

November 14, 2012

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

Limerick Generating Station, Units 1 and 2
Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

SUBJECT: License Amendment Request
Proposed Relocation of Motor Operated Valves Thermal Overload Protection
Technical Specifications

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, respectively.

The proposed changes relocate the operability and surveillance requirements for motor operated valve (MOV) thermal overload (TOL) protection from LGS TS Section 3.8.4.2, "Electrical Equipment Protective Devices - Motor Operated Valves Thermal Overload Protection," to the LGS Technical Requirements Manual (TRM).

The proposed changes conform to the requirements of 10 CFR 50.36 for the contents of TS, and are consistent with the improved Standard Technical Specifications issued by the NRC in NUREG-1433, "Standard Technical Specifications – General Electric BWR/4 Plants."

Exelon has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92.

The proposed changes have been reviewed by the LGS Plant Operations Review Committee and approved by the Nuclear Safety Review Board in accordance with the requirements of the Exelon Quality Assurance Program.

This amendment request contains no regulatory commitments.

Attachment 1 provides the evaluation of the proposed changes. Attachment 2 provides a copy of the marked up TS pages that reflect the proposed changes. Attachment 3 provides a copy of the marked up TS Bases pages that reflect the proposed changes (information only).

U.S. Nuclear Regulatory Commission
License Amendment Request
Relocation of MOV TOL Protection Technical Specifications
Docket Nos. 50-352 and 50-353
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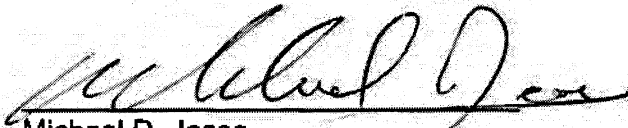
Exelon requests approval of the proposed amendment by November 14, 2013. Upon NRC approval, the amendment shall be implemented within 60 days of issuance.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the State of Pennsylvania of this application for license amendment by transmitting a copy of this letter and its attachments to the designated State Official.

If you have any questions or require additional information, please contact Glenn Stewart at 610-765-5529.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 14th day of November 2012.

Respectfully,



Michael D. Jesse
Director, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

- Attachments:
1. Evaluation of Proposed Changes
 2. Markup of Proposed Technical Specifications Pages
 3. Markup of Proposed Technical Specifications Bases Pages (Information Only)

cc:	Regional Administrator - NRC Region I	w/ attachments
	NRC Senior Resident Inspector - Limerick Generating Station	"
	NRC Project Manager, NRR - Limerick Generating Station	"
	Director, Bureau of Radiation Protection - Pennsylvania Department of Environmental Protection	"

ATTACHMENT 1

License Amendment Request

Limerick Generating Station, Units 1 and 2

Docket Nos. 50-352 and 50-353

EVALUATION OF PROPOSED CHANGES

Subject: Proposed Relocation of Motor Operated Valves Thermal Overload Protection Technical Specifications

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2.0 DETAILED DESCRIPTION

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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, respectively.

The proposed changes relocate the operability and surveillance requirements for motor operated valve (MOV) thermal overload (TOL) protection from LGS TS Section 3.8.4.2, "Motor Operated Valves Thermal Overload Protection," to the LGS Technical Requirements Manual (TRM). In accordance with LGS Updated Final Safety Analysis Report (UFSAR), Section 13.5.3 (Reference 1), the TRM is controlled as a procedure described in the UFSAR and is, therefore, subject to the requirements of 10 CFR 50.59. Accordingly, any future changes to MOV TOL protection operability and surveillance requirements will be performed pursuant to 10 CFR 50.59.

The proposed changes conform to the requirements of 10 CFR 50.36 (Reference 2) for the contents of TS, and are consistent with the improved Standard Technical Specifications approved by the NRC in NUREG-1433, "Standard Technical Specifications – General Electric BWR/4 Plants" (Reference 3).

2.0 DETAILED DESCRIPTION

The NRC provided guidance for the contents of TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (58 FR 39132, July 22, 1993; Reference 4). In particular, the NRC indicated that certain items could be relocated from the TS to licensee-controlled documents. The Final Policy Statement identified future criteria to be used in determining whether particular safety functions are required to be included in the TS. The criteria are restated below.

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 3: A structure, system, or component that is 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.

Criterion 4: A structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

The NRC subsequently adopted an amendment to 10 CFR 50.36 (60 FR 36953, July 19, 1995; Reference 5) to codify and incorporate these criteria.

The NRC policy statement provides that those existing TS requirements which do not satisfy these four specified criteria may be relocated to licensee-controlled documents, such that future changes could be made to these provisions pursuant to 10 CFR 50.59.

Additionally, the nuclear steam supply system owners' groups and the NRC staff developed improved Standard Technical Specifications (STS) that established models of the Commission's policy for each primary reactor type. The NRC issued the improved STS for General Electric BWR/4 plants as NUREG-1433, which was developed utilizing the guidance and criteria in the Commission's policy statement.

The changes requested by this amendment application, based on the criteria specified in the NRC Final Policy Statement, the requirements of 10 CFR 50.36, and the guidance provided in NUREG-1433, are described below.

1. TS Index, page xv for LGS, Units 1 and 2, under Section 3/4.8.4, "Electrical Equipment Protective Devices," will be revised to replace the words "Motor-Operated Valves Thermal Overload Protection" with the word "(Deleted)."
2. TS Section 3.8.4.2, including Limiting Condition for Operation 3.8.4.2 and Surveillance Requirements 4.8.4.2.1 and 4.8.4.2.2, on TS page 3/4 8-27 for LGS, Units 1 and 2, will be deleted in its entirety. The page will indicate "Section 3/4.8.4.2 (Deleted)" and state: "Page Intentionally Left Blank."
3. TS Bases Section 3/4.8.4, "Electrical Equipment Protective Devices," page B 3/4 8-3 for LGS, Units 1 and 2, will be revised to delete the first paragraph which provides the discussion concerning the MOV TOL protection.

The marked up pages that reflect the proposed changes are provided in Attachment 2 (TS pages) and Attachment 3 (TS Bases pages - information only). Prior to implementation of the amendment, operability and surveillance requirements for the MOV TOL protection will be incorporated into the LGS TRM. Any subsequent changes to the TRM requirements will be performed in accordance with 10 CFR 50.59.

3.0 TECHNICAL EVALUATION

TS Section 3.8.4.2

The proposed license amendment relocates the MOV TOL protection operability and surveillance requirements from the LGS TS to the LGS TRM. In accordance with LGS UFSAR, Section 13.5.3, the TRM is controlled as a procedure described in the LGS UFSAR and, therefore, is subject to the requirements of 10 CFR 50.59. The TRM has been used to capture and control other previously relocated TS requirements.

As discussed previously, the NRC concluded that those existing TS requirements which do not satisfy the screening criteria specified in 10 CFR 50.36 may be deleted from the TS, and the requirements established in licensee-controlled documents that are subject to the controls of 10 CFR 50.59.

An assessment of the subject MOV TOL protection against the four criteria of 10 CFR 50.36 is provided below.

MOV TOL protection provides equipment protection to prevent deterioration of the insulation in the motor winding. Bypassing the TOL protection of certain MOVs during accident conditions minimizes the potential that the actuation of a TOL device could prevent a vital piece of equipment from performing its intended function during a design basis accident.

Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

This criterion addresses instrumentation installed to detect excessive reactor coolant system (RCS) leakage. LGS TS 3.8.4.2 does not cover installed instrumentation that is used to detect and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. MOV TOL devices are used for protection of MOV motor windings and the bypass of that protection during accident conditions does not satisfy Criterion 1.

Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The purpose of this criterion is to capture those process variables that have initial values assumed in the design basis accident and transient analyses, and that are monitored and controlled during power operation. This criterion also includes active design features (e.g., high-pressure/low-pressure system valves and interlocks) and operating restrictions (pressure/temperature limits) needed to preclude unanalyzed accidents and transients.

Bypassing the MOV TOL protection for certain valves during accident situations ensures that inadvertent actuation of the TOL protection will not impact the operation of the MOV during an accident condition, which helps preserve the assumptions of the accident analysis by enhancing proper equipment operation. However, MOV TOL protection is not a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of, or presents a challenge to, the integrity of a fission product barrier. Thus, MOV TOL protection, and the bypass of that protection during accident conditions, does not satisfy Criterion 2.

Criterion 3: A structure, system, or component that is 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 purpose of this criterion is to capture only those structures, systems, and components that are part of the primary success path of the safety analysis (an examination of the actions required to mitigate the consequences of the design basis accident and transients). The primary success path of a safety analysis consists of the combinations and sequences of equipment needed to operate so that the plant response to the design basis accident and the transients limits the consequences of these events to within the appropriate acceptance criteria. Also captured by this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function, but the criterion does not include backup and diverse equipment.

MOV TOL protection devices provide equipment protection to prevent deterioration of the insulation in the motor winding. However, the MOV TOL protection devices are not a structure, system, or component that is part of the primary success path whose function or actuation mitigates a design basis accident or transient that either assumes the failure of, or presents a challenge to, the integrity of a fission product barrier. Thus, MOV TOL protection devices do not satisfy Criterion 3.

MOV control circuits at LGS have one to three parallel legs that will open or close the valve. For valves with an automatic signal, this leg directly operates the open or close contactor coil. There is no contact from the TOL in this leg of the circuit. Since the automatic signal is a maintained signal, the valve stroke continues to completion until it is halted by the limit or torque switch on the valve operator. The second leg in the open or close circuit is from the manual control switch. If the control switch has maintained contacts, this leg also directly operates the open or close contactor coil, and there are no contacts from the TOL in this leg of the circuit. If the manual control switch is a momentary contact, spring return to normal control switch, then a third leg is utilized to seal-in the open or close signal parallel to the momentary contact and automatic signal contact. The seal-in leg does have a contact from the TOL in series with the seal-in. If the TOL were to operate, then the seal-in leg would open, and the valve would stop stroking. Therefore, the only time that the TOL would actually stop valve travel would be for manual operation of a valve with a spring return to normal control switch. Operation could be resumed on this valve by holding the spring return to normal control switch in the open or close position until valve travel is halted by the limit or torque switch on the valve operator. Bypassing the MOV TOL protection during accident conditions minimizes the potential for inadvertent actuation of a TOL device which could prevent a vital piece of equipment from performing its intended function. However, there is no active signal used to "bypass" the TOLs in the LGS design; the TOL isn't in the legs of the valve circuit that are required under accident conditions. Thus, the bypass of MOV TOL protection during accident conditions does not satisfy Criterion 3.

Criterion 4: A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The purpose of this criterion is to capture only those structures, systems, and components that operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The bypassing of MOV TOL protection during accident conditions is not a structure, system, or component that operating experience or probabilistic risk assessment has shown to be significant to public health and safety. The Maintenance Rule (10 CFR 50.65) does not require this to be monitored for unavailability separate from the associated MOV; therefore, unavailability monitoring of the MOV TOL protection bypass is not performed at LGS. In addition, a review of industry operating experience did not produce any examples where the failure of MOV TOL protection bypass has had a significant adverse effect on public health and safety. MOV TOL protection devices and their bypass are not specifically modeled in the LGS probabilistic risk assessment. MOV TOL protection bypass failure is an insignificant contributor to the total failure probability for the associated MOV. Thus, MOV TOL protection bypass during accident conditions does not meet Criterion 4.

The requirements contained in the TS 3.8.4.2 for MOV TOL protection bypass do not meet any of the 10 CFR 50.36c(2)(ii) criteria for items that must be in the TS. In addition, NUREG-1433 identifies improved TS that were developed based on the screening criteria in the "Final Commission Policy Statement on Technical Specifications Improvement for Nuclear Power Reactors," that were subsequently codified in 10 CFR 50.36. NUREG-1433 does not contain any operability or surveillance requirements for MOV TOL protection bypass.

The proposed changes do not alter the physical design of any plant structure, system, or component; therefore, the proposed changes have no adverse effect on plant operation, or the availability or operation of any accident mitigation equipment. The plant response to the design basis accidents does not change. The proposed changes do not require any new or unusual operator actions. The proposed changes do not introduce any new failure modes that could result in a new accident. There is no change being made to safety analysis assumptions, safety limits or limiting safety system settings that would adversely affect plant safety as a result of the proposed changes.

Therefore, the MOV TOL TS requirements can be relocated to the TRM.

TS Bases Section 3/4.8.4

The TS Bases specific to MOV TOL protection (TS Section 3.8.4.2) contained in TS Bases Section 3/4.8.4, "Electrical Equipment Protective Devices," will be relocated to the TRM to reflect the proposed changes to the respective TS. The marked up TS Bases pages that reflect the proposed changes are provided in Attachment 3 for information purposes only.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The NRC provided guidance for the contents of TS in its "Final Policy Statement on Technical Specifications Improvement for Nuclear Power Reactors" (58 FR 39132, July 22, 1993). In particular, the NRC indicated that certain items could be relocated from the TS to licensee-controlled documents, and identified criteria to be used to determine the functions to be included in the TS. The NRC adopted revisions to 10 CFR 50.36 to codify and incorporate these criteria.

Section 50.36c(2)(ii) of Title 10 of the Code of Federal Regulations (10 CFR 50.36c(2)(ii)) contains the requirements for items that must be in TS. This regulation provides the four criteria that can be used to determine the requirements that must be included in the TS. A TS limiting condition for operation (LCO) of a nuclear reactor must be established for each item meeting one or more of the following criteria:

- Criterion 1: Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- Criterion 2: A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- Criterion 3: A structure, system, or component that is 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.
- Criterion 4: A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Items not meeting any of these four criteria can be relocated from the TS to a licensee-controlled document. The licensee can then change the relocated requirements, if necessary, in accordance with 10 CFR 50.59.

The NRC published improved Standard Technical Specifications in NUREG-1433. The TS requirements proposed for relocation do not meet the four screening criteria, and therefore, are not included in NUREG-1433. Operability and surveillance requirements for MOV TOL protection will be maintained in the LGS TRM, subject to the controls of 10 CFR 50.59.

4.2 Precedence

Similar changes, to relocate the operability and surveillance requirements for the electrical equipment protective devices - motor operated valves thermal overload protection from TS to the TRM, were approved by the NRC by issuance of Amendment Nos. 250 and 241 for Sequoyah Nuclear Plant, Units 1 and 2, respectively, by letter dated February 22, 2000 (Reference 6), and Amendment No. 192 for Millstone Nuclear Power Station, Unit 3, by letter dated January 16, 2001 (Reference 7).

4.3 No Significant Hazards Consideration

Exelon 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," as discussed below:

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

Response: No. The proposed changes relocate the motor operated valve (MOV) thermal overload (TOL) protection operability and surveillance requirements from the Limerick Generating Station (LGS) Technical Specifications (TS) to a licensee-controlled document under the control of 10 CFR 50.59.

The proposed changes do not alter the physical design of any plant structure, system, or component; therefore, the proposed changes have no adverse effect on plant operation, or the availability or operation of any accident mitigation equipment. The plant response to the design basis accidents does not change. Operation or failure of the MOV TOL protection bypass capability is not assumed to be an initiator of any analyzed event in the Updated Final Safety Analysis Report (UFSAR) and cannot cause an accident. Whether the requirements for the MOV TOL protection bypass capability are located in TS or another licensee-controlled document has no effect on the probability or consequences of any accident previously evaluated.

The proposed changes conform to NRC regulatory requirements regarding the content of plant TS as identified in 10 CFR 50.36, and also the guidance as approved by the NRC in NUREG-1433, "Standard Technical Specifications-General Electric BWR/4 Plants."

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

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No. The proposed changes relocate the MOV TOL protection operability and surveillance requirements from the LGS TS to a licensee-controlled document under the control of 10 CFR 50.59.

The proposed changes do not alter the plant configuration (no new or different type of equipment is being installed) or require any new or unusual operator actions. The proposed changes do not alter the safety limits or safety analysis assumptions associated with the operation of the plant. The proposed changes do not introduce any new failure modes that could result in a new accident. The proposed changes do not reduce or adversely affect the capabilities of any plant structure, system, or component in the performance of their safety function.

Also, the response of the plant and the operators following the design basis accidents is unaffected by the proposed changes.

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

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No. The proposed changes have no adverse effect on plant operation, or the availability or operation of any accident mitigation equipment. The plant response to the design basis accidents does not change. The proposed changes do not adversely affect existing plant safety margins or the reliability of the equipment assumed to operate in the safety analyses. There is no change being made to safety analysis assumptions, safety limits or limiting safety system settings that would adversely affect plant safety as a result of the proposed changes.

In addition, the relocated requirements do not meet any of the 10 CFR 50.36c(2)(ii) criteria on items for which TS must be established. Operability and surveillance requirements will be established in a licensee-controlled document to ensure the reliability of MOV TOL protection bypass capability. Changes to these requirements will be subject to the controls of 10 CFR 50.59, providing the appropriate level of regulatory control.

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

Based on the above, Exelon 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.

4.4 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

A 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 20, or would change an inspection or surveillance requirement. 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.

6.0 REFERENCES

1. Limerick Generating Station, Updated Final Safety Analysis Report, Section 13.5.3, "Operations Technical Requirements Manual (TRM)."
2. 10 CFR 50.36, "Technical Specifications."
3. NUREG-1433, "Standard Technical Specifications-General Electric BWR/4 Plants," Revision 4.0, dated April 2012.
4. NRC "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors," 58 FR 39132, dated July 22, 1993.
5. NRC Final Rule, 10 CFR 50.36, "Technical Specifications," 60 FR 36953 (July 19, 1995).
6. Letter dated February 22, 2000, from R. W. Hernan (USNRC) to J. A. Scalice (Tennessee Valley Authority), "Sequoyah Nuclear Plant, Units 1 and 2 - Issuance of Amendments Regarding Relocation of Technical Specifications for Electrical Equipment Protective Devices (TAC Nos. MA5166 and MA5167) (TS 99-01)."
7. Letter dated January 16, 2001, from V. Nerses (USNRC) to R. G. Lizotte (Northeast Nuclear Energy Company), "Millstone Nuclear Power Station, Unit No. 3 - Issuance of Amendments RE: Relocation of Selected Technical Specifications Related to Instrumentation (TAC No. MA8747)."

ATTACHMENT 2

License Amendment Request

**Limerick Generating Station, Units 1 and 2
Docket Nos. 50-352 and 50-353**

**Proposed Relocation of Motor Operated Valves
Thermal Overload Protection Technical Specifications**

Markup of Proposed Technical Specifications Pages

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**xv
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Unit 2 TS Pages

**xv
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~~Motor Operated Valves Thermal Overload Protection~~

~~ELECTRICAL POWER SYSTEMS~~

~~MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION~~

~~LIMITING CONDITION FOR OPERATION~~

~~3.8.4.2 The thermal overload protection of all Class 1E motor operated valves shall be either:~~

- ~~a. Continuously bypassed for all valves with maintained position control switches; or,~~
- ~~b. Bypassed only under accident conditions for all valves with spring-return to normal control switches.~~

~~APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.~~

~~ACTION:~~

~~With the thermal overload protection for one or more of the above required valves not bypassed continuously or only under accident conditions, as applicable, restore the thermal overload bypass within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).~~

~~SURVEILLANCE REQUIREMENTS~~

~~4.8.4.2.1 The thermal overload protection for the above required valves which are continuously bypassed and temporarily placed in force only when the valve motor is undergoing periodic or maintenance testing shall be verified to be bypassed following periodic or maintenance testing during which the thermal overload protection was temporarily placed in force.~~

~~4.8.4.2.2 In accordance with the Surveillance Frequency Control Program, a CHANNEL FUNCTIONAL TEST of all those valves which are bypassed only under accident conditions (valves with spring return to normal control switches) shall be performed to verify that the thermal overload protection will be bypassed under accident conditions.~~

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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~~Motor Operated Valves Thermal Overload Protection~~

~~ELECTRICAL POWER SYSTEMS~~

~~MOTOR OPERATED VALVES THERMAL OVERLOAD PROTECTION~~

~~LIMITING CONDITION FOR OPERATION~~

~~3.8.4.2 The thermal overload protection of all Class 1E motor operated valves shall be either:~~

- ~~a. Continuously bypassed for all valves with maintained position control switches; or,~~
- ~~b. Bypassed only under accident conditions for all valves with spring-return to normal control switches.~~

~~APPLICABILITY: Whenever the motor operated valve is required to be OPERABLE.~~

~~ACTION:~~

~~With the thermal overload protection for one or more of the above required valves not bypassed continuously or only under accident conditions, as applicable, restore the thermal overload bypass within 8 hours or declare the affected valve(s) inoperable and apply the appropriate ACTION statement(s) for the affected system(s).~~

~~SURVEILLANCE REQUIREMENTS~~

~~4.8.4.2.1 The thermal overload protection for the above required valves which are continuously bypassed and temporarily placed in force only when the valve motor is undergoing periodic or maintenance testing shall be verified to be bypassed following periodic or maintenance testing during which the thermal overload protection was temporarily placed in force.~~

~~4.8.4.2.2 In accordance with the Surveillance Frequency Control Program, a CHANNEL FUNCTIONAL TEST of all those valves which are bypassed only under accident conditions (valves with spring return to normal control switches) shall be performed to verify that the thermal overload protection will be bypassed under accident conditions.~~

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ATTACHMENT 3

License Amendment Request

**Limerick Generating Station, Units 1 and 2
Docket Nos. 50-352 and 50-353**

**Proposed Relocation of Motor Operated Valves
Thermal Overload Protection Technical Specifications**

**Markup of Proposed Technical Specifications Bases Pages
(Information Only)**

Unit 1 TS Bases Page

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Unit 2 TS Bases Page

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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 valve **DELETE** Class 1E motor operated valves with maintained contact control switches, ~~and 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.~~~~

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.

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

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