March 20, 2002

Mr. Oliver D. Kingsley
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT RE: EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION ACTION STATEMENTS ASSOCIATED WITH LOSS OF POWER RELAYS (TAC NOS. MB2271 AND MB2272)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 158 to Facility Operating License No. NPF-39 and Amendment No. 120 to Facility Operating License No. NPF-85 for the Limerick Generating Station, Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated June 26, 2001 and supplemented November 15, 2001.

These amendments revise Technical Specifications (TSs) 3/4.3.3, Actions 36 and 37 of Table 3.3.3-1, and the associated TS Bases. The change to Action 36 clarifies equipment affected by inoperable components. The change to Action 37 takes advantage of the inherent overlap of the degraded voltage relays' characteristics such that inoperable relays that define a channel can be taken out of service without placing its associated source breaker in the trip position.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Christopher Gratton, Sr. Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-352 and 50-353

Enclosures: 1. Amendment No. 158 to License No. NPF-39
2. Amendment No. 120 to License No. NPF-85
3. Safety Evaluation

cc w/encls: See next page

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Limerick Generating Station, Units 1 & 2

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EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 158
License No. NPF-39

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated June 26, 2001, as supplemented by letter dated November 15, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-39 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 158, are hereby incorporated into this license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA VNerses for/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: March 20, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 158

FACILITY OPERATING LICENSE NO. NPF-39

DOCKET NO. 50-352

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 3-36	3/4 3-36
-	3/4 3-36a
B 3/4 3-3	B 3/4 3-3
-	B 3/4 3-3a

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 120
License No. NPF-85

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated June 26, 2001, as supplemented by letter date November 15, 2001, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-85 is hereby amended to read as follows:

   Technical Specifications

   The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 120, are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA VNerses for/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: March 20, 2002

ATTACHMENT TO LICENSE AMENDMENT NO. 120

FACILITY OPERATING LICENSE NO. NPF-85

DOCKET NO. 50-353

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 3-36	3/4 3-36
-	3/4 3-36a
B 3/4 3-3	B 3/4 3-3
-	B 3/4 3-3a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 158 AND 120 TO FACILITY OPERATING

LICENSE NOS. NPF-39 AND NPF-85

EXELON GENERATION COMPANY, LLC

LIMERICK GENERATING STATION, UNITS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

1.0 INTRODUCTION

By letter dated June 26, 2001, as supplemented November 15, 2001, Exelon Generation Company, LLC (Exelon) submitted a request for changes to the Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TSs). The amendment request revises TS Actions 36 and 37 in TS Table 3.3.3-1, "EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION ACTION STATEMENTS." The Actions are associated with the loss-of-power trip function. The relays are designed to monitor the voltage on the emergency buses and trip the associated power supply breaker on a loss-of-voltage (Action 36) or when a degraded voltage condition occurs (Action 37). The November 15, 2001, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

LGS TS Actions 36 and 37 under Table 3.3.3-1 are associated with the loss-of-power relays that monitor the voltage on the emergency buses and offsite power supplies to the emergency buses. Action 36 is associated with the loss-of-voltage undervoltage relays that monitor emergency bus voltage; Action 37 is associated with the degraded voltage undervoltage relays that monitor the offsite power systems.

2.1 Action 36

Each 4 kV emergency bus (4 per unit) is monitored by its own loss-of-voltage undervoltage relay. This bus undervoltage relay provides three functions under the LGS-specific design. If power is lost to the bus, the relay de-energizes to shed loads from the bus and initiates logic to transfer the bus to the alternate offsite source, or to the emergency diesel generator (EDG) if the alternate offsite source is not available. The proposed change to Action 36 declares the alternate offsite source inoperable in addition to the EDG.

LGS Action 36 has the associated EDG declared inoperable when the corresponding loss-of-voltage channel (relay) is inoperable. Although LGS Action 36 is correct as applied to the LGS-specific design, the licensee believes it does not go far enough in describing the impact associated with the inoperable emergency bus undervoltage relay. This relay also affects the

logic to transfer the emergency bus to the alternate offsite source. The licensee proposes to clarify LGS Action 36 to include the alternate offsite source design feature such that the appropriate equipment considerations are made.

2.2 Action 37

Each 4 kV emergency bus can be supplied from either of two offsite sources. Each offsite source breaker to each emergency bus has a degraded voltage scheme that consists of three monitoring relays (i.e.,127-11X0X, 127Y-11X0X, and 127Z-11X0X). The three relays make up a scheme to detect different degrees of voltage degradation (the scheme is described in the subsequent safety assessment, and in Section 8.1.6.3.6 of the LGS Updated Final Safety Analysis Report (UFSAR)). Operation (voltage dropping below the relay setpoint for a minimum time) of any of these three relays results in the tripping of its associated breaker. Tripping of the breaker causes the bus to be de-energized and the loss-of-voltage relay on that bus would then de-energize to shed loads and enable the transfer of the bus to the alternate offsite source or EDG. The proposed change to Action 37 allows one of the three monitoring relays that comprise a scheme to be taken out of service (i.e., placed in the “bypassed” condition) as long as the other two relays in that scheme are operable.

Standard Technical Specification (STS) Action 36 (which corresponds to LGS Action 37, and subsequently referred to as Action 37) is based upon the standard design for degraded voltage monitoring schemes provided in the NRC Power Systems Branch, Branch Technical Position 1 (BTP PSB 1), found in Chapter 8, Appendix 8A, of the Standard Review Plan (NUREG-0800). The standard design utilizes coincident logic to separate the emergency bus from the offsite power system if a sustained degraded voltage condition exists. STS Action 36 requires that an inoperable channel be placed in the tripped condition, thereby making up half of the coincident logic. The LGS-specific design does not utilize coincident logic; placing an inoperable channel in the tripped condition opens the associated offsite source breaker to that emergency bus, limiting one source of viable power to that bus. Details of the LGS-specific design and comparison to BTP PSB 1, along with justification for not providing coincident logic, are also provided by the licensee in Section 8.1.6.3.6 of the LGS UFSAR.

The licensee proposed to change Action 37 to take advantage of the inherent overlap of the degraded voltage relays' characteristics such that inoperable relays that define the channel can be taken out of service without placing its associated source breaker in the tripped condition. The licensee believes the proposed change to Action 37 will provide operational flexibility and increase the availability of offsite power to a 4 kV emergency bus. For two of the three relays in each channel, the proposed change takes credit for the inherent overlap of characteristics of the relays that comprise a channel to permit a relay to be placed in the bypass condition if the other relays in the channel are operable. For the third relay in each channel, the proposal takes credit for the corresponding relays in other channels monitoring the same parameter, along with increased surveillance of the offsite power system. The TS change proposal demonstrates that the loss of any one relay in a channel will not result in the loss of degraded voltage detection capability.

Currently, LGS TS Table 3.3.3-1, Action 36, requires the licensee to declare the associated EDG inoperable and take the action required by TS 3.8.1.1 or 3.8.1.2, as appropriate, when the number of operable channels is less than the total number of channels. Action 37 currently requires the licensee to place an inoperable channel in the tripped condition within 1 hour when

the number of operable channels is one less than the total number of channels; operation may then continue until performance of the next required channel functional test. The licensee proposes to revise Actions 36 and 37 as follows:

Action 36 - With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator and the associated offsite source breaker that is not supplying the bus inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.

Action 37 - With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable device in the bypassed condition subject to the following conditions:

Inoperable Device	Condition
127-11X0X	127Y-11X0X and 127Z-11X0X operable
127Y-11X0X	127-11X0X and 127Z-11X0X operable
127Z-11X0X	127-11X0X and 127Y-11X0X operable. 127Z-11Y0Y operable for the other 3 breakers monitoring that source, offsite source grid voltage for that source is maintained at or above 230 kV (for the 101 Safeguard Bus Source) or 525 kV (for the 201 Safeguard Bus Source), Load Tap Changer for that source is in service and in automatic operation, and the electrical buses and breaker alignment are maintained within bounds of approved plant procedures.

or, place the inoperable channel in the tripped condition within 1 hour and take the Action required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.

Operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.

3.0 EVALUATION

3.1 Action 36

The proposed change to Action 36 revises the current action statement by adding the words “and the associated offsite source breaker that is not supplying the bus.” The proposed change clarifies what equipment is affected by an inoperable loss-of-voltage relay. The loss-of-voltage relay has three functions at LGS. If power is lost to the bus, the relay actuates to shed loads from the bus and to initiate logic to transfer the bus to the alternate offsite source or to the EDG if the alternate offsite source is not available. An inoperable loss-of-voltage relay defeats the logic to transfer the bus to the alternate offsite source or to the EDG following deenergization of the bus. The proposed change to Action 36 is to declare the alternate offsite source inoperable in addition to the EDG. The staff finds that the proposed change to Action 36 is acceptable on the basis that this change assures that the appropriate equipment is identified as inoperable when the loss-of-voltage relay is inoperable.

3.2 Action 37

The proposed change to Action 37 allows one of the three relays that comprises a scheme to be taken out of service (i.e., placed in the "bypassed" condition) as long as the other two relays in that scheme are operable. The current Action states: "With the number of OPERABLE channels one less than the total number of channels, place the inoperable channel in the tripped condition within 1 hour; operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST." The proposed change will permit the offsite source to continue to supply power to the associated emergency bus; it will not require that the offsite source be disconnected due to an inoperable monitoring relay.

The licensee's submittal included a description of the LGS relays' characteristics and a diagram which depicted the inherent overlap characteristics of the three relays in terms of relay response time versus various degraded supply voltage conditions. The staff reviewed the composite relay timing curves and concurs that the relay timing curves demonstrate the inherent overlap characteristics of the 127-11X0X (127), 127Y-11X0X (127Y), and 127Z-11X0X (127Z) monitoring relays, and that overlap in relay timing can be applied to allow one inoperable relay to be taken out of service while still maintaining safe operation of the plant.

The staff evaluated how the inherent overlapping characteristics can be applied to allow one relay be taken out of service without negatively impacting power supply to the emergency buses or the connected loads during both loss-of-coolant accident (LOCA) and non-LOCA conditions. The licensee stated that for relay 127Z, there is no overlap in the detection of a degraded voltage condition available under LOCA conditions. Thus, in order for relay 127Z to be taken out of service, the licensee proposed additional surveillance activity to periodically monitor the source voltage to assure that it is above the minimum value of 95% of the nominal voltage assumed by the voltage regulation calculations. To assure reliable power supply while relay 127Z is out of service, the licensee proposed (1) a plant procedure change to assure that the supplying voltage source be monitored to its 100% nominal value; and (2) the switchyards' grid voltage level to be monitored by a "real time" voltage reading via a "State Estimator Computer" program.

The following paragraphs discuss the operational characteristics of the three monitoring relays; 127, 127Y, and 127Z.

3.2.1 127 Relay

The 127 relay is an inverse time-voltage relay that starts timing below 2905 V (70%), and operates nominally in 1 second (0.92 seconds) at 0 voltage. This relay would be the first degraded voltage relay to detect the total loss of its supply source.

The 127 relay will detect a loss of its offsite source of power under both LOCA and non-LOCA conditions. The non-LOCA function of an inoperable 127 is accomplished by an operable 127Y relay. However, utilizing the 127Y relay results in a longer response time (21-30 seconds) for detecting a loss of the source of offsite power (less than 70%). The licensee stated that this longer time response is not significant under nonaccident conditions. The LOCA function of an inoperable 127 is accomplished by an operable 127Z relay. Under loss of offsite power (LOOP)/LOCA conditions, the EDGs receive a preemptive LOCA start signal before receiving a start signal from the LOOP logic. The EDG starting (acceleration) time is still critical path in this

scenario, and the added 9 seconds in the LOOP detection (10 seconds for operation of the 127Z less the nominal 1-second operation of the 127-relay sequence) is still enveloped by the EDG starting time. The staff requested that the licensee provide the technical bases for the acceptability of the longer response time (21-30 seconds) at a rated voltage of less than 70% nominal voltage. The staff also requested that the licensee address any impact on loads running at reduced terminal voltages for 21 to 30 seconds. In response to the staff's request, the licensee stated that the design function of the 127 relay was to detect a complete loss of its offsite power source; it does not have an equipment protection function. With the 127 relay bypassed (inoperable), the 127Y relay operates within 21 to 30 seconds to detect a complete loss of the offsite source. During this 21 to 30 seconds, all connected loads are already deenergized due to the loss of power. Therefore, there is no adverse impact on any connected or running load.

3.2.2 127Y Relay

The 127Y relay is also an inverse time-voltage relay that starts timing below 3640 V (87.5%) with a total time-delay of 60 seconds or less. The purpose of this relay is to detect degraded voltages between the ranges of the first and third relays, and to provide an inverse time-voltage characteristic that bridges the range between the 127 and 127Z relays.

The 127Y relay has no LOCA function. The non-LOCA function of an inoperable 127Y relay is accomplished by an operable 127Z relay. Under LOCA conditions, the 127Z always responds sooner than the 127Y to degraded-voltage conditions. The setpoint of 127Z is higher than that of the 127Y, and the delay of the 127Z LOCA timer is less than the minimum time delay of the 127Y relay. Under non-LOCA conditions, the 127Y relay bridges the range between the 127 and 127Z. The 127Y relay is designed to trip between 60 seconds for 87.5% voltage and 31 seconds for 70% voltage. If the bus voltage made a step change to this range (87.5 - 70%) with the 127Y relay inoperable, the trip would not take place until the 127Z relay executed its 60-second time delay after the voltage change. If the voltage incrementally decreased to 70% of nominal, the trip would be delayed an additional 29 seconds beyond the protection normally provided by the 127Y relay (31 seconds). The licensee stated that operating at this voltage for less than 30 seconds would not have any detrimental effects on the connected equipment.

The staff asked the licensee to provide the technical bases why operating at a degraded voltage of less than 87.5% but greater than 70% of voltage for a maximum additional 29-second time period under non-LOCA conditions would not have a detrimental effect on the connected equipment. In response, the licensee indicated that the maximum additional time the connected equipment would be supplied from a degraded voltage source with the 127Z relay providing the protection for the 127Y relay under non-LOCA would be as follows: 15 seconds at 85% voltage; 25 seconds at 80% voltage; and 29 seconds at >70% voltage. The equipment operating time under degraded conditions is only an issue under non-LOCA conditions, since the 127Z totally envelops the 127Y under LOCA conditions.

Four categories of loads are energized from the emergency buses: lighting, motors, controls, and electronics. Lighting is a resistive load; lower voltage would reduce the current, causing dimming or flickering of the lights. The staff considers this condition acceptable. The National Electrical Manufacturer Association (NEMA) MG-1, paragraph 12.49, states that motors less than 500 HP and 1000 V can withstand current 1.5 times the full-load current for 120 seconds and paragraph 20.38 states that large induction motors can withstand current 1.5 times full-load

current for 30 seconds. Heating caused by overcurrent will reduce insulation life. Heating varies approximately as the product of the square of the current and the time the current is carried. For the 460 V motors, the NEMA standard permits operation at 150% current for 120 seconds. Assuming that these motors act as constant-load devices, a 30% decrease in voltage would increase current 30%. These 460 V motors are bounded by the requirements of the NEMA standard for both the current and time factors. In normal operation, the only large induction motors that might be running are the control rod drive pump motors, the residual heat removal service water pump motors, and the emergency service water pump motors. Engineering judgment suggests that a motor would not be damaged in the time it takes the 127Z relay to detect an incremental decrease to 70% voltage (60 seconds). Applying the I^2T heating formula to the incremental increases in overcurrent, a 30% increase in current could be tolerated for over 80 seconds, or a 35% increase in current would be tolerated for 60 seconds. Therefore, operation at >70% voltage for 60 seconds would have no detrimental effects on the motors.

Contacts and relays are constant-impedance electro-mechanical devices. A decrease in the voltage supplied to contacts and relays cannot result in an increase in current or heating. The standard relays for LGS are the Agastat GP and TR relays. The manufacturer's specification for these relays indicates these relays drop out at 12-48% of nominal voltage. This voltage is substantially below the value under consideration. Although not expected, operation under degraded voltage conditions may cause relays and contacts to drop out. This condition, however, would result in the electrical system reaching the same endstate as allowing the 127Z relay to operate and open the source breaker, and is therefore acceptable. Electronic equipment supplied from the 120 V system has internal power supplies. These power supplies are typically rectified with voltage-clamping devices, which are immune to voltage variations of this magnitude. If the power supply is internally protected with a fuse or circuit breaker, engineering design practices assure that the fuse would not blow under this scenario. Fuses are typically selected so that full-load current does not exceed 80% of the fuse current rating. A 30% increase in full-load current (due to a 30% decrease in voltage) would only result in 104% of the fuse current rating. Fuses typically begin to operate at 120-130% of their current rating, with a substantial delay. Other electrical power devices, such as battery chargers, monitor their input voltage and shut down if the input voltage is unacceptable. Premature shutdown of the equipment is acceptable since the 127Z relay will operate in 60 seconds to disconnect the source, regardless of whether the equipment is operating.

3.2.3 127Z Relay

The 127Z relay is a definite time-voltage relay that operates below 3910 V (94%). This is a sensing relay and is used to drive the two auxiliary timing relays that are set to operate at 60 seconds (non-LOCA) and 9 seconds (LOCA). The purpose of the non-LOCA time-delay is to allow sufficient time for the automatic load tap changers on the safeguard transformers to adjust and to counter the degraded voltage condition. The LOCA auxiliary timing relay limits the exposure of Class 1E equipment to the degraded voltage condition to a maximum of 9 seconds. The LOCA auxiliary timing relay also prevents spurious trips of the offsite source breaker during voltage transients caused by motor starts.

Unlike the 127 and 127Y relays, there is no overlap of detection of a degraded voltage condition available for the 127Z relay under LOCA conditions. This function can be accomplished by assuring that the corresponding offsite source voltage is above the minimum value assumed by

the voltage regulation calculations. TS Bases 3/4.8 specifies the acceptable grid voltage levels and equipment status (bus alignment configuration and load tap changer operability) used to define the operability of the offsite sources. TS Bases 3/4.8 states that a grid voltage of 95% nominal is an acceptable value. If the offsite source voltage is maintained above this value, then the voltage regulation calculations demonstrate that the voltage profile throughout the LOCA loading sequence would be acceptable and would not cause the 127Z relay to operate. The proposed change to the TS requires that grid voltage be maintained at 100% nominal. This provides an additional 5% margin to the value assumed in the voltage regulation calculations. If the grid voltage specified conditions are not met, the inoperable channel is placed in the tripped condition which will trip the associated offsite source breaker to that bus. However, the remaining three buses in that unit would still have access to that offsite source with degraded voltage protection available through their voltage monitoring relay scheme.

Since a three-relay loss-of-voltage scheme is involved in current TS Actions 36 and 37, and one relay in this three-relay scheme is proposed to be taken out of service, the staff questioned the reliability of the relays. In a letter dated November 15, 2001, the licensee stated that a review of the last 3 years of data describing the “as found” and “as left” calibration points for the relays indicated that there were no reported instances where the “as-found” relay setpoints were outside their required ranges.

Based on the above review, the staff finds the proposed change to Action 37 takes advantage of the current, as-installed, inherent overlapping characteristic of the degraded voltage relays protection scheme. The change allows one of the relays in the three-relay protection scheme be taken out of service without placing its associated power source breaker in the tripped position, provided the other remaining two relays in that scheme are operable. Bypassing any one relay or channel will not result in the loss of degraded voltage detection capability. Sufficient detection will be maintained by the remaining relays and the operator action of monitoring grid voltage. To compensate for the non-overlapping characteristic of relay 127Z, the licensee stated that prior to its implementation of the above proposed changes, necessary procedure changes will be in place to ensure that the applicable grid voltage is stable and monitored at its 100% nominal voltage level. The proposed change to Action 37 is consistent with the requirement of Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 50), Appendix A, General Design Criterion 17, and will permit the offsite source to continue to supply power to the associated emergency bus by two independent circuits. The offsite source need not be disconnected due to an inoperable monitoring relay. Therefore, the staff concludes that the proposed changes to ACTION 37 are acceptable.

The staff also reviewed the changes to TS Bases 3/4 3.3, “EMERGENCY CORE COOLING ACTUATION INSTRUMENTATION,” and found them consistent with the proposed TS changes.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments 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. The NRC staff has

determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (66 FR 44171). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

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