

March 17, 1999

Mr. Nathan L. Haskell  
Director, Licensing  
Palisades Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING THE TECHNICAL SPECIFICATIONS CHANGE REQUEST TO CONVERT TO THE IMPROVED TECHNICAL SPECIFICATIONS FOR THE PALISADES PLANT (TAC NO. MA0805)

Dear Mr. Haskell:

On January 26, 1998, Consumers Energy submitted its request to convert the Palisades Nuclear Plant current technical specifications (CTS) to improved technical specifications (ITS). Additional information, as discussed in the enclosure, is requested in order to complete our evaluation of ITS Section 3.5. The staff requests that you provide your response using the enclosed comment format, adding your responses where indicated in the enclosure.

The enclosed request was discussed with Mr. B. Young of your staff on March 15, 1999. A mutually agreeable completion date for your response of April 30, 1999, was established. If circumstances result in the need to revise this schedule, please call me at the earliest opportunity.

Should you have any questions regarding this request, please do not hesitate to contact me at (301) 415-1312 or Mary Lynn Reardon of the Technical Specifications Branch at (301) 415-1177.

Sincerely,

ORIGINAL SIGNED BY

Robert G. Schaaf, Project Manager  
Project Directorate III-1  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure: As stated

cc w/encl: See next page

Distribution (w/encl):

237054

~~Docket File~~

PD#3-1 Reading  
PUBLIC

ACRS  
WDBeckner (WDB)  
MLReardon (MLR2)

A. Vogel, RIII  
JZwolinski/S. Black (w/o encl)

OGC

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DF01

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NAME	RSchaaf:db <i>RSA</i>		CJamerson <i>CJ</i>		CACarpenter <i>CA</i>	
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Consumers Energy Company

Palisades Plant

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Improved TS Review Comments  
Section 3.5, Emergency Core Cooling Systems**

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**3.5, ECCS-Generic**

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**3.5.G-1**        CTS 3.3.1, 4.6.3.a, & 4.6.4.a  
                  DOCs 3.5.1-LA.1& LA.2, 3.5.2-LA.1 & LA.2

**Comment:** Generally, requirements moved to licensee-controlled documents should be moved to documents that are covered by some type of regulatory control such as 10 CFR 50.59, 10 CFR 50.54a, or the ITS Bases Control Program. The DOCs noted above state that the subject requirements are being moved to plant procedures. The staff considers CTS requirements moved to plant procedures to be essentially deleted requirements since there is no longer a regulatory control mechanism associated with the requirements. Therefore, please review the subject changes and move the requirements to licensee-controlled documents covered by some type of regulatory control or reclassify the changes as less restrictive changes describing deletion of CTS requirements.

**Consumers Energy Response:**

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**3.5.1, Safety Injections Tanks (SITs)**

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**3.5.1-1**        CTS 3.3.1  
                  ITS 3.5.1 Applicability and Required Actions C.1 and C.2  
                  DOC A.2, L.1 and JFD #5

CTS 3.3.1 states that "The reactor shall not be made critical ... unless all of the following conditions are met:" Item b is applicable for the Safety Injection Tanks. ITS 3.5.1 Applicability is proposed to be Mode 1 and 2. STS 3.5.1 Applicability is Mode 1 and 2, and Mode 3 with RCS pressure greater than 700 psia.

**Comment:** JFD #5 explains that the SITs are pressurized to greater than 200 psig and filled using the HPSI pumps and injection lines and that attempting to fill the SITs with PCS pressure below the HPSI shutoff head would result in flow opening the loop check valves and entering the PCS. The JFD also explains how the parameters of the SITs are currently verified within limits after plant heatup and before the approach to criticality.

The Applicability of SITs should be based upon when they are needed to mitigate the assumed accident when the PCS is at elevated temperatures and pressures. Therefore, shouldn't SITs have a similar Applicability to the ECCS trains in ITS 3.5.2 which begins in Mode 3 after PCS reaches 325°F or an Applicability based on when PCS pressure exceeds the SIT cover pressure of 200 psig? The resolution of the Applicability issue may require the addition of Required Action C.2 to "Reduce PCS temperature to < 325°F" or "Reduce PCS pressure to < 200 psig" with a technically justified Completion Time.

**Consumers Energy Response:**

ENCLOSURE

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**3.5.1-2** CTS 3.3.2, CTS 3.3.2 e and f  
ITS 3.5.1 Action A, B, C, and D  
DOC A.5

CTS 3.3.2 states that "During power operation the requirements of (CTS) 3.3.1 may be modified to allow one of the following conditions to be true at any one time". ITS 3.5.1 has converted these requirements into the improved STS format.

**Comment:** DOC A.5 appears to be composed of several change issues and should be re-written to separate these issues. **Issue #1** - DOC A.5 appears to apply to Action B for justification of the one hour Completion Time. The one hour is retained which is acceptable and it is an administrative change as explained in the 7<sup>th</sup> through 10<sup>th</sup> sentences. The 11<sup>th</sup> sentence discusses a relaxation of the Completion Time to 24 hours which is not identified in the ITS, nor is it discussed in DOC L.1, as noted in this DOC A.5. The 11<sup>th</sup> sentence appears to be extraneous and should be deleted. **Issue #2** - The fifth and sixth sentences explain how the reformatting of these CTS requirements have resulted in a "generic" less restrictive technical change for several ITS 3.5 LCOs. The concurrent inoperability permitted by separate ITS LCOs would invoke a CTS LCO 3.0.3 plant shutdown under the CTS 3.3.2 requirements. This is a less restrictive change which should be separately identified. **Issue #3** - CTS 3.3.2 e and f have been removed per the CTS markup as only applicable for ITS 3.5.2. It appears that these two CTS requirements would still be applicable to the SITs under ITS 3.5.1. Provide a new DOC for these CTS requirements to explain how they are converted into the ITS 3.5.1 requirements.

**Consumers Energy Response:**

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**3.5.1-3** CTS 4.2, Table 4.2.2, Item #10  
ITS SR 3.5.1.3  
DOC LA.3 and JFD #7

CTS Table 4.2.2 Item #10 verifies the pressure in the SIT is between a high-high and a low pressure alarm setpoint. ITS SR 3.5.1.3 only verifies the pressure is above a minimum limit; whereas, STS SR 3.5.1.3 also defines an upper pressure limit.

**Comment:** DOC LA.3 states that neither the CTS (3.3.1b) nor the ITS specify a high pressure limit for the SITs since a maximum pressure is not an assumption in the safety analysis. However, the staff believes that, as evidenced by CTS Table 4.2.2 Item #10, the high pressure limit is an operability requirement for the SITs under the CTS. As the STS Bases state, the maximum nitrogen cover pressure limit ensures that excessive gas will not be injected into the RCS after the SITs have emptied. Please revise the submittal to retain the high pressure limit in conformance with the STS and the CTS.

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**3.5.1-4**        CTS 4.6.4.a  
                  ITS SR 3.5.1.5  
                  JFD #6

CTS 4.6.4.a verifies each SIT flow path is Operable by verifying each motor-operated isolation valve is open and locking open the circuit breakers. ITS SR 3.5.1.5 verifies power is removed from each SIT isolation valve operator.

**Comment:** STS SR 3.5.1.5 only requires this verification whenever the pressurizer pressure is greater than 2000 psia". Per JFD #6, this phrase was not retained in ITS SR 3.5.1.5 because of the change to the Applicability. When the ITS 3.5.1 LCO Applicability is resolved (See Comment #3.5.1-1), this ITS SR may also need to be revised for consistency.

**Consumers Energy Response:**

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**3.5.2, ECCS - Operating**

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**3.5.2-1**        CTS 3.3.2.b, c, d, and f  
                  ITS 3.5.2 Action A  
                  DOC L.2

CTS 3.3.2.b, c, d, and f all require the separately listed LPSI, HPSI, shutdown cooling heat exchanger and all valves associated with the safety injection and shutdown cooling system to be restored Operable within 24 hours. ITS 3.5.2 Action A permits 72 hours for any component that renders an ECCS train inoperable providing that 100% equivalent flow is still available from a single train.

**Comment: Issue #1** - DOC L.2 as written only applies to CTS 3.3.2.c; whereas; the CTS markup indicates it is also applicable for CTS 3.3.2.b, d, and f. Revise this DOC to apply to all CTS changes. **Issue #2** - The CTS 3.3.2.b and c markup states a second part to Condition B is added when this is not found in the ITS. Is this is an error and should the reference be to Condition A instead?

**Consumers Energy Response:**

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**3.5.2-2**        CTS 3.3.1.e  
                  ITS 3.5.2 Action A  
                  DOC LA.1

CTS 3.3.1.e requires Operability of the shutdown cooling heat exchanger and all valves associated with the shutdown cooling system. ITS 3.5.2 simply requires that two ECCS trains be operable.

**Comment:** DOC LA.1 also applies to CTS 3.3.1.c, d, f, and g, and 3.3.4, which is acceptable. However, CTS 3.3.1.e requirements are not discussed in the Bases as stated in DOC LA.1. The inoperability of the shutdown cooling heat exchanger directly affects the ECCS train capability on recirculation flow. Bases insert to page B 3.5-10 and the LCO discussion do not

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provide complete description of the components in the ECCS trains that must be maintained Operable. Revise the ITS Bases accordingly to ensure these components are covered in ITS 3.5.2 and there is agreement with the CTS requirements relocated per DOC LA.1.

**Consumers Energy Response:**

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**3.5.2-3**      CTS 3.3.2  
                  ITS 3.5.2 Required Action B.2  
                  DOC L.1 and JFD #15

CTS 3.3.2 allows an ECCS component to be inoperable for 24 hours and then requires the reactor placed in a Cold Shutdown condition within an additional 60 hours (84 total) if the component cannot be restored. ITS Action A permits 72 hours for restoring an inoperable ECCS train and an additional 24 hours (96 total) for placing the reactor in Mode 3 with PCS  $\leq$  325°F.

**Comment:** As discussed in JFD #15, a change to the Completion Time of Required Action B.2 may be appropriate to reach a lower operating temperature in Mode 3. However, no technical justification has been provided for the 24-hour Completion Time proposed for ITS 3.5.2, Required Action B.2. How does this Completion Time relate to similar Actions in other specifications requiring the plant to be placed in a similar operating condition? Please provide a justification for the 24-hour Completion Time for Required Action B.2.

**Consumers Energy Response:**

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**3.5.3, ECCS - Shutdown**

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**3.5.3-1**      No CTS  
                  ITS 3.5.3  
                  DOC M.1; JFD #6 & #7

The CTS does not contain any ECCS requirements when the reactor is not critical. ITS 3.5.3 requires one LPSI train to be Operable in Mode 3 when PCS is  $<$  325°F and in Mode 4; whereas, STS 3.5.3 requires one HPSI train Operable during Mode 3 when pressurizer pressure is  $<$  1700 psia and in Mode 4.

**Comment: Issue #1** - This change is not consistent with either the CTS or the STS and is beyond the scope of the conversion review, and, therefore, will require additional review by the NRC technical staff. STS 3.5.3 requires at least one HPSI train operable during shutdown operations. To the contrary, ITS 3.5.3 requires that one LPSI train is required operable. JFD #6 states that this reflects the Palisades design. Is this difference solely due to LTOP? If so, why isn't this explained in the Applicable Safety Analysis? The Applicable Safety Analysis Bases developed for ITS 3.5.3 directly state that the Bases for ITS 3.5.2 are applicable which still references analyses that credit only the HPSI pumps for the various sizes of LOCA breaks. There is no discussion or explanation regarding this difference from the STS. There is no discussion or explanation in the ITS 3.5.3 Bases for Applicable Safety Analyses pertaining to why one sole LPSI train is acceptable for the Palisades design. ITS 3.5.2 Bases for Applicable

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Safety Analyses, paragraph 5, states that for all LOCA analyses, injection flow is not credited until PCS pressure drops below the shutoff head of the HPSI pumps. How do these analyses apply or how are they bounding for ITS 3.5.3 that now relies on only the LPSI pumps? Revise the DOC and JFD, and ITS Bases to further explain and provide technical justification for changes to reflect the Palisades design.

**Consumers Energy Response:**

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**3.5.3-2**      CTS 3.3.1  
                  ITS SR 3.5.3.1  
                  JFD #9

CTS 3.3.1 provides no specific requirements for determining the Operability of the ECCS system components during the shutdown modes of Operation. ITS SR 3.5.3.1 provides direct reference to those surveillances from ITS 3.5.2 that are applicable to the Operability requirements of ITS 3.5.3.

**Comment:** Based upon the information contained in the Bases for ITS 3.5.2 and ITS 3.5.3, the STS SRs 3.5.2.1, 3.5.2.3, 3.5.2.6, 3.5.2.7, and 3.5.2.9 are still applicable to ITS 3.5.3 as follows: (1) The ESF Pump Mini Flow valves (CV-3027 and CV-3056) preclude damage to all ECCS pumps (as stated in Bases inserts 1, 2, and 3 on page B 3.5-16) and not just to the HPSI. Therefore, the position of these valves should be verified per SR 3.5.2.1. (2) The ECCS pumps and valves are automatically actuated per the design which does cease to exist, even though the slower evolution of the design basis event in these Modes happens a rate that permits a manual response. The design has not changed; therefore, STS SRs 3.5.2.6 and 3.5.2.7 should apply, as indicated in the STS. (3) Similar to the previous item, the LPSI flowpaths should be verified as Operable with the stops in the correct position. In addition for both items (2) and (3), in order to enter normal power operation mode for ITS 3.5.2, SR 3.0.4 requires that these SRs must be met prior to entry into the Modes of Applicability; so, it will be necessary to fulfill these SR requirements during the Applicability of ITS 3.5.3 to ensure the safety function is met prior to entering the Applicability of ITS 3.5.2. The staff requests that you revise the ITS to adopt these STS SR requirements.

**Consumers Energy Response:**

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**3.5.4, Safety Injection Refueling Water Tank (SIRWT)**

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No comments.

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**3.5.5, Trisodium Phosphate (TSP)**

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No comments.