

October 1, 1998

MEMORANDUM TO: William D. Beckner, Chief
Technical Specifications Branch
Associate Director for Projects, NRR

FROM: Clyde Y. Shiraki, Senior Reactor Engineer *Original Signed By*
Technical Specifications Branch
Associate Director for Projects, NRR

SUBJECT: PRELIMINARY COMMENTS TO PALISADES SECTION 3.7

Attached are the preliminary comments to Palisades Section 3.7 as they were provided to the licensee. Staff review of the comments has not been completed. However, they were provided to the licensee for the purpose of opening discussions. The discussions may result in comments being revised or withdrawn.

Attachment: Palisades Section 3.7 comments

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**Part 1 - Comment Record
of Section 3.7, Plant Systems
for the Review and Evaluation of the
Palisades Applications for Conversion to the
Improved Standard Technical Specifications (ITS)**

Section 3.7, Generic Comments

3.7 - Generic Comment #1: DOC A.2 - CTS 3.1.7.2 Action a
JFD #1 - ITS 3.7.1 Required Action B.1
DOC A.5 - CTS 3.5.3
JFD #1 - ITS 3.7.2 Required Action D.1

Using the first DOC as an example: With one or more MSSVs inoperable, CTS 3.1.7.2 Action a requires the reactor placed in Hot Shutdown within 12 hours. ITS 3.7.1 Action B Required Action B.1 requires the plant placed in Mode 3 in 6 hours.

Comment: At the "Hot Shutdown" operating condition, the Palisades average primary coolant temperature is significantly higher than the ITS Mode 3 lower boundary range for T_{avg} . This does not appear to be just a CTS administrative change but a more restrictive CTS change for the new Mode 3 definition and for new Mode 4 definition, it is a less restrictive CTS change. The determination of whether the Palisades "Hot Shutdown" operating condition is equivalent to the ITS Mode 3 is to be made in the Review and Evaluation of Section 1.0. Therefore, the resolution of this Comment Record item and all the listed references to this Generic change shall be uniformly resolved.

Palisades Response:

3.7 - General Comment #2: DOC M.2 - CTS 3.1.7.2 Action b
JFD #1 - ITS 3.7.1 Required Action B.2
DOC L.2 - CTS 3.5.3
JFD #1 - ITS 3.7.2 Required Action D.2

Using the first and second DOCs as examples: With one or more MSSVs inoperable, CTS 3.1.7.2 Action b requires the reactor placed in Cold Shutdown within 48 hours; and if the MSIVs do not meet the system requirements, then CTS 3.5.3 requires the reactor placed in Cold Shutdown in 36 hours. ITS 3.7.1 Required Action B.2 for MSSVs and ITS 3.7.2 Required Action D.2 for MSIVs respectively require placing the plant in Mode 4 in 30 hours; whereas, the STS target Completion Time is 12 hours within brackets.

Comment: The CTS requirements changed by DOCs M.2 and L.2 above both require placing the plant in a ITS Mode 4 condition to exit the LCO mode of Applicability which is a CTS change from placing the plant in an ITS Mode 5 equivalent condition. This CTS

change is acceptable; however, there should be no difference in the CTS change category for this same change. Also, why are the CTS times to reach the Palisades operating condition of "Cold Shutdown" different (48 hours versus 36 hours)? The determination of whether the plant can be placed in the Palisades "Hot Shutdown" operating condition in 30 hours versus the STS target time of 12 hours is to be made in the Review and Evaluation of Section 1.0. Therefore, the resolution of this Comment Record item and all the listed references to this Generic change shall be uniformly resolved.

Palisades Response:

3.7 - General Comment #3: All ITS Bases

The ITS markup of the STS has not retained many portions of the STS text. These deviations are justified with standard reference to JFD #4, and in some cases are based upon specific JFDs citing unique safety analyses or plant specific differences from the standard design assumed in the STS.

Comment: The Bases would be a more useful document to future TS users if the uniqueness of the Palisades plant design were more fully explained in the Bases. The ITS markup has tended to remove information which is not applicable rather than adding the explanation of the equivalent Palisades design feature. Most JFDs prepared should be incorporated directly into the Bases text to retain the basis presented in the submittal for the development of these ITS LCOs. For example, see Comments #3.7.3-4 and #3.7.4-2 for typical places where the JFD discussion should be added to the Bases.

Palisades Response:

3.7.1, Main Steam Safety Valves (MSSVs)

3.7.1-1 CTS 3.1.7.2 Action a
ITS 3.7.1 Required Action B.1
DOC A.2

Comment: This is the same as Generic Comment #1.

3.7.1-2 CTS 3.1.7.2 Action a
ITS 3.7.1 Required Action B.1
DOC M.1

With one or more MSSVs inoperable, CTS 3.1.7.2 Action a does not provide any compensatory actions but immediately requires the reactor be placed in Hot Shutdown within 12 hours. ITS 3.7.1 Action A allows 4 hours to restore the MSSV(s) Operable; if not completed, then Required Action B.1 requires the plant placed in Mode 3 in 6 hours.

Comment: The ITS allows the period of time the fix the inoperable MSSV at power before placing the plant in an operating condition where the LCO does not apply. The allowance

of this four hour Completion Time is a "less restrictive CTS change" rather than a "more restrictive CTS change". If the MSSV is restored within the four hours, the plant does not have to be taken off the power grid rather than the more harsh CTS action which is an immediate power reduction regardless if the repairs could be successful. Also, DOC M.1 only justifies the change in the Completion Times and does not discuss the effect of Require Action A.1 to restore the MSSVs Operable. Revise the CTS markup and the DOC to provide the appropriate technical justification for this CTS change.

Palisades Response:

3.7.1-3 CTS 3.1.7.2 Action b
ITS 3.7.1 Required Action B.2
DOC L.1

With one or more MSSVs inoperable, CTS 3.1.7.2 Action b does not provide any compensatory actions but immediately requires the reactor be placed in Cold Shutdown within 48 hours. ITS 3.7.1 Action A allows 4 hours to restore the MSSV(s) Operable; otherwise, Action B requires the plant placed in Mode 3 in 6 hours and Mode 4 in 30 hours.

Comment: DOC L.1 is prepared to only discuss and justify the change in the CTS Applicability. The CTS change appears to be acceptable; however, there is no specific technical justification provided for making this CTS Action change. Even though this change is related to the Applicability change, there is a different technical reason and justification required for this CTS Action b change. Either revise DOC L.1 or provide a new "L" DOC.

3.7.1-4 CTS 3.1.7.2 Action b
ITS 3.7.1 Required Action B.2
DOC M.2

Comment: This is the same as Generic Comment #2.

3.7.1-5 CTS 3.1.7.2, Table 3.1.7-2, (*) footnote
ITS SR 3.7.1.1
DOC A.3
JFD #7

CTS 3.1.7.2, Table 3.1.7-2, (*) footnote has been modified as follows: "~~After testing or on valve maintenance which could affect the setting,~~ it shall be reset to within 1% of the nominal setpoint prior to being returned to service". The deleted portion of the CTS requirement has not been retained in ITS 3.7.1.

Comment: Based upon the guidance of NEI 96-06, this is an administrative relocate "LA" DOC rather than a CTS administrative change. Provide a revised "LA" DOC. It is agreed the SR Note is not applicable since the MSSVs lift settings are not tested in-place. It is important, however to describe in the Bases how this CTS post-maintenance MSSV testing requirement to verify Operability is achieved. Expand the discussion of JFD #7 and add it to the Bases. Most of the STS Bases text description pertaining to bench-testing was not

retained. In this manner, JFD #7 can be made acceptable and which will satisfy the "LA" DOC requirement of relocating this CTS (*) footnote requirement to the ITS Bases.

Palisades Response:

3.7.1-6 CTS 4.2, Table 4.2.2, Item #4
ITS SR 3.7.1.1
DOC A.4

CTS 4.2, Table 4.2.2, Item #4 has been relocated to the ITS Bases for SR 3.7.1.1 which explains that 20% of the MSSVs are tested every 24 months.

Comment: This CTS change is a "LA" DOC category change per NEI 96-06. The SR is performed in accordance with the requirements of the IST Program and the 20% of valves tested is a detail of the IST Program which is suitable located in the Bases rather than in the ITS SR 3.7.1.1. Also, the DOC A.4 justification consisting of the testing of 4.6 valves per refueling and 0.4 valves per six months is not credible. Revise the CTS markup and the DOC as appropriate for this CTS change.

Palisades Response:

3.7.2, Main Steam Isolation Valves (MSIVs)

3.7.2-1 CTS 3.5.3
ITS 3.7.2 Required Action D.1
DOC A.5

Comment: This is the same as Generic Comment #1.

3.7.2-2 CTS 3.5.3
ITS 3.7.2 Required Action A.1, C.1 and Bases
DOC L.1

CTS 3.5.3 does not allow for a time period in which to restore an MSIV to Operable status. ITS 3.7.2 Action A.1 and C.1 provide for a new 8 hour Completion Time.

Comment: The STS contains brackets so there needs to be a time period selected but the DOC L.1 does not contain an acceptable technical justification for the specific 8 hour Completion Time. The ITS Bases for Actions under A.1 has not adopted the STS text which seems to imply and justify that a Completion Time of 4 hours (for a similar containment isolation valve type) is more appropriate for the Palisades MSIV valve design. The Completion Time for Required Action C.1 is also unacceptable because it is justified as the same as Required Action A.1. Provide a detailed technical justification and Bases explanation.

Palisades Response:

3.7.2-3 CTS 3.5.3
 ITS 3.7.2 Required Action D.2
 DOC L.2

Comment: This is the same as Generic Comment #2.

3.7.2-4 CTS 3.5.3
 ITS 3.7.2, Note to Action C
 DOC L.3

CTS 3.5.3 does not allow for a time period in which to restore an MSIV to Operable status. ITS 3.7.2 Action C provides for an 8 hour Completion Time with a new Note stating "Separate Condition entry is allowed for each MSIV."

Comment: The ITS Action C appears acceptable with resolution of the Completion time; however, DOC L.3 mentions the addition of the new note but does not provide a specific technical justification for this new note. Also, DOC L.3 omits in the third sentence that "the reactor shall be placed in hot standby within 6 hours". Provide a revised DOC for these CTS changes.

Palisades Response:

3.7.2-5 CTS 3.5.1
 ITS 3.7.2 Applicability and Bases
 JFD #2

CTS Applicability is when the primary coolant is above 300°F. ITS 3.7.2 Applicability is "Mode 1 and in Modes 2 and 3 except when both MSIVs are closed and deactivated".

Comment: The ITS Bases discussion of Applicability has been modified to state "Mode 1, 2; and in Modes 2 and 3 except when both MSIVs are closed and deactivated". This is different from the ITS LCO 3.7.2 Applicability without specific explanation provided. Revise the ITS Bases or provide an explanation for this inconsistency.

Palisades Response:

3.7.2-6 CTS 3.5.1.f
 ITS 3.7.2
 JFD #6

The last sentence of the first and fourth paragraphs of the ITS Bases discussion on Applicable Safety Analyses, have not been adopted.

Comment: The STS text which provides explanation of the credit taken for the MSIVs should not be removed until all plant specific analyses that is applicable has been included.

The discussion identified in JFD #6 should be expanded and included here in the ITS Bases. The contents of the SER referenced may have information needed in the resolution of the above issue 3.7.2-2.

Palisades Response:

3.7.3, Main Feedwater Regulating Valves (MFRVs) and MFRV Bypass Valves

3.7.3-1 CTS 4.2, Table 4.2.2, Item 15
ITS 3.7.3, Applicability, Required Action A.1, and Bases Background
JFD #1, #4, and #10

There is no LCO in the CTS. There are only surveillance requirements in CTS Table 4.2.2, item #15. STS 3.7.3 is adapted to match the Palisades design.

Comment: Issue #1 - The Bases Background presents the MFRV and MFRV Bypass Valves configuration as a design which is clearly different from the standard design assumed in the STS. There are several features which need to be determined from the following questions: Are these valves safety-grade? Are these valves in a non-safety-grade piping location? Where is the location of the valve(s) that close as the "manually actuated valve" to isolate these valves flow paths? Is this isolation valve safety-grade? Are the MFRVs located upstream or downstream of the AFW injection point? Provide a simplified schematic for this configuration to respond to these questions. **Issue #2** - The STS is based upon redundant isolation valves in the flow path, in addition to the main feedwater regulating, control or bypass valves on a closed system to containment (three valves in the flow path). If there is only one isolation valve provided (two valves in the flow path), then a shorter 8 hour Completion Time is used when that isolation valve is inoperable. There is no guidance in the STS when the either the MFRV or the MFRV Bypass valve is credited to be the only isolation valve in the flow path. The only guidance is the containment isolation valves were a four hour Completion Time is similarly permitted. Why should this LCO replace the LCO 3.6.3, Containment Isolation Valves, that now appears to be duplicating the same requirement? **Issue #3** - The ITS Applicability is modified to isolate the feedwater line with a "manually actuated valve" which is different from the STS text of "a closed manual valve". This valve difference is not explained and why this new wording is required. Provide this explanation.

Palisades Response:

3.7.3-2 CTS 4.2, Table 4.2.2, Item 15
ITS 3.7.3, Required Action B.2

Comment: This is the same as Generic Comment #2.

3.7.3-3 CTS 4.2, Table 4.2.2, Item 15

ITS SR 3.7.3.1 and Bases
DOC M.2 and JFD #1

CTS 4.2, Table 4.2.2, Item 15 is retained as ITS SR 3.7.3.1; however, a new time limit is added for the permitted closure time of each valve.

Comment: ITS SR 3.7.3.1 appears to be acceptable; however, the closure time must be verified to be the same as the time assumed in the safety analyses. Provide the specific location within the FSAR to verify this SR limit.

Palisades Response:

3.7.3-4 CTS 4.2, Table 4.2.2, Item 15
ITS 3.7.3 and Bases
JFD's #6, #7, #8, and #9

Palisades does not have a CTS LCO for the Main Feedwater Regulating Valves. ITS 3.7.3 is adapted to match the Palisades design.

Comment: This the same as Generic Comment #3. The markup of the Bases has not adopted numerous system design features and system function explanations without the addition of what is the actual basis for the Palisades Design. Most of the JFD's which justify these deletions of STS text should be placed directly into the Bases to more clearly explain the Basis for Palisades design differences from the STS design assumed. Provide a revised ITS Bases markup.

Palisades Response:

3.7.4, Atmospheric Dump Valves (ADVs)

3.7.4-1 No CTS 3.5 requirements for ADVs
ITS 3.7.4 LCO and Bases Background
DOC M.1 and JFD's #1 and #10

Palisades does not have a CTS LCO for the Atmospheric Dump Valves which are credited for cooldown during a Steam Tube Rupture Event. ITS 3.7.4 is adapted to match the Palisades design.

Comment: **Issue #1** - JFD #1 and #10 are inadequate justification for an ITS LCO based on "One ADV per steam generator". The Palisades design actually comprises "Two ADV lines per steam generator" which is the same as the STS. The STS text should be adopted unchanged because the second paragraph of the LCO Bases Background discussion indicates the Palisades ADV design is equivalent to the standard design assumed for the STS LCO, except the ADVs and "block valves" are not of a safety-related design. Regardless, the ADVs are performing a safety-related function as assumed in the accident analyses, therefore the STS should be adopted. **Issue #2** - All ADVs should be subject the

LCO surveillance requirements to ensure their Operability in the event the one in the LCO is unavailable.

Palisades Response:

3.7.4-2 No CTS 3.5 requirements for ADVs
ITS 3.7.4 and Bases
DOC M.1 and JFD's #4, #7, #9 and #10

Palisades does not have a CTS LCO for the Atmospheric Dump Valves which are credited for cooldown during a Steam Tube Rupture Event. ITS 3.7.4 is adapted to match the Palisades design.

Comment: This the same as Generic Comment #3. The markup of the Bases has not adopted numerous system design features and system function explanations without the addition of what is the actual basis for the Palisades Design. Most of the JFD's which justify these deletions of STS text should be placed directly into the Bases to more clearly explain the Basis for Palisades design differences from the STS design assumed. Example is JFD #9 in the first sentence of the Background discussion, deletes "safety-related" without stating the necessary JFD explanation of why the ADV's were not safety-grade. The Bases could present a case for how the existing ADV design should be judged equivalent to the STS LCO assumptions for redundancy of design flow paths.

Palisades Response:

3.7.4-3 No CTS 3.5 requirements for ADVs
ITS 3.7.4 and SR 3.7.4.2
DOC M.1 and JFD's #8 and #11

Palisades does not have a CTS LCO for the Atmospheric Dump Valves which are credited for cooldown during a Steam Tube Rupture Event. ITS 3.7.4 is adapted to match the Palisades design.

Comment: The ADV lines have installed "manual isolation valves" which perform the exact function as the STS "block valves" as noted separately in the third paragraphs of the Bases Background and Applicable Safety Analyses discussion. The Bases explanation for the use of these valves is not consistent with the justification presented in JFDs #8 and #11. The ADVs can not be maintained Operable without ensuring the line and the upstream manual isolation valve is also Operable. Therefore, the STS text to maintain the "ADV lines" Operable must be adopted. Also, STS SR 3.7.4.2 must be adopted and the Bases for SR 3.7.4.2 (which currently has no JFD) must be adopted.

Palisades Response:

3.7.4-4 No CTS 3.5 requirements for ADVs
ITS 3.7.4 Action A and B
DOC M.1 and JFD's #12

Palisades does not have a CTS LCO for the Atmospheric Dump Valves which are credited for cooldown during a Steam Tube Rupture Event. ITS 3.7.4 is adapted to match the Palisades design.

Comment: Based upon the issues identified in Comment 3.7.4-1, 2 and 3, the TSTF-100 changes to Condition B can be adopted for consistency with the STS. Provide a revised STS markup and JFD, as required.

Palisades Response:

3.7.4-5 No CTS 3.5 requirements for ADVs
ITS 3.7.4 Required Action C.2
DOC M.1 and no JFD identified for STS markup change

Comment: Issue #1 - This the same as Generic Comment #2. Issue #2 - Provide a JFD for the ITS change proposed to Required Action C.2.

Palisades Response:

Note: JFD #12 reported that TSTF-100 was not used because the plant only uses one Operable ADV. TSTF has been approved. Should it be incorporated into the Palisades conversion?

3.7.5, Auxiliary Feedwater (AFW) System

3.7.5-1 CTSs 3.5.1, 3.5.2, 3.5.3 and 3.5.4
ITS 3.7.5 LCO Statement and Bases
JFD #1 and #7

CTSs 3.5.1, 3.5.2, 3.5.3 and 3.5.4 collectively define the Operability of the AFW System as "component based"; whereas, the ITS defines Operability on a "function based" approach using a definition of "trains" and taking credit for redundant flow trains.

Comment: To properly review this LCO, there must be agreement on the LCO Statement. JFD #7 implies there are four separate AFW water flow paths for delivering water to the steam generators. The Bases state there are "Three AFW independent pumps in two diverse AFW trains...". The ITS 3.7.5 LCO Statement is for only two AFW trains. Therefore, it appears that the bracketed number of AFW trains should be either "[Three]..." or "[Three AFW pumps in two diverse AFW trains]..."; rather than just, "[Two] AFW trains shall be Operable". With only two trains Operable, this leaves one pump as standby and perhaps inoperable without entering the Actions. Also, there are ITS and Bases changes in SR 3.7.5.1, 3.7.5.2 and 3.7.5.4 where only the two "required" pumps are under surveillance, which is unacceptable. Also, in SR 3.7.5.4, there is no JFD referenced for adding the word "required".

Note: The AFW review is based on all pumps being verified Operable. At the end of this Comment Record, is Sketch #1 developed from the Bases discussion and JFDs provided. This design is not standard. Palisades is requested to verify the actual configuration for the redundant flow paths on which the ITS is based.

Palisades Response:

3.7.5-2 CTS 3.5.3
 ITS 3.7.5 Required Action C.1
 DOC A.5 and M.3

Comment: This is the same as Generic Comment #1.

3.7.5-3 CTS 3.5.3
 ITS 3.7.5 Required Action C.2
 DOC L.2 and JFD #1

CTS 3.5.3 requires that if AFW does not satisfy the requirements of Specification 3.5.1 or the conditions of Specification 3.5.2 except as noted in Specification 3.5.4, the reactor must be placed in Cold Shutdown. ITS 3.7.5 places the plant in Mode 4 without reliance on the steam generator for heat removal.

Comment: Issue #1 - This is the same as Generic Comment #2. **Issue #2** - The CTS markup indicates that DOC L.2 adds Condition C when CTS 3.5.3 already contains the required Actions C.1 and C.2 as shown on the CTS markup. This contradictory and the CTS markup should be revised to delete the "Adds Condition C". Revised DOC L.2 accordingly as Issue #1 is resolved.

Palisades Response:

3.7.5-4 CTS 3.5.1.b
 Bases ITS 3.7.5 discussion of LCO
 DOC A.3

CTS 3.5.1.b states "The AFW System Instrumentation shall meet the minimum operability requirements addressed in Technical Specification 3.17". ITS 3.7.5 has not retained this CTS requirement but the Bases discussion of LCO defines the AFW "...instrumentation,.. as Operable."

Comment: There appears to be "no" difference between this CTS 3.5.1.b requirement and the CTS 3.5.1.c and d requirements relocated to the Bases under DOC "LA1". Revise the CTS markup and DOCs to correctly categorize and justify this CTS change.

Palisades Response:

3.7.5-5 CTS 3.5.1.a and CTS 3.5.2.b
 ITS 3.7.5, Applicability

DOC A.4; JFD #4 and #5

CTS 3.5.1.a states "The steam driven pump shall be operable prior to making the reactor critical." The Applicability of ITS 3.7.5 has modified to add a new Note #2 which states "The turbine driven AFW pump is only required Operable in MODES 1 and 2." Another Note #3 is added which states any "Two AFW pumps may be placed in manual, for testing, for a period of up to 4 hours."

Comment: Issue #1 - DOC A.4 for CTS 3.5.1.a and JFD #5 for ITS Note #2 is rejected, as well as all other ITS changes, to limit the Mode Applicability of the turbine-driven pump. The STS text already affords numerous considerations to delay pump testing until suitable steam pressure has been achieved which duplicates the CTS requirement. ITS LCO 3.0.4 and SR 3.0.4 have been revised to permit entry into Applicable Modes for a limited period of time until the SR can be performed. Also, there is less frequent testing of the AFW pumps as a direct result of other ITS changes which lessens impact the Mode 3 Applicability of the turbine-driven AFW pump. An "M" DOC will be accepted for Mode 3 Applicability of the turbine-driven AFW pump. Revise the DOCs, JFDs, CTS markup and ITS markup to restore STS text, as required, for this issue. Issue #2 - There is no DOC for CTS 3.5.2 and there is inadequate discussion of this Note 3. Explain why two AFW pumps must be in a simultaneous test mode? Why not just one? Are there any AFW pumps immediately available in Mode 3 if both motor-driven pumps were being tested? If this is a voluntary entry into test mode, is this to avoid entry into an Action statement? Explain why LCO 3.0.5 can't apply for this situation. Why can't this be relocated to the Bases? Issue #3 - ITS SR 3.7.5.2, SR 3.7.5.3 and SR 3.7.5.4 propose removal of the note that waives the SR requirements for the turbine-driven AFW pump until test conditions are established. These notes must be retained consistent with the resolution of Issues #1 and #2. Also, ITS SR 3.7.5.4 deletes "Note 1" and adds the word "required" without any JFD identified. Provide the technical explanations and justifications for the questions on this CTS/ITS change.

Palisades Response:

3.7.5-6 CTS 3.5.2.a and b
ITS 3.7.5 Action A and B
DOC M.4

CTS 3.5.2.a and b have been modified in ITS 3.7.5 Action A and B to add a maximum 10 day limit "from discovery of failure to meet the LCO" to the Completion Times.

Comment: The STS Completion Time requirements are in brackets which means the requirements must be justified to determine if they are applicable or not for Palisades. Therefore, explain in detail how the CTS or ITS permit overlapping Action entries such that each AOT or CT exceeds the separate times. Provide explicit operational examples for this LCO. In addition, explain which Action of the LCO relates directly to the respective Actions A, B, and C of the STS Example 1.3-3. Explicitly state how and why the new Completion Time extensions are developed and why they are appropriate? Also, explain further the determination for how this is more restrictive.

Palisades Response:

3.7.5-7 CTS 3.5.2.e
ITS 3.7.5 Action B, C and D
DOC L.4 and JFD #7

CTS 3.5.2.e states "One flow control valve on each train may be inoperable for a period of 72 hours provided the corresponding redundant flow control valve and a pump in the other pipe train are operable." ITS 3.7.5 Condition B states "One or more AFW trains are inoperable..." providing the design basis is met with one 100% equivalent train to both steam generators and two AFW pumps are Operable.

Comment: The ITS proposed approach of a "functional based" LCO is acceptable; however, the terminology used must be based upon a thorough description of the AFW System and the redundant capabilities identified, as is requested above in Comment 3.7.5-1. Apparently, each potentially available train has multiple potentially successful flow paths depending upon the individually inoperable components which may disable one or more flow paths. The number and the location of the various flow control valves is not clearly explained. Define the numerous successful flow paths available assuming the various component inoperabilities that could possibly make the diverse trains inoperable. This is needed to develop the Required Actions for Conditions B, C, and D. ITS Condition B must be limited to one inoperable train (and one train Operable with some redundancy available), regardless if one or more flow paths are lost due to equipment inoperabilities. Correspondingly, Condition C must be for one or two inoperable AFW trains (with insufficient accident capacity and no redundancy) but with the minimum capability a motor-driven AFW pump flow path to one steam generator available for entry into Mode 4. Condition D must be for the AFW "loss of function" situation. The bracketed text (for two or three trains inoperable) must agree with the resolution of the ITS LCO statement. The ITS Condition D also contains unnecessary text which is redundant to Required Action D.1 Note and could be better explained in the Bases description.

Palisades Response:

3.7.5-8 CTS 3.5.4
ITS 3.7.5 Condition D
DOC A.8

CTS 3.5.4 defines the immediate actions necessary while one AFW train is restored Operable, if all AFW trains are inoperable. ITS 3.7.5 Condition D retains this CTS requirement.

Comment: DOC A.8 provides an explanation that "...or flow paths..." are added which does not match the ITS Condition D markup. This inconsistency must be eliminated or further explained in a revised DOC or CTS/ITS markup, as required. In addition, see Comment #3.7.5-7 above which deletes this ITS Condition D text. These are all related issues.

Palisades Response:

3.7.5-9 CTS 3.5.4

STS 3.7.5 Condition E
JFD #8

If all AFW trains are inoperable, CTS 3.5.4 defines the immediate actions necessary until one AFW train is restored Operable. STS 3.7.5 Condition E has not been retained as a separate Condition but it is merged into ITS Condition D.

Comment: The Applicability of a motor-driven AFW train Operable in Mode 4 requires this separate Condition E to maintain consistency with the improved STS format and other ITS conversion plants. The editorial preference of the plant is superseded by the guidance of the governing STS format. Revise the CTS and ITS markups. Revise JFD #8 and provide a new DOC for the addition of Condition E.

Palisades Response:

3.7.5-10 CTS 3.5.4
ITS 3.7.5 Condition D, Note to Required Action D.1
JFD #12

CTS 3.5.4 has been modified by the addition of a note to ITS 3.7.5 Required Action D.1 which "suspends Mode changes or power reduction".

Comment: JFD #12 appears to be acceptable; however, this change should be submitted as a generic STS traveler for approval by the Owners Group and the NRC.

Palisades Response:

3.7.5-11 CTS 4.9.a.3
ITS SR 3.7.5.1
DOC A.1

CTS 4.9.a.3 verifies "that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position. ITS SR 3.7.5.1 verifies the same except it is for all valves.

Comment: This ITS SR 3.7.5.1 is more restrictive than the CTS requirement. Therefore, instead of an "A.1" DOC, this CTS change must provide an "M" DOC and a revised CTS markup for the change.

Palisades Response:

3.7.5-12 CTS 4.9.b.1
ITS SR 3.7.5.3
DOC A.6 and JFD #13

Once per 18 months, CTS 4.9.b.1 verifies the automatic actuation of the AFW system which has been modified in ITS SR 3.7.5.3 to waive the SR "...in Modes 2 and 3 when AFW is in operation".

Comment: This appears to be only a timing issue while in Modes 2 and 3 that will occur only once each 18 months and that may already be solved within the bounds of revised ITS SR 3.0.1 and SR 3.0.4. Explain how was this issue dealt with in the current licensing basis? Provide additional technical justification for this issue that appears to be generic to all CEOP plants. Alternately, submit this change as a generic STS traveler for approval by the Owners Group and the NRC.

Palisades Response:

3.7.5-13 CTS 4.9.b.2
 ITS SR 3.7.5.4
 DOC A.9

CTS 4.9.b.2 verifies each pump starts on a specific actuation signal. ITS SR 3.7.5.4 verifies AFW pumps start on an actual or simulated test signal.

Comment: This CTS change is a "less-restrictive" technical change as defined by NEI 96-06 because credit may be taken for any signal which starts the AFW pumps rather than one specific actuation test signal. The DOC A.9 is really two separate changes in one DOC. The first three sentences apply to this Comment and require revision; whereas, the balance of the DOC is acceptable for the second change that is approved. Provide a new revised DOC and CTS markup for this "L" DOC change.

Palisades Response:

3.7.5-14 CTS 4.9, Basis
 Bases for ITS 3.7.5
 DOC A.2

CTS 4.9, Basis discusses the Operability testing of Section 4.9.b which pertain to verifications of the automatic actuation of the AFW train valves to their correct position and automatic start of each AFW pump.

Comment: The Bases for ITS appear to not retain this testing information that is very important to understanding the operational use and testing needs of the AFW System. Provide a more in-depth explanation and include it in the Bases. Also, the insert #2 to the seventh paragraph of the Background discussion implies a planned auto-sequence to starting each pump that is never fully discussed as to how the ITS was revised as a result of this uniqueness. This was mentioned briefly in Part C, Unique Design Features in the Introductory letter to this Section 3.7. Provide the additional technical discussion for this auto-sequencing of the AFW pumps starts.

Palisades Response:

3.7.6, Condensate Storage and Supply

3.7.6-1 CTS 3.5.3

ITS 3.7.6 Required Action B.1
DOC A.2

Comment: This is the same as Generic Comment #1.

3.7.6-2 CTS 3.5.3
 ITS 3.7.6 Required Action B.2
 DOC L.2 and JFD #1

Comment: This is the same as Generic Comment #2.

3.7.7, Component Cooling Water (CCW) System

3.7.7-1 CTS 3.3.1.e, 3.3.2.d, 3.4.4 and 3.4.5
 ITS 3.7.7 LCO and Action A
 DOC M.6, A.3, and JFD #7

CTS 3.3.1.e, 3.3.2.d and 3.4.5 collectively require two CCW heater exchangers to be Operable, permit one heat exchanger to only be inoperable for 24 hours, and permits any valve, interlock or piping not directly associated with a CCW train to be inoperable for 24 hours. The ITS has not retained these specific CTS requirements.

Comment: **Issue #1** - The Bases for ITS 3.7.7 present an incomplete description of what comprises an Operable CCW train; and more importantly, if any train component is inoperable, what is the available cooling capacity of the remaining Operable train? The technical justifications in DOC M.6 and JFD #7 appear contradictory when the loss of one CCW heat exchange requires an LCO 3.0.3 shutdown; whereas, one train of CCW does not affect the shutdown cooling requirements. Explain this contradiction. **Issue #2** - Why is there no ITS Condition for an inoperable CCW header? What are the Palisades operators' current actions now when one CCW heat exchanger is inoperable? **Issue #3** - A simplified CCW schematic is required for inclusion into the Bases and a P&ID is required. Locate and identify the purpose of all major CCW train components and components not directly associated with each train which affects the Operability of either train. *Note: At the end of this Comment Record, are Sketches #2a and #2b that were used in this evaluation. Palisades is requested to review the sketches and provided corrected schematics if necessary.* **Issue #4** - Define the design capacity of each pump, heat exchanger and the relative distribution of cooling capacity allocated to the safety-related versus the non-safety related loads. Assuming the inoperability of the various major components, what are the resulting cooling water paths available? What is the rated percent of design capacity? **Issue #5** - DOC A.3 appears to be an "LA" DOC rather than an administrative change because this CTS requirement further defines the required complement of components to make each train Operable. Why is there no DOC justification for the CTS 3.4.5 requirements. CTS 3.4.5 appears to apply to CCW as presented and it is not exclusively pertaining to Section 3.6 as is shown on the CTS markup. Provide the revised and a new DOC requested. **Issue #6** - Explain what are the Palisades operators current actions when an inoperability occurs under CTS 3.4.5? How are these actions retained in the ITS for all components and systems affected by CTS 3.4.5. **Issue #7** - The Note for Required Action A.1 is omitted per JFD #7 which is based upon understanding the CCW train configuration. Re-explain this deletion using the simplified schematics requested above.

Also, explain what happens if the common header is inoperable? How does this affect CCW system operability and what action is entered for this condition. For all issues, provide the explanations, the revised and new DOCs requested.

Palisades Response:

3.7.7-2 CTS 3.3.2, 3.4.2, and 3.4.3
ITS 3.7.7 Required Action B.1
DOC A.2 and M.3

Comment: **Issue #1** - This is the same as Generic Comment #1. **Issue #2** - The DOC A.2 is written for ITS 3.7.8 and not ITS 3.7.7.

Palisades Response:

3.7.7-3 CTS 3.4.2 and 3.4.3
ITS 3.7.7 Required Action B.2
DOC M.4

CTS 3.4.2 and 3.4.3 provide the plant shutdown times if the CCW components and trains are inoperable for longer than the permitted allowed outage times. ITS 3.7.7 Action B provides for entry into Mode 3 in 6 hours and into Mode 5 within 36 hours.

Comment: **Issue #1** - This DOC M.4 is very similar to Generic Comment #2. It also does not justify the proposed ITS requirements. Action B is entered after the Completion Time for one train inoperable has expired. DOC M.4 states this shutdown time is acceptable for restoring the CCW train Operable. These ITS Completion Times are solely for a plant shutdown and only if the CCW train is restored may the Condition be exited otherwise a plant shutdown is mandatory. The CTS 48 hours is effectively put into the Completion Time for Action A and this does not appear to be more restrictive under NEI'96-06 guidance. Revise the DOC as applicable for the ITS requirements. **Issue #2** - The markup of CTS 3.3.2 is wrong because it shows a total of 60 hours (6 + 30 + 24) to place the plant in Cold Shutdown rather than the ITS (and STS) of 36 hours. Explain this difference. Revise the CTS markup. **Issue #3** - The markup of CTS 3.4.2 and 3.4.3 are wrong because the phrase pertaining to the "intermediate Completion Time to restore the train within 48 hours-while in Mode 3" is not in the ITS and it should be deleted from the CTS markup of the proposed ITS requirements or fully explained. Revise the DOC and the CTS markup.

Palisades Response:

3.7.7-4 CTS 3.3.2, 3.4.2 and 3.4.3
ITS 3.7.7 Action B
DOC A.4 and A.5

CTS 3.3.2, 3.4.2 and 3.4.3 pertain to the plant shutdown times if the CCW components and trains are inoperable for longer than the permitted allowed outage times. ITS 3.7.7 provides for entry into Mode 3 in 6 hours and into Mode 5 within 36 hours.

Comment: DOCs A.4 and A.5 are acceptable; however, there are minor mistakes to be corrected. DOC A.4 also applies to CTS 3.4.2 and DOC A.5 applies to ITS 3.7.7 rather than ITS 3.7.8, as proposed. Provide revised DOCs.

Palisades Response:

3.7.7-5 CTS 3.3.1, 3.3.2, 3.4.1 and 3.4.2
ITS SR 3.7.7.2 and SR 3.7.7.3
DOC M.1 and JFD #9

CTS 3.3.1, 3.3.2, 3.4.1 and 3.4.2 establish the Applicability for the various components that comprise CCW. ITS 3.7.7 Applicability is Modes 1, 2, 3, and 4. ITS SR 3.7.7.2 and SR 3.7.7.3 are modified by a Note which states the SRs are not required to be met in Mode 4.

Comment: This new Note is justified by DOC M.1 that states this is because of the need to maintain the current licensing basis as retained in ITS 3.3.3. Explain the contradiction here since this is categorized as "more restrictive" with an "administrative" equivalency justification. Therefore, DOC M.1 is rejected and the Notes to SRs 3.7.7.2 and 3.7.7.3 are not required to meet the current licensing basis or if the CCW is always in operation. Revise the CTS markup, ITS markup, DOC and JFD. *Note: Is CTS 3.17.3 (on CTS page 3-68) the basis for ITS 3.3.3? And, is the Applicability when the reactor is above Cold Shutdown (Modes 1, 2, 3, and 4)?*

Palisades Response:

3.7.7-6 Not Used

3.7.7-7 No specific CTS for CCW
ITS SRs 3.7.7.2 and 3.7.7.3
DOC M.7

The CTS does not have specific SRs for CCW valve actuation and pump starts which are equivalent to ITS SRs 3.7.7.2 and 3.7.7.3.

Comment: Since this is a custom TS, there are equivalent tests in CTS 4.17, Instrumentation Systems Test, Table 4.17.2 Functional Unit 2a and 2b, as is stated in DOC M.7. Therefore, this should be an "administrative" change rather than an "M" DOC.

Note: The DOC M.7 reference to Table 4.17.2 is in error.

Palisades Response:

3.7.7-8 CTS 3.4.1, 3.4.2, and 3.4.3
ITS 3.7.7 Action A
DOC L.1

CTS 3.4.1, 3.4.2, and 3.4.3 define allow outage times from 24 hours to 72 hours and to

even 7 days for certain components. ITS 3.7.7 Action A provides a single Completion Time of 72 hours.

Comment: DOC L.1 provides mostly description what was changed but there is no technical justification provided for the three separate CTS Completion Times to evaluate how 72 hours was determined as "safe". Provide the safety basis for all the changes grouped into DOC L.1. Relate this explanation to the detailed justification that is also requested in the Comment 3.7.7-1. DOC L.1 only describes single entry into CTS 3.4.2 and 3.4.3. How are the separate CTS AOTs specifically determined and how is the CTS interpreted if concurrently, one component listed in CTS 3.4.1.c is inoperable per CTS 3.4.2 and two are inoperable per CTS 3.4.3? Revise this DOC to provide the necessary technical justification for this CTS change.

Palisades Response:

3.7.8, Service Water System (SWS)

3.7.8-1 CTS 3.4.1, 3.4.2, 3.4.3, 3.4.4 and 3.4.5
ITS 3.7.8 LCO and Action A
DOC L.1, A.3, and JFD #8

CTS 3.4.1, 3.4.2, 3.4.3, 3.4.4 and 3.4.5 collectively require three SWS pumps to be Operable, permits one SWS pump to only be inoperable for 7 days, permits two SWS pump to only be inoperable for 72 hours, and permits any valve, interlock or piping not directly associated with a SWS train to be inoperable for 24 hours. The ITS has not retained most of these specific CTS requirements.

Comment: **Issue #1** - The Bases for ITS 3.7.8 present an incomplete description of what comprises an Operable SWS train; and more importantly, if any train component is inoperable, what is the available cooling capacity of the remaining Operable train? The technical justifications in DOC L.1 and JFD #8 are incomplete without this explanation. **Issue #2** - A simplified SWS schematic is required for inclusion into the Bases and a P&ID is required. Locate and identify the purpose of all major SWS train components and components not directly associated with each train which affects the Operability of either train. *Note: At the end of this Comment Record is Sketch #3 that was used in this evaluation. Palisades is requested to review the sketch and provide a corrected schematic if necessary.* **Issue #3** - Define the design capacity of each pump, heat exchanger and the relative distribution of cooling capacity allocated to the safety-related versus the non-safety related loads. Assuming the inoperability of the various major components, what are the resulting cooling water paths available? What is the rated percent of design capacity? **Issue #4** - DOC A.3 appears to be an "LA" DOC rather than an administrative change because this CTS requirement further defines the required complement of components to make each train Operable. Why is there no DOC justification for the CTS 3.4.5 requirements. CTS 3.4.5 appears to apply to SWS as presented and it is not exclusively pertaining to Section 3.6 as is shown on the CTS markup. Provide the revised and a new DOC requested. **Issue #5** - Explain what are the Palisades operators current actions when an inoperability occurs under CTS 3.4.5? How are these actions retained in the ITS for all

components and systems affected by CTS 3.4.5. **Issue #6** - The Note for Required Action A.1 is omitted per JFD #8 which is based upon understanding the SWS train configuration. Re-explain this deletion using the simplified schematics requested above. Why is there no ITS Condition for an inoperable SWS header? Explain what happens if the common header is inoperable? How does this affect SWS system operability and what action is entered for this condition. **Issue #7** - DOC L.1 provides mostly description what was changed but there is no technical justification provided for the three separate CTS Completion Times to evaluate how 72 hours was determined as "safe". Provide the safety basis for all the changes grouped into DOC L.1. Relate this explanation to the detailed justification that is also requested in the Comment 3.7.8-1. DOC L.1 only describes single entry into CTS 3.4.2 and 3.4.3. How are the separate CTS AOTs specifically determined and how is the CTS interpreted if concurrently, one component listed in CTS 3.4.1.c is inoperable per CTS 3.4.2 and two are inoperable per CTS 3.4.3? Revise this DOC to provide the necessary technical justification for this CTS change. **Issue #8** - Insert #1 to page B 3.7-41 states there are cooling towers which contradicts JFD #6 of ITS 3.7.9 that states there are no cooling towers. Resolve this contradiction by correcting the CTS/ITS markups. For all issues, provide the explanations, the revised and new DOCs requested.

Palisades Response:

3.7.8-2 CTS 3.4.2, and 3.4.3
ITS 3.7.8 Required Action B.1
DOC A.2 and M.5

Comment: This is the same as Generic Comment #1.

3.7.8-3 CTS 3.4.2 and 3.4.3
ITS 3.7.8 Required Action B.2
DOC M.4

CTS 3.4.2 and 3.4.3 provide the plant shutdown times if the SWS components and trains are inoperable for longer than the permitted allowed outage times. ITS 3.7.8 Action B provides for entry into Mode 3 in 6 hours and into Mode 5 within 36 hours.

Comment: Issue #1 - This DOC M.4 is very similar to Generic Comment #2. It also does not justify the proposed ITS requirements. Action B is entered after the Completion Time for one train inoperable has expired. DOC M.4 states this shutdown time is acceptable for restoring the SWS train Operable. These ITS Completion Times are solely for a plant shutdown and only if the SWS train is restored may the Condition be exited otherwise a plant shutdown is mandatory. The CTS 48 hours is effectively put into the Completion Time for Action A and this does not appear to be more restrictive under NEI 96-06 guidance. Revise the DOC as applicable for the ITS requirements. **Issue #2** - The markup of CTS 3.4.2 and 3.4.3 are wrong because the phrase pertaining to the "intermediate Completion Time to restore the train within 48 hours while in Mode 3" is not in the ITS and it should be deleted from the CTS markup of the proposed ITS requirements or fully explained. Revise the DOC and the CTS markup.

Palisades Response:

3.7.8-4 CTS 3.4.1, 3.4.2, and 3.4.3
ITS SR 3.7.8.2 and SR 3.7.8.3
DOC M.1 and JFD #11

CTS 3.4.1, 3.4.2, and 3.4.3 establish the Applicability for the various components that comprise CCW. ITS 3.7.8 Applicability is Modes 1, 2, 3, and 4. ITS SR 3.7.8.2 and SR 3.7.8.3 are modified by a Note which states the SRs are not required to be met in Mode 4.

Comment: This new Note is justified by DOC M.1 that states this is because of the need to maintain the current licensing basis as retained in ITS 3.3.3. Explain the contradiction here since this is categorized as "more restrictive" with an "administrative" equivalency justification. Therefore, DOC M.1 is rejected and the Notes to SRs 3.7.8.2 and 3.7.8.3 are not required to meet the current licensing basis or if the SWS is always in operation. Revise the CTS markup, ITS markup, DOC and JFD. *Note: Is CTS 3.17.3 (on CTS page 3-68) the basis for ITS 3.3.3? And, is the Applicability when the reactor is above Cold Shutdown (Modes 1, 2, 3, and 4)?*

Palisades Response:

3.7.8-5 Not Used

3.7.8-6 No specific CTS for SWS
ITS SR 3.7.8.3
DOC M.6

The CTS does not have a specific SR for a SWS pump start which is equivalent to ITS SRs 3.7.8.3.

Comment: Since this is a custom TS, there are equivalent tests in CTS 4.17, Instrumentation Systems Test, Table 4.17.2, as is stated in DOC M.7. Therefore, this should be an "administrative" change rather than an "M" DOC.

Palisades Response:

3.7.8-7 CTS 4.2, Table 4.2.2, Item #6
ITS SR 3.7.8.2
DOC A.7

CTS 4.2, Table 4.2.2, Item #6 verifies SWS valve actuation on a specific actuation signal. ITS SR 3.7.8.2 verifies SWS valve actuation on an actual or simulated test signal.

Comment: This CTS change is a "less-restrictive" technical change as defined by NEI 96-06 because credit may be taken for any signal which initiates SWS valve actuation rather than one specific actuation test signal. The DOC A.7 is really two separate changes in one DOC. The first three sentences apply to this Comment and require revision; whereas, the balance of the DOC is acceptable for the CTS change DOC requested in Comment #3.7.8-9. Provide a new revised DOC and CTS markup for this "L" DOC change.

Palisades Response:

3.7.8-8 Not Used

3.7.8-9 CTS 4.6.5.a and CTS 4.2, Table 4.2.2, Item #6
ITS SR 3.7.8.2
DOC A.1

CTS 4.6.5 and CTS 4.2, Table 4.2.2, Item #6 verifies emergency mode SWS valve actuation on a specific actuation signal "each refueling shutdown". ITS SR 3.7.8.2 verifies SWS valve actuation on an actual or simulated test signal "every 18-months".

Comment: This CTS change to the Frequency is not editorial but a technical change which requires an "A" DOC. The DOC required is already prepared as the last part of DOC A.7, as noted above in Comment #3.7.8-7. Revise the CTS markup and revise the DOCs are required for this CTS change.

Palisades Response:

3.7.8-10 CTS 3.4.1
ITS 3.7.8 Bases Background discussion
JFD #9

The last sentence of the second paragraph of the ITS 3.7.8, Bases Background discussion has not been retained.

Comment: JFD #9 states Palisades does not have the design options of SWS, as listed in the STS, which includes SWS as the backup water supply to the Auxiliary Feedwater System. This is in direct contradiction with Bases for ITS 3.7.5 and 3.7.6. Specifically, ITS 3.7.6, Insert 2 to Bases page B 3.7-32, states "SWS provides emergency source to AFW pump P-8C." Explain this contradiction and revise the ITS Bases.

Palisades Response:

3.7.9, Ultimate Heat Sink (UHS)

There are no Comments for ITS 3.7.9, Ultimate Heat Sink (UHS).

3.7.10, Control Room Ventilation (CRV) Filtration

3.7.10-1 CTS 3.14.1 and Table 4.2.3
ITS 3.7.10 and Bases
DOC A.1 and JFD #4

CTS 3.14.1 and Table 4.2.3 have been converted into ITS 3.7.10 as described in the Bases Background discussion.

Comment: The CTS 3.14.1 conversion appears acceptable; however, the CRV filtration

train and individual component description and locations can not be determined based upon the information provided respectively in the Bases Background discussion and Bases LCO discussion. *Note: At the end of this Comment Record, is Sketch #4 that contains replication of the train configurations developed from each of the descriptions provided which was used in this evaluation. Palisades is requested to review the sketch and provide a corrected schematic if necessary.*

Palisades Response:

3.7.10-2 CTS Table 4.2.3, Item 2a
ITS SR 3.7.10.3
DOC A.7

CTS Table 4.2.3, Item 2a verifies the CRV Filtration system automatically actuates on two specific actuation test signals. ITS SR 3.7.10.3 verifies each train actuates on an actual or simulated test signal.

Comment: This CTS change is a technical "less-restrictive" change as defined by NEI 96-06 because credit may be taken for any signal which actuates CRV filtration train rather than one specific actuation test signal. Provide a new revised DOC and CTS markup for this "L" DOC change.

Palisades Response:

3.7.10-3 CTS Table 4.2.3, Item 2a
ITS SR 3.7.10.3
No DOC "LA"

CTS Table 4.2.3, Item 2a verifies the CRV Filtration system "automatically switches into the emergency mode of operation with flow through the HEPA filter and charcoal adsorber bank" on two specific actuation test signals. ITS SR 3.7.10.3 does not retain these specific test details.

Comment: There is no DOC provided for these missing CTS requirements. These test requirements could be retained by simply moving this phrase to the Bases of SR 3.7.10.3 which is consistent with the reformatting of specific details that ensure the Operability of trains under surveillance. This would become a CTS "LA" DOC change as defined by NEI 96-06. Provide a new DOC and CTS/ITS markup for this "LA" DOC change.

Palisades Response:

3.7.10-4 CTS 4.2 Table 4.2.3, Item 2.a
ITS SR 3.7.10.3, Note
DOC L.1 and JFD #9

CTS Table 4.2.3, Item 2a verifies the CRV Filtration system automatically switches into the emergency mode of operation with flow through the HEPA filter and charcoal adsorber bank on either the containment high pressure or high radiation actuation signals. ITS SR

3.7.10.3 retains this surveillance but it is modified by a note which excludes this requirement during movement of fuel assemblies and fuel casks in the fuel building.

Comment: This a requirement that only needs to be performed once per refueling to verify Operability. How does Palisades comply with this CTS SR requirements currently and why (how) does this now appear to be a hardship? By granting this note, in the Operability requirements for Modes 1, 2, 3 and 4, it must be assumed that the trains may not be available during these periods of exception which is an unsafe condition for a undetermined length of time (30 days?). DOC L.1 justification does not present an adequate technical justification to support the inclusion of this note. There are other minor problems with this DOC, such as, the CTS references are wrong. Also, the CTS markup refers to this note as a "M" DOC? The contents of JFD #9 are much better placed directly into the Bases discussion, as noted in General Comment #3. Revise the DOC, JFD, and CTS/ITS markups.

Palisades Response:

3.7.10-5 CTS 3.14.1 Action B.1
 ITS 3.7.10 Required Action B.1
 DOC A.3

Comment: This is the same as General Comment #1.

3.7.10-6 CTS 3.14.1 Action B.2
 ITS 3.7.10 Required Action B.2
 DOC A.4

Comment: This is the same as General Comment #2.

3.7.11, Control Room Ventilation (CRV Cooling)

3.7.11-1 CTS 3.14.2 and Table 4.2.3
 ITS 3.7.11 and Bases
 DOC A.1 and JFD #4

CTS 3.14.2 and Table 4.2.3 have been converted into ITS 3.7.11 as described in the Bases Background discussion.

Comment: The CTS 3.14.2 conversion appears acceptable; however, the CRV cooling train, individual component descriptions and locations can not be determined based upon the information provided respectively in the Bases Background discussion and Bases LCO discussion. *Note: Sketch #4 contains replication of the train configurations developed from each of these descriptions provided. Palisades is requested to review the sketch and provide a corrected schematic if necessary.*

Palisades Response:

3.7.11-2 CTS 3.14.2 Actions C and D
ITS 3.7.11 Action C and D
JFD #6

CTS 3.14.2 Actions C and D have been consistently retained as ITS 3.7.11 Action C and D for when one and two trains remain inoperable respectively.

Comment: The ITS markup for the Conditions of Action C and D have omitted the word "during" just before the phrase movement of a fuel cask in or over the SFP. This is the current text used in the CTS and in the clear copy of ITS 3.7.10 for Actions C and D. Revise the ITS markup and clear copy for this wording change.

Palisades Response:

3.7.11-3 CTS 3.14.2 Action B.1
ITS 3.7.11 Required Action B.1
DOC A.3

Comment: This is the same as General Comment #1.

3.7.11-4 CTS 3.14.2 Action B.2
ITS 3.7.11 Required Action B.2
DOC A.4

Comment: This is the same as General Comment #2.

3.7.12, Fuel Handling Area Ventilation System

3.7.12-1 CTS 3.8.1 and 3.8.4
ITS 3.7.12 LCO Statement and related Bases
No DOC and JFD #4, #5, and #8

CTS 3.8.1 and 3.8.4 both state "the ventilating system and the charcoal filter shall be operating". The second paragraph of CTS 3.8.4 states if both "fans" are unavailable, further fuel movements over the spent fuel pool shall be terminated "until one fan is returned to service". ITS 3.7.12 LCO statement is the "Fuel Handling Area Ventilation System shall be Operable and in operation in the emergency filtration arrangement with a least one exhaust fan running".

Comment: There is no DOC identified or provided in the CTS markup to explain the conversion of the CTS requirements into the ITS LCO statement. The CTS contains ambiguous requirements that are not adequately explained in the ITS Bases. **Issue #1** - Revise the CTS markup to provide the technical justification for the ITS LCO which responds to then following questions: Why are two exhaust fans provided? What is the capacity of each fan? If one fan is inoperable, why is continued operation in this degraded condition permitted with no requirements to restore the second fan. Why is the ITS LCO statement for a degraded system? Why isn't there a separate Action for the condition of

one exhaust fan inoperable? **Issue #2** - ITS 3.7.12 Bases Background, Insert #2, explains that after the fuel accident occurs, then the operator "aligns the fuel handling building exhaust through the emergency filtration arrangement". This is in direct contradiction with the LCO statement which does not permit any fuel movement until the system is already exhausting through the emergency filtration arrangement. Correct this error or explain the reason for this statement. Also, explain the operator function to "secure" a component. Is this to lock in place, open or close these components? **Issue #3** - ITS 3.7.12 Bases LCO discussion must be revised to be consistent with the responses provided to this comment. Per JFD #8, it is acceptable to have only one train Operable but that one train contains two exhaust fans which "tandem" function must be explained? Explain why the words "required" are used throughout this LCO discussion? Explain what happens if there is a loss of offsite power? Why is JFD #10 the justification for this Insert #3 change, even though, this is good information that should be added to the Bases? Provide additional technical explanation. Revise the CTS markup, DOCs, JFDs and ITS markup, as applicable, to respond to the above issues.

Palisades Response:

3.7.12-2 CTS 3.8.4
ITS 3.7.12 Applicability
DOC L.1 and JFD #9

CTS 3.8.4 has been modified in ITS 3.7.12 by the addition of a new Action note that states "LCO 3.0.3 is not applicable".

Comment: The addition of the Action Note is acceptable because the licensee has stated that the Fuel Handling Area Ventilation System does not filter any fission product removal associated with ECCS leakage following an accident. Hence in Modes 1, 2, 3, and 4, the System is independent of reactor operation and is not required to be Operable that is reflected in the deletion of the Bracketed modes of the ITS markup for Applicability. DOC L.1 justifies the new actions Note based upon how the operator cannot "cease fuel movement" and the need to entered LCO 3.0.3. This appears to be a violation of TS requirements and directly contradicts DOC LA.2. This is an unacceptable technical justification for the addition of this Note. The DOC for this CTS change should be revised. The contents of JFD #9 should be placed in the Bases Applicability discussion to clearly explain how the Operability of the Fuel Handling Area Ventilation is independent of reactor operations.

Palisades Response:

3.7.12-3 CTS 4.2 Table 4.2.3, Item 2.c
ITS SR 3.7.12.1
DOC LA.1

CTS 4.2 Table 4.2.3, Item 2.c verifies that the Fuel Pool Ventilation System is Operable by "initiating flow through the HEPA filter and charcoal adsorbers from the control room". These details of performing this SR are not retained in the ITS 3.7.12 Bases.

Comment: DOC LA.1 states these SR details are moved to the Bases; when in fact, these

details are not retained in the ITS SR 3.7.12 Bases. Revise the CTS/ITS markup as applicable to comply with the technical justification as provided in this DOC.

Palisades Response:

3.7.12-4 CTS 3.8.4 or CTS 3.4.8(?)
ITS 3.7.12 Action B and SR 3.7.14.3
No DOC or JFD

The ITS 3.7.12 markup contains references to CTS 3.4.8 requirements for Applicability and Action A that are not provided for in the CTS markup package. Also, the ITS markup for Action B and SR 3.7.12.3 are inconsistent with the clear copy of the ITS.

Comment: Provide an explanation for the CTS 3.4.8 requirements referenced. Provide a consistent proposed ITS markup for review or explain the reason for these differences noted in the submittal.

Palisades Response:

3.7.12-5 No CTS requirement
STS SR 3.7.14.3 and Bases
No JFD

STS SR 3.7.14.3 requires the system be verified to actuate on an actual or simulated signal. This STS requirement was not retained in the ITS 3.7.12.

Comment: It is acknowledged that this is not an automatically initiated system; however, the NEI 96-06 guidelines require that all deviations from the STS be justified with a JFD. There is no JFD provided for this STS requirement that is not retained.

Palisades Response:

3.7.12-6 Not Used

3.7.12-7 CTS 4.2 Table 4.2.3, Items 1 and 2
ITS SR 3.7.12.3
DOC M.4 and JFD #11

CTS 4.2 Table 4.2.3, Items 1 and 2 verify the Fuel Handling Area Ventilation System is Operable. ITS SR 3.7.12.3 verifies a specific flow rate of 7300 \pm 20% in the emergency filtration arrangement.

Comment: ITS SR 3.7.12.3 appears acceptable; however, the flowrate must be verified to be the same as that assumed in the safety analyses. Provide the specific location within the FSAR to verify this SR limit.

Palisades Response:

3.7.13, Engineered Safeguards Room Ventilation (ESRV) Dampers

- 3.7.13-1** New LCO from CTS Table 3.17.3, Item 4
ITS 3.7.13 LCO Statement and related Bases
DOC M.1; JFD #4 and #6

ITS 3.7.13 is a new LCO based upon CTS Table 3.17.3, Item 4 for the High Radiation Monitors located in the East and West Engineered Safeguards Pump Rooms.

Comment: **Issue #1** - The addition of this LCO is acceptable; however, the train description can not be determined based upon the information provided respectively in the Bases Background discussion, Bases LCO discussion and JFD #6. *Note: At the end of this Comment Record, is Sketch #5 that contains replication of the train configurations developed from each of the descriptions provided which was used in this evaluation. Palisades is requested to review the sketch and provide corrected schematic if necessary.*
Issue #2 - The ITS markup of the Bases is missing the inserts #1, #2, #3, and #4, as identified on page B 3.7-65. Provide the missing documents.

Palisades Response:

- 3.7.13-2** New LCO from CTS Table 3.17.3, Item 4
ITS 3.7.13 Actions Note
DOC M.1 and JFD #2

ITS 3.7.13 is a new LCO based upon CTS Table 3.17.3, Item 4 for the High Radiation Monitors located in the East and West Engineered Safeguards Pump Rooms. ITS 3.7.13 Actions are developed as a "Separate Condition entry" basis for each train.

Comment: There is no specific technical justification provided to explain the rationale for developing this LCO as "Separate Condition entry" rather than as a two train system as the STS is developed. "Separate Condition entry" is normally used in the STS in cases for individual inoperable components rather than for trains. Also, "Separate Condition entry" is used where the number of inoperabilities are more than two. Therefore, this does not appear to be an appropriate usage of the "Separate Condition entry". The resolution will also depend upon the configuration and contents of each ESRV train noted above in Comment #3.7.13-1.

Palisades Response:

- 3.7.13-3** New LCO from CTS Table 3.17.3, Item 4
ITS 3.7.13 Action A
DOC M.1; JFD #2 and #4

ITS 3.7.13 is a new LCO based upon CTS Table 3.17.3, Item 4 for the High Radiation Monitors located in the East and West Engineered Safeguards Pump Rooms. ITS 3.7.13 Action A requires the initiation of actions to immediately isolate the inoperable ESRV

train(s).

Comment: There is no technical basis provided to permit continued operation in this degraded condition. How are heat increases in the room justified without the ventilation provided by the open damper? The Action A Required Actions ensure the initiation of action to isolate the ESRV damper train but there is no assurance when this action will be completed and there are no periodic verifications whether the train isolation is still in effect. Revise these LCO Actions to provide specific direction if the dampers are not closed within a justified period of time. *Note: Palisades is requested to consider tailoring this ESRV damper train isolation after the similar containment isolation requirements. In other words, damper isolation must be completed in 4 hours and it shall be periodically re-verified as isolated every 7 days or restored Operable. If the damper cannot be isolated within 4 hours, then STS Action B must be present to direct a plant shutdown. Also, see Comment #3.7.13-4.*

Palisades Response:

3.7.13-4 New LCO from CTS Table 3.17.3, Item 4
 ITS 3.7.13 Action B
 DOC M.1 and JFD #6

ITS 3.7.13 is a new LCO based upon CTS Table 3.17.3, Item 4 for the High Radiation Monitors located in the East and West Engineered Safeguards Pump Rooms. ITS 3.7.13 Action B has not been retained.

Comment: There is no technical basis provided to permit continued operation in this degraded condition. If the damper cannot be isolated, then STS Action B must be present to direct a plant shutdown. Revise the ITS markup to retain STS Action B. Also, see Comment #3.7.13-3 above.

Palisades Response:

3.7.14, Spent Fuel Pool (SFP) Water Level

3.7.14-1 No CTS Requirement
 ITS 3.7.14 Actions Note
 JFD #2

CTS requirements have been modified by the addition of a new LCO. ITS 3.7.14 contains a "LCO 3.0.3 is not applicable" note that is moved from within the Required Actions position to a general Actions note position.

Comment: JFD #2 contains no specific technical justification for the re-positioning of this note. The Actions for Condition A are the only Required Actions; therefore, the current position of the note should be maintained for consistency with the STS. If there were more than one Condition then this re-positioning may be appropriate depending upon the Conditions added. This ITS change should not be made. Also, the note should be widened to

apply equally to both Required Actions A.1 and A.2 (See ITS 3.7.15 Action A as example).

Palisades Response:

3.7.15, Spent Fuel Pool (SFP) Boron Concentration

- 3.7.15-1** New LCO from CTS 5.4.2.f and Table 4.2.1, Item 6
ITS 3.7.15 Actions Note
JFD #2

CTS 5.4.2.f and Table 4.2.1, Item 6 requirements have been modified by the addition of a new Action Note. ITS 3.7.15 contains a "LCO 3.0.3 is not applicable" Note that is moved from within the Required Actions position to a general Actions note position.

Comment: JFD #2 contains no specific technical justification for the re-positioning of this note. The Actions for Condition A are the only Required Actions; therefore, the current position of the note should be maintained for consistency with the STS. If there were more than one Condition then this re-positioning may be appropriate depending upon the Conditions added. This ITS change should not be made.

Palisades Response:

3.7.16, Spent Fuel Assembly Storage

- 3.7.16-1** New LCO from CTS 5.4.2.c, d, and i; and Table 5.4-1
ITS 3.7.16 LCO statement, SR 3.7.16.1, and Bases
JFD #4

CTS 5.4.2.c, d, and i; and Table 5.4-1 requirements have been modified by the addition of new Required Actions and surveillance requirements. STS 3.7.18 and SR 3.7.18.1 also contain specific requirements that spent fuel storage is in accordance with Specification 4.3.1.1 which is not retained in ITS 3.7.16.

Comment: JFD #4 contains no specific technical justification for not retaining the requirements that spent fuel storage is in accordance with Specification 4.3.1.1. The Bases discussion of LCO and SR 3.7.16.1 state these requirements are met which is in contradiction with the ITS LCO proposed. Provide explanation and technical justification that resolves this inconsistency.

Palisades Response:

- 3.7.16-2** CTS 5.4.2.d, and i; and Table 5.4-1
ITS 3.7.16 LCO statement, SR 3.7.16.1, and Bases
DOC A.1 and JFD #4 and #5

CTS 5.4.2.d, and i; and Table 5.4-1 requirements have been directly retained in the custom format rather than modified by the addition of the figure per STS Figure 3.7.18-1.

Comments: The CTS requirements for spent fuel storage into Region II locations of the SFP or north tilt pit have been adequately retained in the ITS 3.7.16; however, the purpose of the ITS is to make the TS requirements easier for the operators to use. The contents of the proposed ITS Table 3.7.16-1 should be plotted as a dividing line onto a figure similar to STS Figure 3.7.18-1 to directly illustrate the "acceptable" versus "unacceptable" combinations of initial enrichments and fuel assembly discharge burnups. The Bases as proposed for ITS 3.7.16 already adopt the STS references to a fuel assembly which is in the unacceptable range of the STS Figure 3.7.18-1. Provide the revisions to the CTS DOCs, CTS markup, JFDs and ITS markup necessary to adopt the STS format presentations [Figure instead of Table] for determining the acceptability of fuel assemblies in the storage regions.

Palisades Response:

3.7.16-3 New LCO from CTS 5.4.2.c, d, and i; and Table 5.4-1
ITS 3.7.16 Actions Note
JFD #2

CTS 5.4.2.c, d, and i; and Table 5.4-1 requirements have been modified by the addition of a new Action Note. ITS 3.7.16 contains a "LCO 3.0.3 is not applicable" Note that is moved from within the Required Actions position to a general Actions note position.

Comment: JFD #2 contains no specific technical justification for the re-positioning of this note. The Actions for Condition A are the only Required Actions; therefore, the current position of the note should be maintained for consistency with the STS. If there were more than one Condition then this re-positioning may be appropriate depending upon the Conditions added.

Palisades Response:

3.7.16-4 No CTS requirement
Bases for ITS 3.7.16, Background discussion
JFD #1?

The Bases Background state this storage applies to fuel assembly enrichments up to 4.4% and the last sentence states "However, as higher initial enrichment fuel assemblies are stored in the spent fuel pool, they must be stored in a checkerboard pattern taking into account fuel burnup to maintain a k_{eff} of 0.95 or less.

Comment: Palisades does not appear to have any requirements in this ITS LCO for placing any fuel of this type in a checkerboard pattern. Provide a technical justification which explains this statement.

Palisades Response:

3.7.16-5 CTS 5.4.2.c and d
Bases for ITS 3.7.16
No DOC

CTS 5.4.2.c and d contain descriptive requirements of the fuel storage racks in the Region I and Region II of the SFP and north tilt pit which have been moved to the Bases Background discussion of ITS 3.7.16.

Comment: The movement of these CTS requirements to a location under licensee controlled must be justified with a DOC as required by NEI 96-06. Provide the necessary technical justification in a "LA" DOC and revise the CTS markup as required.

Palisades Response:

3.7.17, Secondary Specific Activity

3.7.17-1 CTS 3.1.5.c
ITS 3.7.17, Required Action A.1
DOC A.3

Comment: This is the same as Generic Comment #1.

3.7.17-1 CTS 3.1.5.c
ITS 3.7.17, Required Action A.2
DOC A.4

Comment: This is the same as Generic Comment #2.

3.7.17-3 CTS 4.2, Table 4.2.1, Item #7
ITS SR 3.7.17.1
DOC L.1

The CTS requirement for performing a Gross Radioactivity test of the Primary Coolant at every 72 hours maximum has not been retained in the ITS SR 3.7.17.1.

Comment: The removal of this CTS requirement appears acceptable; however, the DOC L.1 explains this CTS change but does not provide a specific technical justification for why this CTS requirement can be deleted. Provide this missing justification in a revision to the DOC.

Palisades Response:

List of Sketches

- Sketch #1 - ITS 3.7.5 for Auxiliary Feedwater train components and flowpaths from Condensate Storage and Supply per ITS 3.7.6.
- Sketch #2a - ITS 3.7.7 for Component Cooling Water (CCW) System train components and flowpaths.
- Sketch #2b - ITS 3.7.7 for Completion Times per CTS 3.4.2 and CTS 3.4.3 for CCW train components and flowpaths.
- Sketch #3 - ITS 3.7.8 for Service Water System (SWS) train components and flowpaths from the Ultimate Heat Sink per ITS 3.7.9.
- Sketch #4 - ITS 3.7.10 for Control Room Ventilation (CRV) Filtration train components and flowpaths and ITS 3.7.11 for Control Room Ventilation (CRV) Cooling train components and flowpaths.
- Sketch #5 - ITS 3.7.13 for Engineered Safeguards Room Ventilation (ESRV) Dampers train components and flowpaths per Bases Background discussion, JFD #6, and Bases LCO discussion.