



Tennessee Valley Authority, 1101 Broad Street, Chattanooga, TN 37402

CNL-17-122

September 14, 2017

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3
Renewed Facility Operating License Nos. DPR-33, DPR-52, and DPR-68
NRC Docket Nos. 50-259, 50-260, and 50-296

Subject: **Update to the Request for Enforcement Discretion for Technical Specification 3.0.3, Limiting Condition for Operation Applicability**

Reference Letter from TVA to NRC, "Request for Enforcement Discretion for Technical Specification 3.0.3, Limiting Condition for Operation Applicability," dated September 12, 2017

On September 10, 2017, Tennessee Valley Authority (TVA) requested and received verbal approval for enforcement discretion for Browns Ferry Nuclear Plant Units 1, 2, and 3 for Technical Specification (TS) 3.0.3, Limiting Condition for Operation (LCO) Applicability. Enforcement discretion was requested to prevent an unnecessary plant shutdown as a result of the concurrent inoperability of both Unit 1/2 Control Bay Chillers that resulted in the inoperability of the 4kV Shutdown Boards and Standby Gas Treatment systems, which they supported.

On September 12, 2017, TVA submitted a formal letter documenting the detailed justification for the NOED request as required.

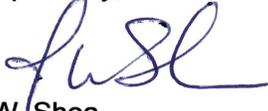
Based on a phone call discussion with NRC staff on September 13, 2017, corrections were needed to the information contained in the reference letter. This letter includes the necessary corrections and provides the NOED request in its entirety. A condition report was initiated to capture the need for this update.

There are no new regulatory commitments associated with this submittal.

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Please address any comments or questions regarding this matter to Jamie L. Paul, Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,

A handwritten signature in blue ink, appearing to read 'JWS', is written over the typed name.

J. W. Shea
Vice President, Nuclear Regulatory Affairs and Support Services

Enclosures: Request for Enforcement Discretion for Technical Specification 3.0.3,
Limiting Condition for Operation Applicability

cc (Enclosure):

NRC Regional Administrator - NRC Region II
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant
NRC Project Manager - Browns Ferry Nuclear Plant

TENNESSEE VALLEY AUTHORITY
Browns Ferry Nuclear Plant Units 1, 2, and 3
Docket Numbers 50-259, 50-260, and 50-296

REQUEST FOR ENFORCEMENT DISCRETION FOR TECHNICAL SPECIFICATION 3.0.3,
LIMITING CONDITION FOR OPERATION APPLICABILITY

BACKGROUND

The Tennessee Valley Authority (TVA) requested enforcement discretion for Browns Ferry Nuclear Plant (BFN) Units 1, 2, and 3 for Technical Specification (TS) 3.0.3. Enforcement discretion was needed to prevent an unnecessary plant shutdown as a result of the concurrent inoperability of the Unit 1/2 Control Bay Chillers.

This notice of enforcement discretion (NOED) requests discretion for BFN Units 1, 2, and 3 from compliance with TS 3.0.3 for the condition of concurrent inoperability of the Unit 1/2 Control Bay Chillers that resulted in the inoperability of the 4kV Shutdown Boards and Standby Gas Treatment (SGT) systems, which they supported. This resulted in all three BFN entering TS LCO 3.0.3, which currently states:

“When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 2 within 10 hours;
- b. MODE 3 within 13 hours; and
- c. MODE 4 within 37 hours.”

TVA requested an additional 12 hours and 9 minutes to return the Unit 1/2 “A” Control Bay Chiller to operable status to avoid the operational risk of potential transients caused by the TS LCO 3.0.3 required shutdown of all three units.

The Unit 1/2 Control Bay Chillers provide the necessary cooling water required to support the operability of the following systems:

- Control Room Air Conditioning (A/C)
- Electric Board Room A/C
- 4kV Shutdown Boards, which are required to support the following systems:
 - SGT System
 - Control Room Emergency Ventilation System (CREVS)
 - Emergency Diesel Generators (EDGs)

The TVA has reviewed NRC Inspection Manual Chapter 0410, “Notices of Enforcement Discretion,” and has concluded that Section 0410-06, Subsection 06.02, “Types of NOEDs,” Criterion a.1.(a.) is satisfied. This criterion applies to plants in power operation desiring to avoid unnecessary transients as a result of compliance with the TS and, thus, minimize the potential safety consequences and operational risks. The basis for this conclusion and other information required to support a request for NOED is provided below.

REQUIRED INFORMATION

- a. ***The type of NOED requested (regular or natural event), which of the NOED criteria for appropriate plant conditions specified in NRC guidance is satisfied, and how the licensee satisfied those criteria.***

A regular NOED was requested to avoid an unnecessary transient (shutdown) of BFN Units 1, 2, and 3 without a corresponding health and safety benefit, as a result of the TS compliance.

- b. ***The TS or other license conditions that will be violated. This description must include the time remaining before the TS or license condition will be violated. When a "regular" NOED is requested, the licensee must show that granting the NOED request would avoid an unnecessary transient.***

Having both BFN Unit 1/2 Control Bay Chillers inoperable caused supported equipment to be inoperable. BFN Units 1 and 2 entered TS 3.7.4 Condition B, which applies when both Unit 1/2 Control Bay Chillers are inoperable in Mode 1, 2, or 3. Once these conditions were entered, these and the following LCO conditions were also met.

For Unit 1:

Entered TS LCO 3.7.4 Condition B (Commence actions to restore Control Room A/C immediately, establish alternate cooling within 24 hours, and restore one chiller to operable status in 7 days).

Because the Unit 1/2 Control Bay Chillers supply chilled water to the Unit 1 and Unit 2 Electric Board Room AC subsystems, Technical Requirements Manual (TRM) LCO 3.7.6 Condition B (declare the affected electrical equipment in the board rooms inoperable immediately) was entered.

Declared "A," "B," "C," and "D" 4kV Shutdown Boards inoperable and entered TS LCO 3.8.7 Condition F (One or more required Unit 2 or Unit 3 AC or DC Boards inoperable to declare the affected SGT or CREV subsystem inoperable immediately) and Condition H (Two or more electrical power distribution subsystems inoperable that result in a loss of function to enter TS LCO 3.0.3 immediately).

Entered TS LCO 3.8.7 Condition A for each individual inoperable 4kV Shutdown Board and declared the associated EDGs inoperable.

Entered TS LCO 3.8.1 Condition B for each individual inoperable EDG.

Declared CREVS Train "A" and SGT Trains "A" and "B" inoperable and entered TS LCO 3.7.3 Condition A (One CREV train inoperable to restore in 7 days) and TS LCO 3.6.4.3 Condition D (two or three Trains of SGT inoperable enter TS LCO 3.0.3 immediately).

For Unit 2:

Entered TS LCO 3.7.4 Condition B (Commence actions to restore Control Room A/C immediately, establish alternate cooling within 24 hours, and restore one chiller to operable status in 7 days).

Because the Unit 1/2 Control Bay Chillers supply chilled water to the Unit 1 and Unit 2 Electric Board Room AC subsystems, Technical Requirements Manual (TRM) LCO 3.7.6 Condition B (declare the affected electrical equipment in the board rooms inoperable immediately) was entered.

Declared "A," "B," "C," and "D" 4kV Shutdown Boards inoperable and entered TS LCO 3.8.7 Condition G (One or more required Unit 1 or Unit 3 AC or DC Boards inoperable to declare the affected SGT or CREV subsystem inoperable immediately) and Condition I (Two or more electrical power distribution subsystems inoperable that result in a loss of function to enter TS LCO 3.0.3 immediately).

Entered TS LCO 3.8.7 Condition A for each individual inoperable 4kV Shutdown Board and declared the associated EDGs inoperable.

Entered TS LCO 3.8.1 Condition B for each individual inoperable EDG.

Declared CREVS Train "A" and SGT Trains "A" and "B" inoperable and entered TS LCO 3.7.3 Condition A (One CREV train inoperable to restore in 7 days) and TS LCO 3.6.4.3 Condition D (two or three Trains of SGT inoperable enter TS LCO 3.0.3 immediately).

For Unit 3:

Entered TS LCO 3.8.7 Condition G (more than one Unit 1 and Unit 2 AC or DC Boards inoperable declare the affected SGT or CREV subsystem inoperable immediately).

Entered TS LCO 3.8.1 Condition K for the inoperable Units 1/2 EDGs.

Declared CREV Train "A" and SGT Trains "A" and "B" inoperable and entered TS LCO 3.7.3 Condition A (One CREV train inoperable to restore in 7 days) and TS LCO 3.6.4.3 Condition D (two or three Trains of SGT inoperable enter TS LCO 3.0.3 immediately).

Based upon the required actions above, BFN, Units 1, 2, and 3, entered TS LCO 3.0.3 with a required action to initiate within 1 hour to place all three units in MODE 2 within 10 hours, be in MODE 3 in 13 Hours, and be in MODE 4 in 37 hours.

- c. *The circumstances surrounding the situation, including as a minimum: likely causes; the need for prompt action; action taken in an attempt to avoid the need for an NOED; and identification of any relevant historical events. The historical events include as a minimum, any other similar events at the plant, the last maintenance performed on the equipment or similar equipment, any outstanding amendment or TS change requests related to the NOED, and the last NOED request from the plant.***

The Unit 1/2 "A" Control Bay Chiller was declared inoperable at 1520 Central Daylight Time (CDT) on September 9, 2017, due to high water temperature alarms caused by a faulty thermistor. During the start of the "B" Control Bay Chiller, it subsequently received a fault code for phase reversal protection on compressor "A," due to a faulty capacitor in the control circuit. The "B" Control Bay Chiller was declared inoperable at 1151 CDT on September 10, 2017, although it remained in service and continued to operate at a reduced capacity. This action ultimately resulted in entry into TS LCO 3.0.3 on all three units, with a required action to initiate an action within 1 hour to place all three units in MODE 2 within 10 hours, be in MODE 3 in 13 Hours, and be in MODE 4 in 37 hours. These unplanned LCO entries have been logged in the BFN Corrective Action Program as Condition Report 1336821.

A similar event occurred at BFN on July 14, 2015, when the Unit 1/2 "A" Control Bay Chiller was rendered inoperable when its condenser coils became fouled with dirt and insects while "B" Control Bay Chiller was rendered inoperable for scheduled maintenance. This event was recorded in Licensee Event Report 05000259/2015-003-00. A NOED was not requested during this event.

A design change is being developed to prevent future recurrence by installing a cross-tie between the Unit 3 Chillers the Unit 1/2 Chillers during the Unit 3 Chiller replacement. This cross-tie of chilled water between Unit 3 and Units 1/2 would provide cooling to the Unit 1/2 Shutdown Boards in the event that both the "A" and "B" Control Bay Chillers were to become inoperable.

- d. Information to show the licensee fully understands the cause of the situation that has led to the NOED request. The licensee must understand and detail all safety and security concerns when operating outside of its TS or license conditions.**

While the Unit 1/2 "A" Control Bay Chiller was in service, the high chilled water alarm was received. On September 9, 2017, at 1520 CDT, the "A" Control Bay Chiller was declared inoperable due to the high water temperature.

On September 10, 2017, the Unit 1/2 "B" Control Bay Chiller subsequently received a fault code for phase reversal protection on compressor "A" due to a faulty capacitor in the control circuit. The "B" Control Bay Chiller was declared inoperable at 1151 CDT .

- e. Detail the proposed course of action to resolve the situation, so enforcement discretion is no longer required.**

Maintenance personnel worked in parallel to replace the faulty thermistor on Unit 1/2 "A" Control Bay Chiller, and the faulty capacitor on Unit 1/2 "B" Control Bay Chiller, and complete the post-maintenance testing needed to restore either Control Bay Chiller to operable status.

The "B" Control Bay Chiller was returned to operable status at 2110 CDT on September 10, 2017, with one new capacitor and one operable but degraded capacitor. The "B" Control Bay Chiller was returned to operable status at this time, which allowed all three units to exit TS LCO 3.0.3.

- f. Explain that the resolution itself will not result in a different, unnecessary transient.**

The activities described above would not and did not result in a transient to any of the three units. The Control Bay Chillers are stand-alone units, which are not linked to any logic system.

- g. Explain that the licensee did not have time to process an emergency license amendment, or that a license amendment is not needed.**

The unanticipated inoperability of the Unit 1/2 "B" Control Bay Chiller placed all three BFN operating units into TS LCO 3.0.3, requiring shutdown in less than 72 hours. As such, there was no time for BFN to file an emergency TS or license amendment.

- h. Describe the condition and operational status of the plant, including safety-related equipment out of service or otherwise inoperable, and nonsafety-related equipment that is degraded or out of service that may have risk significance and that may increase the probability of a plant transient or may complicate the recovery from a transient or may be used to mitigate the condition.**

BFN Units 1, 2, and 3 were in Mode 1, at 100 percent power at the initiation of the TS LCO 3.0.3 entry, and each unit remained at 100 percent power. There was no additional inoperable safety-related equipment and no nonsafety-related equipment that was degraded or out of service that had risk significance.

- i. Request a specific time period for the NOED, including a justification for the duration of the noncompliance. The licensee shall include information that shows its proposed course of action has a high likelihood of being completed within the proposed NOED period. The licensee must show the requested time for the NOED is directly related to the time to resolve the situation.**

This NOED request was for 12 hours and 9 minutes beyond the end of the original completion time to be in Mode 2 (September 10, 2017, at 2151 CDT) from the TS LCO 3.0.3 entry (September 10, 2017, at 1151 CDT). The maintenance activities to repair the "A" Control Bay Chiller were expected to be completed on September 10, 2017, at 2315 CDT, which would allow TS LCO 3.0.3 to be exited.

Prior to completion of the "A" Control Bay Chiller maintenance, the "B" Control Bay Chiller was returned to operable status on September 10, 2017, at 2110 CDT, which allowed TS LCO 3.0.3 to be exited.

- j. Detail and explain compensatory actions the plant has both taken and will take to reduce the risk associated with the specified configuration. All compensatory actions must be completed before the NOED CT begins. Compensatory measures used to reduce plant vulnerabilities shall focus on both event mitigation and initiating event likelihood. The objectives are to achieve the following:**

- 1. Reduce the likelihood of initiating events, and**
- 2. Reduce the likelihood of the unavailability of trains redundant to equipment that is out-of-service during the period of enforcement discretion, and**

3. Increase the likelihood of successful operator recovery actions in response to initiating events.

As a condition of the NOED, BFN agreed to implement the compensatory actions listed below:

- Stop current work in the switchyard and transformer yard immediately. Remove all potential missile threats from the associated work areas. Prior to the NOED Request phone call, plant personnel confirmed that there was no ongoing work in the switchyard and transformer yard.
- Verify that there are no work trucks in the switchyard. If work trucks are found in the switchyard, remove all potential missile hazards from the associated work trucks, and remove the trucks from the area if it is deemed safe to do so. If moving the trucks is deemed to be a higher risk than to secure them in place, document the assessment in the narrative logs.
- No work will be allowed in the switchyard or transformer yard. Shift Manager permission is required for any access into the switchyard or transformer yard; these permission rights cannot be delegated.
- No electrical system AC or DC work will be authorized until LCO 3.0.3 is exited or the NOED expires at 1000 CDT on September 11, 2017.
- Monitor plant areas for flying debris hazards every shift, in accordance with 0-AOI-100-7, Severe Weather.
- Monitor the ambient air temperature in the 1A, 1B, 2A, and 2B Electric Board Rooms and their associated 480V Shutdown Board Rooms twice per shift and document the temperatures in the Narrative Logs. If the temperatures in these board rooms exceeds 100 degrees F, open the associated board room doors and install fans to assist in maintaining the associated temperatures below 100 degrees F (this will require Security support). Do not block open the electric board room doors unless their ambient air temperature exceeds 100 degrees F.
- Maintain the Emergency Control Bay Chiller in-service while both Control Bay Chillers are inoperable.
- No hot work in the plant is authorized during this period.
- No high-risk activities are authorized during this period.

These actions remained in place until the NOED expired when the "B" Control Bay Chiller was declared operable on September 10, 2017, at 2110 CDT, and all three units exited TS LCO 3.0.3.

k. Discuss the status and potential challenges to offsite and onsite power sources, including any current or planned maintenance in the distribution system and any current or planned maintenance to the emergency diesel generators. The licensee must identify any specific transmission line configurations that must be maintained to ensure the availability of the grid for safe operation of the plant.

Throughout this event, there were no challenges to the offsite power sources. As a condition of the NOED, no work was permitted inside the switchyard to ensure that there were no grid activities being conducted during the NOED duration, which could threaten grid stability or off-site power source operability.

All Unit 1/2 EDGs were rendered inoperable, due to the inoperability of the Unit 1/2 Control Bay Chillers that supported their associated shutdown boards.

I. Include the safety basis for the request and an evaluation of the safety significance and licensee should address the quantitative and qualitative aspects noted below. The numerical guidance for acceptance was established to augment qualitative arguments that continued operation of the plant during the period of enforcement discretion will not cause risk to exceed the level determined acceptable during normal work controls and, therefore, there is no net increase in radiological risk to the public. For licensee provided quantitative risk analysis, the licensee shall provide the effects on LERF. The following information should be provided to support this evaluation:

1. Use the zero maintenance PRA model to establish the plant’s baseline risk and the estimated risk increase associated with the period of enforcement discretion. For the plant-specific configuration the plant intends to operate in during the period of enforcement discretion, the incremental conditional core damage probability (ICCDP) and incremental conditional large early release probability (ICLERP) should be quantified and compared with guidance thresholds of less than or equal to an ICCDP of 5E-7 and an ICLERP of 5E-8. These numerical guidance values are not pass-fail criteria. For the degraded case with the subject equipment out of service, the model should reflect, as best as possible, current equipment unavailability states (i.e., if other equipment is unavailable because of T&M, this should also be reflected in the analysis). This risk calculation should not be limited to the specific TS relief in question, but rather, the total risk of continued operation for the specific configuration of the plant.

The following equipment was considered unavailable for the NOED configuration:

Item	Description	PRA Note
0-BKR-211-000C/021	4KV SD BD C/21, BKR 1814, X-TIE FROM 3EC	
0-BKR-215-0003/06B	480V COM 3/6B NO TIE BKR BUS A TO BUS B	
0-CHR-031-2100	CONTROL BAY WATER CHILLER A	Risk Significant
0-CHR-031-2200	CONTROL BAY WATER CHILLER B	Risk Significant
0-CMP-033-2001	SERVICE AIR COMPRESSOR F	
0-FAN-030-1506	INTAKE PMP STATION VENT FAN B	
0-FAN-030-1509	INTAKE PMP STATION VENT FAN A	
0-ISV-024-0859E	RCW TO AFTERCOOLER E SHUTOFF VLV	
0-ISV-024-0860E	RCW FROM AFTERCOOLER E SHUTOFF VLV	
1-LIT-003-0046A	REACTOR WTR LEVEL CONT	
3-BKR-211-03EC/006	4Kv-SDBD-3C/6 (1834-XTIE TO SDBD C)	
3-CHR-031-0623	DGB WATER CHLR 3A1; WO:117408676; 3-TO-16-1 / 3-31-32A	
BFN-2-HEX-070-0728	HEAT EXCHANGER LOSS OF COOLING OR PLUGGING	
BFN-3-SHV-067-0641	North EECW supply to RBCCW HXs unavailable. CR 1303938	

The PRA Analysis determined the following:

	Base CDF	NOED CDF	Delta CDF	OOS TIME (days)	ICCDP
U1	3.320E-06	7.150E-06	3.830E-06	0.923	9.68E-09
U2	3.316E-06	7.123E-06	3.807E-06	0.923	9.63E-09
U3	3.469E-06	3.469E-06	0.000E+00	0.923	0.00E+00

	Base LERF	NOED LERF	Delta LERF	OOS TIME (days)	ICLERP
U1	8.30E-07	1.62E-06	7.88E-07	0.923	1.99E-09
U2	8.50E-07	1.64E-06	7.88E-07	0.923	1.99E-09
U3	8.73E-07	8.73E-07	0.00E+00	0.923	0.00E+00

The guidance thresholds used in this evaluation to were an ICCDP less than or equal to 5E-7 and an ICLERP less than or equal to 5E-8. These numerical guidance values are not pass-fail criteria. The numerical guidance for acceptance was established to augment qualitative arguments that continued operation of the plant during the period of enforcement discretion does not cause risk to exceed the level determined acceptable during normal work controls and, therefore, there is no net increase in radiological risk to the public, either in a quantitative assessment that risk is within the normal work control levels (ICCDP less than or equal to 5E-7 and/or ICLERP less than or equal to 5E-8) or in a defensible qualitative manner.

2. Discuss the dominant risk contributors (cut sets/sequences) and summarize the risk insights for the plant-specific configuration the plant intends to operate in during the period of enforcement discretion. This discussion should focus primarily on risk contributors that have changed (increased or decreased) from the baseline model as a result of the degraded condition and resultant compensatory measures, if any.

The dominating Core Damage Frequency (CDF) risk contributors for this configuration heavily relied on Human Error Events combined with a Manual Reactor Scram. The dominating cutsets were driven by failures to start the standby control building HVAC and open doors and install fans in the affected rooms. Additionally, failures to initiate Standby Liquid Control (SLC) and align SLC and Residual Heat Removal (RHR) to the Condensate Storage Tanks (CST) were also present in the top cutsets.

The dominating Large Effluent Release Frequency (LERF) risk contributors for this configuration heavily relied on Human Error Events combined with a Manual Reactor Scram or Turbine Trip. Additionally, Loss of Coolant Accidents (LOCAs) in RHR suction piping or a Main Steam Line Break Outside Containment were considerable risk contributors for Unit 3. The dominating cutsets were driven by failures to start the standby control building HVAC and open doors and install fans in the affected rooms. Additionally, failures to initiate depressurization and align RHR for suppression pool cooling were also present in the top cutsets.

- 3. Discuss how the compensatory measures are accounted for in the PRA. These modeled compensatory measures should be correlated, as applicable, to the dominant PRA sequences identified in items 1 and 2 above. In addition, other measures not directly related to the out-of-service equipment may also be implemented to reduce overall plant risk and, as such, should be explained. Compensatory measures that cannot be modeled in the PRA shall be assessed qualitatively.**

The following compensatory measures were taken to reduce plant vulnerabilities to preclude initiating events and ensure event mitigation capabilities during the period of the NOED:

- BFN has an Emergency Control Bay Chiller that is used as a backup in the event of concurrent failure of the "A" and "B" Control Bay Chillers. The Emergency Control Bay Chiller is credited in the PRA model and helps reduce the significance of the failure of the "A" and "B" Control Bay Chillers.

- 4. Discuss the "extent of condition" of the failed or unavailable component(s) to other trains/divisions of equipment and what adjustments, if any, which were made to the related PRA common cause factors to account for potential increases in their failure probabilities. The method used to determine the extent of condition should be discussed. It is recognized that a formal root cause or apparent cause is not required given the limited time available in determining acceptability of a proposed NOED. However, a discussion of the likely cause should be provided with an associated discussion of the potential for common cause failure.**

The common cause group for the "A" and "B" Control Bay Chillers only include each other, and both of these were failed in this analysis. Therefore, common cause considerations were implicit in this evaluation.

- 5. Discuss "external event risk" for the specified plant configuration. An example of external event risk is a situation where a reactor core isolation cooling (RCIC) pump has failed and a review of the licensee's Individual Plant Examination of External Events or full-scope PRA model identifies that the RCIC pump is used to mitigate certain fire scenarios. Action may be taken to reduce fire ignition critical operator actions in response to such scenarios, and to ensure fire protective and corrective measures have been taken.**

Per the Individual Plant Examination of External Events (IPEEE), the seismic, high winds, and external flood risk for BFN was below 1E-6/yr. In comparison to the Internal Events risk and the Fire risk, the change in external event risk was not significant. Therefore, no further evaluation of the external risk was conducted.

m. Demonstrate that the NOED condition, along with any compensatory measures, will not result in more than a minimal increase in radiological risk, either in a quantitative assessment that risk will be within the normal work control levels (ICCDP less than or equal to 5E-7 and/or ICLERP less than or equal to 5E-8) or in a defensible qualitative manner.

The "A" and "B" Control Bay Chillers being out of service for 24 hours results in a not more than minimal increase in internal events and fire risk to the station. The consideration of the Emergency Control Bay Chiller helps reduce the importance of these chillers in the evaluation. Major risk contributors to the increase in risk for both CDF and LERF rely heavily on operator actions.

n. Discuss forecasted weather and pandemic conditions for the NOED period and any plant vulnerabilities related to weather or pandemic conditions.

The weather conditions forecasted for the duration of the NOED period are listed in the table below, based on information obtained from the National Weather Service (<http://forecast.weather.gov/MapClick.php>):

Time	Forecast
Sunday, 9/10/17 Afternoon	Mostly sunny, with a high near 79 degrees F. Northeast wind around 10 mph.
Sunday, 9/10/17 Night	Partly cloudy, with a low around 56 degrees F. North-northeast wind 5 to 10 mph.
Monday, 9/11/17	Increasing clouds, with a high near 68 degrees F. 70 percent chance of showers likely, mainly after 1 PM. Between 0.25 and 0.50 inches of precipitation are possible. Breezy, with a north-northeast wind 10 to 15 mph, increasing to 15 to 20 mph in the afternoon. Winds could gust as high as 30 mph.

As a condition of the NOED, BFN agreed to notify the NRC Headquarters Office if these weather conditions changed due to the unknown possible effects of Hurricane Irma.

No pandemic conditions existed.

o. The basis for the licensee's conclusion that the noncompliance will not create undue risk to the public health and safety.

TVA evaluated the proposed request and determined that it involves no significant hazards considerations. According to 10 CFR 50.92, "Issuance of Amendment," paragraph (c), a proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

- (A) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (B) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (C) Involve a significant reduction in a margin of safety.

In support of this determination, an evaluation of each of the three criteria set forth in 10 CFR 50.92 is provided below regarding the proposed action.

(A) The request for enforcement discretion does not involve a significant increase in the probability of occurrence or consequences of any accident previously evaluated.

The probability of accident occurrence was not significantly affected by granting this enforcement discretion. The requested extension of the Completion Times did not affect the way in which the units were operated, and thus did not affect the frequency of any initiators for accidents evaluated in the Updated Final Safety Analysis Report (UFSAR). Specifically, the proposed enforcement discretion did not alter any plant equipment or operating practices in such a manner that increased the probability of an accident. Further, the proposed enforcement discretion did not alter assumptions relative to the mitigation of an accident or transient event. Reactor protection system performance remained within the bounds of the previously performed accident analyses and continued to function in a manner consistent with the plant design basis.

As discussed above, for the duration of the NOED (until September 11, 2017, at 1000 CDT), the risk metrics described by the NOED guidance of Incremental Conditional Core Damage Probability (ICCDP) was less than or equal to $5.0E-07$ and Incremental Conditional Large Early Release Probability (ICLERP) less than or equal to $5.0E-08$ were not exceeded. When consideration of contingency (up to 12 hours and 9 minutes) was included, the risk metrics were also not exceeded.

The additional allowed time did not result in a condition where the design, material, and construction standards that were applicable prior to the change were altered. The proposed change did not modify any system interface. The proposed change did not affect the probability of any event initiators. There was no change to the normal plant operating parameters or accident mitigation performance. The proposed change did not alter any assumptions or change any mitigation action in the radiological consequence evaluations in the UFSAR.

Therefore, the requested enforcement discretion did not significantly increase the probability or consequences of an accident previously evaluated.

(B) The request for enforcement discretion did not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed action did not involve physical alteration of any unit. No new equipment was introduced, and installed equipment was not operated in a new or different manner. There were no changes being made to the parameters within which the unit is operated. There were no setpoints at which protective or mitigative actions are initiated that were affected by this proposed action. This proposed action did not alter the manner in which equipment operation was initiated, and the function demands on credited equipment were unchanged. No alteration in the procedures which ensure the unit remains within analyzed limits was proposed, and no change was made to procedures that are relied upon to respond to an off-normal event. As such, no new failure modes were introduced. The proposed action did not alter the assumptions made in the safety analysis. Therefore, the proposed action did not create the possibility of a new or different kind of accident from any accident previously evaluated.

(C) The proposed request for enforcement discretion did not involve a significant reduction in a margin of safety.

Specifically, the accident analysis assumptions continued to be met with the enactment of the proposed enforcement discretion. The system's design and operation were not affected by the proposed enforcement discretion. The safety analysis acceptance criteria were not altered by the proposed changes. Finally, the proposed compensatory measures identified provided assurance that no significant reduction in safety margin occurred.

p. The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

TVA has evaluated the NOED request against the criteria for identification of licensing and regulatory actions requiring environmental assessment, in accordance with 10 CFR 51.21. TVA has determined that the requested action meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9). This determination was based on the fact that the proposed action was requested as an enforcement discretion to a license issued pursuant to 10 CFR 50, and that the change involved no significant hazards considerations. Although the proposed action involved noncompliance with the requirements of an LCO:

- i. The proposed action involved no significant hazards consideration.
- ii. There was no significant change in the types or a significant increase in the amounts of any effluent that may be released off-site, because the proposed action did not affect the generation of any radioactive effluent, nor did it adversely affect any of the permitted release paths.
- iii. There was no significant increase in individual or cumulative occupational radiation exposure. The action proposed in this request for enforcement discretion did not affect plant radiation levels, and therefore, it did not adversely affect dose rates and occupational exposure.

Accordingly, the proposed action met the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9).

- q. A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).**

The basis for this NOED request was reviewed and approved by the Plant Operations Review Committee on September 10, 2017, at approximately 1615 CDT.

- r. Make a verbal commitment that the licensee will submit the written NOED request within 2 working days and a follow-up license amendment request within 4 working days following the staff's verbal granting of the NOED. NRC's granting of a NOED means that exigent circumstances exist. However, the licensee's amendment request must describe and justify any exigent circumstances (see 10 CFR 50.91(a)(6)). If the staff agrees during the conference call that a follow-up amendment request is not required, the licensee shall state this in the written NOED request. If the licensee intends to propose a temporary amendment, the licensee's amendment request shall include justification for the temporary nature of the request.**

This submittal is the written NOED request following the verbal approval granted on September 10, 2017.

This request for enforcement discretion involved a non-compliance with a TS Required Action Completion Time which is not expected to recur. Based on the short duration of the requested non-compliance (a maximum of 12 hours, 9 minutes), a follow-up license amendment request is not warranted. The NRC agreed during the conference call that provided verbal approval of the NOED that no other follow-up amendment request was required.

- s. In addition to items a- r above, the licensee must provide the following information for a natural event NOED:**

This proposed enforcement discretion was not in regards to a severe weather or natural phenomena-related situation.