George H. Gellrich
Vice President

Calvert Cliffs Nuclear Power Plant, LLC
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657
410.495.5200
410.495.3500 Fax

CENG
a joint venture of
Constellation Energy · EDF

CALVERT CLIFFS
NUCLEAR POWER PLANT

August 8, 2011

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
License Amendment Request: Diesel Generator Surveillance Requirement 3.8.1.11 Revision

Pursuant to 10 CFR 50.90, Calvert Cliffs Nuclear Power Plant, LLC hereby requests an Amendment to the Renewed Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Unit Nos. 1 and 2, respectively that modifies Technical Specification 3.8.1, "AC Sources – Operating," Surveillance Requirement 3.8.1.11, by revising the required power factor value to be achieved by the diesel generators during conduct of the surveillance test. The proposed change also modifies the existing note in Surveillance Requirement 3.8.1.11 to address offsite power grid conditions that could exist during surveillance testing.

The significant hazards discussion and the technical basis for this proposed change are provided in Attachment (1). The marked up page of the affected Technical Specification is provided in Attachment (2).

There are no regulatory commitments associated with this proposed amendment.

Calvert Cliffs Nuclear Power Plant requests approval of this proposed amendment by July 30, 2012 with an implementation period of 90 days.

ADD1
NRR

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219.

Very truly yours,

STATE OF MARYLAND :
: **TO WIT:**
COUNTY OF CALVERT :

I, George H. Gellrich, being duly sworn, state that I am Vice President - Calvert Cliffs Nuclear Power Plant, LLC (CCNPP), and that I am duly authorized to execute and file this License Amendment Request on behalf of CCNPP. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other CCNPP employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.

Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of St. Mary's, this 8th day of August, 2011.

WITNESS my Hand and Notarial Seal:

Notary Public

My Commission Expires: March 14, 2015
Date

GHG/KLG/bjd

Attachments: (1) Evaluation of the Proposed Change
(2) Marked up Technical Specification Page

cc: D. V. Pickett, NRC
W. M. Dean, NRC
Resident Inspector, NRC
S. Gray, DNR

ATTACHMENT (1)

EVALUATION OF THE PROPOSED CHANGE

TABLE OF CONTENTS

1.0 SUMMARY DESCRIPTION

This evaluation supports a request to amend Operating Licenses DPR-53 and DPR-69 for Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) Unit Nos. 1 and 2 by revising Technical Specification 3.8.1 "AC Sources – Operating" Surveillance Requirement (SR) 3.8.1.11. The proposed change would change the required diesel generator (DG) power factor value in SR 3.8.1.11. The current DG power factor listed in SR 3.8.1.11 is non conservative when compared to the calculated design basis power factor value experienced during worst case accident conditions. This proposed change aligns the SR 3.8.1.11 DG power factor with the power factor value contained in the design basis calculation.

The proposed change also modifies the existing note in SR 3.8.1.11 to allow the DG to not achieve the required DG power factor value during the performance of this surveillance requirement when certain grid conditions exist.

2.0 DETAILED DESCRIPTION

Surveillance Requirement 3.8.1.11 currently states:

----------NOTE----------
Momentary transients outside the load and power factor limits do not invalidate this test.

Verify each DG, operating at a power factor of ≤ 0.85, operates for ≥ 60 minutes while loaded to ≥ 4000 kW for DG 1A and ≥ 3000 kW for DGs 1B, 2A, and 2B.

The proposed change revises SR 3.8.1.11 to read:

----------NOTE----------
1. Momentary transients outside the load and power factor limits do not invalidate this test.
2. If performed with the DG synchronized with offsite power, the surveillance test shall be performed at the required power factor. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable.

Verify each DG, operating at a power factor of ≤ 0.84 for DG 1A and ≤ 0.83 for DGs 1B, 2A, and 2B, operates for ≥ 60 minutes while loaded to ≥ 4000 kW for DG 1A and ≥ 3000 kW for DGs 1B, 2A, and 2B.

The proposed change has two purposes. The first purpose is to correct the non conservative power factor value currently contained in SR 3.8.1.11 by making it consistent with the power factor values contained in the design basis calculation for worst case accident conditions. The second purpose is to insert a note in SR 3.8.1.11 that allows an exception to meeting the power factor limit when certain grid conditions exist that would prohibit the DG from safely achieving the power factor limit. In this instance, the DG will be operated at a power factor as close to the limit as practicable.

3.0 TECHNICAL EVALUATION

Calvert Cliffs has two class 1E DGs for each unit. These DGs provide a dependable standby onsite electrical power source that is capable of supplying the essential electrical loads necessary to safely shutdown the plant and maintain it in a safe shutdown condition under all design bases accidents. Three of the DGs (DGs 1B, 2A and 2B) are Fairbanks Morse DGs each with a nominal continuous rating of 3000 kW while the fourth DG (DG 1A) is a Societe Alsacienne De Constructions Mecaniques DG with a

nominal continuous rating of 5400 kW. Each DG is aligned to a separate safety-related 4.16 kV electrical bus and is capable of providing sufficient power for the minimum required engineered safety features loads for that unit. A DG will start automatically on a safety injection signal or on a 4.16 kV degraded or undervoltage signal. After coming to rated speed and voltage, if the 4.16 kV breakers that supply offsite power to the electrical bus are open, the DG output breakers will automatically close onto the 4.16 kV electrical bus. In the event of a loss of offsite power to the 4.16 kV electrical bus, the engineered safety feature electrical loads will be automatically sequenced onto the DG in time to ensure vital functions are maintained in the event of a design basis accident.

Surveillance Requirement 3.8.1.11 is performed once every 24 months to provide verification that each DG can operate for a period of at least 60 minutes with an electrical load slightly greater than the calculated electrical loads experienced under worst case accident conditions. In order to demonstrate each DGs ability to perform its safety function, SR 3.8.1.11 testing should be performed to a power factor value that reflects the design basis loading experienced during worst case accident conditions.

During review activities in connection with Temporary Instruction 2515/176, "Emergency Diesel Generator Technical Specification Surveillance Requirements Regarding Endurance and Margin Testing," Calvert Cliffs identified that the power factor value currently contained in SR 3.8.1.11 was inconsistent with, and less restrictive than, the calculated design basis power factors for DG accident loading. The respective listed power factor limits are:

Diesel Generator	Technical Specification SR 3.8.1.11 DG Limits	Design Basis Calculation Values
DG 1A	0.85	0.84
DG 1B	0.85	0.83
DG 2A	0.85	0.83
DG 2B	0.85	0.83

The inconsistency between the Technical Specification value and the design basis calculation occurred during Calvert Cliffs transition to the Improved Technical Specifications (ITS). Power factor values were not listed in Calvert Cliffs Technical Specifications prior to the ITS conversion. During the transition to ITS, the site did not align the power factor limit inserted into the ITS with the power factors calculated in the design basis calculation.

The power factor values listed for the design basis calculations represent the most bounding power factor values calculated for the various design basis events. For each DG the most bounding power factor value calculated involved maximum kW loading of the DG. For DG 1A, the maximum kW loading occurred during loss of offsite power without an accompanying accident and resulted in a power factor value of 0.84. For all other DGs (DGs 1B, 2A, and 2B) maximum kW loading occurred during a loss of offsite power with an accompanying large break loss-of-coolant accident and resulted in a power factor value of 0.83. This proposed amendment change seeks to replace the current power factor values listed in Technical Specification 3.8.1.1 with the power factor values obtained in the design basis calculation.

Nuclear Regulatory Commission Administrative Letter 98-10, "Dispositioning of Technical Specifications that are Insufficient to Assure Plant Safety," states that "the discovery of an improper or an inadequate TS is considered a degraded or nonconforming condition". It further states, "Imposing administrative controls in response to an improper or inadequate TS is considered an acceptable short-term corrective action. The staff expects that, following the imposition of administrative controls, an amendment to the inadequate TS, with appropriate justification and schedule, will be submitted in a timely fashion."

When this inconsistency was identified, a condition report was initiated and an operability determination was conducted. The operability determination concluded that the DGs were operable. The DGs had either achieved the more restrictive values of the design basis calculation during surveillance testing, or had demonstrated through calculation of reactive power values achieved during surveillance testing that they were capable of performing their required safety function under worst case accident conditions. The administrative controls taken in response to the discovery of the non-conservative Technical Specifications values were to revise the associated surveillance test procedures so that the power factor acceptance criteria matched the design basis calculation power factor values.

The second part of this proposed change inserts a Note that addresses situations where achieving the required power factor value cannot be safely accomplished. When certain grid conditions exist, the Note allows the DG to be operated at a higher power factor value, provided it is operated at a power factor value that is maintained as close to the required power factor value as practicable. One situation meeting this condition is when the grid voltage on the emergency electrical buses is high. In this condition, with the DG synchronized to the grid, the additional field excitation needed to achieve the required power factor value would result in the bus voltage exceeding acceptable voltage limits. This condition would most likely occur in shutdown situations, when the loads on the transformer are too light to lower the voltage sufficiently to achieve the required power factor value. Another situation when this Note would be used is when the DG excitation levels needed to obtain the required power factor might result in damage to the DG. In both situations the tested power factor value shall be maintained as close as possible to the required power factor value.

The addition of this Note to SR 3.8.1.11 is consistent with a note that is included in the current revision of ITS.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The DG systems at Calvert Cliffs meet the regulatory requirements of the applicable General Design Criteria (GDC) contained in Appendix A to 10 CFR Part 50. For the purposes of this proposed amendment, the applicable General Design Criteria are:

GDC 17 - Electric Power Systems - Each DG is designed such that each onsite power source provides sufficient capacity and capability to permit the functioning of structures, systems, and components important to safety. In addition, each DG meets the requirement to be connected to a separate, independent, distribution system bus so as to preclude passive and common mode electrical failures.

GDC 18 - Inspection and Testing of Electric Power Systems - Each DG is designed to have adequate features to permit appropriate periodic inspection and testing of the operability of the DG system as a whole. The testing must reflect the ability of the DG to start rapidly and demonstrate the capability to handle full post accident loads under worst case accident conditions.

This proposed change, to correct a non conservative DG power factor value in SR 3.8.1.11, and add a Note that allows the required DG power factor value not to be achieved under certain grid conditions, is in accordance with, and does not affect, Calvert Cliffs compliance with the regulatory requirements for the safety-related diesel generators.

4.2 Significant Hazards Consideration

Calvert Cliffs Nuclear Power Plant (Calvert Cliffs) is proposing a change to Technical Specification 3.8.1 "AC Sources – Operating," Surveillance Requirement (SR) 3.8.1.11. The proposed change would change the current non conservative diesel generator (DG) power factor value in SR 3.8.1.11 and align it with the power factor value calculated for the worst case design basis accident electrical loads. The proposed change also modifies the existing note in SR 3.8.1.11 to allow the DG to not achieve the required DG power factor value during the performance of this surveillance requirement when certain grid conditions exist.

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

   No.

   The first part of the proposed change to SR 3.8.1.11 corrects the current non conservative DG power factor value and aligns it with the power factor value calculated in the design basis calculation for the worst case design basis accident electrical loads. This part of the proposed change does not affect any analyzed accident initiators, nor does it affect the units' ability to successfully respond to any previously evaluated accident. Testing at a more conservative power factor value better demonstrates the DG's ability to handle expected electrical loads during worst case design basis accidents. In addition, this part of the proposed change does not alter any existing radiological assumptions used in the accident evaluations nor does it change the operation or maintenance performed on operating equipment.

   The second part of the proposed change modifies an existing Note in SR 3.8.1.11 to allow the required DG power factor not to be achieved during testing when certain grid conditions exist. This exception exists to prevent testing the DG in a condition that might do damage to the DG or cause bus voltage to exceed voltage limits. This proposed change does not affect any analyzed accident initiators, nor does it affect the units' ability to successfully respond to any previously evaluated accident. Additionally there is no affect on any existing radiological assumptions used in the accident evaluations nor does it change the operation or maintenance performed on operating equipment.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   No.

   The first part of the proposed change to SR 3.8.1.11 corrects the current non conservative DG power factor value and aligns it with the power factor value calculated in the design basis calculation for the worst case design basis accident electrical loads. Testing to a more conservative power factor better demonstrates the DG ability to handle expected electrical loads during worst case design basis accidents. This part of the proposed change does not involve a modification to the physical configuration of the units nor does it involve any change in the methods governing normal plant operation. The proposed change does not impose any new or different requirements that would introduce a new accident initiator, accident precursor, or malfunction mechanism. Additionally there is no change in the types of, or increase in the amounts of, any effluent that may be released offsite

and there is no increase in individual or cumulative occupational exposure as a result of this proposed change. As such this part of the proposed change does not introduce a mechanism for initiating a new or different accident than those previously analyzed.

The second part of the proposed change modifies an existing Note in SR 3.8.1.11 to allow the required DG power factor not to be achieved during testing when certain grid conditions exist. This exception exists to prevent testing the DG in a condition that might do damage to the DG or cause bus voltage to exceed voltage limits. This part of the proposed change does not involve a modification to the physical configuration of the units nor does it involve any change in the methods governing normal plant operation. The proposed change does not impose any new or different requirements that would introduce a new accident initiator, accident precursor, or malfunction mechanism. Additionally there is no change in the types or increase in the amounts of any effluent that may be released offsite and there is no increase in individual or cumulative occupational exposure as a result of this proposed change. As such, this part of the proposed change does not introduce a mechanism for initiating a new or different accident than those previously analyzed.

Therefore the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

No.

The first part of the proposed change to SR 3.8.1.11 corrects the current non conservative DG power factor value and aligns it with the power factor value calculated in the design basis calculation for the worst case design basis accident electrical loads. Testing to a more conservative power factor more fully demonstrates the DG ability to handle expected electrical loads during worst case design basis accidents. This part of the proposed change does not involve any modification to the physical configuration of the operating units and does not alter equipment operation. As such the safety functions of plant equipment and their response to any analyzed accident scenario are unaffected by this proposed change and thus there is no reduction in any margin of safety.

The second part of the proposed change modifies an existing Note in SR 3.8.1.11 to allow the required DG power factor not to be achieved during testing when certain grid conditions exist. This exception exists to prevent testing the DG in a condition that might do damage to the DG or cause bus voltage to exceed voltage limits. This part of the proposed change does not involve any modification to the physical configuration of the operating units and does not alter equipment operation. As such the safety functions of plant equipment and their response to any analyzed accident scenario are unaffected by this proposed change and thus there is no reduction in any margin of safety.

Therefore, the proposed change does not involve a significant reduction in the margin of safety for the operation of each unit.

Based on the above, Calvert Cliffs concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.3 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ENVIRONMENTAL CONSIDERATION

Calvert Cliffs review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR Part 20. However the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

ATTACHMENT (2)

MARKED UP TECHNICAL SPECIFICATION PAGE

Calvert Cliffs Nuclear Power Plant, LLC
August 8, 2011

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.8	Verify interval between each sequenced load block is within ± 10% of design interval for the load sequencer.	31 days
SR 3.8.1.9	----------NOTE---------- All DG starts may be preceded by an engine prelube period. ---------- Verify each DG starts from standby condition and achieves, in ≤ 10 seconds, voltage > 4060 V and frequency > 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 4060 V and ≤ 4400 V and frequency of > 58.8 Hz and ≤ 61.2 Hz.	184 days
SR 3.8.1.10	Verify manual transfer of AC power sources from the normal offsite circuit to the alternate offsite circuit.	24 months
SR 3.8.1.11	----------NOTE---------- 1. Momentary transients outside the load and power factor limits do not invalidate this test. ---------- Verify each DG, operating at a power factor of ~~≤ 0.85~~ ≤ 0.84 for DG1A and ≤ 0.83 for DGs 1B, 2A, and 2B, operates for ≥ 60 minutes while loaded to ≥ 4000 kW for DG 1A and ≥ 3000 kW for DGs 1B, 2A, and 2B.	24 months
SR 3.8.1.12	Verify each DG rejects a load ≥ 500 hp without tripping.	24 months

ADD INSERT

INSERT:

2. If performed with the DG synchronized with offsite power, the surveillance test shall be performed at the required power factor. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable.