



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

CNL-16-168

October 18, 2016

10 CFR 50.90

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

Watts Bar Nuclear Plant, Unit 1  
Facility Operating License No. NPF-90  
NRC Docket No. 50-390

Watts Bar Nuclear Plant, Unit 2  
Facility Operating License No. NPF-96  
NRC Docket No. 50-391

Subject: **Request for Enforcement Discretion for Technical Specification (TS)  
3.8.1, AC Sources – Operating**

This letter documents our request for enforcement discretion for Watts Bar Nuclear Plant (WBN) Unit 1 and Unit 2 for Technical Specification (TS) 3.8.1, "AC Sources - Operating," Required Action B.4 Completion Time from 72 hours to 202 hours. Enforcement discretion was needed to prevent an unnecessary plant shutdown as a result of an inoperable Diesel Generator (DG) that would prevent the DG from performing its Safety Function. A detailed justification for the Notice of Enforcement Discretion (NOED) is provided in the enclosure.

As discussed with NRC staff during a telephone conference call on October 14, 2016, beginning at 2000 Eastern Daylight Time (EDT), Tennessee Valley Authority (TVA) has initiated compensatory measures to administratively control and protect vital plant equipment and to ensure that plant equipment can perform its design function during this period of time. If at any time it becomes apparent that completion of the activities to restore compliance with TS 3.8.1 will be significantly delayed, such that the requested duration of the enforcement discretion cannot be satisfied, TVA will terminate the time extension and comply with the TS action requirements. During the telephone conference call on October 14, 2016, at 2130 EDT, the NRC granted TVA's verbal request for enforcement discretion.

During the telephone conference call, the NRC staff had a question in regard to the NOED. TVA has addressed and responded to the NRC staff question in the attachment to the enclosure.

By letter dated December 8, 2015 and supplemented by letter dated March 11, 2016, TVA submitted a request for an amendment to the WBN Unit 1 and Unit 2 TS to revise TS 3.8.1, "AC Sources – Operating." The request was to extend the Completion Time (CT) for one inoperable DG from 72 hours to 14 days based on the availability of an alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG). In the TVA request for additional information response to the NRC dated October 3, 2016, TVA revised the proposed extended CT for one inoperable DG from 14 days to 10 days. The above described license amendment request is currently under review. The requested period of enforcement is bounded by the proposed 10 day completion time, therefore an additional follow-up license amendment request to revise TS 3.8.1 would not be appropriate.

The WBN Plant Operations Review Committee has reviewed this proposed change and determined that operation of WBN Unit 1 and Unit 2 in accordance with the proposed change will not endanger the health and safety of the public.

This letter fulfills the requirement to submit a written enforcement discretion request within two working days after NRC verbal approval granted at 2130 on October 14, 2016, and provides the justifications discussed with the NRC.

Subsequent to the verbal approval and prior to the submittal of this letter, TVA completed the repairs to the 1A-A DG and exited the LCO action on October 17, 2016 at 0435.

There are no regulatory commitments associated with this submittal.

Please address questions regarding this request to Edward D. Schrull at (423) 751-3850.

Respectfully,

**J. W. Shea**  
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J. W. Shea  
Vice President, Nuclear Licensing

Enclosure:

Request for Enforcement Discretion for Technical Specification (TS) 3.8.1,  
AC Sources Operating

cc (Enclosure):

NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Watts Bar Nuclear Plant  
NRC Project Manager – Watts Bar Nuclear Plant  
Division of Radiological Health - Tennessee State Department of Environment  
and Conservation (w/o enclosures)

# TENNESSEE VALLEY AUTHORITY

## ENCLOSURE 1

### WATTS BAR NUCLEAR PLANT UNIT 1 and UNIT 2 DOCKET NUMBERS 50-390 AND 50-391

#### REQUEST FOR ENFORCEMENT DISCRETION FOR TECHNICAL SPECIFICATION (TS) 3.8.1, AC SOURCES - OPERATING

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##### **BACKGROUND**

In accordance with the guidance provided by (1) NUREG-1600, "General Statement of Policy and Procedures for NRC Enforcement Actions," dated May 1, 2000; (2) NRC Regulatory Issue Summary 2005-01, Revision 1, "Changes to Notice of Enforcement Discretion Process and Staff Guidance," dated March 13, 2013; and (3) NRC Inspection Manual Chapter 0410, "Notices of Enforcement Discretion," dated March 13, 2013; Tennessee Valley Authority (TVA) is requesting enforcement discretion for Watts Bar Nuclear Plant (WBN) Unit 1 and Unit 2 for Technical Specification (TS) 3.8.1, "AC Sources - Operating" to remain in MODE 1, Power Operation while completing necessary activities to return the affected 1A-A Diesel Generator (DG) to full OPERABILITY as defined in the plant Technical Specifications. Without the requested enforcement discretion, compliance with WBN Unit 1 and Unit 2 Technical Specifications (TS) 3.8.1, Condition B, Required Action B.4, and Condition F, Required Actions F.1 and F.2 would require that TVA shutdown both WBN Unit 1 and Unit 2 to MODE 3 within 6 hours and MODE 5 within 36 hours following expiration of the 72 hour COMPLETION TIME for TS 3.8.1, Condition B which was entered at 0632 Eastern Daylight Time (EDT) on October 12, 2016.

Enforcement discretion is being requested to preclude an unnecessary plant shutdown of both WBN Unit 1 and Unit 2 as a result of unanticipated system maintenance on the 1A-A DG, specifically the supporting safety-related DG governor voltage regulator.

TS Limiting Condition for Operation (LCO) 3.8.1 requires four DGs capable of supplying the onsite Class 1E AC Electrical Power Distribution System. The DGs are a component of the alternating current (AC) on-site power sources that provide AC electrical power to designated safety-related and vital plant systems. For this reason, operation of the DGs is a safety-related function required for operability of WBN Unit 1 and Unit 2.

This notice of enforcement discretion (NOED) requests discretion for WBN Unit 1 and Unit 2 from compliance with TS 3.8.1 related to the time required to restore the 1A-A DG to OPERABLE status.

The referenced section of the NRC Inspection Manual, Chapter 0410 "Notices of Enforcement Discretion," provides guidance on the information to be included in a request for enforcement discretion. The sections below are arranged to correspond to that guidance.

TVA has reviewed the NRC Inspection Manual, Chapter 0410 "Notices of Enforcement Discretion," and has concluded that an NOED may be considered in this case under criterion 03.03 a related to an unnecessary plant transient while corrective maintenance continues related to the DG.

The basis for this conclusion and other information required to support a request for NOED is provided.

## **REQUIRED INFORMATION**

- 1. 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.***

### **RESPONSE:**

The type of NOED requested is a regular NOED. 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 license condition and, thus, minimize the potential safety consequences and operational risks.

On October 12, 2016, Unit 1 operations personnel declared the 1A-A DG inoperable. The inoperability was revealed during performance of the 24 hour load test surveillance conducted in accordance with procedure 0-SI-82-13, "24 Hour Load Run - DG 1A-A." During the surveillance testing, the 1A-A DG output breaker opened to the 1A Shutdown Board. Personnel in the field reported that the 1A-A DG was operating normally prior to the opening of the breaker.

Granting this NOED results in no net increase in radiological risk and avoids unnecessary plant transients in order to comply with TS LCO 3.8.1, thus minimizing potential safety consequences and operational risks. A transition from MODE 1 to MODE 5 for WBN Unit 1 and Unit 2 at reduced pressure and temperature would result in unnecessary shutdown of the reactor and system realignments without a corresponding health and safety benefit.

The basis for this conclusion and other information required to support a request for NOED is provided below.

- 2. 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.***

### **RESPONSE:**

TS LCO 3.8.1 is applicable in MODES 1, 2, 3, and 4.

In order to complete unanticipated corrective maintenance on the voltage regulator for the Unit 1 1A-A DG, the necessary clearances were established and 1A-A DG was declared inoperable and TS LCO 3.8.1, Required Action B.4 was entered for both WBN Unit 1 and Unit 2, which specifies the inoperable DG be restored to an operable status within 72 hours. If the inoperable DG could not be restored to an operable status within 72 hours, both WBN Unit 1 and Unit 2 would be placed in MODE 3 within 6 hours and in MODE 5 within 36 hours per the required actions of TS LCO 3.8.1, Condition F.1 and Condition F.2. This would result in a dual-unit shutdown.

TVA requests enforcement discretion to extend the TS LCO 3.8.1, 72 hour Required Action B.4 Completion Time from 72 hours to 202 hours in order to avoid dual-unit plant

shutdown (MODE 5 entry for both WBN Unit 1 and Unit 2) while 1A-A DG remained inoperable and the corrective maintenance and testing is completed.

WBN Unit 1 was in MODE 1 at 100% power and normal operating pressure and temperature at the time of the request. WBN Unit 2 was in MODE 1 at 100% power and associated operating pressure and temperature at the time of the request.

TS 3.8.1 "AC Sources - Operating" Condition B, Required Action B.4 Completion Time (CT) of 72 hours to restore the inoperable train to OPERABLE status was entered at 0632 EDT on October 12, 2016 and will expire at 0632 EDT on October 15, 2016. The enforcement discretion will result in a violation of the 72 hour CT of TS 3.8.1, Condition B, Required Action B.4. The requested period of enforcement discretion is discussed in Section 9 below.

3. ***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.***

### **RESPONSE:**

On October 12, 2016, Unit 1 operations personnel declared the 1A-A Diesel Generator (DG) inoperable. The inoperability was revealed during performance of the 24 hour load test surveillance conducted in accordance with procedure 0-SI-82-13, "24 Hour Load Run - DG 1A-A," and was therefore unanticipated. During the surveillance testing, the 1A-A DG output breaker opened to the 1A Shutdown Board. Personnel in the field reported that the 1A-A DG was operating normally prior to the opening of the breaker.

On October 11, 2016, at 1326 EDT, a 24 hour load test of the 1A-A DG was commenced. On October 12, 2016, at 0632, the 1A-A DG output breaker opened on phase overcurrent and the 1A-A DG was declared inoperable. Initial investigation led WBN to believe that the breaker trip was due to operation of the tap changer associated with the off site power supply transformer. The 24 hour load run was restarted on October 13, 2016 at 0035 EDT. On October 13, 2016 at 1845 EDT, the operations staff noted mega volt amps (reactive) (MVAR) variance in the range of 1 – 2 MVARs. The variance continued and the staff lowered MVAR loading from the test range of 3 MVAR to 1 MVAR. The MVAR variance continued periodically in the range of 0.3 to 0.5 MVAR. During troubleshooting activities, it was determined that the MVAR variance could be reproduced consistently by slight movement of a potentiometer on the 1A-A DG voltage regulator. Issues in the voltage regulation circuit are the most likely cause. The station is currently making preparations to replace and calibrate the voltage regulator on which the potentiometer is located.

Following the output breaker opening on October 12, 2016 at 0632 EDT, TVA took immediate actions in an attempt to avoid the need for this NOED request, including establishment of a dedicated cross-functional response team, comprised of maintenance, engineering, and work management to troubleshoot the cause of the issue and to make repairs under a maintenance plan using 24 hour coverage. A management oversight team was also provided. The schedule reflected that the maintenance would require more than 72 hours to complete the removal and replacement of the voltage regulator and post-maintenance testing.

By letter dated December 8, 2015 (ML15342A477) and supplemented by letter dated March 11, 2016 (ML16071A456), TVA submitted a request for an amendment to the WBN Unit 1 and Unit 2 TS to revise TS 3.8.1, "AC Sources – Operating." The request was to extend the Completion Time (CT) for one inoperable DG from 72 hours to 14 days based on the availability of an alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG). TVA requested that this amendment be approved by July 29, 2016, with implementation within 60 days of receipt of the approved amendment.

On September 3, 2016, TVA received a request for additional information (RAI). In the RAI response dated October 13, 2016, TVA revised the proposed extended CT for one inoperable DG from 14 days to 10 days. The above described license amendment request is still under review.

Over the past ten years, no MVAR swings have been noted on the Watts Bar EDG voltage regulators. In addition, no corrective maintenance has been required for the voltage regulators over this time period. The only maintenance performed has been preventive maintenance to include potentiometer swipes, thermography checks, and general panel clean and inspections.

Watts Bar Nuclear Plant has not made a request for enforcement discretion in over ten years.

**4. 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.**

**RESPONSE:**

The cause of the 1A-A Diesel Generator (DG) MVAR oscillations has been determined to be a faulty R4 potentiometer (range potentiometer(PT)) of the 1A-A DG voltage regulator. The following discussion summarizes the basis for determining the cause.

During the 24 Hour Load Surveillance (0-SI-82-13) of the 1A-A DG, the DG 1A-A exhibited MVAR oscillation while at 100% rated power (4.4MW and 3.0 MVAR). The oscillations were observed to vary from 1 - 2 MVARs with no adjustment for voltage by the control room and no offsite transformer load tap changes. When the control room lowered the MVAR load to 1 MVAR, the MVAR oscillations continued on an intermittent basis.

Based on the symptoms exhibited, research of operating experience (OE), and vendor (Portec NEI Peebles Voltage Regulators for Emergency Diesel Generators) guidance for observed MVAR oscillations, a troubleshooting plan including collection of field data was developed. Based on the vendor guidance and collected data, the most likely causes of voltage regulator MVAR swings are:

- Erratic R4 Range Adjust Potentiometer
- Erratic R5 Stability Potentiometer
- Failed electronic component on voltage regulator
- Erratic Motor Operated Potentiometer
- Poor connection at the sensing PTs



With DG 1A-A loaded at 2 MVAR, the following troubleshooting plan actions were completed as recommendation by the vendor:

- PT voltage inputs to the voltage regulator were verified to be normal, consistent, and steady. PT failure and PT connection issues were dismissed as possible causes.
- Current through each SCR bridge (3 phases) was measured and found to be consistent, which demonstrated that the SCR was fully operational.
- Thermography was performed on the exciter circuit with no noted issues. Thermography indications would affect DG voltage regulator function (i.e., SCRs, termination issues, and diode failures).
- The oscillations noted were intermittent and not steady. In addition, no transients were introduced by the control room during the MVAR variations. Therefore, since the voltage regulator was not responding to transient response, the R5 stability potentiometer was ruled out.
- With the DG 1A-A at 2 MVAR and steady, the R4 potentiometer was lightly tapped. The tapping resulted in VAR oscillation that were specifically noted with the tapping of the potentiometer. Oscillations of 1 - 2 MVAR were noted during the potentiometer tapping. The tapping test is a recommended test by both the vendor and OE to help identify R4 potentiometer issues.
- After completing the loaded test for the voltage regulator, the DG was unloaded (breaker open but still operating at rated speed and voltage).
- The motor operated potentiometer was exercised fully throughout its range of motion. No oscillations in voltage were noted during the motor operated potentiometer exercise. Therefore, the motor operated potentiometer was dismissed as a possible failure mechanism. (Note, if the motor operated potentiometer was the faulted component, the DG would still have been to perform its safety function since the motor operated potentiometer is bypassed in an emergency).

It was concluded, that based on observations and testing of the 1A-A DG, replacing the voltage regulator will resolve the DG MVAR oscillations. In addition by replacing the entire voltage regulator, the potential failed components: R4 potentiometer, R5 potentiometer, and voltage regulator electronic components will also be replaced, since they are a part of the voltage regulator.

The other input components to the voltage regulator have been verified through testing measurements, thermography, and analysis.

The R4 potentiometer tapping in the field confirmed that the potentiometer is the failed discrete component. In addition, the R4 potentiometer was found to operate intermittently when the potentiometer, removed from the voltage regulator was bench tested.

With indication of the failed R4 potentiometer (discrete component on the voltage regulator), replacing the voltage regulator will fully resolve the DG 1A-A MVAR oscillation issue.

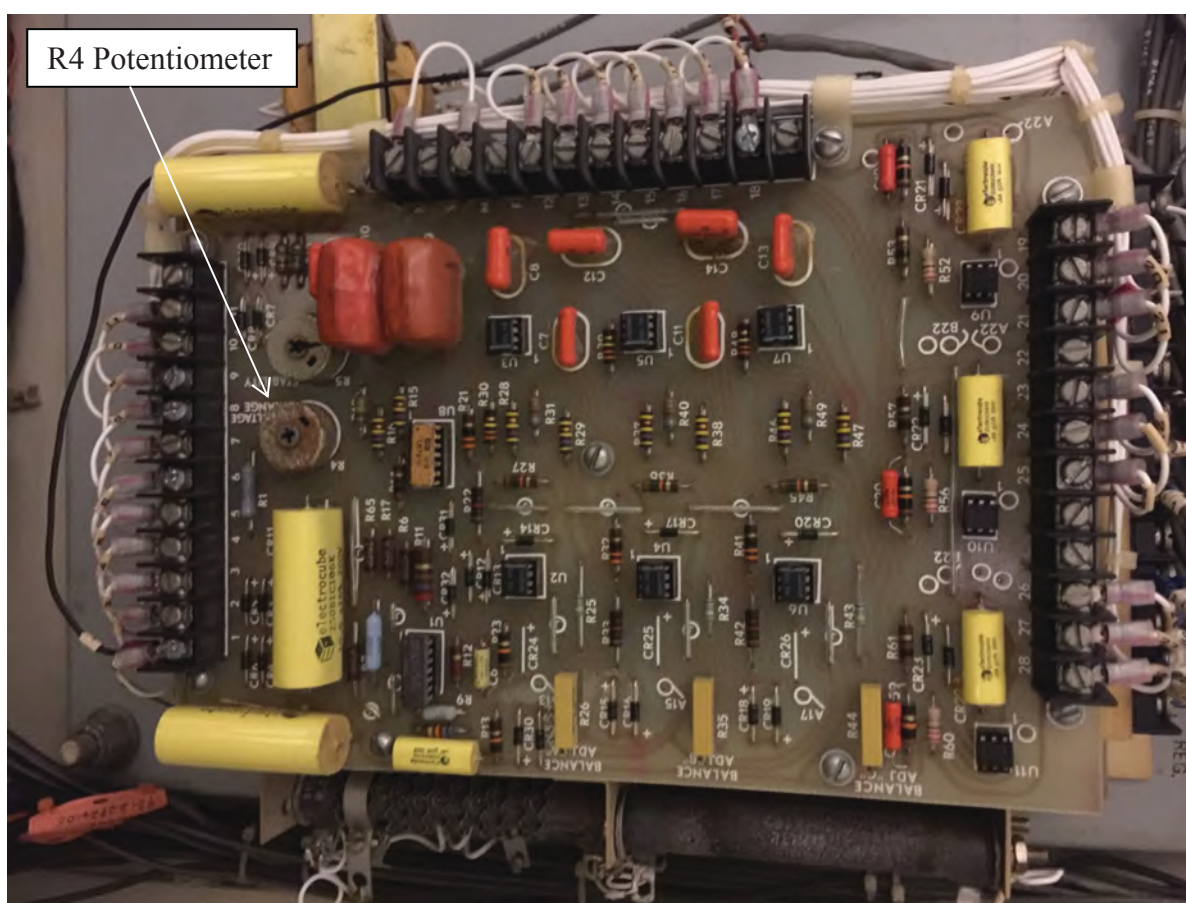
The current plan is to replace DG governor voltage regulator which would also address the potential potentiometer issue. In addition, WBN supervision in conjunction with vendor oversight of the repair will greatly reduce the possibility of subsequent problems upon completion of the corrective maintenance.

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

**RESPONSE:**

The restoration maintenance involved bench calibration of a new DG governor voltage regulator, removal of the old voltage regulator, replacement with the new calibrated voltage regulator, and post-maintenance testing of the 1A-A DG. The new voltage regulator will be calibrated to required tolerances and specifications prior to installation under the supervision of a vendor representative. The voltage regulator has approximately 50 terminations that will be de-terminated, re-landed, and verified (refer to the photograph of the voltage regulator). In addition to the post-maintenance testing, the 24 hour load run will also be performed to confirm DG operability. These actions are expected to resolve the condition and restore the 1A-A DG to an OPERABLE status.

The corrective maintenance is scheduled to be completed by no later than October 17, 2016, at 0000 EDT. The combined duration of the post-maintenance testing and 24 hour load run test take approximately 36 hours and are expected to be completed by October 19, 2016 at 0600 EDT. The Unit 1 1A-A DG is projected to be restored to its operable condition by 0800 on October 19, 2016.



**DG 1A-A Voltage Regulator Depicting a Portion of the Wires Requiring Determination, Landing, Re-Termination and Verification**



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

**RESPONSE:**

WBN Unit 1 is at 100% power in MODE 1. Granting of the requested enforcement discretion will eliminate the need to subject the WBN Unit 1 to a cooldown to MODE 5 as otherwise required by TS 3.8.1, Condition F.

WBN Unit 2 is at 100% power in MODE 1. Granting of the requested enforcement discretion will eliminate the need to subject the WBN Unit 2 to a cooldown to MODE 5 as otherwise required by TS 3.8.1, Condition F.

The WBN Unit 1 and Unit 2 safety analysis considers the DG system as a mitigating system and also considers a single failure of a DG train. A DG failure is not considered an initiating event. TS LCO 3.8.1, Condition B, accommodates the temporary unavailability of a single DG for 72 hours. The maintenance planned in the extended Completion Time requested by TVA in this NOED request was limited to restoring the 1A-A DG to an OPERABLE status. Therefore, the planned repair activities themselves would not result in a plant transient of any kind.

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

**RESPONSE:**

The failure of the 1A-A DG volt regulator could not have been anticipated.

The failure resulting in entry into TS 3.8.1, Condition B, Required Action B.4 at 0632 EDT on October 12, 2016, was discovered during the DG 24 hour load test. The 72 hour CT provided to restore the inoperable train to OPERABLE status does not provide adequate time to prepare and submit an emergency license amendment request. In addition, the enforcement discretion request is a unique and isolated incident which is not expected to recur, therefore no permanent change to the Operating License or the Technical Specifications is required.

By letter dated December 8, 2015 (ML15342A477) and supplemented by letter dated March 11, 2016 (ML16071A456), TVA submitted a request for an amendment to the Watts Bar Nuclear Plant (WBN) Units 1 and 2 Technical Specifications (TS) to revise TS 3.8.1, "AC Sources – Operating." The request was to extend the Completion Time (CT) for one inoperable Diesel Generator (DG) from 72 hours to 14 days based on the availability of an alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG). TVA requested that this amendment be approved by July 29, 2016, with implementation within 60 days of receipt of the approved amendment.

On September 3, 2016, TVA received a request for additional information (RAI). In RAI Response dated October 13, 2016, TVA has revised the proposed extended CT for one inoperable DG from 14 days to 10 days. The above described License Amendment Request is still under review.

8. ***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.***

**RESPONSE:**

WBN Unit 1 is in MODE 1, Power Operation, at 100% POWER. The unit will continue to operate throughout the duration of the repair activities in this power range and has been since the identification of the issue until the present.

WBN Unit 2 is in MODE 1, Power Operation, at 100% POWER. The unit will continue to operate throughout the duration of the repair activities in this power range and has been since the identification of the issue until the present.

The current (i.e., October 14, 2016 at 0800 EDT) operating conditions of Unit 1 at WBN are:

- MODE 1 at normal operating temperatures and pressures
- DG 1A-A out of service
- Switchyards are available and stable

The current (i.e., October 14, 2016 at 0800 EDT) operating conditions of Unit 2 at WBN are:

- MODE 1 at normal operating temperatures and pressures
- DG 1A-A out of service
- Switchyards are available and stable

The station risk condition remains Green with the DG 1A-A out of service for repair. That is, given this information, a review of the current Probabilistic Risk Analysis (PRA) model component importance measures has determined that the effect of this out-of-service equipment on plant risk is low. No other safety related components are out of service and the 1B-B, 2A-A, and 2B-B Diesel Generators are operable. The risk is mitigated through protection of the three remaining 'A' and 'B' DGs and not performing any activities which could affect equipment that could degrade plant risk. A risk assessment has determined there is no net increase in radiological risk to the public. During the requested 130 hour extension, safety related equipment will not be removed from service for elective reasons and will remain operable, and there is no non-safety related equipment out of service that may increase the probability of a plant transient, complicate the recovery from a plant transient, or be used to mitigate this condition.

9. ***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.***

**RESPONSE:**

The request is for 144 hours (best estimation as of October 14, 2016, at 0500 EDT), in addition to the 72 hours allowed by TS 3.8.1, Condition B, Required Action B.4, in order to complete work to restore 1A-A DG to OPERABLE status. Otherwise the action to place both WBN Unit 1 and Unit 2 in MODE 3 within 6 hours and MODE 5 within 36 hours in accordance with TS 3.8.1, Condition F, Required Actions F.1 and F.2 would begin at 0632 EDT on October 15, 2016.

Based upon discussions with WBN maintenance, engineering, and operations, the activities and estimated durations to complete the restoration and return to service of the 1A-A DG beginning on October 15, 2016 at 0632 EDT (expiration of the 72 hour COMPLETION TIME for TS 3.8.1) are as follows:

- |   |          |
|---|----------|
| • Secure & Install System Clearances:             | 8 hours  |
| • Remove the 1A-A DG Voltage Regulator            | 10 hours |
| • Perform Set-Up of New Voltage Regulator         | 18 hours |
| • Install the 1A-A DG Voltage Regulator           | 10 hours |
| • Re-terminate the 1A-A DG Voltage Regulator      | 12 hours |
| • Release System Clearances:                      | 8 hours  |
| • Perform Post-Maintenance Testing                | 16 hours |
| • Perform 24 Hour Load Run Test                   | 24 hours |
| • Review SI/Work Order & Declare DG 1B-B Operable | 2 hours  |

Total Estimated Time to Complete and Return to Service: 108 hours + 22 hours Contingency

There is no significant difference in nuclear safety risk by extending the CT to accomplish repairs, and testing. The change in risk for the requested period of enforcement discretion is consistent with the risk incurred during normal work control practices. Shutting down WBN Unit 1 and Unit 2 could result in additional plant equipment and personnel challenges without any significant benefit to the safety of the plant or health and safety of the public. Therefore, there is an inherent safety benefit in restoring DG 1A-A without shutting down WBN Unit 1 and Unit 2.

10. ***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:***

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

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

**RESPONSE:**

The enforcement discretion request meets NRC Inspection Manual, Chapter 0410 "Notices of Enforcement Discretion" Section 06.02 Paragraph a, Criterion 1. This criterion applies to plants in operation where shutdown may result in unnecessary risk to the plant and public. The safety consequences and operational risks for Watts Bar Nuclear Plant Unit 1 and Unit 2 were reviewed as part of this NOED request and are documented within this submittal.

In order to minimize the risk associated with this enforcement discretion request, TVA has reviewed the previously planned work activities to ensure activities with the potential to cause a plant transient are not performed during the time frame of this enforcement discretion. In addition, the guarded equipment process has been applied to reduce the potential for adverse effects on the redundant DGs.

The following will be implemented during the requested enforcement discretion extension.

- No work that jeopardizes plant operation, such as alignment changes or balance-of-plant function testing, or switchyard work will be allowed except as needed in response to emergent failures or conditions that develop.
- The following equipment will be protected:
  - Operable DGs and associated 480V Diesel Auxiliary Board Rooms
  - 6.9kV Shutdown Boards
  - WBN Unit 1 Turbine-Driven AFW Pump
  - WBN 161kV Off-Site Switchyard
- During the extended outage period, the following WBN Unit 1 equipment will remain in service, or appropriate compensatory measures will be taken:
  - SDBR HVAC
  - 480V Shutdown Transformer Room Ventilation System
  - 480V Auxiliary Board and Battery Room HVAC System supply to the Unit 2 480V Shutdown Board Room
- During the extended outage period, the following WBN Unit 1 equipment will not be removed from service:
  - Turbine-Driven AFW pump
  - AFW level control valves to the Steam Generators
  - Opposite Train RHR pump
  - Reactor Trip Breakers A and B
- The grid condition will be periodically monitored during the period of enforcement discretion by checking the stability state of the Offsite Power System is stable within the single contingency limit.
- Fire watches in the areas important to fire risk will be set and all hot work will be suspended for identified fire risk areas. Fire detection and suppression systems in these fire risk areas are expected to remain operable during the enforcement discretion period.

The alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG) is available to support the extended Completion Time (CT) for one inoperable Diesel Generator (DG) from 72 hours to 202 hours.

- The FLEX DG has been successfully operated on 9/6/2016 and 10/2/2016 with no issues.
- Procedures are in place to support operation.
- Operators have been trained.
- Maintenance and surveillance testing is current.
- An operator will be assigned to operate the FLEX DG during the extended CT to supply the 1A-A shutdown board.

**11. 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.**

**RESPONSE:**

There are no Transmission Reliability and operations (TRO) system alerts at this time. Generation is approximately 17,658 MW and System load is approximately 16,635 MW.

Currently, the grid is stable as a result of continued operation of WBN Unit 1 and Unit 2 to support the grid voltage. No challenges to grid stability are currently forecasted as a result of severe weather or other events. Refer to the weather forecast in Section 14. Additionally, no switchyard work will be allowed except as needed in response to emergent failures or conditions that develop. There are no transmission activities planned that will affect offsite power to WBN. WBN control room discussed the 1A-A DG situation and potential impact to WBN operation with the TVA power transmission organizations (NeTOP and Balancing Authority) in regard to both electrical grid transmission and the WBN switchyard.

**12. 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:**

- a. 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.***

**RESPONSE:**

Information was extracted from the current WBN1 Control Room EOOS model:

Equipment Considered to be Out of Service for this Evaluation		
Item	Type	Description
SFPC_PMP_B	Basic Event	
WBN-0-DRYR-032-0156	UNID	Control Air Station C Dryer 1
WBN-0-PMP-067-0036-A	UNID	Essential Raw Cooling Water Pump C-A
WBN-1-GEN-082-0001A-A	UNID	Diesel Generator 1A-A
WBN-2-FCV-068-0332-B	UNID	RCS Pressurizer Relief Flow Control Valve
WBN-2-STN-024-0108	UNID	Raw Cooling Water Supply Strainer

The AOT for 1A-A EDG will be reached on 10/15/2016 at 0632. This evaluation determines the risk for extending the allowed out of service time for the 1A-A EDG by an additional 144 hours.

	New	Base	Delta	ICCDP/ICLERP
U1_CDF	1.3E-05	8.5E-06	4.0E-06	6.6E-08
U2_CDF	9.2E-06	8.4E-06	7.8E-07	1.3E-08
U1_LERF	1.9E-06	1.3E-06	6.4E-07	1.1E-08
U2_LERF	1.3E-06	1.3E-06	7.0E-08	1.2E-09

ICCDP = (New CDF – Base CDF) \* (Duration)

ICLERP = (New LERF – Base LERF) \* (Duration)

Since the WBN PRA does not have any quantitative fire, seismic, or other external events PRA, a common rule of thumb for inclusion of external events is to double the internal event results. The following results were obtained.

U1_ICCDP =	6.6E-08 x 2	=	1.3E-07
U2_ICCDP =	1.3E-08 x 2	=	2.6E-08
U1_ICLERP =	1.1E-08 x 2	=	2.1E-08
U2_ICLERP =	1.2E-09 x 2	=	2.3E-09

- b. 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. {Note: 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.}***

**RESPONSE:**

The dominant risk contributors (top cutsets) involve unavailability of Diesel Generator 1A-A and failure of important B-train power (sequencer, B-train diesel, any equipment supporting B-train diesel, etc.) and loss of Turbine-Driven Auxiliary Feedwater Pump.

See section 12c for explanation of compensatory measures to be taken.

- c. 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. {Note: Compensatory measures to reduce plant vulnerabilities should focus on both event mitigation and initiating event likelihood. The objectives are to:**

- i. reduce the likelihood of initiating events;*
- ii. reduce the likelihood of unavailability of trains redundant to the equipment that is out-of-service during the period of enforcement discretion;*
- iii. increase the likelihood of successful operator recovery actions in response to initiating events*

*In addition, the proposed compensatory measures should address the dominant risk contributors discussed in Section 4.b above.}*

**RESPONSE:**

The enforcement discretion request meets NRC Inspection Manual, Chapter 0410 "Notices of Enforcement Discretion" Section 06.02 Paragraph a, Criterion 1. This criterion applies to plants in operation where shutdown may result in unnecessary risk to the plant and public. The safety consequences and operational risks for Watts Bar Nuclear Plant Unit 1 and Unit 2 were reviewed as part of this NOED request and are documented within this submittal.

In order to minimize the risk associated with this enforcement discretion request, TVA has reviewed the previously planned work activities to ensure activities with the potential to cause a plant transient are not performed during the time frame of this enforcement discretion. In addition, the guarded equipment process has been applied to reduce the potential for adverse effects on the redundant DGs.

The following will be implemented during the requested enforcement discretion extension.

- No work that jeopardizes plant operation, such as alignment changes (except in response to emergent plant equipment failures) or balance-of-plant function testing, or switchyard work will be allowed except as needed in response to emergent failures or conditions that develop.

- The following equipment will be protected:
  - Operable DGs and associated 480V Diesel Auxiliary Board Rooms
  - 6.9kV Shutdown Boards
  - WBN Unit 1 TDAFW Pump
  - WBN 161kV Off-Site Switchyard
- During the extended outage period, the following WBN Unit 1 equipment will remain in service, or appropriate compensatory measures will be taken:
  - SDBR HVAC
  - 480V Shutdown Transformer Room Ventilation System
  - 480V Auxiliary Board and Battery Room HVAC System supply to the Unit 2 480V Shutdown Board Room
- During the extended outage period, the following WBN Unit 1 equipment will not be removed from service:
  - Turbine-Driven AFW pump
  - AFW level control valves to the Steam Generators
  - Opposite Train RHR pump
  - Reactor Trip Breakers A and B
- The grid condition will be periodically monitored during the period of enforcement discretion by checking the stability state of the Offsite Power System is stable within the single contingency limit.
- Fire watches in the areas important to fire risk will be set and all hot work will be suspended for identified fire risk areas. Fire detection and suppression systems in these fire risk areas are expected to remain operable during the enforcement discretion period.

The alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG) is available to support the extended Completion Time (CT) for one inoperable Diesel Generator (DG) from 72 hours to 202 hours.

- The FLEX DG has been successfully operated on 9/6/2016 and 10/2/2016 with no issues.
- Procedures are in place to support operation.
- Operators have been trained.
- Maintenance and surveillance testing is current.

An operator will be assigned to operate the FLEX DG during the extended CT to supply the 1A-A shutdown board.

- d. **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.** {Note: This item is not quoted directly from the Inspection Manual. NRC Inspection Manual, Chapter 0410 “Notices of Enforcement Discretion,” for exact language.}

**RESPONSE:**

On October 13, 2016 during the 24 Hour Load Surveillance of the 1A-A DG (0-SI-82-13), the DG 1A-A exhibited MVAR oscillations while loaded at 100% rated power (4.4MW and 3.0 MVAR). The oscillations were noted to be 1 -2 MVARs with no voltage adjustment by the control room and no offsite transformer load tap changes. Based on troubleshooting analysis, the faulted component was determined to be the R4 potentiometer for the 1A-A DG voltage regulator. The R4 potentiometer is the range potentiometer for the voltage regulator and is used to set DG voltage independent of the operator controlled motor operated potentiometer. The analysis below provides the extent of condition discussion for remaining operable WBN DGs: 1B-B, 2A-A, and 2B-B.

**Surveillance Testing:**

Each of the DGs are tested monthly by performing a minimum one hour loaded run at 4 to 4.4 MW and 1 MVAR. During the test, both the R4 potentiometer and motor operated potentiometer are in the voltage regulator circuit to allow control of voltage and VARs shared between the DG and the offsite source. Any adverse condition associated with the R4 potentiometer would cause a fluctuation in MVARs during the monthly surveillance run. During the most recent monthly surveillance, DG 1B-B, DG 2A-A, and DG 2B-B did not experience any MVAR oscillations. The monthly surveillance for each DG performed is summarized in the following table.

<b>WBN Diesel Generator Surveillance Testing - Monthly</b>	
<b>DG:</b> 1B-B	<b>Date:</b> September 13, 2016
<b>Note:</b> Credited to fast start SI 0-SI-82-18 which has same loading requirements	
<b>DG:</b> 2A-A	<b>Date:</b> September 19, 2016
<b>Note:</b> 0-SI-82-12-A (Credited to 24 Hour Load Surveillance 0-SI-82-15 which has higher loading requirements of 3MVAR	
<b>DG:</b> 2B-B	<b>Date:</b> October 1, 2016
<b>Note:</b> Normal test	

In addition to monthly loaded surveillances, a 6 month fast start is performed on each DG. For the initiation of the fast start, the DG is started and is initially in emergency mode. In emergency mode, only the R4 potentiometer is in the circuit to determine DG output voltage (motor operated potentiometer is out of the circuit). Any adverse condition of the

R4 potentiometer would cause fluctuations in generator output voltage before resetting and loading to the board. For the period, voltage is monitored with a DG DAC which captures voltage regulator traces to verify correct voltage, stability, and fast start times of less than 10 seconds. During the most recent performance of the fast start surveillances, DG 1B-B, DG 2A-A, and DG 2B-B operated without any issues and met all acceptance criteria. The 6 month fast start surveillances for each DG are summarized in the following table.

<b>WBN Diesel Generator Surveillance Testing - 6 Month Fast Start</b>	
<b>DG:</b> 1B-B	<b>Date:</b> September 13, 2016
<b>Note:</b> 0-SI-82-18	
<b>DG:</b> 2A-A	<b>Date:</b> September 19, 2016
<b>Note:</b> 0-SI-82-19 (Credited to 24 Hour Load Surveillance 0-SI-82-15 which performs a fast start to initiate DG start)	
<b>DG:</b> 2B-B	<b>Date:</b> March 29, 2016
<b>Note:</b> 0-SI-82-20	

The DGs are also tested every 18 months to verify maximum generator loading under a 24 hour loaded surveillance. During this test, each DG is loaded for 2 hours at 110% load and 22 Hours at 100% load with maximum MVARs (above 3 MVAR). During this loaded period, an adverse condition of the R4 potentiometer would demonstrate load swings as noted during the 1A-A 24 Hour Surveillance. The 24 hour loaded DG surveillance test for each DG are summarized in the following table.

<b>WBN Diesel Generator Surveillance Testing - 24 Hour Loaded</b>	
<b>DG:</b> 1B-B	<b>Date:</b> March 19, 2015
<b>Note:</b> 0-SI-82-14	
<b>DG:</b> 2A-A	<b>Date:</b> September 19, 2016
<b>Note:</b> 0-SI-82-15	
<b>DG:</b> 2B-B	<b>Date:</b> May 8, 2015
<b>Note:</b> 0-SI-82-16	

A preventive maintenance (PM) program for the R4 potentiometer is in place to address any oxidation that may build up on the potentiometer. For the PM, a ohmmeter is hooked up to the potentiometer, and the R4 potentiometer is swiped to clean and note any oscillations for corrosion build-up. During the most recent performance of the PM for each DG, the potentiometer was swiped and there were no noted issues. The DG potentiometer PM for the DGs is summarized in the following table.



WBN Diesel Generator Potentiometer PM	
DG: 1B-B	Date: October 9, 2015
DG: 2A-A	Date: April 5, 2014
DG: 2B-B	Date: April 15, 2014

In summary, the operation of the R4 potentiometer was demonstrated through DG load tests and periodic checks of the potentiometer condition was performed by the preventative maintenance program. Therefore, it can be concluded that reasonable assurance exists that the R4 potentiometer issue specifically associated with the 1A-A DG is an isolated event and does not directly correlate to the remaining WBN DGs. Thus, no common cause exists for this condition.

- e. ***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 frequency in the affected areas or reduce human error associated with time-critical operator actions in response to such scenarios, and to ensure fire protective and corrective measures have been taken.***

**RESPONSE:**

Allowed margin for external events by multiplying internal events results by 2 and ensuring that the 5.0E-07 threshold is not exceeded. There are not any significant weather events expected for the duration of NOED. The compensatory measures discussed in the previous section address these conditions.

- 13. 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.***

**RESPONSE:**

The increased core damage risk (ICCDP) for WBN1 associated with 144 hours of unavailability is 1.3E-7, including a bounding estimate of external event contribution to risk. The ICLERP for WBN Unit 1 is 2.1E-8, including external events contribution. Risk values for WBN Unit 2 are not significant. These values are very low and indicate that the requested extension of up to 144 hours should be acceptable from a risk perspective.

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

**RESPONSE:**

The forecasted weather conditions for the NOED period are normal for the time of year. The expected normal weather conditions will not contribute to nor increase plant vulnerability. Currently, no severe weather is forecasted for the period of the NOED that could cause a plant transient.

There is no severe weather (i.e., severe thunderstorms or tornados) in the current 7 day forecast for the Watts Bar, TN area (see National Weather Service (NWS) forecast below). The NWS defines a severe thunderstorm as having large hail, at least 1 inch in diameter, and/or damaging winds, at least 58 mph, or 50 knots.

Based on the forecasted weather WBN does not expect any vulnerability related to the weather.

The National Weather Service Friday, October 14, 2016 through Thursday, October 20, 2016, inclusive forecast for the Watts Bar Dam area is:

**Friday**

Mostly cloudy, with a high near 80. Calm wind becoming southwest around 5 mph in the afternoon.

**Friday Night**

A 20 percent chance of showers. Mostly cloudy, with a low around 61. Calm wind becoming southeast around 5 mph after midnight.

**Saturday**

Partly sunny, with a high near 79. Calm wind becoming south around 5 mph in the morning.

**Saturday Night**

Partly cloudy, with a low around 57. South wind around 5 mph.

**Sunday**

Mostly sunny, with a high near 81.

**Sunday Night**

Mostly clear, with a low around 57.

**Monday**

Sunny, with a high near 84.

**Monday Night**

Clear, with a low around 58.

**Tuesday**

Sunny, with a high near 86.

**Tuesday Night**

Clear, with a low around 59.

**Wednesday**

Sunny, with a high near 85.

**Wednesday Night**

A 20 percent chance of showers. Partly cloudy, with a low around 57.

**Thursday**

A 40 percent chance of showers. Partly sunny, with a high near 76.

All of the offsite and onsite power sources are available, and there were no scheduled activities to challenge those sources. The weather is not expected to have an impact on risk. No severe weather is forecasted for the period of the NOED.

This request for enforcement discretion is not related to a severe weather, natural phenomena-related situation, or pandemic conditions. Therefore, additional information for Section 14 is not required.

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

The 130 hour extension from the time TS 3.8.1 Condition B was entered will not be a potential detriment to the health and safety of the public based on the following:

**1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

**RESPONSE:**

No. The proposed request does not adversely affect accident initiators or precursors nor alter the design assumptions or the manner in which the plant is normally operated and maintained. The proposed request does not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. The proposed request is consistent with safety analysis assumptions, which apply when the plant is operating in compliance with LCO requirements.

The proposed period of noncompliance was not detrimental to public health and safety. TVA evaluated the risk and determined that it was sufficiently low. A summary of the evaluation is provided as part of Section 12a – 12e, inclusive of this document. To further protect the health and safety of the public, risk management actions as described in Section 12 were implemented.

Based on the above discussions, the proposed changes do not involve an increase in the probability or consequences of an accident previously evaluated.

**2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?**

**RESPONSE:** No. The proposed request does not result in a change in the manner in which the DGs provide plant protection. The proposed request will only affect the time allowed to restore one inoperable DG to OPERABLE status. The proposed request does not affect the configuration, or operation of the plant.

The proposed request does not affect the supporting systems operating characteristics or conditions. The proposed request does not change any existing accident scenarios, nor create any new or different accident scenarios. In addition, the proposed request does not impose any new or different requirements or eliminate any existing requirements. The proposed request does not alter any of the assumptions made in the safety analysis.

Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

**3. Does the proposed change involve a significant reduction in a margin of safety?**

**RESPONSE:** No. The proposed request does not affect the acceptance criteria for any analyzed event nor is there a change to any safety limit. The proposed request does not alter the manner in which safety limits, limiting safety system settings, or limiting conditions for operation are determined. Neither the safety analyses nor the safety analysis acceptance criteria are affected by this proposed request. The proposed request will not result in plant operation in a configuration outside the current design basis. The proposed request provides additional time to complete repairs necessary to restore the 1A-A DG to OPERABLE status. The margin of safety is maintained by maintaining the ability to safely shut down the plant and remove residual heat.

Therefore, the proposed change does not involve a reduction in a margin of safety. Based on the above evaluations, TVA concludes that a noncompliance will not create undue risk to public health and safety.

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

**RESPONSE:**

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 is based on the fact that the proposed action is being requested as an enforcement discretion to a license issued pursuant to 10 CFR 50, and that the change involves no significant hazards considerations. Although the proposed action involves noncompliance with the requirements of an LCO:

- i. The proposed action involves no significant hazards consideration.
- ii. There is no significant change in the types or a significant increase in the amounts of any effluent that may be released off-site, since the proposed action does not affect the generation of any radioactive effluent nor does it adversely affect any of the permitted release paths.

- iii. There is no significant increase in individual or cumulative occupational radiation exposure. The action proposed in this request for enforcement discretion will not affect plant radiation levels; therefore, does not adversely affect dose rates and occupational exposure.

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

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

**RESPONSE:**

This request for enforcement discretion was reviewed by the WBN Plant Operations Review Committee (PORC). PORC and the WBN Plant Manager approved requesting enforcement discretion on October 14, 2016 at 1345 EDT.

**18. 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. {Note: The licensee's amendment request must describe and justify the exigent circumstances (see 10 CFR 50.91(a)(6)). The licensee should state if staff has agreed during the teleconference that a follow-up amendment is not needed. If the licensee intends to propose a temporary amendment, the licensee's amendment request shall include justification for the temporary nature of the requested amendment.}**

**RESPONSE:**

This letter fulfills the requirement to submit a written enforcement discretion request within two working days after NRC verbal approval granted at 2130 on October 14, 2016. As described below a license amendment is currently under review. As agreed during the telephone conference an additional follow-up amendment is not required.

By letter dated December 8, 2015 and supplemented by letter dated March 11, 2016, TVA submitted a request for an amendment to the Watts Bar Nuclear Plant (WBN) Units 1 and 2 Technical Specifications (TS) to revise TS 3.8.1, "AC Sources – Operating." The request was to extend the Completion Time (CT) for one inoperable Diesel Generator (DG) from 72 hours to 14 days based on the availability of an alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG). In RAI response dated October 13, 2016, TVA revised the proposed extended CT for one inoperable DG from 14 days to 10 days. The above described License Amendment Request is currently under review. The requested period of enforcement is bounded by the proposed 10 day completion time, therefore an additional follow-up license amendment request to revise TS 3.8.1 would not be appropriate.



**TENNESSEE VALLEY AUTHORITY**  
**WATTS BAR NUCLEAR PLANT UNIT 1**  
**DOCKET NUMBER 50-390**  
**AND**  
**WATTS BAR NUCLEAR PLANT UNIT 2**  
**DOCKET NUMBER 50-391**

**REQUEST FOR ENFORCEMENT DISCRETION FOR TECHNICAL SPECIFICATION (TS) 3.8.1,  
AC SOURCES - OPERATING**

**ATTACHMENT**

**NUCLEAR REGULATORY COMMISSION STAFF  
NOTICE OF ENFORCEMENT DISCRETION QUESTION & RESPONSE**

**REQUEST FOR ENFORCEMENT DISCRETION FOR TECHNICAL SPECIFICATION (TS) 3.8.1,  
AC SOURCES - OPERATING**

**ATTACHMENT**

**NUCLEAR REGULATORY COMMISSION STAFF  
NOTICE OF ENFORCEMENT DISCRETION QUESTION & RESPONSE**

During the NOED discussion between the NRC and WBN, the NRC reviewers identified three (3) items that required additional information or response.

The NRC items are as follows including the WBN response:

***1. Please provide additional information regarding risk associated with the following:***

- a. Failure Probability of FLEX DG and Basis***
- b. Cut Sets associated with PRA values associated with the NOED***
- c. Verify list of risk significant and non-safety related equipment tagged out of service that are input to the PRA model***

**RESPONSE:** The responses to NOED questions 12 and 13 address and provide the additional information for NRC Question 1 a - c, inclusive.

***2. Please provide an up-dated schedule of the proposed NOED activities.***

**RESPONSE:** The responses to NOED question 9 provides the revised timeline (initiated at 0632 on 10/15/2016) based on the discussed completion time of 130 hours to 1A-A DG operability.

***3. Please discuss the designated operator for the FLEX DG.***

**RESPONSE:** The response to NOED question 9 addresses the designated operator for the FLEX DG. TVA letter dated December 8, 2015, supplemented by letter dated March 11, 2016, and TVA responses to NRC request for additional information (RAI) dated October 13, 2016, also provide additional discussion regarding the availability and operation of the alternate alternating current (AC) power source (i.e., a 6.9 kilovolt (kV) FLEX DG).