

July 26, 2005

Mr. Britt T. McKinney  
Sr. Vice President and  
Chief Nuclear Officer  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSB3  
Berwick, PA 18603-0647

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE  
OF AMENDMENT RE: REVISED ACTION FOR SCRAM DISCHARGE  
VOLUME VENT AND DRAIN VALVES (TAC NOS. MC4425 AND MC4426)

Dear Mr. McKinney:

The Commission has issued the enclosed Amendment No. 222 to Facility Operating License No. NPF-14 and Amendment No. 199 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station (SSES), Units 1 and 2. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated September 8, 2004.

The amendments revise TS 3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves," for the condition of having one or more SDV vent or drain lines with one or both valves inoperable. A notice of availability for this TS improvement using the consolidated line-item improvement process was published in the *Federal Register* on April 15, 2003 (68 FR 18294).

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

Sincerely,

*/RA/*

Richard V. Guzman, Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures: 1. Amendment No. 222 to  
License No. NPF-14  
2. Amendment No. 199 to  
License No. NPF-22  
3. Safety Evaluation

cc w/encls: See next page

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ADAMS Accession Number: ML051740097

OFFICE	CLIIP LPM	PDI-1/PM	PDI-2/LA	PDI-1/SC
NAME	WReckley	RGuzman	MO'Brien	RLaufer
DATE	6/17/05	7/12/05	7/22/05	7/25/05

OFFICIAL RECORD COPY

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PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-387

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 222  
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
  - A. The application for the amendment filed by PPL Susquehanna, LLC, dated September 8, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 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 set forth in 10 CFR Chapter I;
  - 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 the Facility Operating License No. NPF-14 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 222 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: July 26, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 222

FACILITY OPERATING LICENSE NO. NPF-14

DOCKET NO. 50-387

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

TS / TOC-1  
TS / 3.1-25

INSERT

TS / TOC-1  
TS / 3.1-25

PPL SUSQUEHANNA, LLC  
ALLEGHENY ELECTRIC COOPERATIVE, INC.  
DOCKET NO. 50-388  
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 199  
License No. NPF-22

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
  - A. The application for the amendment filed by the PPL Susquehanna, LLC, dated September 8, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's 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 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 set forth in 10 CFR Chapter I;
  - 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 the Facility Operating License No. NPF-22 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 199 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC 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 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: July 26, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 199

FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

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

TS / TOC-1  
TS / 3.1-25

INSERT

TS / TOC-1  
TS / 3.1-25

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 222 TO FACILITY OPERATING LICENSE NO. NPF-14  
AND AMENDMENT NO. 199 TO FACILITY OPERATING LICENSE NO. NPF-22  
PPL SUSQUEHANNA, LLC  
ALLEGHENY ELECTRIC COOPERATIVE, INC.  
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2  
DOCKET NOS. 50-387 AND 388

## 1.0 INTRODUCTION

By application dated September 8, 2004 (Agencywide Documents Access and Management System, Accession No. ML042590557), PPL Susquehanna, LLC (the licensee), requested changes to the Technical Specifications (TSs) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES-1 and 2). The requested changes would revise the required action within TS 3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves," for the condition of having one or more SDV vent or drain lines with one or both valves inoperable. These changes are based on TSs Task Force (TSTF) change traveler TSTF-404 (Revision 0) that has been approved generically for the Boiling Water Reactor/6 (BWR) Standard Technical Specifications (STS), NUREG-1434, Revision 2. A notice announcing the availability of this proposed TS change using the consolidated line-item improvement process (CLIP) was published in the *Federal Register* on April 15, 2003 (68 FR 18294).

## 2.0 REGULATORY EVALUATION

U.S. Nuclear Regulatory Commission (NRC) regulations and review standards such as Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, include specific requirements for reactor protection and reactivity control systems. The reactor protection systems for BWRs use a hydraulic system to insert control rods into the reactor core. During an actuation of the reactor protection system (a scram), water is exhausted from the control rod drive mechanisms to the SDVs. Proper maintenance and operation of the SDVs in terms of instrumentation and limiting water volumes are essential for assuring the reliability of the reactor protection system (see NRC Bulletin 80-17, "Failure of Control Rods to Insert During a Scram at a BWR," related Orders to specific facilities, and information provided in plant final safety analysis reports and TS Bases). Maintaining the SDVs to ensure that accumulated water does not hamper or slow the insertion of control rods requires vent and drain valves. The vent and drain valves isolate during a scram to limit the amount of coolant discharged so that adequate core cooling is maintained and offsite doses remain within regulatory limits.

Specific regulatory requirements for SDV vent and drain valves are defined in TS 3.1.8. The existing Limiting Condition for Operation, 3.1.8, requires that each SDV vent and drain valve be operable and open. The operability of all SDV vent and drain valves ensures that the SDV vent and drain valves will close during a scram to contain reactor water discharged to the SDV piping. Since the vent and drain lines are provided with two valves in series, the single failure of one valve in the open position will not impair the isolation function of the system. Additionally, the valves are required to open on scram reset and during plant operation to control the amount of water accumulating in the SDV. If one or more SDV vent and drain lines have a single valve that is inoperable, the existing required action is to restore the valves to operable status within 7 days. If an inoperable valve is not restored to operable status, a plant shutdown to MODE 3 is required within 12 hours. If one or more SDV vent or drain lines have both valves inoperable or an SDV vent or drain line has one or both valves closed, the existing action in the SSES-1 and 2 TSs is to within 8 hours restore at least one vent valve and one drain valve to operable status with both vent and drain valves open.

In the STSs and many TSs for plants similar to SSES-1 and 2, if one or more SDV vent or drain lines have both valves inoperable, the associated line must be isolated within 8 hours. The plants are allowed to operate indefinitely in this condition. A note associated with the required action clarifies that the valves may be opened under administrative controls to allow draining of the SDV. However, the STSs and other plant TSs required restoration of a single inoperable valve within 7 days or be in hot shutdown within 12 hours. The existing SDV vent and drain valve required actions in the STSs and many plant-specific TSs were inconsistent in that, although the operational and safety concerns are similar for having one or both valves in a line being inoperable, the actions for a single inoperable valve do not allow for the isolation of the line and administrative controls to support the draining of the SDV. This prompted the industry to submit TSTF-404 and subsequent incorporation of the change into the STSs.

The proposed change would revise the required actions to be more consistent with the safety significance of inoperable valves in an SDV line. Although the existing SSES-1 and 2 TSs differ somewhat from the version of STSs used to develop TSTF-404, the proposed changes reflect the incorporation of the approved TSTF-404 specification into the SSES-1 and 2 TSs.

### 3.0 TECHNICAL EVALUATION

The proposed changes to TS 3.1.8 are:

Required Action A is revised from restoring to operable status within 7 days a single inoperable SDV vent and drain valve in one or more SDV vent and drain lines to isolating the associated line within 7 days.

Required Action B is revised from restoring at least one SDV vent and drain valve to operable status within 8 hours when a vent or drain line has both valves inoperable or one or both valves closed to isolating the associated line within 8 hours.

A note is added allowing an isolated line to be unisolated under administrative controls for the purpose of draining and venting the SDV.

With one SDV vent or drain valve inoperable in one or more lines, the isolation function would be maintained since the redundant valve in the affected line would perform its safety function of isolating the SDV. The current ACTION statement allows 7 days to repair the inoperable valve; the proposed change is to allow for the isolation of the affected line and continue operation. If the affected line is not isolated within the 7-day time period (or the inoperable valve is not restored), the licensee would then be required to proceed to MODE 3 in the next 12 hours. Maintaining the 7-day Completion Time (CT) is acceptable because of the low probability of the concurrent events of a scram within the 7 days of the CT and a failure of the redundant valves. Alternately, if the inoperable valve was initially closed, there would be ample time and warning available to drain the SDV before an automatic scram would occur due to SDV high level. The proposed addition of Required Action B to address both valves being inoperable in a vent or drain valve is likewise acceptable in that isolation of the affected line provides the safety function and the shorter completion time (8 hours versus 7 days) reflects the increased importance of addressing the problem when multiple valves are inoperable.

The allowance to administratively open a line that is isolated to comply with the actions (to permit draining and venting the SDV) allows any accumulated water in the line to be drained, to preclude a reactor scram on SDV high level. A reactor scram is initiated if the SDV water level in the instrument volume exceeds a specified setpoint. The setpoint is chosen so that all control rods are inserted before the SDV has insufficient volume to accept a full scram. Regarding the isolation of the SDV, the remaining operable SDV vent and drain valves would close automatically on a scram signal to isolate the lines. Or, if both valves in a line were inoperable (and opened under this provision), the reactor coolant release could be terminated by resetting the scram from the control room, or by manually closing the valves. Resetting the scram automatically closes the scram outlet valves, isolating the control rod drive discharge path to the SDV.

Based on the low probability of an event occurring during the defined CT associated with this condition, the subsequent isolation of the affected lines, and the ability to open and drain the lines before an automatic scram due to SDV high water level, the proposed change maintains the necessary safety features and is therefore acceptable.

The licensee included format changes to the page numbers and related changes to the table of contents. The licensee also included in the application changes to the Bases Section for TS 3.8.1 for information. The actual changes to the Bases Section will be made in accordance with the Bases Control Program. The NRC staff agrees that the TS Bases Control Program is the appropriate process for updating the affected TS Bases pages.

#### 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 (69 FR 70721; December 7, 2004). 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.

## 6.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: W. Reckley

Date: July 26, 2005