

**From:** Forland, Thomas J.  
**To:** [Kumana, Rayomand](#); [Beaulieu, David](#); [George, Gerond](#)  
**Cc:** [Voss, Patricia](#); [Shaw, Jim D.](#)  
**Subject:** [External\_Sender] RE: CNS RHRSW Fan Coil Unit questions  
**Date:** Friday, March 23, 2018 9:46:07 AM  
**Attachments:** [AEC Concern Items Listing.pdf](#)  
[AEC Concern 36C-12.pdf](#)  
[Original TS RHRSW Pages.pdf](#)  
[Revision to TS Bases for SW and REC Systems .pdf](#)  
[Original TS - 3.11.C.pdf](#)  
[Original TS - 3.11.C Bases.pdf](#)

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Greetings,

Responses to the questions asked by Tricia below. Please let me know if you have any additional questions or require any related documentation not already attached.

1. AEC Concern 36 per the attached documentation is as follows "Intake Silting Problem – Silt model study. Sparger system. Sectionalization of SW bay. Equipment Damaged by silt." Part C-12 of this concern is "SW Supply to Fan Coil units OPERATIONAL CONCERN". The attached documentation is the only other documentation that we could locate regarding this concern. It appears the numbering system was developed between NPPD and Burns and Roe to address open items and AEC concerns. We could not locate any documentation regarding the source of the concern or if any of these items were ever docketed. Note that this "concern" is not specific to the RHRSW FCU but generic to fan coil units supplied by SW.
2. Per the Original FSAR the RHR SW Pump Room Fan Coil Unit is non-essential. I have attached the FSAR equivalent figure containing information on the RHR Service Water System (G-6-2) to the USAR figure, G-6-4, that you mentioned (though I believe you meant G-5-4 as this is the USAR page that was changed by UCR 98-019). Additionally, I have included the two sections of the FSAR that discuss the Pump Room FCU/Control Room Basement FCU. Note that FSAR section X-8, the safety evaluation section for the RHR SW booster system, makes no mention of the room cooler and states that no single active system component failure can prevent the safety objective. This, along with the omission of the FCU from Appendix G, implies that the single pump room FCU is not essential to the function of RHR SW Booster system. The relevant documents to this request that have not previously been provided have been attached. The revision to G-5-4 which displayed the Pump Room Cooler as essential was introduced in 1995, and subsequently revised in 1998. The 1995 change appears to have been made in error without a complete understanding of the licensing basis history. Ultimately the conclusion is that the FCU is currently non-essential to RHR SW function, and that per original plant design was not intended to be essential to RHR SW Function.
3. From a review of TS and TS Bases changes to the RHRSW System spec (currently 3.7.1, pre-ITS conversion 3.5.B), it was discovered that this room cooler has not been described in TS or the TS Bases sections for

RHRWS. A review of the Original TS and of the Pre-ISTS conversion Custom TS revealed discussion of the Control Room Basement fan coil in TS Bases Section 3.12.C (formerly 3.11.C) prior to the previously discussed 1993 change. This section discusses the equipment which is supplied water by the Service Water System, from which the Control Room Basement Fan Coil unit was removed in the Bases Discussion along with the 1993 change (Attached Correspondence informing NRC of change).

4. A full text search of CNS/NRC Correspondence for the following terms ("pump room fan coil", "control room basement fan coil", "control building basement fan coil") revealed the results listed below. Each of these pieces of correspondence mention the SWBP FCU in one way or another, and in each case it is referred to in a singular fashion (i.e. only one exists). Much of this correspondence is covering the TS Bases pages (3.11.C/3.12.C) discussed previously. Additionally, those pieces of correspondence which do not directly contain the TS Bases or the exact wording of the TS Bases (5 such items identified and emboldened below) discuss the Fan Coil Unit as being a single piece of equipment (i.e. not single failure proof).

**The 1993 TS Bases change which resolves the Licensee Event Report 93-001 (NSD930688)**

**NRC Inspection Report 50-298/89-03, Safety System Functional Inspection Response (NLS8700358)**

**License Amendment Request to Revise the Ultimate Heat Sink and Reactor Equipment Cooling Water Temperature Requirements (NLS2002008)**

**License Amendment Request to Revise Technical Specification 3.7.3 Reactor Equipment Cooling System (NLS2008002)**

**NRC Integrated Inspection Report 05000298/201303**

Issuance of Amendment RE: Reactor Equipment Cooling System (Amendment 232)

Amendment 7

Amendment 16

Proposed Miscellaneous Changes to Technical Specifications (821124-01)

TS Change Number 10 (LQA8300257)

Amendment 88 to Facility Operating License (Amendment 88)

Proposed Change Number 15 to TS Special Tests and Exceptions (NLS8500068-01)

Proposed Change Number 18 to TS Miscellaneous (NLS8500075)

Proposed Change Number 18 to Tech Specs (850524-03)

Amendment Number 97

Change Number 18 to Cooper Technical Specifications; Additional Information (NLS8600226)

Amendment Number 102

Proposed Change Number 93 to Tech Specs (NLS9100058)

TS Amendment 152

TS Change 110 (NSD920481)

Amendment Number 162 to Facility Operating License Number DPR-46

NRC Inspection Report 50-298/94-04

Thank you,

Thomas Forland

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**From:** Voss,, Patricia- NRC  
**Sent:** Monday, March 05, 2018 8:14 AM  
**To:** Shaw, Jim D.; Forland, Thomas J.  
**Cc:** Kumana,, Rayomand- NRC; Beaulieu, David; George, Gerond  
**Subject:** CNS RHRSW Fan Coil Unit questions

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Jim –

On Thursday (March 1) and Monday (March 5), I verbally provided you the following four questions with respect to the RHRSW fan coil unit (FCU) topic:

1. Provide a copy of documentation associated with AEC Concern 36C-12 (concern associated with silting and licensee's apparent reason for installing the FCU recirc cooling tower)
2. Was the fan coil unit actually originally nonessential (non-safety)? Original FSAR Appendix G seems to say it was a safety related RHRSW support system in Figure G-6-4 ('S' in the block on the figure). CNS 50.59 documentation on this topic (1993 and 2013) discuss that the FCU was originally non-essential; show where FSAR said it was non-safety related and explain the discrepancy (if there is one).
3. Was this FCU ever described in TS or TS Bases? (if yes, provide documentation)
4. Was the lack of single failure protection of this FCU ever discussed in correspondence with NRC? (if yes, provide documentation)

In case I am unavailable and on maternity leave when you receive answers to these questions, please ensure you provide written responses via email to me and the following individuals:

[Rayomand.Kumana@nrc.gov](mailto:Rayomand.Kumana@nrc.gov)

[Gerond.George@nrc.gov](mailto:Gerond.George@nrc.gov)

[David.Beaulieu@nrc.gov](mailto:David.Beaulieu@nrc.gov)

Thanks

Patricia Voss  
Senior Resident Inspector – CNS  
WAH Contact (2/20-3/14/18):  
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Hours: M–W: 7am-4:30pm;  
Th–F: 7am-12:45pm