

## CCNPP3COLA PEmails

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**From:** John Rycyna  
**Sent:** Tuesday, April 14, 2009 1:56 PM  
**To:** Poche, Robert; McQueeney, Jennifer; katie.thurstin@unistarnuclear.com  
**Cc:** CCNPP3COL Resource; Peter Hearn; Joseph Colaccino; Joseph DeMarshall; Mark Kowal; James Biggins; Adam Gendelman  
**Subject:** RAI No 95 CTSB 2054.doc (PUBLIC)  
**Attachments:** RAI No 95 CTSB 2054.doc

Rob,

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on March 31, 2009. No conference call was requested to discuss this RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

John Rycyna, PE  
Sr. Project Manager  
Division of New Reactor Licensing  
Office of New Reactors  
U.S. Nuclear Regulatory Commission  
301-415-4122

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**From:** John Rycyna

**Created By:** John.Rycyna@nrc.gov

**Recipients:**

"CCNPP3COL Resource" <CCNPP3COL.Resource@nrc.gov>  
Tracking Status: None  
"Peter Hearn" <Peter.Hearn@nrc.gov>  
Tracking Status: None  
"Joseph Colaccino" <Joseph.Colaccino@nrc.gov>  
Tracking Status: None  
"Joseph DeMarshall" <Joseph.DeMarshall@nrc.gov>  
Tracking Status: None  
"Mark Kowal" <Mark.Kowal@nrc.gov>  
Tracking Status: None  
"James Biggins" <James.Biggins@nrc.gov>  
Tracking Status: None  
"Adam Gendelman" <Adam.Gendelman@nrc.gov>  
Tracking Status: None  
"Poche, Robert" <robert.poche@unistarnuclear.com>  
Tracking Status: None  
"McQueeney, Jennifer" <Jennifer.McQueeney@unistarnuclear.com>  
Tracking Status: None  
"katie.thurstin@unistarnuclear.com" <katie.thurstin@unistarnuclear.com>  
Tracking Status: None

**Post Office:** HQCLSTR02.nrc.gov

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Request for Additional Information No. 95  
4/14/09

Calvert Cliffs Unit 3  
UniStar  
Docket No. 52-016  
SRP Section: 16 - Technical Specifications  
Application Section: 16

QUESTIONS for Technical Specification Branch (CTSB)

16-1

Section 5.5, Programs and Manuals

Provide the additional information and make the necessary changes to the Setpoint Control Program Specification to ensure compliance with 10 CFR 50.36(c)(1)(ii)(A).

The CCNPP PTS, ADMINISTRATIVE CONTROLS, Setpoint Control Program Specification (5.5.18), does not provide sufficient detail to ensure regulatory compliance with the requirements of 10 CFR 50.36(c)(1)(ii)(A).

The staff is proposing that applicants provide their Setpoint Control Program Specification by adopting the model specification provided within. It is the staff's position that the model specification satisfies 10 CFR 50.36(c)(1)(ii)(A). Within this model, the approved setpoint methodology will control changes to the specified setpoint program document, instead of the 10 CFR 50.59 process. The model specification also includes a requirement to submit the setpoint program document to the NRC on the same schedule that is specified for submitting the Core Operating Limits Report (COLR). Note: Adoption of the model Setpoint Control Program Specification will make it necessary to revise portions of the Bases discussions pertaining to the SCP in the CCNPP Unit 3 Bases, Sections SR 3.3.1.4 and SR 3.3.1.6.

The SCP should explicitly include:

1. A statement that the Nominal Trip Setpoint (NTSP) corresponds to the Limiting Safety System Setting (LSSS). LSSS are settings for automatic protective devices related to those variables having significant safety functions. The setting is chosen to initiate automatic protective action prior to the associated process variable reaching either an Analytical (protects Safety Limit-LSSS) or Design (protects non Safety Limit-LSSS) Limit. The LSSS may be set to a value as or more conservative than the Limiting Trip Setpoint (LTSP). This value is known as the NTSP. The NTSP ensures that Safety Limits are not exceeded and that automatic protective devices will perform their specified safety function. As such, the NTSP meets the definition of a Limiting Safety System Setting.
2. A requirement to calculate Limiting Trip Setpoint (LTSP), Nominal Trip Setpoint (NTSP), Allowable Value (AV), As-Left Tolerance (ALT), and As-Found Tolerance (AFT) in conformance with the setpoint methodology previously reviewed and approved by NRC, and conditions in the associated NRC staff safety evaluation. (Note: The NRC staff will not approve the methodology unless the methodology allows little variation in

the values calculated by different analysts using identical input values (such as uncertainties and calibration drift.)

3. The title and date of the approved setpoint methodology document and the title and date of the associated NRC safety evaluation are explicitly stated. (Note: This will ensure that changes to the methodology or deviations from the conditions in the safety evaluation will require a license amendment.)
4. A requirement for a document to contain the values of the current LTSP, NTSP, AV, ALT, and AFT for each technical specification required automatic protection instrumentation function, and that the document is controlled by the approved setpoint methodology.
5. A requirement to declare the division inoperable if as-found setting determined during Calibration, Division Operational Test (DOT), or Sensor Operational Test (SOT) is non-conservative to AV. Note: The DOT is not specified in the SURVEILLANCE REQUIREMENTS of LCO 3.3.1 for either the CCNPP Unit 3 PTS or the U.S. EPR GTS. An RAI was submitted to AREVA under the U.S. EPR DCD regarding the absence of the DOT from the SURVEILLANCE REQUIREMENTS.
6. A requirement to evaluate the division functionality if as-found setting determined during Calibration, Division Operational Test, or Sensor Operational Test is non-conservative to AFT (with AFT determined as described in RIS 2006-17).
7. A requirement to set the channel within ALT around NTSP (the actual setting, equal to or conservative to the LTSP, which is the LSP defined in RIS 2006-17) at the completion of Calibration, Division Operational Test, or Sensor Operational Test.
8. A requirement to submit the setpoint program document to the NRC.

#### Example Setpoint Control Program Specification

### 5.0 ADMINISTRATIVE CONTROLS

#### 5.5 Programs and Manuals

The following programs shall be established, implemented, and maintained.

##### 5.5.18 Setpoint Control Program (SCP)

- a. The Setpoint Control Program implements the regulatory requirement of 10 CFR 50.36(c)(1)(ii)(A) that technical specifications will include items in the category of limiting safety system settings (LSSS), which are settings for automatic protective devices related to those variables having significant safety functions. The Nominal Trip Setpoint (a trip setting as or more conservative than the specified Limiting Trip Setting), shall be designated as the LSSS.
- b. The Limiting Trip Setpoint (LTSP), Nominal Trip Setpoint (NTSP), Allowable Value (AV), As-Found Tolerance (AFT), and As-Left Tolerance (ALT) for each Technical Specification required automatic

protection instrumentation function shall be calculated in conformance with the instrumentation setpoint methodology previously reviewed and approved by the NRC in the following documents:

1. ANP-10275P-A, "U.S. EPR Instrument Setpoint Methodology Topical Report," Revision 0, dated January 31, 2008, (ML080590513), and the conditions stated in the associated NRC safety evaluation, Letter to AREVA NP from NRC, FINAL SAFETY EVALUATION REPORT FOR ANP-10275P, "U.S. EPR INSTRUMENT SETPOINT METHODOLOGY TOPICAL REPORT" (TAC No. MD4976), dated December 20, 2007, (ML073450443).
  2. [ANP-10287P-A, "Incore Trip Setpoint and Transient Setpoint Methodology For U.S. EPR," Revision #, dated Month dd, yyyy, (MLxxxxxxx)], and the conditions stated in the associated NRC safety evaluation, [Letter to AREVA NP from NRC, Title, dated Month, dd, yyyy, (MLxxxxxxx)].
- c. Performance of CALIBRATION, DIVISION OPERATIONAL TEST (DOT), and SENSOR OPERATIONAL TEST (SOT) surveillances shall include the following:
1. The as-left value of the instrument division trip setting shall be the value at which the division was set at the completion of the surveillance with no additional adjustment of the instrument division. The as-found value of the instrument division trip setting shall be the trip setting value measured during the subsequent performance of the surveillance before making any adjustment to the instrument division that could change the trip setting value.
  2. The as-found value of the instrument division trip setting shall be compared with the previous as-left value or the specified NTSP. If the as-found value is compared with the specified NTSP to meet this requirement, the following conditions apply:
    - i. the setting tolerance band (the specified ALT) must be less than or equal to the square root of the sum of the squares of reference accuracy, measurement and test equipment, and readability uncertainties;
    - ii. the setting tolerance band (the specified ALT) must be included in the total loop uncertainty; and
    - iii. the pre-defined test acceptance criteria band (the specified AFT) for the as-found value must include either the setting tolerance band (the specified ALT) or the uncertainties associated with the setting tolerance band (the specified ALT), but not both of these.

3. If the as-found value of the instrument division trip setting differs from the previous as-left value or the specified NTSP by more than the pre-defined test acceptance criteria band (the specified AFT), when compared in accordance with paragraph c.2 above, then this condition shall be dispositioned by the plant's corrective action program, and the instrument division shall be evaluated to verify that it is functioning in accordance with its design basis before declaring the surveillance requirement met and returning the instrument division to service.
  4. If the as-found value of the instrument division trip setting is less conservative than the specified AV, then the surveillance requirement is not met and the instrument division shall be immediately declared inoperable.
  5. The instrument division trip setting shall be set to a value within the specified ALT around the specified NTSP (a trip setting as or more conservative than the specified LTSP) at the completion of the surveillance; otherwise, the surveillance requirement is not met and the instrument division shall be immediately declared inoperable.
- d. The difference between the instrument division trip setting as-found value and either the previous as-left value or the specified NTSP, for each Technical Specification required automatic protection instrumentation function shall be trended and evaluated to verify that the instrument division is functioning in accordance with its design basis.
  - e. The SCP shall establish a document containing the current value of the specified LTSP, NTSP, AV, AFT, and ALT for each Technical Specification required automatic protection instrumentation function, a record of changes to those values, and references to the calculation documentation. Changes to this document shall be governed by the approved setpoint methodology. This document, including any midcycle revisions or supplements, shall be provided to the NRC upon issuance for the initial cycle and each reload cycle.

16-2

#### LCO 3.3.1, Protection System

Provide the additional information and make the necessary changes regarding the reference to the Limiting Trip Setpoint (LTSP) as the Limiting Safety System Setting (LSSS) in the CCNPP Unit 3 Bases.

The CCNPP Unit 3 PTS, Bases, BACKGROUND, page B 3.3.1-3 (first paragraph), makes a direct correlation between the Limiting Trip Setpoint (LTSP) and the Limiting Safety System Setting (LSSS). LSSS are settings for automatic protective devices related to those variables having significant safety functions. The setting is chosen to initiate automatic protective action prior to the associated process variable reaching either an Analytical Limit (protects Safety Limit-LSSS) or Design Limit (protects non Safety Limit-LSSS). The LTSP is defined in RIS 2006-17, as the “limiting setting for the channel trip setpoint (TSP) considering all credible instrument errors associated with the instrument channel.” In addition, the LTSP is described in the U.S. EPR Instrument Setpoint Methodology Topical Report (ANP-10275P-A) as “the limiting value for the nominal trip setpoint so that the trip or actuation will occur before the AL is reached ...”

The LSSS may be set to a value as or more conservative than the Limiting Trip Setpoint (LTSP). This value is known as the Nominal Trip Setpoint (NTSP) and is the “TSP value selected by the licensee for plant operations” as defined in RIS 2006-17. The NTSP ensures that Safety Limits are not exceeded and that automatic protective devices will perform their specified safety function. As such, the NTSP meets the definition of a Limiting Safety System Setting and is the actual setting value programmed for LSSS protective trip functions.

Revise the Bases to ensure that all references to the LTSP pertaining to its designation as the LSSS value are replaced by references to the NTSP.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-3

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct potential discrepancies regarding the omission of U.S. EPR Bases information from the “BACKGROUND,” “APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY,” and “ACTIONS” Sections of the CCNPP Unit 3 Bases.

The CCNPP Unit 3 PTS, Bases, BACKGROUND, page B 3.3.1-2 (second paragraph), omits the last sentence of the corresponding paragraph in the U.S. EPR Bases, BACKGROUND, which states that “[t]he subset of LSSS that directly protect against violating the reactor core and RCS pressure boundary safety limits during AOOs are referred to as Safety Limit LSSS (SL-LSSS).”

The CCNPP Unit 3 PTS, Bases, BACKGROUND, page B 3.3.1-3 (first paragraph), omits the last sentence of the corresponding paragraph in the U.S. EPR Bases, BACKGROUND, which states that “[a]s such, the LTSP meets the definition of a SL-LSSS.” Note: Replacing “LTSP” with “NTSP” in the referenced statement is being evaluated under a separate RAI on the basis that the NTSP meets the definition of a Limiting Safety System Setting and is the actual setting value programmed for LSSS protective trip functions.

The CCNPP Unit 3 PTS, Bases, BACKGROUND, page B 3.3.1-4 (fifth paragraph), omits the last sentence of the corresponding paragraph in the U.S. EPR Bases, BACKGROUND, which states that “[h]owever, these values and their associated LTSPs are not considered to be LSSS as defined in 10 CFR 50.36.” Note: Replacing “LTSP” with “NTSP” in the referenced statement is being evaluated under a separate RAI on the basis that the NTSP meets the definition of a Limiting Safety System Setting and is the actual setting value programmed for LSSS protective trip functions.

The CCNPP Unit 3, Bases, BACKGROUND, Sensors, page B 3.3.1-6, omits the last paragraph associated with permissives and interlocks in the corresponding section of the U.S. EPR Bases (page B 3.3.1-6, fourth full paragraph). Although an RAI was submitted to AREVA under the U.S. EPR FSAR regarding the perspective that permissive setpoints are generally considered as nominal values without regard to measurement accuracy, it is unclear why the paragraph was omitted.

In the CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY, page B 3.3.1-12 (second paragraph), the information associated with permissives and interlocks are missing from the comparable paragraph on page B 3.3.1-12 (second paragraph) of the U.S. EPR Bases. Although an RAI was submitted to AREVA under the U.S. EPR FSAR regarding the perspective that permissive setpoints are generally considered as nominal values without regard to measurement accuracy, it is unclear why the information was omitted.

The CCNPP Unit 3 Bases, ACTIONS, page B 3.3.1-65 (top of page), omits the entire first paragraph from page B 3.3.1-65 of the corresponding section in the U.S. EPR Bases regarding the Operability of functions within a specific division.

It appears that the omitted U.S. EPR Bases information may be relevant. Determine whether or not the omissions are warranted and make any necessary corrections to the CCNPP Unit 3 Bases. Include any discussions necessary to ensure a clear understanding of these departures from the U.S. EPR Bases.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-4

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct a potential discrepancy regarding the surveillances specified in the BACKGROUND Section of the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, BACKGROUND, page B 3.3.1-4 (first paragraph), states that “this value is specified in the SCP, as required by Specification 5.5.18, in order to define OPERABILITY of the devices and is designated as the Allowable Value, which is the least conservative value of the as-found setpoint that a division can have during a periodic CALIBRATION or SENSOR OPERATIONAL TEST.” The surveillances specified do not include the DIVISION OPERATIONAL TEST (DOT) surveillance. The DOT is defined in USE AND APPLICATION Section 1.1, Definitions, as “the injection of

a simulated or actual signal into the division as close to the sensor as practicable to verify OPERABILITY of all devices in the division required for OPERABILITY. The DOT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for division OPERABILITY such that the setpoints are within the necessary range and accuracy. The DOT may be performed by means of any series of sequential, overlapping, or total steps.”

On the basis of the definition, the DIVISION OPERATIONAL TEST appears to qualify as a periodic surveillance during which the as-found setpoint value of a Limiting Safety System Setting (LSSS) can be determined. Note: The DOT is not specified in the SURVEILLANCE REQUIREMENTS of LCO 3.3.1 for either the CCNPP Unit 3 PTS or the U.S. EPR GTS. An RAI was submitted to AREVA under the U.S. EPR FSAR regarding the absence of the DOT from the SURVEILLANCE REQUIREMENTS.

Determine if the DIVISION OPERATIONAL TEST should be included amongst the surveillances specified and make any necessary changes to the Bases.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-5

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct a potential discrepancy regarding the one second time delay for ESFAS Function B.1, “Turbine Trip on Reactor Trip.”

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY, page B 3.3.1-29, adds the following statement to the end of the first paragraph: “the one second time delay is an Analytical Limit.” The one second time delay for the “Turbine Trip on Reactor Trip Function” (B.1), is specified as a Limiting Trip Setpoint (LTSP) in the U.S. EPR GTS, Table 3.3.1-2 (page 3 of 6), and as a Setting Basis/Analytical Limit in the CCNPP Unit 3 PTS, Table 3.3.1-2 (page 3 of 6). The LTSP is the “limiting” predetermined setting for a protective device chosen to ensure automatic actuation prior to the process variable reaching the Analytical Limit, thus ensuring that a Safety Limit (SL) would not be exceeded. The LTSP and the Setting Basis/Analytical Limit cannot be the same number. Validate the Bases statement. Explain how the one second time delay can be specified as both a LTSP (U.S. EPR GTS) and Setting Basis/Analytical Limit, (CCNPP Unit 3 RCOLA). Make any necessary corrections to the CCNPP Unit 3 PTS and Bases.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 PTS and Bases.

16-6

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain, clarify, and correct potential discrepancies associated with the Setting Basis values specified in the CCNPP Unit 3 PTS.

The CCNPP Unit 3 PTS, Table 3.3.1-2, specifies "Setting Basis" values instead of the Limiting Trip Setpoint (LTSP) values specified in the U.S. EPR GTS, Table 3.3.1-2. The CCNPP Unit 3 Bases, BACKGROUND, page B 3.3.1-2 (third paragraph), states that the Analytical Limits and Design Limits "constitute the Setting Basis specified in Table 3.3.1-2." Validate the Setting Basis values and make any necessary corrections. Specify which Reactor Trip/ESFAS Instrumentation Functions have Analytical Limits and which ones have Design Limits. Ensure that this information is clearly stated in the Bases. Include any discussions necessary to ensure a clear understanding of the criteria used to determine the type of Limit specified (Analytical or Design) for each of the functions listed in Table 3.3.1-2.

The CCNPP Unit 3 PTS, Table 3.3.1-2, specifies inequality signs for the Setting Basis values. Inequality signs are typically only specified for Allowable Values, not Analytical/Design Limits. The Allowable Value (AV) is defined in RIS 2006-17 as "a limiting value of an instrument's as-found trip setting used during surveillances." The CCNPP Bases, BACKGROUND, page B 3.3.1-4 (first paragraph), states that the AVs are specified in the Setpoint Control Program (SCP) "to define OPERABILITY of the devices." Inequality signs associated with Analytical/Design Limits may introduce potential ambiguities regarding the OPERABILITY of devices whose as-found setpoints are conservative with respect to the Setting Basis, but non-conservative relative to the AV. Justify the use of inequality signs with Setting Basis values and make any necessary corrections. Note: It appears that revisions associated with the inequality signs specified for the following functions in Table 3.3.1-2 may be incorrect. If the use of an inequality is warranted, the inequality sign information must be validated for these functions.

- A.3, High Neutron Flux Rate of Change (Power Range)
- A.14, Steam Generator (SG) Pressure Drop
- B.2.c, Startup and Shutdown Feedwater Isolation on SG Pressure Drop (All SGs)
- B.8.a, Main Steam Isolation Valve (MSIV) Closure on SG Pressure Drop (All SGs)

The additional information is needed to ensure the accuracy, completeness, and consistency of the CCNPP Unit 3 PTS and Bases.

16-7

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct potential discrepancies regarding the Setting Basis values for ESFAS Functions B.9.d and B.13.

The CCNPP Unit 3 PTS, Table 3.3.1-2, Setting Basis values for Function B.9.d, “Containment Isolation (Stage 1) on High Containment Radiation,” and Function B.13, “Control Room Heating, Ventilation, and Air Conditioning Reconfiguration to Recirculation Mode on High Intake Activity,” are also specified as Limiting Trip Setpoints (LTSP) in the U.S. EPR GTS, Table 3.3.1-2. The LTSP is the “limiting” predetermined setting for a protective device chosen to ensure automatic actuation prior to the process variable reaching the Analytical Limit, thus ensuring that a Safety Limit (SL) would not be exceeded. The LTSP and the Setting Basis/Analytical Limit cannot be the same number. Validate the Setting Basis values for ESFAS Functions B.9.d and B.13. Justify specifying the same value as both a LTSP (U.S. EPR GTS) and Setting Basis/Analytical Limit, (CCNPP Unit 3 RCOLA). Make any necessary corrections to the CCNPP Unit 3 PTS and Bases.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 PTS and Bases.

16-8

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct potential discrepancies regarding the Setting Basis values for Reactor Trip Function A.14, and ESFAS Functions B.2.c and B.8.a.

The CCNPP Unit 3 PTS, Table 3.3.1-2, “Maximum Setpoint” and “Variable Setpoint Rate” Setting Basis values for Function A.14, “Steam Generator (SG) Pressure Drop,” Function B.2.c, “Startup and Shutdown Feedwater Isolation on SG Pressure Drop (All SGs),” and Function B.8.a, “Main Steam Isolation Valve (MSIV) Closure on SG Pressure Drop (All SGs),” are also specified as Limiting Trip Setpoints (LTSP) in the U.S. EPR GTS, Table 3.3.1-2. The LTSP is the “limiting” predetermined setting for a protective device chosen to ensure automatic actuation prior to the process variable reaching the Analytical Limit, thus ensuring that a Safety Limit (SL) would not be exceeded. The LTSP and the Setting Basis/Analytical Limit cannot be the same number. Validate the Setting Basis values for Reactor Trip Function A.14, and ESFAS Functions B.2.c and B.8.a. Justify specifying the same value as both a LTSP (U.S. EPR GTS) and Setting Basis/Analytical Limit, (CCNPP Unit 3 RCOLA). Make any necessary corrections to the CCNPP Unit 3 PTS and Bases.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 PTS and Bases.

16-9

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct a potential discrepancy associated with footnote (j) in the CCNPP Unit 3 PTS, Table 3.3.1-2.

The CCNPP Unit 3 PTS, Table 3.3.1-2, Function B 3.a, "Safety Injection System (SIS) Actuation on Low Pressurizer Pressure," specifies footnote (j) in Mode 3. It appears that footnote (f) should actually be specified instead of footnote (j). Footnote (f) states "with pressurizer pressure  $\geq$  2005 psia." The CCNPP Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY, page B 3.3.1-33 (second paragraph), states that "the automatic SIS Actuation on Low Pressurizer Pressure function requires four divisions of the following sensors and processors to be OPERABLE in MODES 1 and 2 and MODE 3 with the pressurizer pressure greater than or equal to 2005 psia." In addition, footnote (f) corresponds to footnote (h) in the U.S. EPR GTS, Table 3.3.1-2, which is also specified in Mode 3 for Function B.3.a. Determine the correct footnote and make any necessary changes.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 PTS.

16-10

#### LCO 3.3.1, Protection System

Provide a technical justification for removal of the time delays for Reactor Trip Function A.18, and ESFAS Function B.2.b, in the CCNPP Unit 3 PTS, Table 3.3.1-2.

The U.S. EPR GTS, Table 3.3.1-2, includes Limiting Trip Setpoint (LTSP) values with time delays for Function A.18, High Steam Generator (SG) Level, and Function B.2.b, Main Feedwater Full Load Closure on High SG Level (Affected SGs). The time delays have been removed from the Setting Basis values for these functions in the CCNPP Unit 3 PTS, Table 3.3.1-2. The justification for the FSAR Departure, which is identified in Section A of Part 4 of the CCNPP Unit 3 COL Application, Item 4, states that "the change corrects errors in the GTS to be consistent with the U.S. EPR design and analyses. These errors will be corrected in the GTS in a future revision." Identify the errors in the GTS that are being corrected by elimination of the time delays and justify that their removal will facilitate consistency with the U.S. EPR design and analyses. Provide a technical justification that addresses removal of the time delays and explains the justification provided in the referenced Departures section of the CCNPP Unit 3 COL Application.

The technical justification is needed to ensure the accuracy and completeness of the CCNPP Unit 3 PTS, Table 3.3.1-2.

16-11

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct potential discrepancies associated with references to the Analytical and Design Limits (Setting Basis) in both the REACTOR TRIPS and ESFAS FUNCTIONS sections of the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY, replaces numerous U.S. EPR Bases references to the Limiting Trip Setpoint (LTSP), with either “Analytical Limit” or “Design Limit” in the Bases discussions of the individual Reactor Trip and ESFAS Functions. The limit type (Analytical or Design) depends on whether the associated Limiting Safety System Setting (LSSS) specified for a given process variable protects a Safety Limit (SL) or not. The LTSP is the “limiting” predetermined setting for a protective device chosen to ensure automatic actuation prior to the process variable reaching the Analytical or Design Limit.

Although the individual Reactor Trip and ESFAS Function Bases discussions contain information pertaining to LSSS Setpoint selection considerations, the Setting Basis is referenced. The Limiting Safety System Settings establish the operating envelopes and margins to various limits, not the Analytical or Design Limits. As an example, the Analytical Limit is the limit of the process variable at which a safety action is initiated, as established by the safety analysis, to ensure that a SL is not exceeded. Automatic protection actions however, are initiated by automatic protective devices whose actual settings are more conservative than the Analytical Limit to account for instrument loop uncertainties related to the setting. 10 CFR 50.36(c)(1)(ii)(A) states that “limiting safety system settings for nuclear reactors are settings for automatic protective devices...so chosen that automatic protective actions will correct the abnormal situation before a safety limit is exceeded.” As such, the LSSS setpoint selected by the licensee for plant operations (i.e. LTSP, NTSP) should be the value actually referenced in the aforementioned Bases sections, not the Setting Basis. Determine the setpoint value which will correspond to the LSSS and revise the CCNPP Unit 3 Bases accordingly. Ensure that the word “set,” which was deleted to facilitate references to the Analytical and Design Limits, is reintroduced in order to reestablish the original intent of the REACTOR TRIPS and ESFAS FUNCTIONS sections of the Bases.

Note: A revision to the Bases that would replace all references to the Limiting Trip Setpoint (LTSP) as the LSSS, with references to the Nominal Trip Setpoint (NTSP) as the LSSS, is being evaluated under a separate RAI on the basis that the NTSP meets the definition of a Limiting Safety System Setting and is the actual setting value programmed for LSSS protective trip functions.

The revision is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-12

LCO 3.3.1, Protection System

Revise the reference to 10 CFR 50.36(d)(2)(ii) in the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY, page B 3.3.1-12 (third paragraph), states that “the PS sensors, manual actuation switches, signal processors, and specified actuation devices satisfy Criterion 3 of 10 CFR 50.36(d)(2)(ii).” 10 CFR 50.36, “Technical Specifications,” has been amended by changing the designation of paragraph (d) to paragraph (c), in order to resolve administrative issues. Correct the 10 CFR 50.36 reference in the Bases statement.

The revision is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-13

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct inconsistencies between departures identified in Part 4 of the CCNPP Unit 3 COL Application and the CCNPP Unit 3 Bases.

Departure item 21 identified in Part 4 of the CCNPP Unit 3 COL Application states that “CCNPP Unit 3 Bases 3.3.1, “Protection System (PS),” in the Applicable Safety Analyses, LCO, and Applicability section is revised to eliminate the discussion of Function A.20, Manual Reactor Trip.”

Departure item 22 identified in Part 4 of the CCNPP Unit 3 COL Application states that “CCNPP Unit 3 Bases 3.3.1, “Protection System (PS),” in the Applicable Safety Analyses, LCO, and Applicability section is revised to eliminate the discussion of the LTSP for Function B.5, Partial Cooldown on SIS Actuation.”

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY section (COLA revision 3), has not been revised to eliminate the discussions identified in departure items 21 and 22. Validate the inconsistencies and make any necessary corrections.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-14

#### LCO 3.3.1, Protection System

Provide the additional information and any changes necessary to explain and correct a potential discrepancy associated with the Bases discussion for SR 3.3.1.5.

The CCNPP Unit 3 Bases, SURVEILLANCE REQUIREMENTS, SR 3.3.1.5, page B 3.3.1-74, adds the following statement to the end of the first paragraph: “any setpoint adjustment shall be consistent with the assumptions of the current setpoint methodology as required by the SCP.” The Sensor Operational Test (SOT) is defined in the USE AND APPLICATION Section 1.1, Definition, as “the injection of a simulated or actual signal into the division as close to the sensor as practicable to verify OPERABILITY of all devices in the input circuit required for OPERABILITY. The SOT shall include the verification of the accuracy and time constants of the analog input modules. The SOT may be performed by means of any series of sequential, overlapping, or total steps.” The SOT definition makes no reference to setpoints or setpoint adjustments. The SOT is a new surveillance requirement that was introduced with the U.S. EPR GTS. It is unclear whether or not there are provisions within the SOT to actually perform setpoint

adjustments on the basis of the definition. Note: An RAI was submitted to AREVA under the U.S. EPR FSAR regarding this issue.

Determine if the Bases statement is applicable within the context of the SR 3.3.1.5 Bases discussion and make any necessary corrections.

The additional information is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-15

LCO 3.3.2, PAM Instrumentation

Revise the reference to 10 CFR 50.36(d)(2)(ii)(C) in the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, page B 3.3.2-2 (first paragraph), states that “pAM instrumentation used to support pre-planned, manually controlled actions satisfy Criterion 3 of 10 CFR 50.36(d)(2)(ii)(C).” 10 CFR 50.36, “Technical Specifications,” has been amended by changing the designation of paragraph (d) to paragraph (c), in order to resolve administrative issues. Correct the 10 CFR 50.36 reference in the Bases statement.

The revision is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-16

LCO 3.3.2, PAM Instrumentation

Correct page numbering discrepancies identified in the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, LCO 3.3.2, Post Accident Monitoring (PAM) Instrumentation, has two pages designated as B 3.3.2-1. Correct the page numbering discrepancy and renumber the remaining pages accordingly.

The page numbering corrections are needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-17

LCO 3.3.3, Remote Shutdown System (RSS)

Revise the reference to 10 CFR 50.36(d)(2)(ii) in the CCNPP Unit 3 Bases.

The CCNPP Unit 3 Bases, APPLICABLE SAFETY ANALYSES, page B 3.3.2-2 (third paragraph), states that “the RSS satisfies Criterion 4 of 10 CFR 50.36(d)(2)(ii).” 10 CFR 50.36, “Technical Specifications,” has been amended by changing the designation of

paragraph (d) to paragraph (c), in order to resolve administrative issues. Correct the 10 CFR 50.36 reference in the Bases statement.

The revision is needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-18

### 3.8, Electrical Power Systems

Revise the Electrical Power Systems Bases references to 10 CFR 50.36(d)(2)(ii) in the CCNPP Unit 3 Bases.

10 CFR 50.36, "Technical Specifications," has been amended by changing the designation of paragraph (d) to paragraph (c), in order to resolve administrative issues. Correct the 10 CFR 50.36 reference in the following LCO Bases sections of the CCNPP Electrical Power Systems Bases (COLA Revision 3):

- B 3.8.1, AC Sources - Operating, page B 3.8.1-4
- B 3.8.2, AC Sources - Shutdown, page B 3.8.2-2
- B 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air, page B 3.8.3-2
- B 3.8.4, DC Sources - Operating, page B 3.8.4-3
- B 3.8.5, DC Sources - Shutdown, page B 3.8.5-2
- B 3.8.6, Battery Parameters, page B 3.8.6-1
- B 3.8.7, Inverters - Operating, page B 3.8.7-1
- B 3.8.8, Inverters - Shutdown, page B 3.8.8-2
- B 3.8.9, Distribution Systems - Operating, page B 3.8.9-2
- B 3.8.10, Distribution Systems - Shutdown, page B 3.8.10-1

The revisions are needed to ensure the accuracy and completeness of the CCNPP Unit 3 Bases.

16-19

### 3.8, Electrical Power Systems

Revise the CCNPP Unit 3 Bases to correct editorial and formatting errors identified in Bases Section 3.8 - Electrical Power Systems.

The CCNPP Unit 3 Bases, ELECTRICAL POWER SYSTEMS (B 3.8), pages B 3.8.2-2, B 3.8.3-1, B 3.8.3-2 and B 3.8.5-2 contain the following editorial and formatting errors:

- The CCNPP Unit 3 Bases, B 3.8.2, AC Sources - Shutdown, page B 3.8.2-2, incorrectly specifies “BACKGROUND” instead of “APPLICABLE SAFETY ANALYSES (continued)” in the upper left hand corner of the page.
- The CCNPP Unit 3 Bases, B 3.8.5, DC Sources - Shutdown, page B 3.8.5-2, incorrectly specifies “BACKGROUND” instead of “APPLICABLE SAFETY ANALYSES (continued)” in the upper left hand corner of the page.
- The CCNPP Unit 3 Bases, B 3.8.3, Diesel Fuel Oil, Lube Oil, and Starting Air, refers to “APPLICABLE SAFETY ANALYSES” as “APPLICABLE SAFETY ANALYSIS” in the Bases section title on pages B 3.8.3-1 and B 3.8.3-2. “ANALYSIS” should be pluralized to reflect consistent use of the word “ANALYSES” throughout the Bases.

The revisions are needed to ensure the accuracy and consistency of the CCNPP Unit 3 Bases.