



PECO NUCLEAR

A Unit of PECO Energy

PECO Energy Company
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

October 30, 1998

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Limerick Generating Station, Units 1 and 2
Technical Specifications Change Request No. 98-06-0
Discrepancy Resolution Between GENE Specification for Power Supply
Monitoring Relays And Existing Tech Spec Allowable Values

Dear Sir/Madam:

PECO Energy Company is submitting Technical Specifications (TS) Change Request No. 98-06-0 in accordance with 10 CFR 50.90, requesting an amendment to the TS (i.e., Appendix A) of Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station, Units 1 and 2, respectively. This proposed TS Change Request revises TS Surveillance Requirements 4.8.4.3.b.1, 4.8.4.3.b.2, and 4.8.4.3.b.3 in order to reflect relay setpoint calculation methodology. Specifically, this proposed TS change will revise the listed Overvoltage (OV), Undervoltage (UV) and Underfrequency (UF) values associated with the Reactor Protection System electric power monitoring channels and add supporting details in the TS Bases Section 3 /4.8.4. This proposed TS Change Request does not require any changes to currently established setpoints. Information supporting this TS Change Request is contained in Attachment 1 to this letter, and the proposed replacement pages (including mark-ups) for the LGS, Units 1 and 2, TS are contained in Attachment 2. This information is being submitted under affirmation, and the required affidavit is enclosed.

We request that, if approved, the amendments to the LGS, Units 1 and 2, TS be issued by May 1, 1999 and become effective within 30 days of issuance.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

G. D. Edwards,
Director-Licensing

Attachments
Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC (w/ attachments, enclosure)
A. L. Burritt, USNRC Senior Resident Inspector, LGS (w/ attachments, enclosure)
R. R. Janati, Director, PA Bureau of Radiation Protection, (w/ attachments, enclosure)

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October 30, 1998

Page 2

bcc: G. R. Rainey - 63C-3
J. D. von Suskil - LGS, SMB1-1
J. J. Hagan - 62C-3
R. W. Boyce - 63C-3
J. P. Grimes - LGS, SSB3-1
S. J. Bobyock - LGS, SSB3-1
C. J. Kerr - CB, 63B-3
J. E. Thompson - LGS, SSB3-1
D. P. Helker - 62A-1
T. A. Moore - LGS, SSB2-4
B. Dolhanczyk - LGS, SSB2-4
PA DEP BRP Inspector - LGS, SSB2-4
Commitment Coordinator - 62A-1
Correspondence Control Desk
DAC

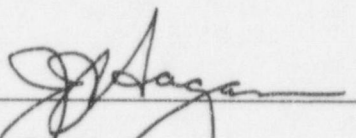
COMMONWEALTH OF PENNSYLVANIA :

:

COUNTY OF CHESTER :

J. J. Hagan, being first duly sworn, deposes and says:

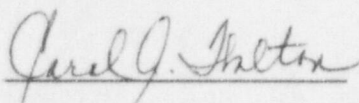
That he is Vice President of PECO Energy Company, the Applicant herein; that he has read the foregoing Technical Specifications Change Request No. 98-06-0 for Limerick Generating Station, Units 1 and 2, to resolve a discrepancy between GENE Design Specification for Power Supply Monitoring Relays and Existing Tech Spec Allowable Values, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information, and belief.


Vice President

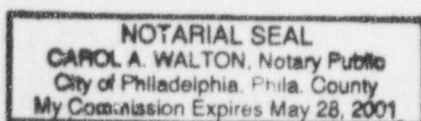
Subscribed and sworn to

before me this *27th* day

of *October* 1998.



Notary Public



ATTACHMENT 1

LIMERICK GENERATING STATION

UNITS 1 AND 2

Docket Nos. 50-352
 50-353

License Nos. NPF-39
 NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST

No. 98-06-0

"Discrepancy Resolution Between GENE Design Specification for Power Supply
Monitoring Relays and Existing Tech Spec Allowable Values "

Supporting Information for Changes - 3 pages

Attachment 1

PECO Energy Company, Licensee under Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station, Units 1 and 2, respectively, requests that the Technical Specifications (TS) contained in Appendix A to the Operating Licenses be amended as proposed herein, to revise TS Surveillance Requirements. This proposed TS Change Request revises TS Surveillance Requirements 4.8.4.3.b.1, 4.8.4.3.b.2, and 4.8.4.3.b.3 in order to reflect relay setpoint calculation methodology. Specifically, this proposed TS change will revise the listed Overvoltage (OV), Undervoltage (UV) and Underfrequency (UF) values associated with the Reactor Protection System (RPS) electric power monitoring channels and add supporting details in the TS Bases Section 3 / 4.8.4 for both Units 1 and 2. The proposed replacement pages (including mark-ups) for the LGS, Units 1 and 2, TS are contained in Attachment 2.

We request that, if approved, the TS changes proposed herein be issued by May 1, 1999, and become effective within 30 days of issuance.

This TS Change Request provides a discussion and description of the proposed TS changes, a safety assessment of the proposed TS changes, information supporting a finding of No Significant Hazards Consideration, and Information Supporting an Environmental Assessment.

Discussion and Description of the Proposed Changes

Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TS) Surveillance Requirements 4.8.4.3.b.1, 4.8.4.3.b.2, and 4.8.4.3.b.3 list the Overvoltage (OV), Undervoltage (UV), and Underfrequency (UF) values for the protective instrumentation for the RPS electric power monitoring channels. The proposed changes correct a discrepancy between the General Electric Nuclear Engineering (GENE) Design Specification for Power Supply Monitoring Relays and the existing TS Allowable Values (AVs). The changes will revise the OV, UV, and UF values from 132VAC, 109VAC, and 57Hz to 127.6VAC, 110.7VAC, and 57.05Hz respectively. The OV, UV, and UF setpoints for the protective instrumentation for the RPS electric power monitoring channels will not need to be changed since the current setpoint values are more conservative than the existing and proposed TS Allowable Values.

The proposed changes also include an addition to the TS Bases Section 3 / 4.8.4 providing details as to how the Allowable Values are derived and the basis for the instrument settings.

Safety Assessment

During a revision to a calculation for RPS Breaker Panel - RPS / UPS System Bus Relay Settings, an apparent discrepancy between existing Tech Spec 4.8.4.3 and GE Design Specification 22A3083AB was identified. Technical Specification (TS) 4.8.4.3 identifies the required values for the Reactor Protection System Electric Power Monitoring relays; OV, UV, and UF. The existing TS values are:

Overvoltage \leq 132 VAC
Undervoltage \geq 109 VAC
Underfrequency \geq 57 HZ

The referenced GE design specification provides the criteria for setting the respective relays to ensure critical RPS components are not subjected to abnormal voltages. Part of this methodology is to include limiting voltage drops between the relays and the critical components. Recent calculations and field measurements have identified voltage drops between 4.5 VAC and 12.5 VAC.

When these voltage drops are factored into the TS values and setpoints for the OV and UV relays, the resultant settings are not in compliance with manufacturer's operational range of voltages for the Scram Solenoid Pilot Valves (105 volts for undervoltage) and Scram Discharge Volume Solenoid Valves (125 volts for overvoltage) using the existing TS values. In addition, when instrument setpoint methodology was applied to the calculation of the OV, UV and UF relay setpoints, the existing TS Allowable Values could not be supported.

A Non-Conformance Report (NCR) dispositioned a revision to the setpoint calculation which determined the appropriate values for the OV, UV, and UF relays. The purpose of this TS Change Request is to process the required TS change to section 3 /4.8.4.3 for the new Allowable Values:

Overvoltage: 127.6 VAC
Undervoltage: 110.7 VAC
Underfrequency: 57.05 HZ

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the Limerick Generating Station (LGS), Units 1 and 2, Technical Specifications (TS) to revise Technical Specifications Surveillance Requirements 4.8.4.3.b.1, 4.8.4.3.b.2, and 4.8.4.3.b.3 to resolve the discrepancy between GENE Design specification for Power Supply Monitoring Relays and Existing TS Allowable Values do not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

1. The proposed Technical Specifications (TS) changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed Tech Spec changes to section 4.8.4.3.b for the Overvoltage (OV), Undervoltage (UV), and Underfrequency (UF) relays are more conservative than the existing TS values. This change provides more protection for the associated RPS components, thus decreasing the probability of a failure in RPS. The associated Non-Conformance Report and calculation provide assurance that the OV / UV / UF settings are acceptable since the calculated values assure that the RPS components will operate within their ratings. There are no physical changes to the associated protective relays by the TS change; thus, original design basis redundancy and separation is maintained. There is no change in the interface of the RPS and its power supplies.

The safety function of the RPS is to initiate a reactor scram in order to protect the primary fission products barrier, the reactor fuel. The proposed TS Change to impose more conservative Allowable Values for the OV, UV, and UF relays will provide additional assurance that the RPS will operate within equipment voltage and frequency ratings, and will not be damaged by power system anomalies. This change will not affect the scram function of RPS; thus, the consequences of any design basis events will not be affected.

Therefore, the proposed TS changes do not involve an increase in the probability or consequences of an accident previously evaluated.

2. The proposed TS changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed TS Allowable Values changes will not result in any physical changes to the RPS Electric Power Monitoring System. Existing setpoints will not be changed, only the TS Allowable Values are being modified to be more conservative.

The system redundancy and independence are not changed, and no new failure modes are introduced.

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

3. The proposed TS changes do not involve a significant reduction in a margin of safety.

Currently, there are no TS bases for the existing RPS Electric Power Monitoring System OV, UV, and UF allowable values. Specific analytical limits for system voltage and frequency are not defined in the Safety Analysis Report, nor discussed in any design basis Allowed Outage Time or accident evaluation.

Investigation into the licensing basis has identified nominal values of +/- 10% of 120 VAC and -5% of 60 HZ for the Allowable Values. These values are included in NUREG 0123, from which LGS's TSs were developed. NUREG 0123 also provides no bases for these values.

The proposed changes in the TS Allowable Values is based on a revision to the calculation for RPS Breaker Panel - RPS / UPS System Bus Relay Settings . This revision determines the new allowable values based on the design ratings of RPS components, and factors in instrument inaccuracies and margin. These changes will also provide bases for the associated TS section. The proposed changes bring TSs into agreement with plant design specifications.

Therefore, the proposed TS changes do not involve a significant reduction in a margin of safety.

Information Supporting an Environmental Assessment

An Environmental Assessment is not required for the changes proposed by this TS Change Request because the requested changes to the LGS, Units 1 and 2, TS conform to the criteria for "actions eligible for categorical exclusion," as specified in 10 CFR 51.22(c)(9). The requested changes will have no impact on the environment. The proposed changes do not involve a Significant Hazards Consideration as discussed in the preceding section. The proposed changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed these proposed changes to the LGS, Units 1 and 2, TS and have concluded that they do not involve an unreviewed safety question, and will not endanger the health and safety of the public.

ATTACHMENT 2

LIMERICK GENERATING STATION

UNITS 1 AND 2

Docket Nos. 50-352
 50-353

License Nos. NPF-39
 NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST

No. 98-06-0

LIST OF AFFECTED PAGES

<u>Unit 1</u>	<u>Unit 2</u>
3/4 8-28	3/4 8-28
B 3/4 8-3	B 3/4 8-3

ELECTRICAL POWER SYSTEMS

BASES

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

Bypassing motor operated valves thermal overload protection ensures that the thermal overload protection will not prevent safety related valves from performing their function. For motor operated valves with spring return-to-center control switches, the thermal overload is bypassed by the automatic control signals associated with the Class 1E valves. For Class 1E motor operated valves with maintained contact control switches, the thermal overloads do not interrupt the valve motor power circuit, but they alarm on an overload condition in the control room. The Surveillance Requirements for demonstrating the bypassing of the thermal overload protection continuously are met by functionally testing the automatic operation of the motor operated valve and ensuring that the motor thermal overload protection design does not change and is in accordance with Regulatory Guide 1.106 "Thermal Overload Protection for Electric Motors on Motor Operated Valves", Revision 1, March 1977.

INSERT (A)

ELECTRICAL POWER SYSTEMS

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3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

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The RPS Electric Power Monitoring System is provided to isolate the RPS bus from the RPS/UPS inverter or an alternate power supply in the event of overvoltage, undervoltage, or underfrequency. This system protects the loads connected to the RPS bus from unacceptable voltage and frequency conditions. The essential equipment powered from the RPS buses includes the RPS logic, scram solenoids, and valve isolation logic.

The Allowable Values are derived from equipment design limits, corrected for calibration and instrument errors. The trip setpoints are then determined, accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection and include allowances for instrumentation uncertainties, calibration tolerances, and instrument drift.

The Allowable Values for the instrument settings are based on the RPS providing power within the design ratings of the associated RPS components (e.g., RPS logic, scram solenoids). The most limiting voltage requirement and associated line losses determine the settings of the electric power monitoring instrument channels.

ELECTRICAL POWER SYSTEMS

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INSERT (A)

ELECTRICAL POWER SYSTEMS

REACTOR PROTECTION SYSTEM ELECTRICAL POWER MONITORING

LIMITING CONDITION FOR OPERATION

3.8.4.3 Two reactor protection system (RPS) electric power monitoring channels for each inservice RPS Inverter or alternate power supply shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

- a. With one RPS electric power monitoring channel for an inservice RPS Inverter or alternate power supply inoperable, restore the inoperable power monitoring channel to OPERABLE status within 72 hours or remove the associated RPS Inverter or alternate power supply from service.
- b. With both RPS electric power monitoring channels for an inservice RPS Inverter or alternate power supply inoperable, restore at least one electric power monitoring channel to OPERABLE status within 24 hours or remove the associated RPS Inverter or alternate power supply from service.

SURVEILLANCE REQUIREMENTS

4.8.4.3 The above specified RPS electric power monitoring channels shall be determined OPERABLE:

- a. By performance of a CHANNEL FUNCTIONAL TEST each time the plant is in COLD SHUTDOWN for a period of more than 24 hours, unless performed in the previous 6 months.
- b. At least once per 24 months by demonstrating the OPERABILITY of overvoltage, undervoltage, and underfrequency protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic, and output circuit breakers and verifying the following setpoints.

1. Overvoltage \leq ~~132~~ VAC, \sim 127.6 VAC
2. Undervoltage \geq ~~109~~ VAC, \sim 110.7 VAC
3. Underfrequency \geq ~~57~~ Hz. \sim 57.05 HZ

ELECTRICAL POWER SYSTEMS

REACTOR PROTECTION SYSTEM ELECTRICAL POWER MONITORING

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