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August 22, 2014
GO2-14-126

10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397 LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION SURVEILLANCE REQUIREMENT FOR THE ULTIMATE HEAT SINK**

Dear Sir or Madam:

Pursuant to 10 CFR 50.90 and 10 CFR 50.91(a)(6), Energy Northwest hereby requests a license amendment to revise the Columbia Generating Station (Columbia) Technical Specification (TS) Surveillance Requirement (SR) for the ultimate heat sink (UHS). The revision will clarify that spray pond level is the average of the level in both ponds. This amendment is requested to align the SR with the design basis of the UHS spray ponds. The design of the UHS is such that it is difficult to meet the current SR when only one service water pump is in operation without overflowing a spray pond resulting in a net loss of water inventory, which may challenge the ability of the UHS to provide sufficient inventory for 30 days. However, if the SR is not met, a plant shutdown is required. Therefore, Energy Northwest requests a timely review of this application.

Attachment 1 contains an evaluation of the proposed changes and includes a no significant hazards determination and environmental consideration. Attachment 2 contains the marked up version of the proposed changes to the Columbia TS. Attachment 3 contains the proposed Columbia TS Bases changes (for information only). Attachment 4 contains the clean version of the proposed changes to the Columbia TS.

This letter and its enclosures contain no regulatory commitments.

Approval of the proposed amendment is requested within six weeks of the date of the submittal. Once approved, the amendment will be implemented within 10 days.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that this change involves no significant hazards consideration.

In accordance with 10 CFR 50.91, Energy Northwest is notifying the State of Washington of this amendment request by transmitting a copy of this letter and enclosures to the designated State Official.

If there are any questions or if additional information is needed, please contact Ms. L. L. Williams, Licensing Supervisor, at 509-377-8148.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 22, 2014

Respectfully,

W. G. Hettel
Vice President, Operations

Attachments: As stated

cc: NRC RIV Regional Administrator
NRC NRR Project Manager
NRC Senior Resident Inspector/988C
MA Jones - BPA/1399 (email)
JO Luce – ESFEC (email)
RR Cowley – WDOH (email)

Evaluation of Proposed Change

1.0 SUMMARY DESCRIPTION

This evaluation supports a License Amendment Request (LAR) to revise the Columbia Generating Station (Columbia) Technical Specification (TS) Surveillance Requirements for the ultimate heat sink (UHS). The Surveillance Requirement (SR) will be revised from “Verify the water level of each UHS spray pond is ≥ 432 ft 9 inches mean sea level” to “Verify the average water level in the UHS spray ponds is ≥ 432 feet 9 inches mean sea level.”

Implementation of this LAR will result in no physical modification to the plant. This proposed change has no adverse effect on the plant or plant safety.

2.0 DETAILED DESCRIPTION

2.1 Background

2.1.1 Service Water

The standby service water (SW) system is described in Section 9.2.7 of Columbia’s Final Safety Analysis Report (FSAR) (Reference 1) and includes vertical SW pumps located adjacent to the two spray ponds in two separate pump houses. The pumps discharge to independent piping systems which serve emergency core cooling system (ECCS) equipment, auxiliary plant equipment, and reactor shutdown cooling equipment. The list of equipment cooled by SW is contained in FSAR Table 9.2-4. During the normal and emergency shutdown modes of operation, water is circulated from the spray ponds to the equipment requiring cooling, and returned to the ponds. The SW system dissipates heat through the use of an oriented spray ring header system at the ponds. A spray ring bypass is provided that allows water to be returned directly to the pond through use of manually operated isolation valves to allow control of pond temperature during cold weather operations.

2.1.2 UHS

The UHS is described in Section 9.2.5 of Columbia’s FSAR and consists of two concrete spray ponds. The design basis function of the UHS is to provide a source of water for the SW system for 30 days and to absorb the heat transferred to it from the plant via the SW system during that time period without exceeding its design temperature.

The spray ponds provide suction and discharge points for the redundant pumping and spray facilities of the SW system. The pond and pump house arrangements are shown in FSAR Figure 9.2-7. Standby service water loop A draws water from pond A, cools

the Division 1 equipment, and discharges through a spray ring into pond B for heat dissipation. Similarly, SW loop B draws water from pond B, cools Division 2 equipment, and discharges through a spray ring into pond A. The water then returns to the initial pond through a 30 inch diameter siphon line. Figure 1 contains a simplified sketch of the UHS and SW system.

The ponds were licensed such that the combined water volume of the spray ponds is adequate to provide cooling water for 30 days of operation, assuming maximum evaporation and drift losses.

Each pond is 250 feet long by 250 feet wide by 15 feet deep. The floor of each pond is located at an elevation of 420 feet mean sea level. The design of the spray ponds includes a non-isolable 30 inch siphon line connecting both spray ponds to automatically transfer water from one pond to the other. A majority of the siphon line is buried; however, sections of the line are not buried and are submerged in the spray ponds after penetrating the spray pond walls. In each spray pond, the submerged siphon line includes a ninety degree elbow which then directs the siphon line downward terminating 18 inches above the floor of the spray ponds. The siphon line between the two ponds is designed to transfer 10,500 gpm without overflowing one of the spray ponds. The siphon line assures that the entire inventory of water in the ponds is available to either loop and that makeup water added to one pond is available to the other. The siphon line allows transfer of colder water from the bottom of the spray pond in which the sprays are operating to the pond from which the operating pump is taking suction. This arrangement provides an effective dispersion of the heat being absorbed by the water inventory. The siphon allows a single train of SW access to the full 30 day supply provided by the two SW ponds.

2.2 Circumstances Necessitating the Change

The existing language in SR 3.7.1.1 requires verification that the level in <u>each</u> spray pond is greater than or equal to 432 feet 9 inches (432.75 feet) mean sea level. Due to the design of the spray ponds and SW system, it is difficult to meet this requirement in each pond when only one SW pump is in operation.

Normal level in the spray ponds is maintained less than 433.5 feet. The high level alarm is at 434.25 feet. The pond overflow is at 434.5 feet. Figure 2 contains a depiction of the spray pond levels.

With one SW pump in operation, the level in the associated pond drops approximately 9-11 inches (0.75-0.92 feet) while the level in the other pond rises by an equivalent amount for a total differential level of 18-22 inches (1.50-1.83 feet). In order to meet the minimum level of 432.75 feet when one SW pump is in operation, the normal level in the ponds would need to be maintained slightly above 433.5 feet. Once the SW pump starts, the level in the pond providing the pump suction will drop to approximately

432.75 feet. However, the level in the other pond will rise by an equivalent amount - potentially exceeding the overflow resulting in a loss of inventory out of the ponds. A loss of inventory may affect the ability of the UHS to meet the design and licensing requirement to provide 30 days of cooling.

With both SW pumps in operation, the levels in the ponds are equalized. However, if one SW pump becomes inoperable for any reason, the UHS may have to be declared inoperable since SR 3.7.1.1 may not be met due to this phenomenon. With the UHS inoperable for this reason, TS 3.7.1 Condition C would be entered with the Required Action to be in Mode 3 in 12 hours and Mode 4 in 36 hours.

Additionally, certain plant conditions result in an automatic start of only one SW pump. If this occurs, SR 3.7.1.1 may not be met and the UHS would be declared inoperable as described above.

The SW system is not normally in operation. However, SW is operated monthly to support other TS surveillances (for instance the monthly diesel generator surveillances.) In these instances, both SW pumps would have to be put in operation to ensure pond level remains above the required minimum level resulting in excess wear on the pumps.

Prior to Amendment 149, the Columbia TS contained SR 4.7.1.3.a to verify the water level of the ultimate heat sink is within the limits of the Limiting Condition for Operation (LCO) 3.7.1.3. This LCO specified that the ultimate heat sink shall be operable with a minimum water level at elevation 432 feet 9 inches mean sea level. Amendment 149 approved the conversion to Improved Technical Specifications (ITS) (Reference 2). Columbia SR 3.7.1.1 is based on NUREG-1434 (Reference 3) SR 3.7.1.1 Rev. 1, which requires verification of the “water level of each [UHS] cooling tower basin …” In the LAR for the ITS conversion (Reference 4), Energy Northwest erroneously proposed SR 3.7.1.1 to require verification of the “water level of each UHS spray pond …” The LAR should have proposed SR 3.7.1.1 require verification of the “average water level in the UHS spray ponds”. This error was discovered on August 14, 2014. Actions were immediately instituted to ensure the minimum pond level is maintained in each pond in accordance with the requirements of SR 3.7.1.1. Additionally, this issue was entered into the Energy Northwest corrective action program.

2.3 Description of Proposed Columbia Technical Specification Changes

The Surveillance Requirement (SR) to verify spray pond level will be revised to remove the reference to “each” spray pond and replace it with the “average” water level in the ponds.

Specifically, SR 3.7.1.1 will be revised from “Verify the water level of each UHS spray pond is ≥ 432 ft 9 inches mean sea level” to “Verify the average water level in the UHS spray ponds is ≥ 432 feet 9 inches mean sea level.”

3.0 TECHNICAL EVALUATION

3.1 Water Inventory

Energy Northwest proposes to revise the SR to verify the average water level in the UHS spray ponds is greater than or equal to 432 feet 9 inches (432.75 feet) mean sea level. The spray pond siphon line provides for transfer of water between the two ponds. As long as pond level remains above the siphon (elevation 421.5 feet), water flows between the ponds. The siphon line was tested during startup to confirm that the siphon would not break until the water level reached the bottom of the siphon line in the suction pond. Level changes induced by the operation of a single pump are acceptable as long as the inventory remains within the pond structure. Since the ponds can communicate with each other, the true measure of adequate pond inventory is obtained by averaging the level of the two ponds.

For instance, with the level in the spray ponds maintained at or slightly below 433.25 feet, the level change due to a single SW pump start is acceptable. That is, the level in the pond with the operating pump will drop to approximately 432.25 feet while the level in the other pond will rise to approximately 434.25 feet. There is a net conservation of water inventory between the two ponds.

The characteristics of the siphon line are reflected in the UHS calculation for mass loss (Reference 5). The calculation contains conservative assumptions for the siphon differential pressure. FSAR Table 9.2-1 provides the minimum pond capacity (two ponds at elevation 432 feet 9 inches) as 11,920,000 gallons. FSAR Table 9.2-6 documents the spray pond water losses 30 days after the design basis loss of coolant accident) as 9,387,000 gallons. The inventory of water remaining in the spray ponds after 30 days must be greater than or equal to 2,260,000 gallons. The results show that the amount of water available over the minimum requirement is 273,000 gallons demonstrating that sufficient inventory is available for 30 days.

The bottom of the pump sump is at elevation 408 feet 3 inches (408.25 feet) mean sea level, which is lower than the pond bottom to ensure sufficient pump suction submergence at the lowest possible pond water level.

Based on the above discussion, the design of the UHS and the SW system fully accounts for the presence and characteristics of the siphon line. The SR should be revised to be consistent with the analysis assumptions.

3.2 Siphon Line Inspections

The siphon line is ASME Section III, Code Class 3 piping. The buried portion of the siphon line is included in Columbia's Inservice Inspection (ISI) Program and is examined in accordance with ASME Section XI. The applicable edition and addenda for Columbia is the 2001 Edition through the 2003 Addenda. This line is classified in Code Category D-B, item D2.10, Pressure retaining components. In accordance with IWA-5244(b)(2), the pressure test of non-isolable buried Code Class 3 components consists of a test to confirm that flow during operation is not impaired. The quarterly SW operability testing demonstrates that adequate flow is being produced and that the line is not impaired during operation. Additional discussion of the ASME code inspection requirements for the siphon line is contained in Reference 6.

In September 2007, Energy Northwest contracted with Structural Integrity Associates, Inc. for performance of a long range guided wave (G-Scan™) inspection of the siphon line. The G-Scan™ system is a low frequency ultrasonic guided wave technique developed for the rapid survey of pipes to detect both internal and external corrosion. Guided wave ultrasonic inspection uses multiple transducer arrays to direct sound energy in a circumferential mode, which creates torsional guided waves. These torsional waves propagate down the pipe and reflect off features such as welds, supports, or areas of wall loss. In addition to the G-Scan™ piping interrogation, B-Scan ultrasonic inspection was used to measure the nominal wall thickness of each pipe segment. The Phoenix Ultrasonic B-Scan imaging system profiles the pipe wall in two dimensions, verifies original wall thickness, and profiles corrosion pitting. The inspection results indicated only minor corrosion throughout the siphon line. In September 2008, Energy Northwest performed ultrasonic thickness measurements of an elbow in the buried portion of the siphon line. The inspection results indicated that the minimum wall thickness was greater than nominal wall thickness.

Based on the fact that the siphon line is included in the ISI program and that recently performed inspections have revealed no issues with the integrity of the piping, no additional testing of the siphon line is proposed.

3.3 Impact on Submittals under Review by NRC

The NRC is presently reviewing Energy Northwest's LAR to adopt TSTF-423, "Technical Specifications End States NEDC-32988-A" (Reference 7). The proposed change to SR 3.7.1.1 does not rely on or credit any of the changes proposed in that LAR. The two submittals are not linked.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements

10 CFR 50 Appendix A General Design Criteria (GDC):

- *Criterion 44 - Cooling water.* A system to transfer heat from structures, systems, and components important to safety, to an ultimate heat sink shall be provided. The system safety function shall be to transfer the combined heat load of these structures, systems, and components under normal operating and accident conditions.

- *Criterion 45 - Inspection of cooling water system.* The cooling water system shall be designed to permit appropriate periodic inspection of important components, such as heat exchangers and piping, to assure the integrity and capability of the system.

- *Criterion 46 - Testing of cooling water system.* The cooling water system shall be designed to permit appropriate periodic pressure and functional testing to assure (1) the structural and leak tight integrity of its components, (2) the operability and the performance of the active components of the system, and (3) the operability of the system as a whole and, under conditions as close to design as practical, the performance of the full operational sequence that brings the system into operation for reactor shutdown and for loss-of-coolant accidents, including operation of applicable portions of the protection system and the transfer between normal and emergency power sources.

The SW system satisfies GDC 44 by transferring heat from emergency and auxiliary loads to the SW spray ponds which comprise the UHS. As discussed above, UHS provides cooling water to the SW system during accident conditions for cooling of essential plant auxiliary components. UHS temperatures are maintained within limits by the use of oriented spray cooling nozzles connected to a ring header. Each SW subsystem pulls water from its respective spray pond and returns the water to the other spray pond, either through the spray ring header or directly to the pond. The water then returns to the initial pond through the 30 inch diameter siphon. The siphon line connecting the two ponds allows transfer of colder water from the bottom of the spray pond in which the sprays are operating to the pond from which the operating pump is taking suction. The proposed change has no adverse effect on the ability of the SW system or UHS to perform their design functions. The requirements of GDC 44 are satisfied.

The UHS is not normally operated. Its availability is ensured by periodic tests and inspections. The UHS design also incorporates provisions for accessibility to permit inservice inspection as required. Thus, the requirements of GDC 45 and 46 are satisfied.

4.2 Applicable Regulatory Guidance

Regulatory Guide (RG) 1.27, Revision 2, January 1976, “Ultimate Heat Sink for Nuclear Power Plants:”

- *Regulatory Position C.1* - The ultimate heat sink should be capable of providing sufficient cooling for at least 30 days (a) to permit simultaneous safe shutdown and cooldown of all nuclear reactor units that it serves and to maintain them in a safe shutdown condition, and (b) in the event of an accident in one unit, to limit the effects of that accident safely, to permit simultaneous and safe shutdown of the remaining units, and to maintain them in a safe shutdown condition.

- *Regulatory Position C.3* - The ultimate heat sink should consist of at least two sources of water, including their retaining structures, each with the capability to perform the safety functions specified in regulatory position I, unless it can be demonstrated that there is an extremely low probability of losing the capability of a single source.

- *Regulatory Position C.4* - The technical specifications for the plant should include provisions for actions to be taken in the event that conditions threaten partial loss of the capability of the ultimate heat sink or the plant temporarily does not satisfy regulatory positions 1 and 3 during operation.

The safety-related water supply is provided by two spray ponds designed to contain a 30 day supply of cooling water for safe shutdown of the plant during accident conditions. The SW system circulates cooling water from the ponds to equipment required to shut down the plant from either a normal or accident condition and maintain it in a safe shutdown condition; it also discharges the warm return water through the spray system to dissipate the heat. There are two redundant SW loops, each serving an independent division of systems and equipment. Each loop takes water from one pond and returns it through the spray system in the alternate pond. If only one loop is in operation, water is transferred between the ponds through a siphon.

Limiting Condition for Operation (LCO) 3.7.1 requires the UHS be operable. Upon discovery of a failure to meet the LCO, the Required Actions of the associated Conditions shall be met. SR 3.7.1.1 contains the requirements for minimum spray pond inventory. Since the ponds are connected via the siphon line, the requirement that the average water level in the UHS spray ponds be greater than or equal to 432 feet 9 inches (432.75 feet) mean sea level ensures adequate water inventory is available to satisfy RG 1.27 requirements.

5.0 SIGNIFICANT HAZARDS CONSIDERATION

Energy Northwest has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1) Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed revision to SR 3.7.1.1 will clarify that spray pond level is the average of the level in both ponds. This amendment is requested to align the Surveillance Requirements with the design basis of the UHS spray ponds. The requested changes do not serve as initiators of any Columbia accident previously evaluated. The existing UHS analysis utilizes the total water inventory in both ponds. The analysis demonstrates compliance with the RG 1.27 requirement for 30 days of inventory and is reflected in FSAR section 9.2.5. The accident probabilities are unaffected and the consequences remain unchanged.

   Therefore there is no significant increase in the probability or consequences of an accident previously evaluated.

2) Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously analyzed?

   Response: No.

   There are no postulated hazards, new or different, contained in this amendment. Analysis has determined that these changes are bounded by existing evaluations. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Does the proposed amendment involve a significant reduction in a margin of safety?

   Response: No.

   The proposed changes revise the SR requirement for spray pond level. This change reflects the assumptions used in the UHS analysis and corrects an error introduced in a previous TS amendment. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above, Energy Northwest concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

6.0 CONCLUSIONS

Based on the considerations discussed above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the applicable regulations as identified herein, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 ENVIRONMENTAL CONSIDERATION

Energy Northwest has determined that the proposed amendment would change requirements with respect to installation or use of a facility component located within Columbia's restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. Energy Northwest has evaluated the proposed change and has determined that the change does not involve, (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion in accordance with 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

8.0 REFERENCES

1. Energy Northwest, Columbia Generating Station, Final Safety Analysis Report Amendment 62

2. Letter dated March 4, 1997, from TG Colburn (NRC) to JV Parrish (WPPSS), “Issuance of Amendment for the Washington Public Power Supply System Nuclear Project No. 2 (TAC No. M94226)”

3. NUREG-1434 Rev. 1, Standard Technical Specifications General Electric BWR/6 Plants

4. Letter GO2-95-265, dated December 8, 1995, from JV Parrish (WPPSS) to NRC, “Request for Amendment to Technical Specifications”

5. ME-02-92-41, Ultimate Heat Sink Analysis

6. Letter dated May 14, 2007, from CE Johnson (NRC) to JV Parrish (Energy Northwest), “Columbia Generating Station – NRC Integrated Inspection Report 05000397/2007002”

7. Letter GO2-14-112, dated August 12, 2014, from WG Hettel (Energy Northwest) to NRC, “License Amendment Request for Adoption of TSTF-423, Revision 1, Using the Consolidated Line Item Improvement Process

Figure 1 – Simplified Diagram

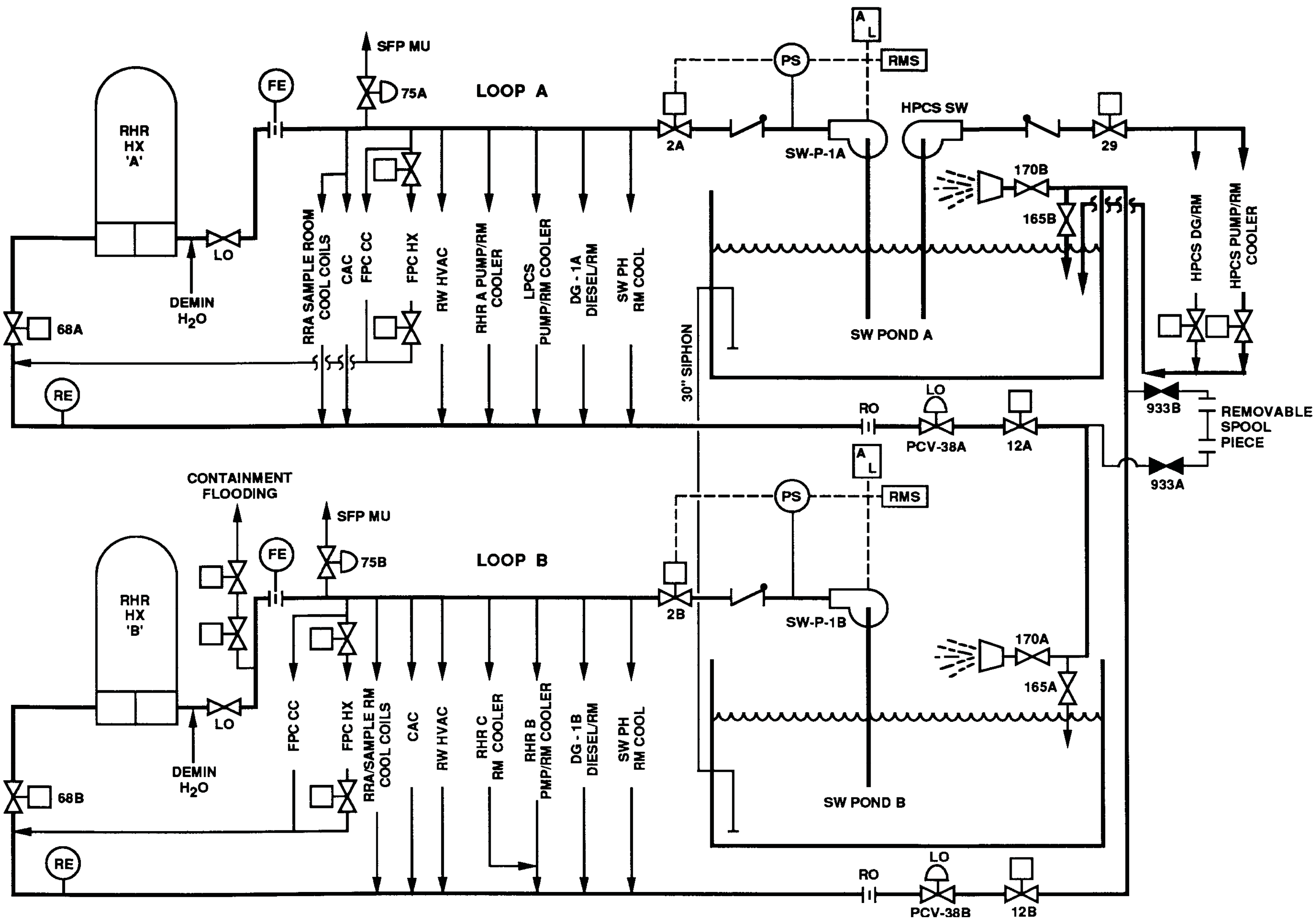
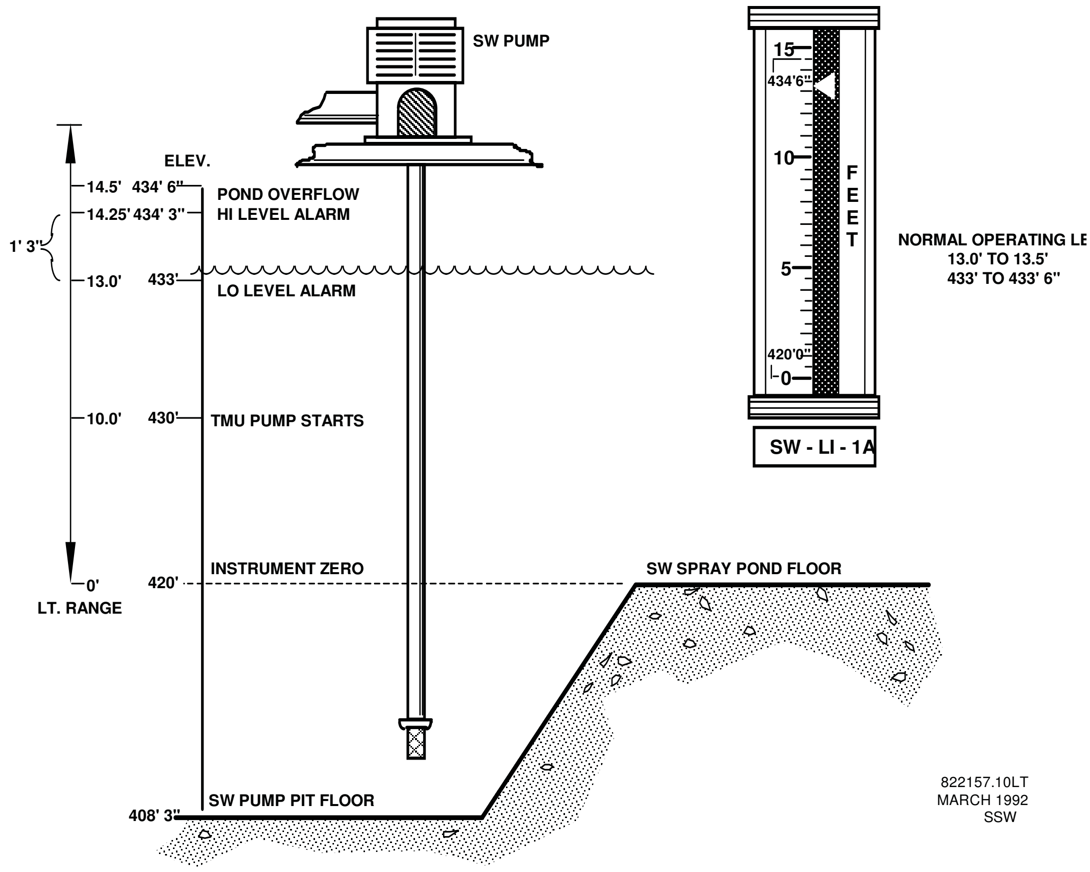


Figure 2 – Spray Pond Levels



Attachment 2

Proposed Columbia Technical Specification Changes (Mark-Up)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met. <u>OR</u> Both SW subsystems inoperable. <u>OR</u> UHS inoperable for reasons other than Condition A.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.1.1	Verify the average water level ~~of each~~ in the UHS spray ponds is ≥ 432 feet 9 inches mean sea level.	24 hours
SR 3.7.1.2	Verify the average water temperature of each UHS spray pond is ≤ 77°F.	24 hours
SR 3.7.1.3	------------------------------NOTE----------------------------- Isolation of flow to individual components does not render SW subsystem inoperable. --- Verify each SW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days

Attachment 3

Proposed Columbia Technical Specification Bases Changes

(for information only)

BASES

LCO

The OPERABILITY of subsystem A (Division 1) and subsystem B (Division 2) of the SW System is required to ensure the effective operation of the RHR System in removing heat from the reactor, and the effective operation of other safety related equipment during a DBA or transient. Requiring both subsystems to be OPERABLE ensures that either subsystem A or B will be available to provide adequate capability to meet cooling requirements of the equipment required for safe shutdown in the event of a single failure.

A subsystem is considered OPERABLE when:

a. The associated pump is OPERABLE; and

b. The associated piping (including the suction piping and spray ring in the associated UHS spray pond), valves, instrumentation, and controls required to perform the safety related function are OPERABLE.

OPERABILITY of the UHS is based on a maximum water temperature of 77°F and a minimum average water level of ~~each~~ the ponds at or above elevation 432 feet 9 inches mean sea level and an average sediment depth of < 0.5 ft, consistent with the analysis of Ref. 2, and an OPERABLE siphon line between the two spray ponds. ~~If a single loop of Service Water is in operation, the minimum allowable water level (≥ 432 ft 9 inches mean sea level) is determined by taking the arithmetic average of both ponds, provided the siphon line is OPERABLE.~~

The isolation of the SW System to components or systems may render those components or systems inoperable, but does not affect the OPERABILITY of the SW System if those component's or system's applicable LCO Conditions and Required Actions are entered. For example, if SW cooling to the LPCS pump motor was isolated, entry into LCO 3.5.1 or 3.5.2 Conditions and Required Actions, as applicable, would be sufficient and SW OPERABILITY would not be affected.

OPERABILITY of the High Pressure Core Spray (HPCS) Service Water (SW) System is addressed by LCO 3.7.2.

BASES

ACTIONS (continued)

C.1 and C.2

If the SW subsystem cannot be restored to OPERABLE status within the associated Completion Time, or both SW subsystems are inoperable, or the UHS is determined inoperable for reasons other than Condition A, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 12 hours and in MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1

Verification of the UHS spray pond level ensures adequate long term (30 days) cooling can be maintained. The water level is determined by taking the average of both ponds. The 24 hour Frequency is based on operating experience related to trending of the parameter variations during the applicable MODES.

SR 3.7.1.2

Verification of the UHS spray pond temperature ensures that the heat removal capability of the SW System is within the assumptions of the DBA analysis. The 24 hour Frequency is based on operating experience related to trending of the parameter variations during the applicable MODES.

SR 3.7.1.3

Verifying the correct alignment for each manual, power operated, and automatic valve in each SW subsystem flow path provides assurance that the proper flow paths will exist for SW operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. A valve is also allowed to be in the nonaccident position and yet considered in the correct position, provided it can be automatically realigned to its accident position within the required time. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

Attachment 4

Proposed Columbia Technical Specification Changes (Clean)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met. OR Both SW subsystems inoperable. OR UHS inoperable for reasons other than Condition A.	C.1 Be in MODE 3. AND C.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify the average water level in the UHS spray ponds is ≥ 432 feet 9 inches mean sea level.	24 hours
SR 3.7.1.2	Verify the average water temperature of each UHS spray pond is ≤ 77°F.	24 hours
SR 3.7.1.3	-------------------------------NOTE------------------------------ Isolation of flow to individual components does not render SW subsystem inoperable. --- Verify each SW subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days