

October 16, 2001

Mr. David A. Christian
Senior Vice President and
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SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2: REQUEST FOR
ADDITIONAL INFORMATION REGARDING SECTION 3.3 OF THE IMPROVED
TECHNICAL SPECIFICATIONS (ITS) (TAC NOS. MB0799 AND MB0800)

Dear Mr. Christian:

The NRC staff reviewed your application dated December 11, 2000, to change the format and content of the Current Technical Specifications to be consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 1, and certain generic changes to the NUREG.

On the basis of our review of the proposed changes for ITS Section 3.3, "Instrumentation," we find that additional information identified in the enclosure is needed. This inquiry was discussed with Ms. Regina Borsh of your staff on October 9, 2001, who agreed to provide the staff with a response within 60 days of the date of this letter.

Sincerely,

/RA/

Stephen R. Monarque, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-338 and 50-339

Enclosure: Request for Additional Information

cc w/encl: See next page

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Units 1 and 2

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REQUEST FOR ADDITIONAL INFORMATION (RAI)
NORTH ANNA POWER STATION, UNITS 1 AND 2
IMPROVED TECHNICAL SPECIFICATIONS (ITS)
ITS SECTION 3.3.2 DISCUSSION OF CHANGES
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS) INSTRUMENTATION

RAI 3.3.2-1, CTS Table 4.3-2, Slave Relay Test Note (4)

Current Technical Specification (CTS) Table 4.3-2, Note (4) is added to the Standard Technical Specifications (STS) slave relay testing requirements (ITS Surveillance Requirement (SR) 3.3.2.5). This note eliminates TS requirements to perform quarterly testing on ESFAS slave relays if testing could place the ESFAS instrumentation in a condition that would cause an inadvertent reactor protection system or ESFAS actuation, adversely affect one Engineered Safety Feature (ESF) system or components in two or more ESF systems, or create a reactivity, thermal or hydraulic transient.

Comment: The staff position is that NUREG-1431 requirements include all the Note 4 to SR 3.3.2.5 remedial allowances for delaying testing of slave relays by establishing appropriate remedial measures and allowed outage times for inoperable equipment (TS 3.3.2), allowances for surveillance test extensions (TS 3.0), and appropriate checks when multiple equipment inoperabilities exist (TS 5.5.15). Thus, the proposed allowance in the Note to SR 3.3.2.5 is not justified. Provide additional information to justify that the proposed Note to ITS SR 3.3.2.5 is needed to maintain safety or reduce burden, or is needed due to a unique North Anna instrumentation design.

RAI 3.3.2-2, CTS Table 3.3-3, function 6.e, Station Blackout

CTS require one channel on two buses and an allowable value time delay. ITS Table 3.3.2-1, function 6.d proposes two required channels per bus and no time delay on the allowable value. The CTS change documentation does not justify this change.

Comment: Provide a justification for the proposed CTS changes.

RAI 3.3.2-3, CTS Table 3.3-3, functions 5.a & b, Turbine Trip and Feedwater Isolation

CTS Applicable mode requirements are Modes 1, 2 and Mode 3 ####. Note #### states "Except when all MFIVs [main feedwater isolation valves], MFRVs [main feedwater regulation valves], and associated bypass valves are closed and de-activated or isolated by a closed manual valve." Note #### becomes ITS Table 3.3.2-1, Note (d). ITS functions 5.a and 5.b apply Note (d) to Mode 2. The CTS change documentation does not justify this change. **Comment:** Provide a justification for the proposed addition of Note (e) to Mode 2.

RAI 3.3.2-4, CTS Table 3.3-3, Action 13

CTS Action 13 states "however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1." The ITS adds an additional restriction "provided the other train is OPERABLE." The CTS change documentation does not justify this change. **Comment:** Provide a justification for the proposed CTS changes.

RAI 3.3.2-5, CTS Table 4.3-2, Table Note (2)

CTS Table Note (2) includes details for performing train or logic functional testing, which are proposed to be relocated to the TS Bases. The note includes a 31-day test frequency. In the ITS, the functional test required by Note (2) is applied as either an Actuation Logic Test (ALT) or a Master Relay Test (MRT). In the ITS, the ALT or MRT is performed on a staggered test basis. The staggered test basis test frequency is a change to the CTS that is not evaluated. **Comment:** Provide a justification for the proposed CTS changes.

ADMINISTRATIVE CHANGES

- A.3 CTS SR 4.3.2.1.1 states that each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of specific test requirements. This includes a CHANNEL FUNCTIONAL TEST (CFT) shown in Table 4.3-2. ITS Table 3.3.2-1 includes the SRs in a column for each function. The ITS SRs for the TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT), ALT, MRT, and CHANNEL OPERATIONAL TEST (COT) are listed by numbers in the SR section for the specification.

This change is acceptable because the ITS SRs maintain the CTS requirements for testing of each function. The change is one of format only and any technical change to the requirements for a function is specifically addressed in an individual discussion of change. The CTS CFT is divided into several parts in the ITS requirements, and becomes the COT for analog devices, i.e., pressure or temperature channels, and the TADOT for on/off channels, i.e., manual switches for safety injection (SI), Containment Spray, etc. For the logic testing requirements, the ALT and MRT are the appropriate test designations. The change is designated as administrative change because it does not result in technical change to the CTS requirements.

RAI 3.3.2-6: CTS Table 4.3-2, function 8.c, Reactor Trip (P-4) includes a requirement to perform a refueling frequency CFT. This requirement is proposed to perform a Trip Actuating Device Operational Test “once per reactor trip breaker cycle” in the ITS. The proposed ITS test and test frequency for P-4 are a change to the CTS that is not evaluated. **Comment:** Provide a justification for the proposed CTS changes.

- A.4 CTS Functional Unit 4.d of Table 3.3-3 specifies, “Steam Flow in Two Steam Lines – High Coincident with either T_{ave} – Low Low or Steam Line Pressure – Low,” for Steam Line Isolation is required to be OPERABLE in MODES 1, 2, 3^{##}. The notation ^{##} states the function may be blocked in MODE 3 below P-12 setpoint. ITS Table 3.3.2-1 requires the High Steam Flow in Two Steam Lines Coincident with T_{AVE} – Low Low function to be OPERABLE in MODES 1, 2^(d), and 3^{(d)(b)}. Note ^(d) provides a provision that states, “Except when all MSTVs are closed and de-activated.” The Note ^(d) allowance is discussed in a less restrictive change in this discussion of changes. Note ^(b) states, “Above the P-12 (T_{ave} -Low Low) interlock.” The Note ^(b) addition modifies the CTS by providing a clarification for the functional requirements.

This change is acceptable because no mechanism exists that could allow the block of Steam Line Isolation from Steam Flow in Two Steam Lines – High Coincident with either T_{ave} – Low Low or Steam Line Pressure – Low. The allowance provided by the CTS was incorrect and eliminated. ITS requirement requires the function to be OPERABLE above the P-12 setpoint and does not allow a block of the function. The change is designated as administrative because it does not result in technical change to the CTS requirements.

RAI 3.3.2-7: It appears that Discussion of Changes (DOC) A.4 should include a discussion of CTS changes to SI. Delete any reference and discussion to Note (d) and replace the justification paragraph in DOC A.4 with the discussion from DOC A.11.

- A.5 CTS Table 3.3-3 provides the requirements for the ESFAS instrumentation functions. The table's columns list the name of the function, total number of channels, channels to trip, minimum number of OPERABLE channels, applicable MODES, and associated Actions. ITS Table 3.3.2-1 is constructed from the requirements of CTS Table, but with some modifications. The ITS Table requirements list the name of the function, required channels, applicable MODES or other specified Conditions, and associated Conditions. This changes the CTS Table by deleting the columns for the channels to trip and the minimum channels OPERABLE. It also modifies the names for the other three columns.

This change is acceptable because it maintains the technical requirements of the CTS with the conversion to the ITS. The "channels to trip" column is information only and is not needed for the Specification as a technical requirement. The number of channels to provide a trip signal is set by the design of the ESFAS and does not change. Therefore, the elimination of the columns does not modify any technical requirement. The minimum channels OPERABLE column is not needed because the ITS Conditions provide the necessary requirements to ensure the minimum channels will be maintained OPERABLE. The elimination of this column does not add or delete any technical requirement. The required channels' column incorporates the channel requirements of the instrumentation function formally provided by the CTS three columns of total number of channels, channels to trip, and minimum channels OPERABLE. This requires a function, with the reactor being operated in specific MODES or specific conditions, to have a number of channels OPERABLE. If the number of OPERABLE channels is less than the required, the ITS Condition (formally the CTS Action) must be entered. The addition of specific conditions in the ITS that were in the CTS are made with notes, which specify modifications to Actions or applicability for a function. With these modifications to the table, it is the intent of this change to not modify any technical requirement, but rather to present the information in a more logical manner. Any technical change to a function is addressed by a separate item in this discussion of changes. The change is designated as administrative because it does not result in technical change to the CTS requirements.

RAI 3.3.2-8: The CTS discussion of "channels to trip" is provided in the TS Bases. Provide an LA-DOC justification for this change to CTS.

- A.12 CTS Table 4.3-2 notation (1) is associated with the manual initiation switches for SI, Containment Spray, Containment Isolation (Phase A and B), Steamline Isolation, and the start of the auxiliary feedwater (AFW) pumps. The notation requires that each actuation switch is required to be tested to actuate the required function at least once per 18 months during shutdown. In ITS Table 3.3.2-1 for each of the listed functions, the SR 3.3.2.7, a TADOT must be performed at a frequency of 18 months. Additionally, a Note is added to SR 3.3.2.7 that specifies, "Verification of setpoint not required for manual initiation functions."

This change is acceptable because the required testing maintains the CTS requirements in the ITS format. Because of the nature of the associated functions, the required tests can only be performed during a shutdown condition, otherwise their actuation would cause a plant transient. Therefore, the need to state that the testing may only be performed during shutdown is not necessary and is eliminated. The addition of the Note to the SR simply states that setpoints for manual activation do not require the verification of setpoints. A manual activation either provides a function or not. If the

function is initiated by the manual actuation, the function is satisfied, and therefore, the setpoint verification is not necessary for any manual initiation. This portion of the change does not add or delete any technical requirements of the CTS. The change is designated as administrative because it does not result in technical change to the CTS requirements.

RAI 3.3.2-9: The CTS requirements to perform required testing during shutdown is deleted. This change represents a less restrictive change to CTS. Provide a safety basis discussion for this change.

RAI 3.3.2-10: DOC A.12 states "The addition of the Note to the SR simply states that setpoints for manual activation do not require the verification of setpoints." Discuss changes to CTS that result when a CFT requirement is replaced with a TADOT and a Note in the ITS.

- A.16 CTS SR 4.3.2.1.2 requires the ESF Response Time to be conducted for each ESFAS function. The testing must demonstrate that each function is within specified limit at a frequency of every 18 months. ITS ESFAS SI, Containment Spray, Containment Isolation, Steam Line Isolation, and AFW pump start functions for manual initiation and automatic actuation logic and actuation relays do not required that Response Time Testing (RTT) be performed. The automatic actuation logic and actuation relays require an ALT (SR 3.3.2.2), MRT (SR 3.3.2.3), and Slave Relay Test (SR 3.3.2.5). Each manual initiation function requires a TADOT (SR 3.3.2.7). These are the appropriate tests for these functions. This changes the CTS requirements by not requiring RTT to be performed on the above ESFAS functions.

The purpose of deleting the RTT for these ESFAS functions is to set the proper testing requirements for functions. These tests are the appropriate testing requirements for the ESFAS Functions. The change is designated as administrative because it does not result in technical change to the CTS requirements.

RAI 3.3.2-11: Discuss changes to CTS requirements for not requiring interlock functions to be response-time tested as required by CTS 4.3.1.2.

MORE RESTRICTIVE CHANGES

- M.3 CTS for ESF instrumentation do not require the ESFAS function for the automatic swapover of Low Head Safety Injection (LHSI) pumps suction to the containment sump from the Refueling Water Storage Tank (RWST) on a Low-Low level. ITS ESFAS Instrumentation Function 7 is labeled as the "Automatic Switchover to Containment Sump." This requires that two trains of automatic actuation logic and actuation relays be OPERABLE in MODES 1, 2, 3, and 4. This requires Action C to be entered if a train becomes inoperable, and SRs 3.3.2.2, 3.3.2.3, and 3.3.2.5 to be performed at specific frequencies. The function requires four channels of RWST level to be OPERABLE in MODES 1, 2, 3, and 4. When two of the four channels reach the RWST Low-Low level setpoint, coincident with a SI signal, the LHSI pump suctions swap from the RWST to the containment sump. ITS Action I is required to be entered for an inoperable channel, and SRs 3.3.2.1, 3.3.2.4, 3.3.2.8, and 3.3.2.9 are required to be performed to verify OPERABILITY. ITS Action I requires an inoperable channel to be placed in bypass within 72 hours or the unit must be placed in MODE 3 within the next 6 hours and MODE 5 within the next 30 hours. A Note that allows an additional channel to be

bypassed for up to 12 hours for surveillance testing modifies the required action. The allowable value for the RWST Level Low-Low is 18.4% and 20.4% for LHSI pump swapover to the containment sump from the RWST. This changes the CTS by adding additional requirements to the CTS.

This change is acceptable because requiring the automatic switchover instrumentation to be OPERABLE is essential to ensure the LHSI pumps will perform the required safety function. Emergency procedures require the operator to manually swap the LHSI pumps from the RWST to the containment sump prior to an RWST low-low level during design basis events. The switching of the pumps is an automatic action credited by the emergency procedures. The swapover is credited in the Updated Final Safety Analysis Report (UFSAR) to ensure accident analyses assumptions are achieved. This change is designated as more restrictive because the CTS does not specifically require the automatic switchover functional channels and trains to be OPERABLE.

RAI 3.3.2-12: Proposed ITS Action I 72-hour allowed outage time to place a channel in bypass and 12 hours for an additional channel to be placed in bypass for testing requires a plant-specific staff safety evaluation of WCAP-14333 for North Anna. Revise the submittal to adopt STS or propose the allowances of WCAP-14333 for the North Anna 1 and 2 licensing basis.

REMOVED DETAIL CHANGES

RAI 3.3.2-13: Not Used

- LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Limiting Condition for Operation (LCO) 3.3.2.1 and Action a. contains information about the ESFAS channels and interlocks setpoint requirements. This states the setpoint will be set consistent with the Trip Setpoint listed in Table 3.3-4. Action a requires the setpoint to be set more conservatively than the value listed in the allowable value column of the same table in order for the function to be considered OPERABLE. ITS 3.3.2 does not contain this information. This changes the CTS by moving the information from the Specification to the ITS Bases.

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Action and SR to ensure the function remains OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the TS.

RAI 3.3.2-14: The discussion above states in the second paragraph that the proposed relocations are related to system design. Explain how the setpoint requirements items moved out of TS are related to system design.

- LA.3 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.3.2.1 in Table 3.3-4, item 6.c, for the allowable values requirement contains information relating to the Steam Generator (SG) Water Level –

Low Low trip. The requirement states that the allowable value is associated with the narrow range instrumentation span for each SG. ITS Table 3.3.2-1 (item 6.c) lists the requirements for the SG Water Level – Low Low Allowable Value but does not contain the information about the narrow range instrumentation span. This changes the CTS by moving the information from the Specification to the ITS Bases.

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Action and SR to ensure the function remains OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the TS.

- LA.6 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.3.2.1 in Table 4.3-2 for the ESFAS containment pressure instrumentation SR contains information that states that the CHANNEL FUNCTIONAL TEST shall include exercising the transmitter by applying either a vacuum or pressure to the appropriate side of the transmitter. ITS Table 3.3.2-1 for the testing of containment pressure requires SR 3.3.2.4 to be performed. This changes the CTS by moving the information from the Specification to the ITS Bases.

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Action and SR to ensure the function remains OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the TS.

- LA.7 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.3.2.1 in Table 3.3-4 item 5.a for the allowable value requirement contains information relating to the SG Water Level – High High trip. This states that the allowable values are associated with the narrow range instrumentation span for each SG. ITS Table 3.3.2-1 (item 5.a) lists the requirements for the SG Water Level – High High Allowable Values but does not contain the information about the narrow range instrumentation span. This changes the CTS by moving the information from the Specification to the ITS Bases.

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retains the Action and SR to ensure the function remains OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly

controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the TS.

- LA.8 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS requirement 2.2.1 lists in Table 2.2-1 for each RTS the allowable value and the trip setpoint in a column. ITS Table 3.3.2-1 includes an allowable value column. This changes the CTS by moving the Trip Setpoint from the Specification to the Technical Requirements Manual (TRM).

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Actions, SRs, and allowable values to ensure the functions remain OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the TRM. Changes to the TRM are made under 10 CFR 50.59, which ensures changes are properly evaluated. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the TS.

- LA.9 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS SR 4.3.2.1.2. requires the ESF RESPONSE TIME test on each ESFAS function at least once per 18 months. The requirement additionally states, “one channel per function (will be tested) such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the “Total No. of Channels” Column of Table 3.3-3.” This changes the CTS by moving the information from the Specification to the ITS Bases.

This change is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Action and SR to ensure the function remains OPERABLE. All necessary requirements for the function remain in the TS. Changes to the Bases are controlled by the TS Bases Control Program, described in Chapter 5 of the ITS. This requirement provides for control of changes to the Bases and will ensure that any changes to the Bases are properly evaluated. This change is categorized as less restrictive removal of details because information has been moved from the TS to the Bases.

- LA.10 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Action 22 for Table 3.3-3 requires for applicable instrumentation channels that, “With the number of OPERABLE channels less than the minimum OPERABLE Channels requirement, within one hour determine by observation of the associated permissive annunciator window(s) that the interlock is in its required state for the existing unit condition.” ITS 3.3.2 in Table 3.3.2-1 for Action J requires, “One or more channels inoperable, verify interlock is in required state for existing unit conditions within one hour.” The allowance provided by “determine by observation of the associated permissive annunciator window(s)” is not included in the ITS. This changes the CTS by moving the information from the Specification to the ITS Bases.

This change is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the Action and SR to ensure the function remains OPERABLE. All necessary requirements for the function remain in the TS. Changes to the Bases are controlled by the TS Bases Control Program, described in Chapter 5 of the ITS. This requirement

provides for control of changes to the Bases and will ensure that any changes to the Bases are properly evaluated. This change is categorized as less restrictive removal of details because information has been moved from the TS to the Bases.

- LA.11 (*Type 1 – Removing Details of System Design and System Description, Including Design Limits*) CTS requirements in Table 3.3-3 for function 2.a, Containment Spray Manual, lists the total number of channels as two sets two switches/set. ITS 3.3.2 Table 3.3.2-1 for function 2.a, Containment Spray Manual Actuation, states the channel requirements as 2 per train/2 trains. This changes the CTS by moving the information from the Specification to the ITS Bases.

This change is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the channel requirements to ensure the function remains OPERABLE. All necessary channel requirements for the function remain in the TS. Changes to the Bases are controlled by the TS Bases Control Program, described in Chapter 5 of the ITS. This requirement provides for control of changes to the Bases and will ensure that any changes to the Bases are properly evaluated. This change is categorized as less restrictive removal of details because information has been moved from the TS to the Bases.

LESS RESTRICTIVE CHANGES

- L.2 (*Category 2 – Relaxation of Applicability*) CTS requirement 3.3.2.1 for Steamline Isolation, Functional Unit 4 in Table 3.3-3, requires the function to be OPERABLE with the capabilities to perform a Main Steam isolation. The isolation may be initiated from Manual, Automatic Actuation Containment Pressure – Intermediate High-High, and Steam Flow in Two Steam Lines – High coincident with either T_{ave} Low-Low or Steam Line Pressure Low. The steam line isolation functions are required to be OPERABLE in MODES 1, 2, and 3^{##}. ITS LCO 3.3.2 in Table 3.3.2-1 lists the requirement for Steam Line Isolation as Function 4. This requires the function to be OPERABLE with initiation by Manual, Automatic Actuation Logic and Actuation Relays, Containment Pressure Intermediate High-High, High Steam Flow in Two Steam Lines with either T_{ave} Low-Low or Steamline Pressure Low. These initiators are required to be OPERABLE in MODES 1, 2^(d), and 3^(d). Notation ^(d) states, “Except when all MSTVs are closed and de-activated.” This changes the CTS by not requiring the instrumentation channels to be OPERABLE in MODES 2^(d) and 3^(d).

The purpose of the CTS is to ensure that the referenced functions are OPERABLE. This change is acceptable because the requirements continue to ensure that the structures, systems, and components are maintained in the MODES and other specified conditions assumed in the safety analyses and licensing basis. In MODES 2 and 3, having all MSTVs closed and de-energized accomplishes the safety function of isolating the Main Steam System. Therefore, the instrumentation required to provide the safety function is not required to be OPERABLE. This change is designated as less restrictive because the LCO requirements are applicable in fewer operating conditions than in the CTS.

RAI 3.3.2-15: The proposed changes allow a 24-hour delay for RTT verification after the main steam pressure reaches 1005 psig. Provide a safety basis discussion to show that the 24-hour delay time for RTT will not adversely impact safe operation of the plant.

DISCUSSION OF CHANGES
ITS 3.3.3, POST-ACCIDENT MONITORING (PAM) INSTRUMENTATION

RAI 3.3.3-1; No DOC reference

CTS 3.6.4.1, Combustible Gas Control and CTS 3.3.3.6, Accident Monitoring Instrumentation propose inserting ITS Action B. **Comment:** Provide a discussion of change evaluation for the proposed CTS changes.

RAI 3.3.1-2, Not Used

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.6.4.1 states two independent containment hydrogen analyzers (shared with the other unit) shall be OPERABLE. Notes to CTS 3.6.4.1 Actions and SR 4.6 4.1 require the OPERABILITY of the hydrogen analyzers to include the OPERABILITY of the associated heat tracing system. ITS 3.3.3 PAM Instrumentation requires two channels of hydrogen analyzers to be OPERABLE. This change moves CTS information regarding the hydrogen analyzer heat tracing system and the sharing of the function between units to the ITS Bases.

The removal of these details, which are related to system design, from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the requirement for the Hydrogen Analyzers to be OPERABLE in the required MODES. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting TS requirements are being removed from the TS.

RAI 3.3.3-3; DOC LA.1

The removal of detail changes described as Type 1 - Removing Details of System Design and System Description, Including Design Limits, states that the details removed are related to system design and are not necessary to be included in TS to provide adequate protection of public health and safety. **Comment:** Revise DOC LA.1 to provide additional discussion explaining why hydrogen analyzer heat tracing system design details are not needed to establish TS operability requirements.

LA.2 *(Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems)* CTS SR 4.6.4.1 states each hydrogen analyzer shall be demonstrated OPERABLE by performing a CHANNEL CALIBRATION using a sample gas containing a specified gas concentration for hydrogen mixed with nitrogen. ITS SR 3.3.3.2 requires the hydrogen analyzers have a CHANNEL CALIBRATION. This change moves the CTS sample gas requirements to the ITS Bases.

The removal of these details for performing Surveillances from the TS is acceptable because this type of information is not necessary to be included in the TS to provide adequate protection of public health and safety. The ITS still retain the requirement for the hydrogen analyzers to be OPERABLE in the required MODES. Also, this change is

acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the TS Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting TS requirements are being removed from the TS.

RAI 3.3.3-4; DOC LA.2

The removal of detail changes described as Type 3 – Removing Procedural Details for Meeting TS Requirements and Related Reporting Problems, states that the details removed are related to details for performing surveillances from the TS that are not necessary to be included in TS to provide adequate protection of public health and safety. **Comment:** Revise DOC LA.2 to provide additional discussion explaining why sample gas requirements are not needed to establish TS operability requirements.

LESS RESTRICTIVE CHANGES

- L.3 *(Category 5 – Deletion of SR)* CTS SR 4.6.4.1 states, in part, “Each hydrogen analyzer shall be demonstrated OPERABLE at least once per 92 days on a STAGGERED TEST BASIS by performing a CHANNEL CALIBRATION.” ITS SR 3.3.3.2 states a CHANNEL CALIBRATION must be performed at a frequency of every 6 months. This changes the CTS for the hydrogen analyzer by eliminating the STAGGERED TEST BASIS requirement.

This change is acceptable because the deleted SR is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a frequency necessary to give confidence that the equipment can perform its assumed safety function. The change does not affect the hydrogen analyzer methods of testing or the capability of the instruments to perform their safety function. This change is designated as less restrictive because Surveillances that are required in the CTS will not be required in the ITS.

RAI 3.3.3-5; DOC L.3

The less restrictive TS change described as Category 5 – Deletion of SR allows an additional 92 days between calibrations of hydrogen analyzer channels. **Comment:** Revise DOC L.3 to provide additional justification for the surveillance test interval extension. Use operational data to support conclusions that testing at the less frequent interval will not affect channel availability

- L.6 *(Category 1 – Relaxation of LCO Requirements)* CTS Table 3.3-6 requires two channels of the Containment High Range Area Monitors to be OPERABLE in MODES 1, 2, 3, and 4 with a specified alarm setpoint and measuring range. CTS Table 4.3-6 specifies SRs for the Containment High Range Area Monitors as a once per shift CHANNEL CHECK, a monthly CHANNEL FUNCTIONAL TEST, and a refueling interval CHANNEL CALIBRATION. Table 3.3-6 specifies Action 35 is to be taken when a channel is inoperable. This action requires inoperable channels to be returned to OPERABLE within 7 days or submit a special report. ITS LCO 3.3.3 Function 11, Containment Area Radiation (High Range), requires two channels to be OPERABLE in MODES 1, 2, and 3. The ITS include SRs for a CHANNEL CHECK to be performed once per shift and a

CHANNEL CALIBRATION to be performed every 18 months. ITS Condition A allows one channel to be inoperable for a period of 30 days before a report is required. ITS Condition B required that with two channels inoperable that one channel must be restored to OPERABLE status within 7 days or the plant must be shut down. This changes the CTS by requiring the Containment High Range Area Monitors to be OPERABLE only in MODES 1, 2, and 3, modifies the required actions to be taken with one or two inoperable channels, and requires fewer SRs.

The purpose of ITS 3.3.3 requirements for the Containment High Range Area Monitors is to provide consistent requirements for all PAM instrumentation channels. This change is acceptable because the LCO requirements continue to ensure that the process variables are maintained consistent with the safety analyses and licensing basis. Containment High Range Area Monitors will only be required to be OPERABLE in MODES 1, 2, and 3. A monthly CHANNEL FUNCTIONAL TEST will no longer be required and the required actions for inoperable channels are modified. Although Required Actions of ITS Condition B provide for a unit shutdown that the CTS does not require, the overall effect of the ITS required actions are less restrictive than the CTS Action. These changes are consistent with other PAM channels and ensure that all required channels are capable of providing the operator with the assumed monitoring functions. This change is designated as less restrictive because less stringent LCO requirements are being applied in the ITS than were applied in the CTS.

RAI 3.3.3-6, DOC L.6

The less restrictive changes characterizes as Category 1 – Relaxation of LCO Requirements, limits Containment High Range Area Radiation Monitors to Modes 1, 2 and 3, modifies the required actions to be taken with one or two inoperable channels, and requires fewer SRs. **Comment:** Revise DOC L.6 to provide additional discussion justifying the changes to CTS Modes of Applicability, deleting monthly channel functional testing requirements, and modifying required action for inoperable channels.

DISCUSSION OF CHANGES **ITS 3.3.4 REMOTE SHUTDOWN SYSTEM**

RAI 3.3.4-1: DOC L.1

The proposed change identified as Category 1 – Relaxation of LCO Requirement states that the Relay Room ventilation pressure does not provide a necessary parameter to ensure the unit is safely maintained in MODE 3. **Comment:** Provide a safety analysis explanation for deleting the requirements for this function to be operable as part of the ITS program.

DISCUSSION OF CHANGES **ITS 3.3.5, LOSS OF POWER (LOP) EMERGENCY DIESEL GENERATOR (EDG)** **START INSTRUMENTATION**

RAI 3.3.5-1

NUREG-1431 markup, JFD 2

ITS propose to add “required” before “bus” in the LCO for loss of power emergency diesel generator start instrumentation, “Three channels per bus...shall be OPERABLE.” **Comment:** This proposed change represents a generic deviation from the NUREG and therefore requires an Nuclear Energy Institute TSTF before it can be used in the North Anna ITS. Alternatively, a

specific discussion of the unique design features or licensing basis discussion may be presented for review.

REMOVED DETAIL CHANGES

RAI 3.3.5-2 - Not Used

LESS RESTRICTIVE CHANGES

RAI 3.3.5-3

DOC L.1

Comment: This DOC discusses four separate CTS changes. Provide additional analysis for DOC L.1 to show that the deleted CTS requirements have little or no safety benefit. Show that the ITS actions that remain will conservatively compensate for the inoperable equipment commensurate with safety importance of the inoperable equipment and facility design, and do not compromise safe operation of the plant.

RAI 3.3.5-4

DOC L.2

Comment: Provide additional analysis for DOC L.2 for DOC L.1 to show that the deleted CTS requirements have little or no safety benefit. Show that the ITS actions that remain will conservatively compensate for the inoperable equipment commensurate with safety importance of the inoperable equipment and facility design, and do not compromise safe operation of the plant.

RAI 3.3.5-5

NUREG Bases Markup, page 3.3-145

ITS delete NUREG Bases citations of UFSAR Chapter 15 analyzed accidents for which LOP EDG Start instrumentation are assumed to be operable. Identifying applicable safety analyses supports selection of the appropriate 10 CFR 50.36 criteria, thus it provides the bases for the TS required by 10 CFR 50.36(a). **Comment:** Provide ITS Bases references to applicable safety analyses for LCO 3.3.5.

RAI 3.3.5-6

ITS Bases

Comment: ITS Bases Reference 4, "WCAP's 10271-P-A and 14333-P-A" is used in the Bases discussion for ITS Action A.1. Clarify the use of Bases Reference 4 by identifying which WCAP supports which ITS Bases statements. Provide citations in WCAP-14333-P-A for the 72-hour allowance to trip an inoperable channel and the 12-hour allowance to bypass a channel for surveillance testing for LOP EDG Start instrument functions.

RAI 3.3.5-7

ITS Bases SR 3.3.5.2

Comment: CTS Table 4.3-2 provides a quarterly functional test of LOP EDG Start instrumentation as modified by Note (5). The quarterly test becomes a quarterly TADOT (SR 3.3.5.1) in ITS. DOC LA.3 moves Note (5) to the Bases. Justify adding CTS Note (5) to the Refueling Channel Calibration and deleting Note (5) from the quarterly TADOT.