



Palisades Nuclear Plant: 27780 Blue Star Memorial Highway, Covert, MI 49043

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**DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
SHUTDOWN COOLING TECHNICAL SPECIFICATIONS CHANGE REQUEST REPLACEMENT PAGES**

Enclosed please find the Palisades proposed Shutdown Cooling (SDC) Technical Specifications pages altered to include those changes which were discussed with the NRC Palisades Project Manager by our licensing staff. Enclosure 1 includes revised pages as they should appear in the Technical Specifications, and revised bases pages.

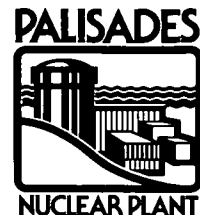
The revised pages have been rewritten to enhance their clarity and brevity, and reformatted to conform with other Technical Specifications change requests (TSCRs) which have been submitted after the earlier Shutdown Cooling TSCR. The revised pages, 3-25d through 3-25i should replace pages 3-25e through 3-25i proposed in our September 26, 1991 submittal. The altered page numbering eliminates an unused page.

The revised pages contain the below listed changes to the requirements of the pages of our September 26, 1991 submittal. These changes are indented to make the proposed specifications more closely match the CE Standard Technical Specifications (STS), yet allow required testing and necessary maintenance to be performed. The STS requirements were not written for a plant with the Palisades system configuration. If it would aid the staff reviewers, members of the Palisades staff could present an explanation of the plant features which require differences between our Technical Specifications and the STS.

- 1) An additional required action is included for the case when the PCS is between 200°F and 300°F, with fewer operable means of decay heat removal required: (former item 3.1.9a Action 2; revised 3.1.9.1 Action 1.b)

"Maintain PCS temperature as low as practical with available equipment."

This Required Action is intended to make the proposed Actions meet the intent of the STS LCO 3.4.1.3 Actions, but recognize that if there is actually no functional (vs technically OPERABLE) SDC train, that a cooldown to Cold Shutdown might not be possible. Also note that limitations on starting a Primary Coolant Pump, given at the bottom of STS page 3/4 4-3, already appear in Palisades LCO 3.1.1h.



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- 2) The specification for SDC requirements with the PCS below 200°F with the loops filled has been rewritten to closely follow STS LCO 3.4.1.4.

This change limits the use of the PCS as a backup means of decay heat removal (with the PCS $\leq 200^\circ\text{F}$ and loops filled) to those times when both PCS loops and both steam generators are available for heat removal.

- 3) An additional constraint has been added to the exceptions which allow temporary stoppage of flow through the reactor core when the PCS is below 200°F:

"Two SDC loops are OPERABLE."

This added constraint is intended to reduce the risk of not being able to restart SDC following intentional flow stoppage.

- 4) The exception allowing one SDC train to be intentionally rendered inoperable for testing or maintenance, with the PCS less than 200°F and the loops not filled, has been rewritten; a similar exception has been proposed for when the PCS is less than 200°F with the loops filled.

PCS $\leq 200^\circ\text{F}$, loops filled:

"Both SDC loops may be intentionally rendered inoperable for maintenance provided:

- a. One PCS or SDC loop is providing flow through the reactor core, and
- b. Core outlet temperature stays $\leq 200^\circ\text{F}$, and
- c. Each steam generator secondary water level is $\geq -84\%$.

PCS $\leq 200^\circ\text{F}$, loops not filled:

"Both SDC loops may be intentionally rendered inoperable for maintenance provided:

- a. One PCS or SDC loop is providing flow through the reactor core, and
- b. Core outlet temperature stays $\leq 200^\circ\text{F}$, and
- c. The refueling cavity water level is $\geq 647'$.

This exception is intended to allow maintenance on the systems which support SDC as long as circulation is maintained through the reactor core, an operable means of decay heat removal is available, and PCS temperature is maintained within limits. An additional restriction is provided by LCO 3.1.2, which limits the allowable PCS heatup rate. The exemption requires either both PCS loops or the refueling cavity, containing sufficient cooling water to act as a heat sink, to be available. The heat sink available at the proposed level of $\geq 647'$ (22' 6" above the reactor vessel flange) has been analyzed. Curves predicting the time to reach 200°F, as a function of time after shutdown and initial temperature, are provided in Palisades operating procedures. The referenced 647' level is the same minimum level used in refueling procedures.

This exception does not appear in STS. Such an exception is necessary for the Palisades due to the configuration of our Component Cooling Water (CCW) and Service Water (SWS) systems. Palisades was licensed prior to publication of the General Design Criterion of 10 CFR 50, Appendix A. While the CCW and SWS systems designs do provide electrical redundancy and separation, they do not have the mechanical separation which is typical of the newer plants for which the STS were developed. In each system there are components which require temporarily making the system inoperable to accomplish maintenance. The duration of the exception is limited by the requirement to maintain the PCS temperature below 200°F.

The exception is proposed for both the "loops filled" and the "loops not filled" cases to allow for maintenance of CCW or SWS in outages which do not involve refueling, as well as when the refueling cavity is available as a heat sink.

These new restrictions on Shutdown Cooling operations will be implemented by administrative control. However, in order to allow operator training on these new requirements and to avoid confusion due to changing requirements during an outage, implementation will be delayed until after completion of the current refueling outage.

The incorporation of these changes does not alter the conclusions of the Analysis of No Significant Hazards Consideration included in the September 26, 1991 submittal.



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General Manager

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachment