

May 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

**SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - MAIN
TURBINE BYPASS SYSTEM OPERABILITY REQUIREMENTS (TAC NOS.
MB6671 AND MB6672)**

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 210 to Facility Operating License No. NPF-14 and Amendment No. 185 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2). These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 31, 2002.

The amendments revise SSES 1 and 2 TS requirements for operability of the main turbine bypass system bypass valves. Specifically, Surveillance Requirement 3.7.6 has been revised to test only each required main turbine bypass valve every 31 days.

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. 210 to
License No. NPF-14
2. Amendment No. 185 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

May 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY SYSTEM (TAC NOS. MB6663 AND MB6664)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment 211 to Facility Operating License No. NPF-14 and Amendment 186 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated October 30, 2002.

The amendments revise Technical Specifications Section 5.5.7, "Ventilation Filter Testing Program," by changing the control room emergency outside air supply system maximum allowed filter train pressure drop from <9.1 inches water gage (wg), to <7.3 inches wg.

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. 211 to
License No. NPF-14
2. Amendment No. 186 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

June 3, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT RE: POST-ACCIDENT SAMPLING SYSTEMS (TAC NOS.
MB7998 AND MB7999)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. NPF-14 and Amendment No. 187 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 March 3, 2003.

These amendments delete TS 5.5.3, "Post Accident Sampling," and thereby eliminate the requirements to have and maintain the post-accident sampling systems for SSES, Units 1 and 2. The amendments also address related changes to TS 5.5.2, "Primary Coolant Sources Outside Containment."

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. 212 to
License No. NPF-14
2. Amendment No. 187 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

June 5, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT RE: INTERMITTENT OPENING OF ISOLATED FLOW PATHS AND TIP ISOLATION (TAC NOS. MB6665 AND MB6666)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 213 to Facility Operating License No. NPF-14 and Amendment No. 188 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 October 31, 2002.

These amendments revise Technical Specifications (TSs) Section 3.3.6.1, "Primary Containment Isolation Instrumentation," to add an ACTIONS Note allowing intermittent opening, under administrative control, of penetration flow paths that are isolated. Additionally, these amendments revise TSs to breakout the traversing incore probe system isolation as a separate isolation Function with an associated Required Action to isolate the penetration within 24 hours rather than immediately initiating a unit shutdown. As stated in your application, changes to the Bases for TS 3.3.6.1 will be addressed in accordance with TS 5.5.10, "TS Bases Control Program."

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. 213 to
License No. NPF-14
2. Amendment No. 188 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

October 10, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: EXTENDED OUTAGE TIME FOR OFFSITE POWER - SINGLE OCCURRENCE (TAC NOS. MB9903 AND MB9904)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 214 to Facility Operating License No. NPF-14 and Amendment No. 189 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated July 3, as supplemented by letters dated September 9 and 23, 2003.

The amendments change the Technical Specification (TS) to allow a one-time only change to TS 3.8.1, "AC [Alternating Current] Sources - Operating," Action A.3, by extending the required Completion Time for restoration of an inoperable offsite circuit from 72 hours to 10 days.

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. 214 to
License No. NPF-14
2. Amendment No. 189 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

October 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT RE: REVISED RESPONSE TO GENERIC LETTER 94-02 "LONG-TERM STABILITY SOLUTION" (TAC NOS. MB9008 AND MB9009)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 215 to Facility Operating License No. NPF-14 and Amendment No. 190 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated May 6, as supplemented by letters dated August 12, and September 18, 2003.

The amendments delete Technical Specification (TS) 3.3.1.3, "Oscillation Power Range Monitor (OPRM) Instrumentation," which has not yet been implemented, and revise TS 3.4.1, "Recirculation Loops Operating," to formally extend the currently implemented requirements, which define appropriately conservative restrictions to plant operation and operator response to thermal hydraulic instability events. In addition, the amendments revise TS 3.4.1 to refer to the power flow map in the core operating limits report and include a reference in TS 5.6.5. The requirements serves as an interim solution until plant-specific analyses is completed and the OPRM system and associated TSs are implemented.

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. 215 to
License No. NPF-14
2. Amendment No. 190 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

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(continued)

3.3 INSTRUMENTATION

3.3.6.1 Primary Containment Isolation Instrumentation

LCO 3.3.6.1 The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.1-1.

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each channel.

CONDITION		REQUIRED ACTION		COMPLETION
A.	One or more required channels inoperable.	A.1	Place channel in trip.	12 hours for Functions 2.a, 2.d, 6.b, 7.a, and 7.b <u>AND</u> 24 hours for Functions other than Functions 2.a, 2.d, 6.b, 7.a, and 7.b
B.	One or more automatic Functions with isolation capability not maintained.	B.1	Restore isolation capability.	1 hour

(continued)

Primary Containment Isolation Instrumentation
3.3.6.1

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Shutdown Cooling System Isolation					
a. Reactor Steam Dome Pressure — High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≤ 108 psig
b. Reactor Vessel Water Level — Low, Level 3	3,4,5	2 ^(c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
c. Manual Initiation	3,4,5	1	G	SR 3.3.6.1.5	NA
7. Traversing Incore Probe Isolation					
a. Reactor Vessel Water Level — Low, Level 3	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
b. Drywell Pressure — High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.88 psig

(c) Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System Integrity maintained.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched flows shall be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

OR

One recirculation loop may be in operation provided the following limits are applied when the associated LCO is applicable with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

- a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;
- b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR;
- c. LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)," single loop operation limits specified in the COLR, and
- d. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Flow Biased Simulated Thermal Power—High), Allowable Value of Table 3.3.1.1-1 is reset for single loop operation.
- e. Recirculation pump speed is $\leq 80\%$.

Note

Required limit and setpoint resets for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single recirculation loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Total core flow as a function of THERMAL POWER within Region I of the Power Flow Map as specified in the COLR.</p> <p><u>OR</u></p> <p>No recirculation loops operating while in MODE 1.</p>	<p>A.1 Place reactor mode switch in the shutdown position.</p>	<p>Immediately</p>
<p>B. -----NOTE----- Only applicable when in Region II of the Power Flow Map as specified in the COLR.</p> <p><u>OR</u></p> <p>Two or more APRM readings oscillating with one or more oscillating $\geq 10\%$ of RTP peak-to-peak.</p> <p><u>OR</u></p> <p>Two or more LPRM upscale alarms activating and deactivating with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p> <p>Sustained LPRM oscillations > 10 w/cm² peak-to-peak with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p>	<p>B.1 Place the reactor mode switch in the shutdown position.</p>	<p>Immediately</p> <p>(continued)</p>

ACTIONS

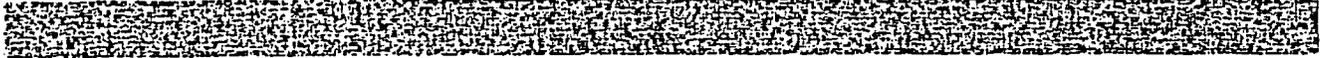
CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. (continued) Less than 50% of required LPRM upscale alarms OPERABLE.</p>		
<p>C. Total core flow as a function of THERMAL POWER within Region II of the Power Flow Map as specified in the COLR.</p>	<p>C.1 Initiate action to restore total core flow as a function of THERMAL POWER outside of Region II.</p>	<p>Immediately</p>
<p>D. Recirculation loop flow mismatch not within limits.</p>	<p>D.1 Declare the recirculation loop with lower flow to be "not in operation."</p>	<p>2 hours</p>
<p>E. No recirculation loops in operation while in MODE 2. <u>OR</u> Single Recirculation Loop required limits and setpoints not established within required time.</p>	<p>E.1 Be in MODE 3.</p>	<p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	<p>-----NOTE-----</p> <p>Not required to be performed until 24 hours after both recirculation loops are in operation.</p> <hr/> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <p>a. ≤ 10 million lbm/hr when operating at < 75 million lbm/hr total core flow; and</p> <p>b. ≤ 5 million lbm/hr when operating at ≥ 75 million lbm/hr total core flow.</p>	24 hours
SR 3.4.1.2	<p>Verify total core flow as a function of THERMAL POWER is outside of Region I and II of the Power Flow Map as specified in the COLR.</p>	24 hours
SR 3.4.1.3	<p>-----NOTE-----</p> <p>Only required to be met during single loop operations.</p> <hr/> <p>Verify recirculation pump speed is within the limit specified in the LCO.</p>	24 hours



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3.7 PLANT SYSTEMS

3.7.6 Main Turbine Bypass System

LCO 3.7.6 The Main Turbine Bypass System shall be OPERABLE.

OR

LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for an inoperable Main Turbine Bypass System, as specified in the COLR, are made applicable.

APPLICABILITY: THERMAL POWER \geq 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Main Turbine Bypass System inoperable.</p> <p><u>AND</u></p> <p>Requirements of LCO 3.2.2 not met.</p>	<p>A.1 Satisfy the requirements of the LCO or restore Main Turbine Bypass System to OPERABLE status.</p>	<p>2 hours</p>
<p>B. Required Action and associated Completion Time not met.</p>	<p>B.1 Reduce THERMAL POWER to < 25% RTP.</p>	<p>4 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.6.1 Verify one complete cycle of each <u>required</u> main turbine bypass valve.</p>	<p>31 days</p>

(continued)

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3.1 Determine OPERABLE DGs are not inoperable due to common cause failure.	24 hours
	<u>OR</u>	
	B.3.2 Perform SR 3.8.1.7 for OPERABLE DGs.	24 hours
		<u>OR</u>
		24 hours prior to entering Condition B
	B.4 Restore required DG to OPERABLE status.	72 hours
		<u>AND</u>
		6 days from discovery of failure to meet LCO
C. Two offsite circuits inoperable.	C.1 Restore one offsite circuit to OPERABLE status.	24 hours
D. One offsite circuit inoperable. <u>AND</u> One required DG inoperable.	-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems-Operating," when Condition D is entered with no AC power source to any 4.16 kV ESS bus. -----	
	D.1 Restore offsite circuit to OPERABLE status.	12 hours
	<u>OR</u>	
	D.2 Restore required DG to OPERABLE status.	12 hours

(continued)

ACTIONS (continued)		
CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two or more required DGs inoperable.	E.1 Restore at least three required DGs to OPERABLE status.	2 hours
F. Required Action and Associated Completion Time of Condition A, B, C, D, or E not met.	F.1 Be in MODE 3.	12 hours
	<u>AND</u> F.2 Be in MODE 4.	36 hours
G. One or more offsite circuits and two or more required DGs inoperable. <u>OR</u> One required DG and two offsite circuits inoperable.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----

Four DGs are required and a DG is only considered OPERABLE when the DG is aligned to the Class 1E distribution system. DG Surveillance Requirements have been modified to integrate the necessary testing to demonstrate the availability of DG E and ensure its OPERABILITY when substituted for any other DG. If the DG Surveillance Requirements, as modified by the associated Notes, are met and performed, DG E can be considered available and OPERABLE when substituted for any other DG after performance of SR 3.8.1.3 and SR 3.8.1.7.

SURVEILLANCE	FREQUENCY
SR 3.8.1.1 Verify correct breaker alignment and indicated power availability for each offsite circuit.	7 days

(continued)

5.5 Programs and Manuals

5.5.1 (ODCM) (continued)

shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 Primary Coolant Sources Outside Containment

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include Core Spray, High Pressure Coolant Injection, Residual Heat Removal, Reactor Core Isolation Cooling, Reactor Water Cleanup, Standby Gas Treatment, Scram Discharge, Post Accident Sampling (until such time as a modification eliminates the PASS penetration as a potential leakage path) and Containment Air Monitoring Systems. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at least once per 24 months.

The provisions of SR 3.0.2 are applicable.

5.5.3 Not Used

5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (continued)

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified below:

ESF Ventilation System	Delta P (inches wg)	Flowrate (cfm)
Standby Gas Treatment System	< 13	9,090 to 11,110
Control Room Emergency Outside Air Supply System	< 7.3	5,229 to 6,391

- e. Demonstrate that the temperature differential in the air flow across the heating coils for each of the ESF system is greater than or equal to the value specified below when tested in accordance with ASME N510-1975:

ESF Ventilation System	Delta T (°F)	Flowrate (cfm)
Standby Gas Treatment System	≥ 17	9,090 to 11,110

- f. Demonstrate that the heaters for each of the ESF system dissipate the value specified below when tested in accordance with ANSI N510-1975:

ESF Ventilation System	Wattage (kW)
Control Room Emergency Outside Air Supply System	27 to 33

5.5.8 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks. The liquid radwaste quantities shall be determined in accordance with Standard Review Plan, Section 15.7.3, "Postulated Radioactive Release due to Tank Failures". The program shall include:

- a. The limits for concentrations of hydrogen in the Main Condenser Offgas Treatment System and a surveillance

(continued)

5.6 Reporting Requirements (continued)

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the main steam safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
1. The Average Planar Linear Heat Generation Rate for Specification 3.2.1;
 2. The Minimum Critical Power Ratio for Specification 3.2.2;
 3. The Linear Heat Generation Rate for Specification 3.2.3;
 4. The Average Power Range Monitor (APRM) Gain and Setpoints for Specification 3.2.4; and
 5. The Shutdown Margin for Specification 3.1.1.
 6. The stability related regions of the Power Flow Map for Specification 3.4.1.
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC.

When an initial assumed power level of 102 percent of rated power is specified in a previously approved method, this refers to the power level associated with the design basis analyses, or 3510 MWt. The power level of 3510 MWt is 100.6% of the rated thermal power level of 3489 MWt. The RTP of 3489 MWt may only be used when feedwater flow measurement (used as input to the reactor thermal power measurement) is provided by the Leading Edge Flow Meter (LEFMTM) as described in the LEFMTM Topical Report and supplement referenced below. When feedwater flow measurements from the LEFMTM system are not available, the core thermal power level may not exceed the originally approved RTP of 3441 MWt, but the value of 3510 MWt.

(continued)

5.6 Reporting Requirements

5.6.5 COLR (continued)

9. ANF-91-048(P)(A), "Advanced Nuclear Fuels Corporation Methodology for Boiling Water Reactors EXEM BWR Evaluation Model.
 10. XN-NF-80-19(P)(A), "Exxon Nuclear Methodology for Boiling Water Reactors.
 11. XN-NF-79-71(P)(A), "Exxon Nuclear Plant Transient Methodology for Boiling Water Reactors."
 12. EMF-1997(P)(A), "ANFB-10 Critical Power Correlation."
 13. Caldon, Inc., "TOPICAL REPORT: Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFMTM System," Engineering Report ER-80P.
 14. Caldon, Inc., "Supplement to Topical Report ER-80P: Basis for a Power Uprate with the LEFMTM or LEFM CheckPlusTM System," Engineering Report ER-160P.
 15. EMF-85-74(P), "RODEX 2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model."
 16. EMF-CC-074(P)(A), Volume 4, "BWR Stability Analysis: Assessment of STAIF with Input from MICROBURN-B2."
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

(continued)

May 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

**SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - MAIN
TURBINE BYPASS SYSTEM OPERABILITY REQUIREMENTS (TAC NOS.
MB6671 AND MB6672)**

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 210 to Facility Operating License No. NPF-14 and Amendment No. 185 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2). These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 31, 2002.

The amendments revise SSES 1 and 2 TS requirements for operability of the main turbine bypass system bypass valves. Specifically, Surveillance Requirement 3.7.6 has been revised to test only each required main turbine bypass valve every 31 days.

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. 210 to
License No. NPF-14
2. Amendment No. 185 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

May 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - CONTROL ROOM EMERGENCY OUTSIDE AIR SUPPLY SYSTEM (TAC NOS. MB6663 AND MB6664)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment 211 to Facility Operating License No. NPF-14 and Amendment 186 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated October 30, 2002.

The amendments revise Technical Specifications Section 5.5.7, "Ventilation Filter Testing Program," by changing the control room emergency outside air supply system maximum allowed filter train pressure drop from <9.1 inches water gage (wg), to <7.3 inches wg.

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. 211 to
License No. NPF-14
2. Amendment No. 186 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

June 3, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

**SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT RE: POST-ACCIDENT SAMPLING SYSTEMS (TAC NOS.
MB7998 AND MB7999)**

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. NPF-14 and Amendment No. 187 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 March 3, 2003.

These amendments delete TS 5.5.3, "Post Accident Sampling," and thereby eliminate the requirements to have and maintain the post-accident sampling systems for SSES, Units 1 and 2. The amendments also address related changes to TS 5.5.2, "Primary Coolant Sources Outside Containment."

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. 212 to
License No. NPF-14
2. Amendment No. 187 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

June 5, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENT RE: INTERMITTENT OPENING OF ISOLATED FLOW PATHS AND TIP ISOLATION (TAC NOS. MB6665 AND MB6666)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 213 to Facility Operating License No. NPF-14 and Amendment No. 188 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 October 31, 2002.

These amendments revise Technical Specifications (TSs) Section 3.3.6.1, "Primary Containment Isolation Instrumentation," to add an ACTIONS Note allowing intermittent opening, under administrative control, of penetration flow paths that are isolated. Additionally, these amendments revise TSs to breakout the traversing incore probe system isolation as a separate isolation Function with an associated Required Action to isolate the penetration within 24 hours rather than immediately initiating a unit shutdown. As stated in your application, changes to the Bases for TS 3.3.6.1 will be addressed in accordance with TS 5.5.10, "TS Bases Control Program."

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. 213 to
License No. NPF-14
2. Amendment No. 188 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

October 10, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: EXTENDED OUTAGE TIME FOR OFFSITE POWER - SINGLE OCCURRENCE (TAC NOS. MB9903 AND MB9904)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 214 to Facility Operating License No. NPF-14 and Amendment No. 189 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated July 3, as supplemented by letters dated September 9 and 23, 2003.

The amendments change the Technical Specification (TS) to allow a one-time only change to TS 3.8.1, "AC [Alternating Current] Sources - Operating," Action A.3, by extending the required Completion Time for restoration of an inoperable offsite circuit from 72 hours to 10 days.

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. 214 to
License No. NPF-14
2. Amendment No. 189 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

October 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT RE: REVISED RESPONSE TO GENERIC LETTER 94-02
"LONG-TERM STABILITY SOLUTION" (TAC NOS. MB9008 AND MB9009)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 215 to Facility Operating License No. NPF-14 and Amendment No. 190 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated May 6, as supplemented by letters dated August 12, and September 18, 2003.

The amendments delete Technical Specification (TS) 3.3.1.3, "Oscillation Power Range Monitor (OPRM) Instrumentation," which has not yet been implemented, and revise TS 3.4.1, "Recirculation Loops Operating," to formally extend the currently implemented requirements, which define appropriately conservative restrictions to plant operation and operator response to thermal hydraulic instability events. In addition, the amendments revise TS 3.4.1 to refer to the power flow map in the core operating limits report and include a reference in TS 5.6.5. The requirements serves as an interim solution until plant-specific analyses is completed and the OPRM system and associated TSs are implemented.

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. 215 to
License No. NPF-14
2. Amendment No. 190 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

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(continued)

3.3 INSTRUMENTATION

3.3.6.1 Primary Containment Isolation Instrumentation

LCO 3.3.6.1 The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.1-1.

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Place channel in trip.	12 hours for Functions 2.a, 2.d, 6.b, 7.a, and 7.b <u>AND</u> 24 hours for Functions other than Functions 2.a, 2.d, 6.b, 7.a, and 7.b
B. One or more automatic Functions with isolation capability not maintained.	B.1 Restore isolation capability.	1 hour

(continued)

Primary Containment Isolation Instrumentation
3.3.6.1

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Shutdown Cooling System Isolation					
a. Reactor Steam Dome Pressure - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≤ 108 psig
b. Reactor Vessel Water Level - Low, Level 3	3,4,5	2 ^(c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 Inches
c. Manual Initiation	3,4,5	1	G	SR 3.3.6.1.5	NA
7. Traversing Incore Probe Isolation					
a. Reactor Vessel Water Level — Low, Level 3	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 Inches
b. Drywell Pressure — High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.88 psig

(c) Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System Integrity maintained.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched flows shall be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

OR

One recirculation loop may be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR, provided the following limits are applied when the associated LCO is applicable:

- a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;
- b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR;
- c. LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)," single loop operation limits specified in the COLR, and
- d. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Flow Biased Simulated Thermal Power—High), Allowable Value of Table 3.3.1.1-1 is reset for single loop operation.
- e. Recirculation pump speed is $\leq 80\%$.

Note

Required limit and setpoint resets for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single recirculation loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Total core flow as a function of THERMAL POWER within Region 1 of the Power Flow Map as specified in the COLR.</p> <p><u>OR</u></p> <p>No recirculation loops operating while in MODE 1.</p>	<p>A.1 Place reactor mode switch in the shutdown position.</p>	<p>Immediately</p>
<p>B. <u>NOTE</u> Only applicable when in Region II of the Power Flow Map as specified in the COLR.</p> <p>Two or more APRM readings oscillating with one or more oscillating $\geq 10\%$ of RTP peak-to-peak.</p> <p><u>OR</u></p> <p>Two or more LPRM upscale alarms activating and deactivating with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p> <p>Sustained LPRM oscillations $> 10 \text{ w/cm}^2$ peak-to-peak with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p>	<p>B.1 Place the reactor mode switch in the shutdown position.</p>	<p>Immediately</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. (continued) Less than 50% of required LPRM upscale alarms OPERABLE.</p>		
<p>C. Total core flow as a function of THERMAL POWER within Region II of the Power Flow Map as specified in the COLR.</p>	<p>C.1 Initiate action to restore total core flow as a function of THERMAL POWER outside of Region II.</p>	<p>Immediately</p>
<p>D. Recirculation loop flow mismatch not within limits.</p>	<p>D.1 Declare the recirculation loop with lower flow to be "not in operation."</p>	<p>2 hours</p>
<p>E. No recirculation loops in operation while in MODE 2.</p> <p><u>OR</u></p> <p>Single Recirculation Loop required limits and setpoints not established within required time.</p>	<p>E.1 Be in MODE 3.</p>	<p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	<p>-----NOTE----- Not required to be performed until 24 hours after both recirculation loops are in operation.</p> <hr/> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <p>a. ≤ 10 million lbm/hr when operating at < 75 million lbm/hr total core flow; and</p> <p>b. ≤ 5 million lbm/hr when operating at ≥ 75 million lbm/hr total core flow.</p>	24 hours
SR 3.4.1.2	Verify total core flow as a function of THERMAL POWER is outside of Region I and II of the Power Flow Map as specified in the COLR.	24 hours
SR 3.4.1.3	<p>-----NOTE----- Only required to be met during single loop operations.</p> <hr/> <p>Verify recirculation pump speed is within the limit specified in the LCO.</p>	24 hours



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3.7 PLANT SYSTEMS

3.7.6 Main Turbine Bypass System

LCO 3.7.6 The Main Turbine Bypass System shall be OPERABLE.

OR

LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for an inoperable Main Turbine Bypass System, as specified in the COLR, are made applicable.

APPLICABILITY: THERMAL POWER \geq 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Main Turbine Bypass System inoperable. <u>AND</u> Requirements of LCO 3.2.2 not met.	A.1 Satisfy the requirements of the LCO or restore Main Turbine Bypass System to OPERABLE status.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.6.1 Verify one complete cycle of each required main turbine bypass valve.	31 days

(continued)

ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	24 hours from discovery of no offsite power to one 4.16 kV ESS bus concurrent with inoperability of redundant required feature(s).
	<p><u>AND</u></p> <p>A.3 Restore offsite circuit to OPERABLE status.</p>	<p>72 hours</p> <p><u>AND</u></p> <p>6 days from discovery of failure to meet LCO</p> <p><u>OR</u></p> <p>10 days from a one-time outage for replacement of Startup Transformer Number 10 to be completed by December 31, 2003</p>

(continued)

5.5 Programs and Manuals

5.5.1 ODCM (continued)

shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 Primary Coolant Sources Outside Containment

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include Core Spray, High Pressure Coolant Injection, Residual Heat Removal, Reactor Core Isolation Cooling, Reactor Water Cleanup, Standby Gas Treatment, Scram Discharge, Post Accident Sampling (until such time as a modification eliminates the PASS penetration as a potential leakage path) and Containment Air Monitoring Systems. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at least once per 24 months.

The provisions of SR 3.0.2 are applicable.

5.5.3 Not Used

5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Test Program (continued)

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified below:

ESF Ventilation System	Delta P (inches wg)	Flowrate (cfm)
Standby Gas Treatment System	< 13	9,090 to 11,110
Control Room Emergency Outside Air Supply System	< 7.3	5,229 to 6,391

- e. Demonstrate that the temperature differential in the air flow across the heating coils for each of the ESF system is greater than or equal to the value specified below when tested in accordance with ASME N510-1975:

ESF Ventilation System	Delta T (°F)	Flowrate (cfm)
Standby Gas Treatment System	≥ 17	9,090 to 11,110

- f. Demonstrate that the heaters for each of the ESF system dissipate the value specified below when tested in accordance with ANSI N510-1975:

ESF Ventilation System	Wattage (kW)
Control Room Emergency Outside Air Supply System	27 to 33

5.5.8 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Main Condenser Offgas Treatment System and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks. The liquid radwaste quantities shall be determined in accordance with Standard Review Plan, Section 15.7.3, "Postulated Radioactive Release due to Tank Failures". The program shall include:

- a. The limits for concentrations of hydrogen in the Main Condenser Offgas Treatment System and a

(continued)

5.6 Reporting Requirements

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the main steam safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
1. The Average Planar Linear Heat Generation Rate for Specification 3.2.1;
 2. The Minimum Critical Power Ratio for Specification 3.2.2;
 3. The Linear Heat Generation Rate for Specification 3.2.3;
 4. The Average Power Range Monitor (APRM) Gain and Setpoints for Specification 3.2.4; and
 5. The Shutdown Margin for Specification 3.1.1.
 6. The stability related regions of the Power Flow Map for Specification 3.4.1.
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC.

When an initial assumed power level of 102 percent of rated power is specified in a previously approved method, this refers to the power level associated with the design basis analyses, or 3510 MWt. The power level of 3510 MWt is 100.6% of the rated thermal power level of 3489 MWt. The RTP of 3489 MWt may only be used when feedwater flow measurement (used as input to the reactor thermal power measurement) is provided by the Leading Edge Flow Meter (LEFMTM) as described in the LEFMTM Topical Report and supplement referenced below. When feedwater flow measurements from the LEFMTM system are not available, the core thermal power level may not exceed the originally approved RTP of 3441 MWt, but the value of 3510 MWt (102% of 3441 MWt) remains the initial power level for the bounding licensing analysis.

(continued)

5.6 Reporting Requirements

5.6.5 COLR (continued)

11. Caldon, Inc., "Supplement to Topical Report ER-80P: Basis for a Power Uprate with the LEFMTM or LEFM CheckPlusTM System," Engineering Report ER-160P.
 12. EMF-85-74(P)(A), "RODEX 2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model."
 13. EMF-2158(P)(A), "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/Microburn-B2," Siemens Power Corporation.
 14. EMF-CC-074(P)(A), Volume 4, "BWR Stability Analysis: Assessment of STAIF with Input from MICROBURN-B2."
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 EDG Failures Report

If an individual emergency diesel generator (EDG) experiences four or more valid failures in the last 25 demands, these failures and any nonvalid failures experienced by that EDG in that time period shall be reported within 30 days. Reports on EDG failures shall include the information recommended in Regulatory Guide 1.9, Revision 3, Regulatory Position C.4.

5.6.7 PAM Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 30, 1999

Mr. Robert G. Byram
Senior Vice President-Generation
and Chief Nuclear Officer
PP&L, Inc.
2 North Ninth Street
Allentown, PA 18101

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (TAC NOS.
MA2271 and MA2445)

Dear Mr. Byram:

The Commission has issued the enclosed Amendment No. 184 to Facility Operating License No. NPF-14 and Amendment No. 158 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station (SSES), Units 1 and 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your applications dated June 19, 1998, (Unit 1) and August 5, 1998, (Unit 2) as supplemented by letters dated November 23, 1998 (Units 1 and 2), and June 23, 1999.

These amendments incorporate long-term power stability solution instrumentation into the SSES Unit 1 and Unit 2 TS. The changes reflect the addition of a new TS Section 3.3.1.3, "Oscillation Power Range Monitoring Instrumentation," and revisions to TS Section 3.4.1, "Recirculation Loops Operating," to remove specifications related to the current power stability specifications that are no longer required.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Victor Nerses".

Victor Nerses, Sr. Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-387/50-388

- Enclosures: 1. Amendment No. 184 to
License No. NPF-14
2. Amendment No. 158 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

October 10, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS RE: EXTENDED OUTAGE TIME FOR OFFSITE POWER - SINGLE OCCURRENCE (TAC NOS. MB9903 AND MB9904)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 214 to Facility Operating License No. NPF-14 and Amendment No. 189 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your application dated July 3, as supplemented by letters dated September 9 and 23, 2003.

The amendments change the Technical Specification (TS) to allow a one-time only change to TS 3.8.1, "AC [Alternating Current] Sources - Operating," Action A.3, by extending the required Completion Time for restoration of an inoperable offsite circuit from 72 hours to 10 days.

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. 214 to
License No. NPF-14
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License No. NPF-22
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cc w/encls; See next page

October 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT RE: REVISED RESPONSE TO GENERIC LETTER 94-02
"LONG-TERM STABILITY SOLUTION" (TAC NOS. MB9008 AND MB9009)

Dear Mr. Shriver:

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The amendments delete Technical Specification (TS) 3.3.1.3, "Oscillation Power Range Monitor (OPRM) Instrumentation," which has not yet been implemented, and revise TS 3.4.1, "Recirculation Loops Operating," to formally extend the currently implemented requirements, which define appropriately conservative restrictions to plant operation and operator response to thermal hydraulic instability events. In addition, the amendments revise TS 3.4.1 to refer to the power flow map in the core operating limits report and include a reference in TS 5.6.5. The requirements serves as an interim solution until plant-specific analyses is completed and the OPRM system and associated TSs are implemented.

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/RA/

Richard V. Guzman, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
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Docket Nos. 50-387 and 50-388

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(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched flows shall be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

OR

One recirculation loop may be in operation provided the following limits are applied when the associated LCO is applicable with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

- a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;
- b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR;
- c. LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)," single loop operation limits specified in the COLR, and
- d. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Flow Biased Simulated Thermal Power—High), Allowable Value of Table 3.3.1.1-1 is reset for single loop operation.
- e. Recirculation pump speed is \leq 80%.

Note

Required limit and setpoint resets for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single recirculation loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Total core flow as a function of THERMAL POWER within Region I of the Power Flow Map as specified in the COLR.</p> <p><u>OR</u></p> <p>No recirculation loops operating while in MODE 1.</p>	<p>A.1 Place reactor mode switch in the shutdown position.</p>	<p>Immediately</p>
<p>B. -----NOTE----- Only applicable when in Region II of the Power Flow Map as specified in the COLR.</p> <p>-----</p> <p>Two or more APRM readings oscillating with one or more oscillating $\geq 10\%$ of RTP peak-to-peak.</p> <p><u>OR</u></p> <p>Two or more LPRM upscale alarms activating and deactivating with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p> <p>Sustained LPRM oscillations $> 10 \text{ w/cm}^2$ peak-to-peak with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p>	<p>B.1 Place the reactor mode switch in the shutdown position.</p>	<p>Immediately</p> <p style="text-align: right;">(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. (continued) Less than 50% of required LPRM upscale alarms OPERABLE.</p>		
<p>C. Total core flow as a function of THERMAL POWER within Region II of the Power Flow Map as specified in the COLR.</p>	<p>C.1 Initiate action to restore total core flow as a function of THERMAL POWER outside of Region II.</p>	<p>Immediately</p>
<p>D. Recirculation loop flow mismatch not within limits.</p>	<p>D.1 Declare the recirculation loop with lower flow to be "not in operation."</p>	<p>2 hours</p>
<p>E. No recirculation loops in operation while in MODE 2.</p> <p><u>OR</u></p> <p>Single Recirculation Loop required limits and setpoints not established within required time.</p>	<p>E.1 Be in MODE 3.</p>	<p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	<p>-----NOTE-----</p> <p>Not required to be performed until 24 hours after both recirculation loops are in operation.</p> <hr/> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <p>a. ≤ 10 million lbm/hr when operating at < 75 million lbm/hr total core flow; and</p> <p>b. ≤ 5 million lbm/hr when operating at ≥ 75 million lbm/hr total core flow.</p>	24 hours
SR 3.4.1.2	<p>Verify total core flow as a function of THERMAL POWER is outside of Region I and II of the Power Flow Map as specified in the COLR.</p>	24 hours
SR 3.4.1.3	<p>-----NOTE-----</p> <p>Only required to be met during single loop operations.</p> <hr/> <p>Verify recirculation pump speed is within the limit specified in the LCO.</p>	24 hours



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ACTIONS		
CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3.1 Determine OPERABLE DGs are not inoperable due to common cause failure. <u>OR</u>	24 hours
	B.3.2 Perform SR 3.8.1.7 for OPERABLE DGs. <u>OR</u>	24 hours 24 hours prior to entering Condition B
	B.4 Restore required DG to OPERABLE status. <u>AND</u>	72 hours 6 days from discovery of failure to meet LCO
C. Two offsite circuits inoperable.	C.1 Restore one offsite circuit to OPERABLE status.	24 hours
D. One offsite circuit inoperable. <u>AND</u> One required DG inoperable.	-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.7, "Distribution Systems-Operating," when Condition D is entered with no AC power source to any 4.16 kV ESS bus. -----	
	D.1 Restore offsite circuit to OPERABLE status. <u>OR</u> D.2 Restore required DG to OPERABLE status.	12 hours 12 hours

(continued)

ACTIONS (continued)		
CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two or more required DGs inoperable.	E.1 Restore at least three required DGs to OPERABLE status.	2 hours
F. Required Action and Associated Completion Time of Condition A, B, C, D, or E not met.	F.1 Be in MODE 3.	12 hours
	<u>AND</u> F.2 Be in MODE 4.	36 hours
G. One or more offsite circuits and two or more required DGs inoperable. <u>OR</u> One required DG and two offsite circuits inoperable.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----

Four DGs are required and a DG is only considered OPERABLE when the DG is aligned to the Class 1E distribution system. DG Surveillance Requirements have been modified to integrate the necessary testing to demonstrate the availability of DG E and ensure its OPERABILITY when substituted for any other DG. If the DG Surveillance Requirements, as modified by the associated Notes, are met and performed, DG E can be considered available and OPERABLE when substituted for any other DG after performance of SR 3.8.1.3 and SR 3.8.1.7.

SURVEILLANCE	FREQUENCY
SR 3.8.1.1 Verify correct breaker alignment and indicated power availability for each offsite circuit.	7 days

(continued)

5.6 Reporting Requirements (continued)

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the main steam safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
1. The Average Planar Linear Heat Generation Rate for Specification 3.2.1;
 2. The Minimum Critical Power Ratio for Specification 3.2.2;
 3. The Linear Heat Generation Rate for Specification 3.2.3;
 4. The Average Power Range Monitor (APRM) Gain and Setpoints for Specification 3.2.4; and
 5. The Shutdown Margin for Specification 3.1.1.
 6. The stability related regions of the Power Flow Map for Specification 3.4.1.
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC.

When an initial assumed power level of 102 percent of rated power is specified in a previously approved method, this refers to the power level associated with the design basis analyses, or 3510 MWt. The power level of 3510 MWt is 100.6% of the rated thermal power level of 3489 MWt. The RTP of 3489 MWt may only be used when feedwater flow measurement (used as input to the reactor thermal power measurement) is provided by the Leading Edge Flow Meter (LEFMTM) as described in the LEFMTM Topical Report and supplement referenced below. When feedwater flow measurements from the LEFMTM system are not available, the core thermal power level may not exceed the originally approved RTP of 3441 MWt, but the value of 3510 MWt.

(continued)

5.6 Reporting Requirements

5.6.5 COLR (continued)

9. ANF-91-048(P)(A), "Advanced Nuclear Fuels Corporation Methodology for Bolling Water Reactors EXEM BWR Evaluation Model.
 10. XN-NF-80-19(P)(A), "Exxon Nuclear Methodology for Bolling Water Reactors.
 11. XN-NF-79-71(P)(A), "Exxon Nuclear Plant Transient Methodology for Bolling Water Reactors."
 12. EMF-1997(P)(A), "ANFB-10 Critical Power Correlation."
 13. Caldon, Inc., "TOPICAL REPORT: Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFM[✓]™ System," Engineering Report ER-80P.
 14. Caldon, Inc., "Supplement to Topical Report ER-80P: Basis for a Power Uprate with the LEFM[✓]™ or LEFM CheckPlus™ System," Engineering Report ER-160P.
 15. EMF-85-74(P), "RODEX 2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model."
 16. EMF-CC-074(P)(A), Volume 4, "BWR Stability Analysis: Assessment of STAIF with Input from MICROBURN-B2."
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

(continued)



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 30, 1999

Mr. Robert G. Byram
Senior Vice President-Generation
and Chief Nuclear Officer
PP&L, Inc.
2 North Ninth Street
Allentown, PA 18101

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (TAC NOS.
MA2271 and MA2445)

Dear Mr. Byram:

The Commission has issued the enclosed Amendment No. 184 to Facility Operating License No. NPF-14 and Amendment No. 158 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station (SSES), Units 1 and 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your applications dated June 19, 1998, (Unit 1) and August 5, 1998, (Unit 2) as supplemented by letters dated November 23, 1998 (Units 1 and 2), and June 23, 1999.

These amendments incorporate long-term power stability solution instrumentation into the SSES Unit 1 and Unit 2 TS. The changes reflect the addition of a new TS Section 3.3.1.3, "Oscillation Power Range Monitoring Instrumentation," and revisions to TS Section 3.4.1, "Recirculation Loops Operating," to remove specifications related to the current power stability specifications that are no longer required.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Victor Nerses, Sr.", written over a horizontal line.

Victor Nerses, Sr. Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-387/50-388

Enclosures: 1. Amendment No. 184 to
License No. NPF-14
2. Amendment No. 158 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

June 3, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
OF AMENDMENT RE: POST-ACCIDENT SAMPLING SYSTEMS (TAC NOS.
MB7998 AND MB7999)

Dear Mr. Shriver:

The Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. NPF-14 and Amendment No. 187 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 March 3, 2003.

These amendments delete TS 5.5.3, "Post Accident Sampling," and thereby eliminate the requirements to have and maintain the post-accident sampling systems for SSES, Units 1 and 2. The amendments also address related changes to TS 5.5.2, "Primary Coolant Sources Outside Containment."

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

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October 10, 2003

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Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

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/RA/

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Project Directorate I
Division of Licensing Project Management
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Docket Nos. 50-387 and 50-388

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October 29, 2003

Mr. Bryce L. Shriver
Senior Vice President
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PPL Susquehanna, LLC
769 Salem Boulevard, NUCSB3
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE
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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

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3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched flows shall be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR.

OR

One recirculation loop may be in operation with a THERMAL POWER/core flow condition outside of Regions I and II of the Power Flow Map as specified in the COLR, provided the following limits are applied when the associated LCO is applicable:

- a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;
- b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR;
- c. LCO 3.2.3, "LINEAR HEAT GENERATION RATE (LHGR)," single loop operation limits specified in the COLR, and
- d. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Flow Biased Simulated Thermal Power—High), Allowable Value of Table 3.3.1.1-1 is reset for single loop operation.
- e. Recirculation pump speed is $\leq 80\%$.

Note

Required limit and setpoint resets for single recirculation loop operation may be delayed for up to 12 hours after transition from two recirculation loop operation to single recirculation loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Total core flow as a function of THERMAL POWER within Region 1 of the Power Flow Map as specified in the COLR.</p> <p><u>OR</u></p> <p>No recirculation loops operating while in MODE 1.</p>	<p>A.1 Place reactor mode switch in the shutdown position.</p>	<p>Immediately</p>
<p>B. <u>NOTE</u> Only applicable when in Region II of the Power Flow Map as specified in the COLR.</p> <p>Two or more APRM readings oscillating with one or more oscillating $\geq 10\%$ of RTP peak-to-peak.</p> <p><u>OR</u></p> <p>Two or more LPRM upscale alarms activating and deactivating with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p> <p>Sustained LPRM oscillations $> 10 \text{ w/cm}^2$ peak-to-peak with a period ≥ 1 second and ≤ 5 seconds.</p> <p><u>OR</u></p>	<p>B.1 Place the reactor mode switch in the shutdown position.</p>	<p>Immediately</p> <p style="text-align: right;">(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. (continued) Less than 50% of required LPRM upscale alarms OPERABLE.</p>		
<p>C. Total core flow as a function of THERMAL POWER within Region II of the Power Flow Map as specified in the COLR.</p>	<p>C.1 Initiate action to restore total core flow as a function of THERMAL POWER outside of Region II.</p>	<p>Immediately</p>
<p>D. Recirculation loop flow mismatch not within limits.</p>	<p>D.1 Declare the recirculation loop with lower flow to be "not in operation."</p>	<p>2 hours</p>
<p>E. No recirculation loops in operation while in MODE 2. <u>OR</u> Single Recirculation Loop required limits and setpoints not established within required time.</p>	<p>E.1 Be in MODE 3.</p>	<p>12 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	<p>-----NOTE-----</p> <p>Not required to be performed until 24 hours after both recirculation loops are in operation.</p> <p>-----</p> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <p>a. ≤ 10 million lbm/hr when operating at < 75 million lbm/hr total core flow; and</p> <p>b. ≤ 5 million lbm/hr when operating at ≥ 75 million lbm/hr total core flow.</p>	24 hours
SR 3.4.1.2	Verify total core flow as a function of THERMAL POWER is outside of Region I and II of the Power Flow Map as specified in the COLR.	24 hours
SR 3.4.1.3	<p>-----NOTE-----</p> <p>Only required to be met during single loop operations.</p> <p>-----</p> <p>Verify recirculation pump speed is within the limit specified in the LCO.</p>	24 hours



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ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.2 Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.</p> <p><u>AND</u></p> <p>A.3 Restore offsite circuit to OPERABLE status.</p>	<p>24 hours from discovery of no offsite power to one 4.16 kV ESS bus concurrent with inoperability of redundant required feature(s).</p> <p>72 hours</p> <p><u>AND</u></p> <p>6 days from discovery of failure to meet LCO</p> <p><u>OR</u></p> <p>10 days from a one-time outage for replacement of Startup Transformer Number 10 to be completed by December 31, 2003</p>

(continued)

5.5 Programs and Manuals

5.5.1 ODCM (continued)

shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 Primary Coolant Sources Outside Containment

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include Core Spray, High Pressure Coolant Injection, Residual Heat Removal, Reactor Core Isolation Cooling, Reactor Water Cleanup, Standby Gas Treatment, Scram Discharge, Post Accident Sampling (until such time as a modification eliminates the PASS penetration as a potential leakage path) and Containment Air Monitoring Systems. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at least once per 24 months.

The provisions of SR 3.0.2 are applicable.

5.5.3 Not Used

5.5.4 Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably

(continued)

5.6 Reporting Requirements

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the main steam safety/relief valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
1. The Average Planar Linear Heat Generation Rate for Specification 3.2.1;
 2. The Minimum Critical Power Ratio for Specification 3.2.2;
 3. The Linear Heat Generation Rate for Specification 3.2.3;
 4. The Average Power Range Monitor (APRM) Gain and Setpoints for Specification 3.2.4; and
 5. The Shutdown Margin for Specification 3.1.1.
 6. The stability related regions of the Power Flow Map for Specification 3.4.1.
- b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC.

When an initial assumed power level of 102 percent of rated power is specified in a previously approved method, this refers to the power level associated with the design basis analyses, or 3510 MWt. The power level of 3510 MWt is 100.6% of the rated thermal power level of 3489 MWt. The RTP of 3489 MWt may only be used when feedwater flow measurement (used as input to the reactor thermal power measurement) is provided by the Leading Edge Flow Meter (LEFM[✓]TM) as described in the LEFM[✓]TM Topical Report and supplement referenced below. When feedwater flow measurements from the LEFM[✓]TM system are not available, the core thermal power level may not exceed the originally approved RTP of 3441 MWt, but the value of 3510 MWt (102% of 3441 MWt) remains the initial power level for the bounding licensing analysis.

(continued)

5.6 Reporting Requirements

5.6.5 COLR (continued)

11. Caldon, Inc., "Supplement to Topical Report ER-80P: Basis for a Power Uprate with the LEFMTM or LEFM CheckPlusTM System," Engineering Report ER-160P.
 12. EMF-85-74(P)(A), "RODEX 2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Model."
 13. EMF-2158(P)(A), "Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/Microburn-B2," Siemens Power Corporation.
 14. EMF-CC-074(P)(A), Volume 4, "BWR Stability Analysis: Assessment of STAIF with Input from MICROBURN-B2."
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 EDG Failures Report

If an individual emergency diesel generator (EDG) experiences four or more valid failures in the last 25 demands, these failures and any nonvalid failures experienced by that EDG in that time period shall be reported within 30 days. Reports on EDG failures shall include the information recommended in Regulatory Guide 1.9, Revision 3, Regulatory Position C.4.

5.6.7 PAM Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.
