

September 17, 2009

MEMORANDUM TO: Gary L. Shear, Deputy Director  
Division of Reactor Projects  
Region III

FROM: Thomas B. Blount, Deputy Director **/RA/**  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

SUBJECT: FINAL TASK INTERFACE AGREEMENT—REEVALUATION OF  
IMPLEMENTATION OF LIMITING CONDITION FOR  
OPERATION 3.0.4a, “MODE CHANGE LIMITATIONS,” AT  
PALISADES NUCLEAR PLANT (TIA2009-005)

This Task Interface Agreement (TIA) documents the reevaluated applicable regulatory position of “Task Interface Agreement (TIA)—Evaluation of Implementation of Limiting Condition for Operation (LCO) 3.0.4a, ‘Mode Change Limitations,’ at Palisades Nuclear Plant (TIA2008-002),” Agencywide Document Access and Management System (ADAMS) Accession No. ML081300096. TIA 2008-002 erred by incorrectly stating the regulatory position for compliance with LCO 3.0.4a. This TIA is issued to correct the error using the previous staff position issued in Generic Letter 87-09, “Sections 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements,” and therefore supersedes TIA 2008-002.

On January 14, 2008, with the Palisades Nuclear Plant in Mode 3, the U.S. Nuclear Regulatory Commission (NRC) resident inspector observed that radiation monitor RIA-1805 was declared inoperable, but the bistable associated with the instrument was not in the trip condition. The Palisades Technical Specifications (TS) require the channel (bistable) to be placed in trip within 7 days from the time of discovery of the inoperable condition or be in shutdown in the following 6 hours. The RIA-1805 monitor is one of four containment radiation monitors required to be operable in Modes 1–4 by LCO 3.3.3, “Engineered Safety Features,” Table 3.3.3-1, Function 6. The monitors are engineered safety feature instruments that actuate to isolate containment on a two-out-of-four coincidence logic upon detection of a high-radiation condition.

The NRC staff asked licensee operators if the radiation monitor would be restored to an operable status or if the bistable would be placed in trip before startup, based on their understanding that LCO 3.0.4a prohibits a transition from Mode 3 to Mode 2, unless the associated actions to be entered permit continued operation in the applicable mode or other specified condition in the applicability for an unlimited period of time. The operators stated that the issue had been reviewed and that no action was required before transition to Mode 2.

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However, following NRC discussions with plant management, the licensee decided to place the channel in trip and then proceed with the startup transition to Mode 2. The licensee wrote a condition report to address the issue.

Licensee Position:

The licensee's position on the application of LCO 3.0.4a was that the Required Action to place the channel in trip did not have to be completed before the mode transition. The licensee stated that, although the TS actions to be entered permit operations for an unlimited time period, the required actions do not (emphasis added) need to be completed before the mode transition; rather, a delay time equal to the allowed completion time, 7 days in this case, is permitted.

The basis for the licensee's position is that LCO 3.0.4 does not specifically require action before the mode transition, because LCO 3.0.4a uses a future tense: "Actions to be entered." Secondly, LCO 3.0.4 does not contain a statement requiring compliance with an earlier completion time than the required completion time in LCO 3.3.3. The licensee also indicated that its position is supported by TS implementation training documents provided by improved technical specifications (ITS) contractors, which have the approval of the Nuclear Energy Institute (NEI) Technical Specifications Task Force. However, approval by NEI does not constitute an applicable regulatory position or an NRC staff position.

Applicable Regulatory Position:

The NRC staff reviewed the Palisades TS, the applicable staff position contained in Standard Technical Specifications (STS), and the staff guidance expressed in Generic Letter (GL) 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements," dated June 4, 1987 (ADAMS Accession No. ML031140381), and concluded that the plant-specific Palisades TS and TS Bases for LCO 3.0.4 are consistent with the regulatory positions on the application of LCO 3.0.4a.

The applicable staff position for Palisades in LCO 3.0.4a, from the Palisades TS, states the following:

[w]hen an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time....

ACTIONS are defined in Section 1.0, "Use and Application" of the Palisades TS as "that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times."

The Palisades LCO 3.0.4a Bases discuss the intent of this LCO by stating the following:

[c]ompliance with Required Actions that permit continued operation of the plant for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation.... Therefore, in such cases, entry into a MODE or other specified conditions in the Applicability may be made in accordance with the provisions of the Required Actions.

NRC Staff Guidance:

In TIA 2008-002, the indicated that LCO 3.0.4a does not allow entry into a mode or other specified condition in the TS Applicability with inoperable equipment until the Required Actions of the associated Conditions to be entered are met. For LCO 3.3.3, Table 3.3.3-1, Function 6, this would require placing the affected bistable in trip before transition from Mode 3 to Mode 2. Upon review of the TIA in response to an industry request, the staff concludes that, while the TS Bases for LCO 3.0.4 include the caution that operators should not fail to exercise the good practice of restoring systems or components to operable status before entering an associated MODE or other specified condition in the Applicability, and that completing the TS required actions to be entered before conducting a mode transition with inoperable equipment establishes the basis for continued operation, the completion of those actions is not a requirement for compliance with LCO 3.0.4a. It should be emphasized that, to implement the mode transition allowance of LCO 3.0.4a, licensees should have a reasonable expectation that the TS required actions will be completed within their specified completion times.

Regulatory Basis:

In reevaluating TIA 2008-002, the staff assessed whether it was consistent with the guidance for startup with inoperable equipment that GL 87-09 established. The staff also assessed whether the licensee position was consistent with this guidance.

The licensee relied on the LCO 3.0.4a phrase “[w]hen the associated ACTIONS to be entered” as a basis for its position. The NRC staff has reevaluated the intent of this LCO phrase to determine if the licensee’s position conforms to the guidance in GL 87-09. GL 87-09 addressed problems involving unnecessary restrictions on mode changes caused by LCO 3.0.4 and the inconsistent application of exceptions to LCO 3.0.4. (LCO 3.0.4 provisions in Standard Technical Specifications circa 1987 did not allow startup or mode transition with any LCO not met.) These problems were known to prevent plant startup with inoperable equipment, resulting in unduly restricting facility operation when conformance with Action Requirements otherwise provides an acceptable level of safety for continued operation. The staff guidance in GL 87-09 is as follows:

[f]or an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with the Action Requirements [(emphasis added)].... The restriction on a change in operational modes or other specified conditions should apply only where the Action Requirements establish a specified time interval in which the LCO must be met or a shutdown of the facility would be required.

[t]he staff believes that good practice should dictate that the plant startup should normally be initiated only when all required equipment is operable and that startup with inoperable equipment must be the exception rather than the rule.

Because TS Action Requirements that are pending but within their specified Completion Times differ from Action Requirements that establish a specified time interval in which the LCO must be met or a shutdown of the facility would be required, this regulatory guidance would not impose a restriction on a change in operational modes in this condition.

Palisades implemented the revisions of GL 87-09 through a license amendment request that resulted in Amendment No. 130 to Provisional Operating License No. DPR-20, ADAMS Accession No. ML020810199, with an erratum correcting the Bases for LCO 3.0.4, ADAMS Accession No. ML020810440. In this version of the Palisades TS, LCO 3.0.4 stated in pertinent part that

Entry into a reactor operating condition or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are not met and the associated action requires a shutdown if they are not met within a specified time interval. Entry into a reactor operating condition or other specified condition may be made in accordance with action requirements when conformance to them permits continued operation of the facility for an unlimited period of time.

The Bases for the LCO provided that the TS “preclude[] placing the facility in a higher operational condition when the requirements for a Limiting Condition for Operation are not met, and continued noncompliance to these conditions would result in a shutdown to comply with the action requirements if a change in plant conditions were permitted.” Because Action Requirements that have not yet been completed differ from noncompliance with conditions that would result in a shutdown to comply with action requirements if a change in plant conditions were permitted, this version of the Palisades TS would have allowed a mode change with pending Action Requirements.

On November 30, 1999, the NRC issued Amendment 189 to Provisional Operating License No. DPR-20, ADAMS Accession No. ML993490085, revising Palisades’ then current TS to the improved STS format based on NUREG-1432, “Standard Technical Specifications; Combustion Engineering Plants.” At that time, LCO 3.0.4 was phrased in pertinent part as “[w]hen an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time.” The Safety Evaluation Report (SER) for this Amendment, ADAMS Accession No. ML993510369, indicates that the deletion of the phrase “and the associated action requires a shutdown if they are not met within a specified time interval” was an administrative change made “because another part of LCO 3.0.4 clarifies that entry can be made into a reactor operating condition (Mode in ITS) if actions permit continued operation for an unlimited period of time.” Retention of the GL 87-09 regulatory guidance following this change is demonstrated in the Bases of LCO 3.3.3 Action A.1 that were provided with the SER and state that

If one ESF channel is inoperable, startup ... is allowed to continue, (emphasis added) providing the inoperable channel actuation bistable is placed in trip within

7 days. The provision of four trip channels allows one channel to be inoperable in a non-trip condition up to the 7 day Completion Time allotted to place the channel in trip. Operating with one failed channel in a non-trip condition during operations, places the ESF Actuation Logic in a two-out-of-three coincidence logic.

If the failed channel cannot be restored to OPERABLE status in 7 days, the associated bistable is placed in a tripped condition. This places the function in a one-out-of-three configuration.

In this configuration, common cause failure of the dependent channel cannot prevent ESF actuation. The 7 day Completion Time is based upon operating experience, which has demonstrated that a random failure of a second channel occurring during the 7 day period is a low probability event.

LCO 3.3.3 is the LCO that was not met in this instance. The Bases for LCO 3.3.3 mirror the wording of similar Bases in the NUREG-1432 version of the STS and is retained in the current version of the Palisades TS following the implementation of risk informed LCO 3.0.4.

On November 10, 2004, the NRC issued Amendment No. 219 to Facility Operating License DPR-20, ADAMS Accession No. ML 043220612, in order to adopt the risk informed TS provisions of Industry/TS Task Force (TSTF) change TSTF-359, "Increased Flexibility in Mode Restraints." This Amendment revised LCO 3.0.4 to its current version, quoted in pertinent part above. The SER for this Amendment provides that "LCO 3.0.4a retains the current allowance for when the required actions permit indefinite operation." LCO 3.3.3, discussed above, remains unchanged.

The staff evaluation determined that while the future-tense sentence structure of LCO 3.0.4a "except when the associated ACTIONS to be entered permit [...]" is ambiguous and cannot be directly linked to the staff guidance in GL 87-09; the mode change provisions of GL 87-09 are not ambiguous and are retained following implementation of TSTF-359 risk informed TS changes.

The NRC staff also reexamined the intent of GL 87-09, "operation should be permitted in accordance with the Action Requirements," to determine if TIA 2008-002 was consistent with this language. The staff determined that the NUREG-1432 improved STS adopted by Palisades replaced GL 87-09 "Action [Statement] Requirements" language with "Required Actions" language. TS Action Requirements language refers to a format that includes a description of the noncompliance with the LCO, the required TS remedial actions, and the time period for completing the TS actions. In NUREG-1432 improved STS, the "Required Actions" language refers only to the TS remedial action. It excludes the statement of the condition and the time to complete the TS remedial action. NUREG-1432 improved STS also changed the content of GL 87-09 when describing the basis or reasons for LCO 3.0.4a by revising the phrase, "operation should be permitted in accordance with the Action Requirements," as "Compliance with Required Actions that permit continued operation for an unlimited period of time provides an acceptable level of safety for continued operation."

Based on this review the NRC staff has determined that TIA 2008-002 does not align with GL 87-09 because this key language, "in accordance with Action [Statement] Requirements," was improperly translated during the development of the NUREG-1432 improved STS. To

conform to the guidance in GL 87-09, the improved STS Bases language should be interpreted to require that compliance with LCO 3.0.4a relies on both the Required Actions and associated Completion Times as they would apply to the discovery of inoperable equipment while operating in the applicable mode or other specified condition of an LCO. Therefore, the NRC staff finds that the licensee's position on the application of LCO 3.0.4a was consistent with the regulatory guidance of GL 87-09, in that the 7-day required completion time to place the bi-stable in trip remains, and completion of the required action is not a prerequisite for the mode transition.

Conclusion:

The applicable regulatory position for implementing LCO 3.0.4a is that the allowances of LCO 3.0.4a permit entry into a mode or other specified condition in the Applicability (e.g., transitioning from Mode 3 to 2) with inoperable equipment, while relying on the Required Actions and associated Completion Times of the TS Actions. This is premised on a reasonable expectation that the required actions will be met within their specified completion times. Applying this guidance to the Palisades inspection observation discussed above, compliance with the Required Actions within the 7-day Completion Time period allowed by the TS does establish literal compliance with the mode transition allowance in LCO 3.0.4a. However, good practice in this situation would have been for the licensee either to restore systems or components to operable status before mode transition or to establish the basis for continued operation by placing the inoperable radiation monitoring channel in trip before mode transition, which the licensee did at the prompting of the inspector.

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