provisions that are to be used to provide adequate control of each hazard. The Pretreatment Vessel Vent Process System provides offgas control in the vessel/tank head spaces. Air in-bleed lines are provided for each vessel/tank for hydrogen dilution.

	Information Assessed	Source of Information	Discussion
Waste Characteristics	Ancillary equipment is designed to handle the wastes with the characteristics defined above and any treatment reagents.	System Description listed above under References; 24590-WTP-PER-M-02-002, Rev. 1, 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, unless the service seen in the downstream line warrants a different material, corrosion allowance, or other modification. The System Description states that compatible reagents are added to the TLP vessels during normal or non-routine operations.
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.	Plant Item Material Selection Data Sheets listed above under References; 24590-WTP-DB-ENG-01-001, Rev. 1A, Basis of Design; 24590-WTP-PER-M-02-002, Rev. 1, Materials for Ancillary Equipment; 24590-WTP-3PS-NN00-T0001, Rev. 0, Engineering Specification for Hot and Anti-Sweat Thermal Insulation.	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 PTF facility during process design to ensure 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 Plant Item Material Data Sheets provide the information used to select the materials for the TLP system condensers and the corrosion allowance. The condensers are to be fabricated using 316 stainless steel (maximum 0.030% Carbon, dual certified), which is hereinafter referred to as 316 stainless steel. 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 procedures 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	Discussion
Corrosion Allowance	Corrosion allowance is adequate for the intended service life of the ancillary equipment.	Plant Item Material Selection Data Sheets listed above under References; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; 24590-WTP-PER-M-02-002, Rev. 1, Materials for Ancillary Equipment; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria"; 24590-WTP-PER-PL-02-001, Rev. 5, Piping Material Class Description.	The Pipe Stress Design Criteria specifies ASME B31.3 as the design code for the WTP piping. Consideration of corrosion, including corrosion allowance, is a mandatory requirement of ASME B31.3. A required service life of 40 years is identified in the Basis of Design document for ancillary equipment. Detailed materials selection (corrosion) evaluations are conducted for each vessel in the PTF facility during process design to ensure a 40 year service life. The Materials for Ancillary Equipment document requires that the downstream ancillary equipment is to be constructed of equal or better materials, and with the same corrosion allowance as the source vessel except as noted herein. Corrosion/Erosion allowances are listed for each Piping Material Class in the Piping Material Class Description document. The Plant Item Material Data Sheets provide the information used to select the materials for the TLP system condensers and the corrosion allowance. The condensers are to be fabricated using 316 stainless steel with a corrosion allowance of 0.04 in. for a 40 year design life. These requirements are adequate to assure the ancillary equipment provides the intended service life.

	Information Assessed	Source of Information	Discussion
Strength	Pressure controls (vents and relief valves) are adequately designed to ensure pressure relief if normal operating pressures in the vessels are exceeded.	Drawings and Specifications listed above under References; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; ASME B&PV Code, Section VIII, Division 1, Rules for Construction of Pressure Vessels; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria"; 24590-WTP-PER-PL-02-001, Rev. 5, Piping Material Class Description.	The Pipe Stress Design Criteria document specifies ASME B31.3 as the design code for the WTP piping. ASME B31.3 requires provisions 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. The Piping Material Class Description document provides bounding pressure and temperature limits for each of the piping material classes shown on the P&ID drawings. The Engineering Specification for Shell and Tube Heat Exchanges requires the design and fabrication of the TLP system condensers to meet ASME B&PV Code, Section VIII, Division 1 requirements. The Section VIII requirements for pressure relief are similar to those for ASME B31.3. Pressure relief provisions are adequate for the intended service.
	Maximum flows and any unusual operating stresses are identified	Drawings and Specifications listed above under References; ASME B31.3 Code, Process Piping, 1996 Edition, American Society of Mechanical Engineers; ASME B&PV Code, Section VIII, Division 1, Rules for Construction of Pressure Vessels; 24590-WTP-DC-PS-01-001, Rev. 2, Pipe Stress Design Criteria Including "Pipe Stress Criteria" and "Span Method Criteria"; 24590-WTP-PER-PL-02-001, Rev. 5, Piping Material Class Description.	The expected flow paths for the ancillary equipment are identified on the P&ID drawings. The Pipe Stress Design Criteria specifies 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 ensuring that maximum operating stresses remain within code allowables. Piping material classes are shown on the P&IDs embedded in the item numbers for each ancillary equipment component. The Piping Material Class Description document lists the bounding pressure and temperature limits for each piping material class. The Engineering Specification for Shell and Tube Heat Exchanges requires the design and fabrication of the TLP system condensers to meet ASME B&PV Code, Section VIII, Division 1 requirements. The Section VIII requirements also require that maximum operating stresses remain within code allowables.

	Information Assessed	Source of Information	Discussion
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 and System Description listed above under References; 24590-WTP-PER-CSA-02-001, Rev. 4, Secondary Containment Design; 24590-WTP-DB-ENG-01-001, Rev. 1A, Basis of Design.	The Basis of Design document states that ancillary equipment shall be provided with a secondary containment. The ancillary equipment considered in this assessment is located in R5/C5 (process cell) areas within the PTF. These PTF room/cell areas are secondary containment concrete structures including sumps as shown on the general arrangement drawings. The cells and sumps are lined with stainless steel plates as detailed in the Secondary Containment Design document. The secondary containment structures are outside the scope of this integrity assessment and their assessment is conducted in a separate document. Each cell sump is equipped with a leak detection device and a liquid removal device such as steam ejector or electrical pump.