AmerGen Energy Company, LLC
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Kennett Square, PA 19348

10 CFR 50.90

March 25, 2005
2130-05-20022

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

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Technical Specification Change Request No. 332 –
Upgrade of 69 KV Offsite Power Transmission Line

Pursuant to 10 CFR 50.90, AmerGen Energy Company, LLC hereby requests a change to the Technical Specifications included in Oyster Creek Operating License No. DPR-16. The change modifies Technical Specification 3.7, Auxiliary Electric Power, to reflect an upgrade in the voltage from 69 Kilovolts to 230 Kilovolts for one of the plant's offsite power transmission lines.

AmerGen Energy Company, LLC requests approval of this change by June 30, 2005, when the upgrade is scheduled to be complete. Once approved, the amendment will be implemented as soon as the upgraded offsite supply line is placed in service.

The proposed change to the Technical Specifications has been reviewed by the Plant Operations Review Committee and approved by the Nuclear Safety Review Board.

We are notifying the State of New Jersey of this application for a change to the Technical Specifications by transmitting a copy of this letter and its attachments to the designated State Official.

If any additional information is needed, please contact Dave Robillard at (610) 765-5952.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

3/25/05
Executed On

Pamela B. Cowan
Director, Licensing & Regulatory Affairs
AmerGen Energy Company, LLC

Enclosures: (1) Oyster Creek Technical Specification Change Request No. 332, Evaluation of Proposed Change.
(2) Oyster Creek Technical Specification Change Request No. 332, Markup of Proposed Technical Specification Page Change.
(3) Oyster Creek Technical Specification Change Request No. 332, Retyped Pages for Technical Specification Change.

cc: S. J. Collins, Administrator, USNRC Region I
P. S. Tam, USNRC Senior Project Manager, Oyster Creek
R. J. Summers, USNRC Senior Resident Inspector, Oyster Creek
K. Tosch, Director, Bureau of Nuclear Engineering, New Jersey Department of Environmental Protection
File No. 04027

ENCLOSURE 1

Oyster Creek Technical Specification Change Request No. 332

Evaluation of Proposed Change

Upgrade of 69 KV Offsite Power Transmission Line

ENCLOSURE 1

Oyster Creek Technical Specification Change Request No. 332

Evaluation of Proposed Change

Upgrade of 69 KV Offsite Power Transmission Line

CONTENTS

1.0 DESCRIPTION

This letter proposes to amend Operating License No. DPR-16 for Oyster Creek Generating Station (OCGS).

The requested change would revise Appendix A, Technical Specifications (TS), of the Operating License to modify Technical Specification 3.7, Auxiliary Electrical Power, to reflect the upgrade of one of the plant's offsite power sources from 69 Kilovolts to 230 Kilovolts (kV). The upgrade is being performed by the owner of the transmission line, Conectiv Energy Company (formerly Atlantic Electric), to increase the capability of the offsite power supply line.

The marked up page showing the requested change is provided in Enclosure 2.

2.0 PROPOSED CHANGE

The proposed amendment would revise TS 3.7.A.3.a to reflect the capability upgrade of one of the offsite power supply lines from 69 kV to 230 kV. Additionally, a clarification change is proposed to TS 3.7.A.2. There is no TS surveillance requirements associated with the offsite power source.

Change TS 3.7.A.3.a (page 3.7-1) by replacing "A 69 KV" with "230 KV S-line." The revised TS 3.7.A.3.a would read: "230 KV S-line fully operational."

Change TS 3.7.A.2 (page 3.7-1) by inserting "(N-line or O-line)." The revised TS 3.7.A.2 would read: "One 230 KV line (N-line or O-line) is fully operational and switch gear and both startup transformers are energized to carry power to the station 4160 volt AC buses and carry power to or away from the plant."

The TS Bases will be revised to reflect these changes. Further, several editorial changes, and a clarification change to reflect the existence of two 34.5 kV lines in the plant's electrical power source design, are incorporated into the Bases. These Bases changes are shown on markup page 3.7-4 in Enclosure 2, and are submitted for your information only.

3.0 BACKGROUND

A function of the Offsite Power System is to provide a backup source of alternating current (ac) power to the station when the main generator is incapable of supplying station loads through the auxiliary transformer. Offsite ac power normally supplies the station auxiliaries through the startup transformers during plant startup. After the station is operating and supplying electric power to the grid, the offsite power acts as a standby source of power. Any plant transient, including manual operator action, that causes either or both the main incoming line circuit breakers (1A or 1B) from the auxiliary transformer to trip will automatically close the corresponding incoming line circuit breakers (S1A or S1B, respectively) from the startup transformers thus transferring

station auxiliaries to the offsite power sources. An exception to this is that, if a fault exists on Bus 1A or 1B, the respective breakers, S1A or S1B, will not close.

A 230 kV system loss would also result in temporary loss of the 34.5 kV serving the startup transformers. For this situation, there are two backup offsite power sources: a 34.5 kV transmission line, and the 69 kV transmission line. The planned modification and its associated Technical Specification change involve the 69 kV line.

4.0 TECHNICAL ANALYSIS

The proposed change will upgrade the existing 69 kV offsite power supply line to a 230 kV supply line. This supply line has the designation of "S-line." The change involves the transmission lines external to the station, and this modification involves no physical or procedural changes to the plant. An evaluation (Reference 4) was performed to assess the effects of the upgrade on the stability of the plant for faults in the vicinity of Oyster Creek, the short circuit duty at Oyster Creek as a result of the upgrade, and the voltage supply to the plant under degraded grid and minimum Technical Specification conditions. The results of the evaluation performed by FirstEnergy and reviewed by Exelon corporate and site Engineering, discussed in the following paragraphs, determined that upgrading the 69 kV line to a 230 kV line does not degrade the reliability of the transmission interconnection with the Oyster Creek plant.

The evaluation found that, for the same Pennsylvania, New Jersey, Maryland (PJM) interconnection transfer, generation, and load conditions, the 230 kV upgrade doesn't significantly change the base reactive output of the plant, but it does improve the voltage drop at the high sides of the Oyster Creek auxiliary banks for a trip of the plant generator. The evaluation determined that this modification strengthens the source. For the condition of a local area blackout, where the supply to the Oyster Creek plant load is restored through the Conectiv tie, the voltage is improved by the upgrade project.

The upgrade does increase the short circuit duty of the Oyster Creek 34.5 kV buses at the substation, but does not exceed the interrupting capability of the equipment at the FirstEnergy buses. This slight increase in the short circuit does not impact the basis for the short circuit at the Oyster Creek 4160 V SWGR.

With the upgrade in-service, the system remains stable for any normally cleared three-phase or single-phase to ground fault associated with the outage of any single element of the 230 kV or of the 34.5 kV transmission grid. The system remains stable for any single-phase to ground fault with the clearing time delayed due to a stuck circuit breaker.

In summary, the upgrade will replace the existing 69 kV offsite power supply line with a 230 kV supply line. An evaluation performed to assess the effects of the upgrade on the Oyster Creek plant determined that upgrading the 69 kV line to a 230 kV line does not degrade the reliability of the transmission interconnection with the Oyster Creek plant.

The clarification change to TS 3.7.A.2 distinguishes the two current 230 kV lines (N-line and O-line) from the new 230 kV S-line.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

AmerGen has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," discussed below:

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

Response: No.

The proposed change upgrades the existing 69 kV offsite power supply line to a 230 kV supply line. An evaluation performed to assess the effects of the upgrade determined that upgrading the 69 kV line to a 230 kV line does not degrade the reliability of the transmission interconnection with the Oyster Creek plant and therefore does not increase the probability of the occurrence of an accident. The proposed change will provide an equivalent or better level of reliability of the offsite power supply system. Since there is no reduction in the reliability of the offsite power supply system, there will be no increase in the potential for fuel failure and there is no increase in the consequences of any accidents previously evaluated.

Therefore, the proposed change does not involve a significant 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 change upgrades the existing 69 kV offsite power supply line to a 230 kV supply line. An evaluation performed to assess the effects of the upgrade determined that upgrading the 69 kV line to a 230 kV line does not degrade the reliability of the transmission interconnection with the Oyster Creek plant. The proposed change does not involve the use or installation of new plant equipment. Installed plant equipment is not operated in a new or different manner. No new or different system interactions are created, and no new processes are introduced.

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

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

Response: No.

The proposed change upgrades the existing 69 kV offsite power supply line to a 230 kV supply line. The active or passive failure mechanisms that could adversely impact the consequences of an accident are not affected by this proposed change. All analyzed transient results remain well within the design values for structures, systems and components.

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

Based on the above, AmerGen concludes that the proposed amendment presents no 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.

5.2 Applicable Regulatory Requirements/Criteria

10 CFR 50.36, paragraph (c)(2)(ii)(C), Criterion 3, states that a technical specification limiting condition for operation of a nuclear reactor must be established for systems that are part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. The proposed TS change involves the offsite power system that is required by 10 CFR 50, Appendix A, GDC 17, to provide the independence and redundancy to ensure an available source of power to the systems identified in Criteria 3 above.

The proposed change will modify the TS to reflect upgrade of the existing 69 kV offsite power supply line to a 230 kV supply line. An evaluation was performed to assess the effects of the upgrade on the stability of the plant for faults in the vicinity of Oyster Creek, the short circuit duty at Oyster Creek as a result of the upgrade, and the voltage supply to the plant under degraded grid and minimum Technical Specification conditions. The results of the evaluation determined that upgrading the 69 kV line to a 230 kV line does not degrade the reliability of the transmission interconnection with the Oyster Creek plant. The proposed change will not reduce the number of offsite power supplies required by the existing TS limiting condition for operation or any actions taken if the requirements of the LCO are not met.

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.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to the offsite electrical power system available for operation of the plant's engineered safety feature systems. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent 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.

7.0 PRECEDENT

The NRC issued Amendment No. 222 to the Operating License for the Oyster Creek Generating Station (Reference 1) that revised the offsite power sources identified in the OCGS Technical Specification 3.7.A.3. The change recognized the 69 KV line as an available offsite power source. The amendment was issued in response to an AmerGen application for amendment (Reference 2), and an AmerGen response (Reference 3) to an NRC request for additional information.

8.0 REFERENCES

1. NRC letter dated December 27, 2001, "Oyster Creek Nuclear Generating Station – Issuance of Amendment Re: Offsite Power Sources (TAC No. MB0976)," Amendment No. 222.

2. AmerGen Energy Company, LLC transmittal of an Application for Amendment to Oyster Creek Generating Station Unit 1 Operating License DPR-16 to NRC from Ron J. DeGregorio, Vice President – Oyster Creek, December 29, 2000, 2130-00-20314, NRC Docket Number 50-219, TAC No. MB976, ADAMS Accession Number ML010110255.

3. AmerGen Company, LLC, Response to Request for Additional Information, Oyster Creek Generating Station Unit 1, Operating License DPR-16, to NRC fro Ron J. DeGregorio, Vice President – Oyster Creek, October 11, 2001, 2130-01-20196, NRC Docket Number 50-219, TAC No. MB0976, ADAMS Accession Number ML012890340.

4. "Impact of the Cardiff-Oyster Creek 230 kV Project on the Reliability of the Transmission Interconnection with the Oyster Creek Nuclear Generation Station," prepared by FirstEnergy, dated September 10, 2002.

ENCLOSURE 2

Oyster Creek Technical Specification Change Request No. 332

Markup of Proposed Technical Specification Page Changes

Revised TS Pages

3.7-1
3.7-4

3.7 AUXILIARY ELECTRICAL POWER

Applicability: Applies to the OPERATING status of the auxiliary electrical power supply.

Objective: To assure the OPERABILITY of the auxiliary electrical power supply.

Specification:

NOTE: LCO 3.0.C.2 is not applicable to Auxiliary Electrical Power.

A. The reactor shall not be made critical unless all of the following requirements are satisfied:

1. The following buses or panels energized.

   a. 4160 volt buses 1C and 1D in the Turbine Building Switchgear Room.

   b. 460 volt buses:

      USS 1A2, USS 1B2, MCC 1A21, MCC 1B21, Vital MCC 1A2, and Vital MCC 1B2 in the Reactor Building 480 V Switchgear Room.

      USS 1A3 and USS 1B3 in the Intake Structure.

      MCC 1A21A, MCC 1A21B, MCC 1B21A, MCC 1B21B, and Vital MCC 1AB2 on Reactor Building Elevation 23' 6".

      MCC 1A24 and 1B24 in the Boiler House.

   c. 208/120 volt panels CIP-3, IP-4, IP-4A, IP-4B, IP-4C and VACP-1 in the Reactor Building Switchgear Room.

   d. 120 volt protection panels PSP-1 and PSP-2 in the Lower Cable Spreading Room.

   e. 125 VDC Distribution Centers DC-B and DC-C.
      125 VDC Power Panels DC-D and DC-F.
      125 VDC MCCs DC-1 and DC-2

   f. 24 volt DC power panels DC-A and DC-B in the Lower Cable Spreading Room.

2. One 230 KV line (N-line or O-line) is fully operational and switch gear and both startup transformers are energized to carry power to the station 4160 volt AC buses and carry power to or away from the plant.

3. An additional source of power consisting of one of the following is in service connected to feed the appropriate plant 4160 V bus or buses:

   a. ~~A 69 KV line~~ 230 KV S-line fully operational.
   b. A 34.5 KV line fully operational.

Bases:

the 230 KV S-line; and one of two 34.5 KV lines is active

The general objective is to assure an adequate supply of power with at least one active and one standby source of power available for operation of equipment required for a safe plant shutdown, to maintain the plant in a safe shutdown condition and to operate the required engineered safety feature equipment following an accident.

; N-line or O-line

AC power for shutdown and operation of engineered safety feature equipment can be provided by any of three active (one or two 230 KV lines, ~~one 69 KV line, and one 34.5 KV line~~) and either of two standby (two diesel generators) sources of power. In applying the minimum requirement of one active and one standby source of AC power, since ~~both~~ two 230 KV lines are on the same set of towers, either one or both 230 KV lines are considered as a single active source. Normally all six sources are available. However, to provide for maintenance and repair of equipment and still have redundancy of power sources the requirement of one active and one standby source of power was established. The plant's main generator is not given credit as a source since it is not available during shutdown.

of the

(N-line or O-line)

The plant 125V DC system consists of three batteries and associated distribution system. Batteries B and C are designated as the safety related subsystems while battery A is designated as a non-safety related subsystem. Safety related loads are supplied by batteries B and C, each with two associated full capacity chargers. One charger on each battery is in service at all times with the second charger available in the event of charger failure. These chargers are active sources and supply the normal 125V DC requirements with the batteries and standby sources. (1)

Action 3.7.D.1 is for one required safety related battery B or battery C charger (i.e., no station battery charger operable for the associated battery) inoperable (e.g., the battery float voltage limit of 4.7.C.1.a is not maintained for battery B or battery C). These Actions provide a tiered response that focuses on returning the battery to the fully charged state and restoring a fully qualified charger to OPERABLE status in a reasonable time period. Action 3.7.D.1.a requires that the battery terminal voltage be restored to greater than or equal to the minimum established float voltage within 2 hours. This time provides for returning the inoperable charger to OPERABLE status or providing an alternate means of restoring battery terminal voltage to greater than or equal to the minimum established float voltage. Restoring the battery terminal voltage to greater than or equal to the minimum established float voltage provides good assurance that, within 12 hours, the associated battery will be restored to its fully charged condition (as verified by Action 3.7.D.1.b) from any discharge that might have occurred due to the charger inoperability.

A discharged battery having terminal voltage of at least the minimum established float voltage indicates that the battery is on the exponential charging current portion (the second part) of its recharge cycle. The time to return a battery to its fully charged state under this condition is simply a function of the amount of the previous discharge and the recharge characteristic of the battery. Thus, there is good assurance of fully recharging the battery within 12 hours, avoiding a premature shutdown with its own attendant risk.

If established battery terminal float voltage cannot be restored to greater than or equal to the minimum established float voltage within 2 hours, and the charger is not operating in the current-limiting mode, a faulty charger is indicated. A faulty charger that is incapable of maintaining established battery terminal float voltage does not provide assurance that it can revert to and operate properly in the current limit mode that is necessary during the recovery period following a battery discharge event that the DC system is designed for.

ENCLOSURE 3

Oyster Creek Technical Specification Change Request No. 332

Retyped Pages for Proposed Technical Specification Change

Revised TS Pages

3.7-1
3.7-4

3.7 AUXILIARY ELECTRICAL POWER

Applicability: Applies to the OPERATING status of the auxiliary electrical power supply.

Objective: To assure the OPERABILITY of the auxiliary electrical power supply.

Specification:

NOTE: LCO 3.0.C.2 is not applicable to Auxiliary Electrical Power.

A. The reactor shall not be made critical unless all of the following requirements are satisfied:

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   a. 4160 volt buses 1C and 1D in the Turbine Building Switchgear Room.

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      USS 1A2, USS 1B2, MCC 1A21, MCC 1B21, Vital MCC 1A2, and Vital MCC 1B2 in the Reactor Building 480 V Switchgear Room.

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      MCC 1A21A, MCC 1A21B, MCC 1B21A, MCC 1B21B, and Vital MCC 1AB2 on Reactor Building Elevation 23' 6".

      MCC 1A24 and 1B24 in the Boiler House.

   c. 208/120 volt panels CIP-3, IP-4, IP-4A, IP-4B, IP-4C and VACP-1 in the Reactor Building Switchgear Room.

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   e. 125 VDC Distribution Centers DC-B and DC-C.
      125 VDC Power Panels DC-D and DC-F.
      125 VDC MCCs DC-1 and DC-2

   f. 24 volt DC power panels DC-A and DC-B in the Lower Cable Spreading Room.

2. One 230 KV line (N-line or O-line) is fully operational and switch gear and both startup transformers are energized to carry power to the station 4160 volt AC buses and carry power to or away from the plant.

3. An additional source of power consisting of one of the following is in service connected to feed the appropriate plant 4160 V bus or buses:

   a. 230 KV S-line fully operational.
   b. A 34.5 KV line fully operational.

Bases:

The general objective is to assure an adequate supply of power with at least one active and one standby source of power available for operation of equipment required for a safe plant shutdown, to maintain the plant in a safe shutdown condition and to operate the required engineered safety feature equipment following an accident.

AC power for shutdown and operation of engineered safety feature equipment can be provided by any of three active (one or two 230 KV lines: N-line or O-line, the 230 KV S-line, and one of two 34.5 KV lines is active) and either of two standby (two diesel generators) sources of power. In applying the minimum requirement of one active and one standby source of AC power, since two 230 KV lines are on the same set of towers, either one or both of the 230 KV lines (N-line or O-Line) are considered as a single active source. Normally all six sources are available. However, to provide for maintenance and repair of equipment and still have redundancy of power sources the requirement of one active and one standby source of power was established. The plant's main generator is not given credit as a source since it is not available during shutdown.

The plant 125V DC system consists of three batteries and associated distribution system. Batteries B and C are designated as the safety related subsystems while battery A is designated as a non-safety related subsystem. Safety related loads are supplied by batteries B and C, each with two associated full capacity chargers. One charger on each battery is in service at all times with the second charger available in the event of charger failure. These chargers are active sources and supply the normal 125V DC requirements with the batteries and standby sources. (1)

Action 3.7.D.1 is for one required safety related battery B or battery C charger (i.e., no station battery charger operable for the associated battery) inoperable (e.g., the battery float voltage limit of 4.7.C.1.a is not maintained for battery B or battery C). These Actions provide a tiered response that focuses on returning the battery to the fully charged state and restoring a fully qualified charger to OPERABLE status in a reasonable time period. Action 3.7.D.1.a requires that the battery terminal voltage be restored to greater than or equal to the minimum established float voltage within 2 hours. This time provides for returning the inoperable charger to OPERABLE status or providing an alternate means of restoring battery terminal voltage to greater than or equal to the minimum established float voltage. Restoring the battery terminal voltage to greater than or equal to the minimum established float voltage provides good assurance that, within 12 hours, the associated battery will be restored to its fully charged condition (as verified by Action 3.7.D.1.b) from any discharge that might have occurred due to the charger inoperability.

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If established battery terminal float voltage cannot be restored to greater than or equal to the minimum established float voltage within 2 hours, and the charger is not operating in the current-limiting mode, a faulty charger is indicated. A faulty charger that is incapable of maintaining established battery terminal float voltage does not provide assurance that it can revert to and operate properly in the current limit mode that is necessary during the recovery period following a battery discharge event that the DC system is designed for.