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# Niagara Mohawk

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August 11, 1999  
NMP2L 1885

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

RE: Nine Mile Point Unit 2  
Docket No. 50-410  
NPF-69

**Subject:** *Request for Additional Information Regarding Improved Technical Specifications (ITS) Sections 3.4 and 3.9 for the Nine Mile Point Nuclear Station, Unit 2 (TAC No. MA3822)*

Gentlemen:

Niagara Mohawk Power Corporation (NMPC) transmitted an Application for Amendment regarding conversion of the Nine Mile Point Unit 2 (NMP2) Current Technical Specifications (CTS) to the ITS by letter dated October 16, 1998 (NMP2L 1830). Subsequently, by letter dated June 16, 1999, the NRC requested additional information pertaining to our Application for Amendment. Specifically, the Staff requested information regarding Section 3.4, titled "Reactor Coolant System" and Section 3.9, titled "Refueling Operations."

Attached to this letter are the requested NMPC responses.

Very truly yours,



Richard B. Abbott  
Vice President - Nuclear Engineering

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RBA/TWP/kap  
Attachment

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A00111

154-30

**REQUEST FOR ADDITIONAL INFORMATION (RAI)  
IMPROVED TECHNICAL SPECIFICATIONS (ITS)  
NIAGARA MOHAWK POWER CORPORATION  
NINE MILE POINT NUCLEAR STATION UNIT NO. 2 (NMP2)**



### **RAI 3.4.1-1**

*CTS 4.4.1.1.3 provides surveillance requirements for the flow control valves which are included as part of the operability requirements for the reactor recirculation system. No Applicability or ACTIONS are listed. ITS 3.4.2 includes a new LCO, Applicability and Actions. DOC A.2 provides discussion and justification that this is only a clarification of CTS requirements.*

*Comment: While this change is acceptable, because these additions include additional restrictions and operating requirements, it is a more restrictive change. Additional discussion and justification for the additional requirements is required.*

### **NMPC Response:**

Current Technical Specifications (CTS) 4.4.1.1.3 is part of the Recirculation Loop Technical Specifications (TS), CTS 3/4.4.1.1. Therefore, it is covered by the Limiting Conditions for Operation (LCO) of CTS 3.4.1.1 and the Applicability of CTS 3.4.1.1. The Improved Technical Specifications (ITS) provides a separate LCO for the flow control valves, thus a new LCO statement and Applicability statement are needed. However, since they continue to require flow control valve OPERABILITY in the same MODES as CTS 3/4.4.1.1, the addition of the new LCO and Applicability are administrative. ITS 3.4.2 ACTION A allows 4 hours to lock up the flow control valve if it is inoperable. This time is consistent with the time in CTS 3.4.1.1 Action a when a loop is not in operation. The actual proposed action (lock up the flow control valve) is the acceptance criteria to which the flow control valve is tested by the current Surveillance (CTS 4.4.1.1.3). Thus, placing the flow control valve in this position performs the safety function of the flow control valve. This is currently what NMP2 would do if the flow control valve became inoperable. Therefore, NMP2 believes this change is administrative. The classification of the change is also consistent with all previous Boiling Water Reactor (BWR)/6 ITS submittals and associated NRC Safety Evaluation Reports (SERs). ITS 3.4.2 Discussion of Change (DOC) A.2 will be modified to more clearly state why the change is administrative.

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### **RAI 3.4.4-2**

*STS SR 3.4.4.3 requires verifying each [required] S/RV opens when manually actuated at least once every [18] months on a staggered basis for each valve solenoid. ITS 3.4.4 does not include this requirement. The deviation from the STS is justified in JFD 4 which states that the current NMP2 Licensing Basis does not include Technical Specification requirements to manually actuate the S/RVs during MODES 1, 2, and 3.*

*Comment: If the valves are not tested in actual pressure and temperature conditions, there is no assurance that they will operate when required. Recommend adopting SR 3.4.4.3.*



**NMPC Response:**

Safety/Relief Valves (S/RVs) are bench tested for safety-mode lift setpoint during each refueling outage to satisfy American Society of Mechanical Engineers (ASME) Code, Section XI testing requirements. This provides adequate assurance that the valves will operate when required. NMP2 previously tested these valves at power. TS Amendment No. 69, dated September 11, 1995, approved the deletion of S/RV acoustic monitors from TS and added a new Surveillance Requirement (SR) that clarified that the surveillances for the S/RVs are accomplished under the Section XI Inservice Testing Program as required by SR 4.0.5. Therefore, NMP2 does not believe that it is necessary to add this SR back into the ITS.

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**GENERAL COMMENT ON RAIs 3.4.5-2, 3, 4, 5 AND 6**

This paragraph addresses RAIs 3.4.5-2, 3, 4, 5 and 6 in general terms. ITS 3.4.5 DOC A.3 states that certain CTS 3.4.3.2 requirements are being moved to ITS 3.4.6, in lieu of discussing them in the DOCs for ITS 3.4.5. These requirements are all related to pressure isolation valve leakage. DOC A.3 further states that any changes to the requirements being moved are discussed in the DOCs for ITS 3.4.6. These changes could include revision, deletion, or relocation of the moved requirements. As provided below for each of the associated RAIs (3.4.5-2, 3, 4, 5, and 6), the items are identified in the CTS markup for Specification 3.4.6 as to either a) their location where they are retained in the proposed ITS 3.4.6 or b) an annotation to a specific DOC, which describes how and justifies why they are being changed.

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**RAI 3.4.5-2:**

*CTS 3.4.3.2 ACTION d requires restoring the inoperable monitor(s) to OPERABLE status within 7 days or verifying the pressure to be less than the alarm setpoint at least once per 12 hours: restoring the inoperable monitor(s) to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours when one or more of the high/low pressure monitors shown in Table 3.4.3.2-2 are inoperable. The footnote to the CTS ACTION states the manual or deactivated automatic or check valves have been verified not to exceed the allowable leakage limit at the last refueling outage. DOC A.3 states these requirements are moved to ITS 3.4.6. The CTS requirements are not included in ITS 3.4.6.*

**Comment:** *Provide discussion and justification for the CTS deviation including the location of the moved requirements.*



**NMPC Response:**

CTS 3.4.3.2 Action d (CTS markup page 1 of 5) is discussed in DOC LC.1. The footnote \* to Action c (CTS markup page 1 of 5) is shown to be part of Required Actions A.1 and A.2 Note.

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**RAI 3.4.5-3:**

*CTS 4.4.3.2.3.a and b and CTS 4.4.3.2.4.a and b require CHANNEL FUNCTIONAL TESTS and CHANNEL CALIBRATION for the high/low pressure interface valve leakage pressure monitors and the high/low pressure interface interlock for the steam condensing mode bypass valves and setpoints, respectively. DOC A.3 states that these CTS requirements have been moved to ITS 3.4.6.*

*Comment: ITS 3.4.6 does not include these requirements. Provide discussion and justification for the CTS deviation including the location of the moved requirements.*

**NMPC Response:**

CTS 4.4.3.2.3.a and b and CTS 4.4.3.2.4.a and b (CTS markup page 3 of 5) is discussed in DOC LC.1.

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**RAI 3.4.5-4:**

*CTS 3.4.3.2 ACTION e requires restoring the inoperable interlock to OPERABLE status within 7 days or isolating the affected heat exchanger(s) from the RCIC steam supply by closing and de-energizing heat exchanger valve 2RHSMOV22A and 2RHSMOV80A or 2RHSMOV22B and 2RHSMOV80B as appropriate when one or more of the required interlocks shown in Table 3.4.3.2-3 is inoperable. DOC A.3 states that this CTS requirement has been moved to ITS 3.4.6. ITS 3.4.6 does not include this requirement.*

*Comment: Provide discussion and justification for the CTS deviation including the location of the moved requirement.*

**NMPC Response:**

CTS 3.4.3.2 Action e (CTS markup page 2 of 5) is discussed in DOC LC.1.

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**RAI 3.4.5-5:**

*CTS 4.4.3.2.2.a and b requires demonstrating each RCS pressure isolation valve specified in Table 3.4.3.2-12 Operable by leak testing pursuant to Specification 4.0.5 as outlined in the ASME Code Section XI, paragraph IWW-3427(b) and verifying the leakage of each valve to be within the specified limit at least once per 18 months and before returning the valve to service following maintenance, repair, or replacement work on the valve, respectively. DOC A.3 states that these CTS requirements have been moved to ITS 3.4.6. ITS 3.4.6 does not include these requirements.*

*Comment: Provide discussion and justification for the CTS deviation including the location of the moved requirements.*

**NMPC Response:**

CTS 4.4.3.2.2, including the footnote, (CTS markup page 2 of 5) is shown to be ITS SR 3.4.6.1, except for the changes discussed in DOC A.3 and LA.1. CTS 4.4.3.2.2.a (CTS markup page 2 of 5) is discussed in DOC LA.2. CTS 4.4.3.2.2.b (CTS markup page 2 of 5) is discussed in DOC L.3.

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**RAI 3.4.5-6:**

*CTS Table 3.4.3.2-1 lists the reactor coolant system pressure isolation valves. CTS Table 3.4.3.2-2 lists the reactor coolant system interface valves and the associated leak pressure monitors. CTS Table 3.4.3.2-3 lists the high/low-pressure interface interlocks. DOC A.3 states that these CTS tables (or the information thereon) have been moved to ITS 3.4.6. ITS 3.4.6 does not include these tables (or the information thereon).*

*Comment: Provide discussion and justification for the CTS deviation including the location of the moved requirements (information). Note that the ITS 3.4.6 BASES states the list of the PIV's is contained in the TRM.*

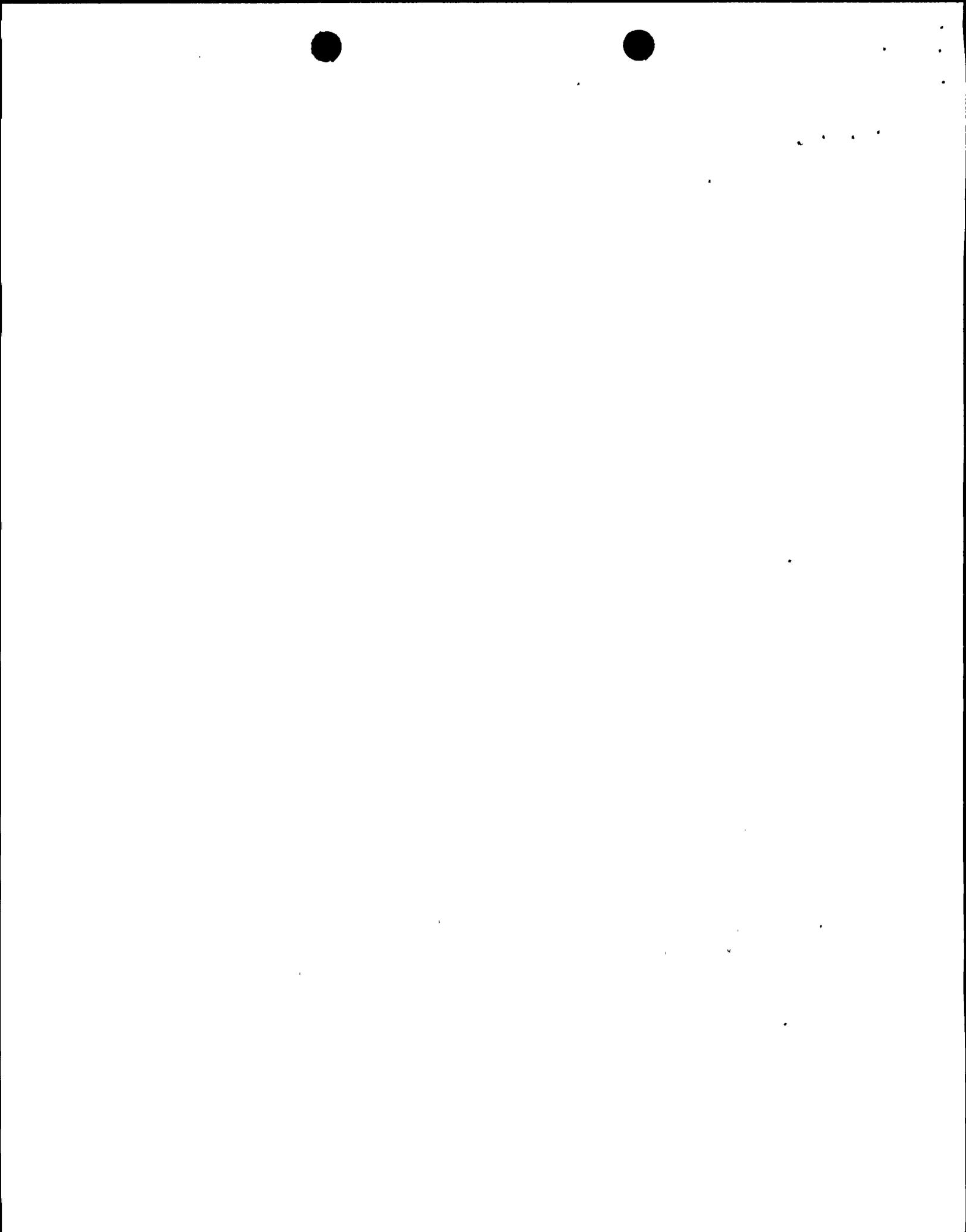
**NMPC Response:**

CTS Table 3.4.3.2-1 (CTS markup page 4 of 5) is discussed in DOC LA.1 and CTS Tables 3.4.3.2-2 and 3.4.3.2-3 (CTS markup page 5 of 5) are discussed in DOC LC.1.

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**RAI 3.4.5-7:**

*CTS 4.4.3.2.1.d requires monitoring the reactor vessel head flange leak detection system at least once per 24 hours. ITS 3.4.5 does not include this requirement. DOC L.2 states in part, that the CTS does not specify this system to be OPERABLE. If the system were not*



*OPERABLE, it could not be monitored once every 24 hours as required by CTS 4.4.3.2.1.d. Additionally, as it is in the current LCO, it is required as a monitoring device. What is the purpose of this requirement in the CTS?*

*Comment: The justification seems to imply that there was no reason for it. Provide additional discussion and documentation for deletion of this CTS requirement from ITS 3.4.5.*

**NMPC Response:**

The reactor vessel head leak detection system monitors the pressure between the inner and outer reactor vessel head seal ring. If the inner seal fails, the instrumentation will annunciate an alarm. The plant can continue to operate with the outer seal performing the required function and the inner seal can be repaired at the next refueling outage. If both seals fail, this can be detected by the Leakage Detection Systems required by CTS 3.4.3.1 and by an increase in drywell temperature and pressure. The instrumentation does not detect nor quantify leakage from the reactor to the containment atmosphere; it does not monitor any leakage controlled by CTS 3.4.3.2. Monitoring overall unidentified leakage is performed by the drywell floor drain tank fill rate monitoring system and the drywell atmospheric monitoring system. As stated in DOC L.2, CTS 3/4.4.3.1, the Reactor Coolant System Leakage Detection Systems TS, does not require the reactor vessel head leak detection system to be OPERABLE. The unidentified and identified leakage are normally verified to be within the limits of CTS 3.4.3.2 by monitoring the drywell floor and equipment drain tank fill rate monitoring systems. DOC L.2 will be modified to more clearly state the reason for deleting this instrument.

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**RAI 3.4.7-1:**

*CTS 3.4.3.1.d requires the drywell equipment drain tank fill rate monitoring system to be Operable. ITS 3.4.7 does not include this requirement.*

*Comment: What does this system measure? DOC L.1 addresses a number of changes and it is not clear why this particular system is being deleted. Provide additional discussion and justification for the deletion of the drywell equipment drain tank fill rate monitoring system. In addition, DOC L.1 attempts to justify several deletions of CTS requirements. However, the DOC simply states what the CTS requirement was and what the ITS requirement now says. There is also a statement that states the CTS 3.4.3.1 Action a, requirement which allows only one of the atmospheric monitoring systems (i.e., both particulate and gaseous monitors) to be inoperable has been modified to allow the required atmospheric monitoring system to be inoperable for 30 days. The statement continues to say that it is consistent with the new requirement that only one of these monitors be OPERABLE. This is in direct conflict with the previous statement. Provide additional discussion and justification for the changes. DOC needs to be clarified.*



**NMPC Response:**

The drywell equipment drain tank fill rate monitoring system functions to quantify identified leakage. Since the purpose of ITS 3.4.7 is to provide early indication of unidentified reactor coolant system (RCS) leakage, the drywell equipment drain tank fill rate monitoring system has been deleted from the CTS. ITS 3.4.5, the RCS Operational Leakage TS, will continue to require the identified leakage to be quantified and the limits to be met. However, ITS 3.4.7 (which is consistent with NUREG-1434, the BWR/6 Improved Standard Technical Specification (ISTS)) will not specifically place a TS requirement on the actual monitoring system used to quantify the identified leakage.

The CTS LCO requirements have also been modified to require only two diverse methods of monitoring unidentified leakage; the drywell floor drain tank fill rate monitoring system and one channel of either the drywell atmospheric particulate or gaseous monitoring system. Currently, both drywell atmospheric monitoring systems are required. CTS 3.4.3.1 Action a, which allows only one of the two drywell atmospheric monitoring systems to be inoperable, has been modified to be consistent with the new requirement of LCO 3.4.7.b. With only one channel now required OPERABLE, ITS 3.4.7 ACTION B effectively allows both drywell atmospheric monitoring systems to be inoperable for 30 days, since the ACTION is entered when LCO 3.4.7.b is not met (and LCO 3.4.7.b is not met when both drywell atmospheric monitoring systems are inoperable; i.e., LCO 3.4.7.b only requires one of the two to be OPERABLE). DOC L.1 describes this change and states that this is acceptable since a diverse method to quantify unidentified leakage and to detect an increase in unidentified leakage, the drywell floor drain tank fill rate monitor (which is also the primary method), is still available. NMP2 will modify DOC L.1 to provide more clarity, as described above.

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**RAI 3.4.7-3:**

*JFD 6 states that the CHANNEL FUNCTIONAL TEST frequency for the required drywell atmospheric monitoring system has been changed from 31 days to 184 days and a source check requirement for the required drywell atmospheric monitoring system with a frequency of 31 days has been added, consistent with the current NMP2 licensing basis. CTS 4.4.3.1.a already included this requirement and the changes as stated are not necessary. There was no requirement to perform a CHANNEL FUNCTIONAL TEST every 31 days.*

*Comment: Provide clarification or additional discussion and or justification for this JFD.*

**NMPC Response:**

The intent of Justification for Deviation (JFD) 6 is to describe how NMP2 was deviating from NUREG-1434 (the BWR/6 ISTS); it is not used to describe changes to the current NMP2 TS. Thus, the CHANNEL FUNCTIONAL TEST frequency change and addition of the new source check change that JFD 6 is referring to was how the BWR/6 ISTS was being changed to adopt current NMP2 specific requirements. This is stated in the second sentence of the JFD (i.e.,



ISTS SR 3.4.7.2 has been modified to only be applicable...) and no additional clarification or justification appears needed.

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**RAI 3.4.8-1:**

*CTS 3.4.5, ACTION c requires sampling and analysis for Iodine per Item 4.b of CTS Table 4.4.5-1 when in Operational Condition 1, or 2 following changes in Thermal Power or Off-gas level. ITS 3.4.8 does not include this requirement. DOC A.2 states that the increased sampling requirement is included in ITS 3.4.8 Required Actions A.1 and B.1 because it requires Iodine sampling every 4 hours when activity exceeds a limit.*

*Comment: This justification is in error and without foundation because the basic Iodine sampling requirements in ITS SR 3.4.8.1 are only required once every 7 days and then it is only required in MODE 1. DOC A.2 also states that 3.4.5, Action b requires increased sampling, therefore, 3.4.5 Action c is not required, however, Action b and Action c have different requirements. There is no requirement within the 7-day interval, during changing power levels, or increasing Off-gas levels to determine if Iodine levels are increasing. The CTS sampling requirement in response to transient precursors such as power changes and increasing Off-gas levels is thus eliminated without justification of why they are no longer needed. While this change is acceptable, provide additional discussion and justification for this less restrictive change; revise DOC A.2.*

**NMPC Response:**

As described in CTS 3.0.1 and ITS LCO 3.0.2, upon failure to meet an LCO, the associated ACTIONS must be met. Therefore, CTS 3.4.5 Action c is only required to be performed when the LCO limit is not met. CTS 3.4.5 Action c (which references CTS Table 4.4.5-1 Item 4.b) requires the isotopic analysis for iodine to be performed once between 2 and 6 hours after the initial conditions specified in Action c are met. However, CTS 3.4.5 Action b (which references CTS Table 4.4.5-1 Item 4.a), which NMP2 would also be taking if the LCO limit is not met, already requires the isotopic analysis for iodine to be performed every 4 hours. Thus, the sampling and analysis requirements of CTS 3.4.5 Action c is redundant to the sampling and analysis requirements of CTS 3.4.5 Action b. This is what DOC A.2 is describing; DOC A.2 is not referring to the routine 7 day sampling and analysis requirements of ITS SR 3.4.8.1. Therefore, this change is an administrative change, as categorized by DOC A.2. DOC A.2 will be modified to provide additional clarity with respect to why the change is administrative.

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**RAI 3.9.1-1:**

*JFD 1 attempts to interpret the NUREG for the industry, based on proposed TSTF-232.*



*Comment: While the change is acceptable on a plant-specific basis, JFD 1 should be changed to delete reference to the intent of the NUREG, and reference TSTF-232.*

**NMPC Response:**

It was not the intent of NMP2 to interpret the NUREG for the industry. The industry had provided this interpretation already to the NRC in the justification for Technical Specification Task Force (TSTF)-232. The statement in JFD 1 meant that NMP2 also believed that this was the intent of the NUREG. However, the statement will be deleted from JFD 1 and a statement that the change is consistent with proposed TSTF-232 will be added. Alternately, if TSTF-232 is approved prior to NMP2 submitting this change to JFD 1, then the entire JFD will be deleted and the change will be justified by annotating the ISTS markup with TSTF-232 alone.

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***RAI 3.9.5-1:***

*CTS 3.9.5 DOC M.1 addresses the addition of a new requirement for control rod operability during refueling, i.e., each withdrawn control rod must be capable of insertion by scram.*

*Comment: It is not clear where this information has been included.*

**NMPC Response:**

This new requirement is part of the definition of OPERABILITY for the control rod, thus, it is covered by the ITS 3.9.5 LCO statement that requires each withdrawn control rod to be OPERABLE. This new requirement is covered by a new SR (ITS SR 3.9.5.1) and is also described in the LCO section of the ITS 3.9.5 Bases. DOC M.1 will be revised to more clearly state where this new requirement is added.

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***RAI 3.9.5-2:***

*CTS 4.1.3.5.b requires performing a Channel Functional Test of the control rod scram accumulator leak detectors, and a Channel Calibration of the pressure detectors at least once per 18 months. ITS 3.9.5 DOC L.1 states that the CTS requirements are no longer required in Tech Specs because they are not directly related to accumulator Operability. It also states that ITS SR 3.9.5.2 verifies the control rod scram accumulator pressure once every 7 days. The DOC utilizes these arguments and 10CFR50 Appendix B Part XII to justify that verifying the accumulator pressure is an equivalent check of the system.*

*Comment: The CTS requirements can be removed from the ITS but the reference to 10CFR50 Appendix B Part XII is addressing M&TE and not plant equipment. Should this information be moved to plant procedures?*



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**NMPC Response:**

DOC L.1 will be modified to delete the reference to 10 CFR 50 Appendix B, Part XII. NMP2 does not currently intend to delete the requirement to perform the Channel Functional Test and Channel Calibration; this change is only allowing the requirements to be deleted from the TS. NMP2 currently intends to maintain the Channel Functional Test and Channel Calibration in plant procedures and continue to perform the tests.



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