



# Progress Energy

Cornelius J. Gannon  
Vice President  
Brunswick Nuclear Plant  
Progress Energy Carolinas, Inc.

DEC 15 2003

SERIAL: BSEP 03-0150  
TSC-2003-08

10 CFR 50.90

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

SUBJECT: Brunswick Steam Electric Plant, Unit Nos. 1 and 2  
Docket Nos. 50-325 and 50-324/License Nos. DPR-71 and DPR-62  
Request for License Amendments  
Technical Specification 3.1.8, "Scram Discharge Volume (SDV) Vent  
and Drain Valves," Using the Consolidated Line Item Improvement  
Process

Ladies and Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Progress Energy Carolinas, Inc. (PEC) is requesting a revision to the Technical Specifications (TSs) for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The proposed 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 valve inoperable. These changes are based on Technical Specifications Task Force (TSTF) change traveler TSTF-404, Revision 0, that has been approved generically for the Boiling Water Reactor/4 Standard Technical Specifications, NUREG-1433, Revision 2. The availability of the TS improvement was announced in the *Federal Register* on April 15, 2003, as part of the consolidated line item improvement process.

Enclosure 1 provides a description of the proposed change and confirmation of applicability. Enclosures 2 and 4 provide the existing TS pages marked-up to show the proposed change. Enclosures 3 and 5 provide the revised TS pages, and Enclosure 6 provides the existing Unit 1 TS Bases pages marked-up to show the proposed change.

There are no new regulatory commitments made in this submittal.

PEC has evaluated the proposed changes in accordance with 10 CFR 50.91(a)(1), using the criteria in 10 CFR 50.92(c), and determined that these changes involve no significant hazards considerations.

PEC requests approval of the proposed license amendments by June 11, 2004, with the amendments being fully implemented within 60 days after approval.

P.O. Box 10429  
Southport, NC 28461

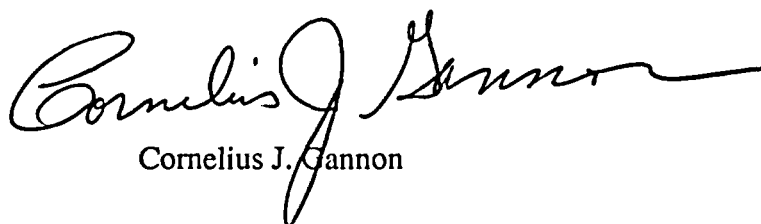
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A001

In accordance with 10 CFR 50.91(b)(1), a copy of this application is being provided to the State of North Carolina.

Please refer any questions regarding this submittal to Mr. Edward T. O'Neil, Manager – Support Services, at (910) 457-3512.

Sincerely,

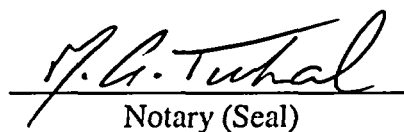
  
Cornelius J. Gannon

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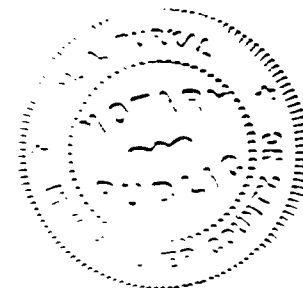
Enclosures:

1. Description and Assessment
2. Marked-Up Technical Specification Page - Unit 1
3. Typed Technical Specification Page - Unit 1
4. Marked-up Technical Specification Page - Unit 2
5. Typed Technical Specification Page - Unit 2
6. Marked-up Technical Specification Bases Pages – Unit 1 (For Information Only)

Cornelius J. Gannon, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, and agents of Carolina Power & Light Company.

  
Notary (Seal)

My commission expires: *May 18, 2008*



cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II  
ATTN: Mr. Luis A. Reyes, Regional Administrator  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, GA 30303-8931

U. S. Nuclear Regulatory Commission  
ATTN: Mr. Eugene M. DiPaolo, NRC Senior Resident Inspector  
8470 River Road  
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission  
ATTN: Ms. Brenda L. Mozafari (Mail Stop OWFN 8G9) (Electronic Copy Only)  
11555 Rockville Pike  
Rockville, MD 20852-2738

Ms. Jo A. Sanford  
Chair - North Carolina Utilities Commission  
P.O. Box 29510  
Raleigh, NC 27626-0510

Ms. Beverly O. Hall, Section Chief  
Radiation Protection Section, Division of Environmental Health  
North Carolina Department of Environment and Natural Resources  
3825 Barrett Drive  
Raleigh, NC 27609-7221

## DESCRIPTION AND ASSESSMENT

### **1.0 DESCRIPTION**

The proposed amendments revise the required action within Technical Specification (TS) Section 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 valve inoperable. These changes are consistent with NRC approved Technical Specification Task Force (TSTF) change TSTF-404 that has been approved generically for the Boiling Water Reactor/4 Standard Technical Specifications, NUREG-1433, Revision 2. The availability of this TS improvement was published in the *Federal Register* on April 15, 2003, as part of the Consolidated Line Item Improvement Process (CLIIP).

### **2.0 ASSESSMENT**

#### **2.1 Applicability of Published Safety Evaluation**

Progress Energy Carolinas, Inc. (PEC) has reviewed the safety evaluation published on April 15, 2003, (68 FR 18294) as part of the CLIIP. This verification included a review of the NRC's evaluation, as well as the information provided to support TSTF-404. PEC has concluded that the justifications presented in the TSTF proposal and the NRC's safety evaluation are applicable to the Brunswick Steam Electric Plant (BSEP), Units 1 and 2, and justify these changes for implementation in the BSEP TSs.

#### **2.2 Optional Changes and Variations**

PEC is not proposing any variations or deviations from the TS changes described in TSTF-404 or the NRC's safety evaluation published on April 15, 2003.

### **3.0 REGULATORY ANALYSIS**

#### **3.1 No Significant Hazards Consideration**

PEC has reviewed the proposed no significant hazards consideration (NSHC) published in the *Federal Register* on April 15, 2003, as part of the CLIIP and has concluded that the proposed NSHC is applicable to BSEP, Units 1 and 2, and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

#### **3.2 Verification and Commitments**

There are no new regulatory commitments associated with the proposed changes.

#### **4.0 Environmental Evaluation**

PEC has reviewed the environmental evaluation included in the safety evaluation published April 15, 2003, as part of the CLIP and concluded that the NRC's findings are applicable to BSEP, Units 1 and 2. The evaluation is hereby incorporated by reference for this application.

**BSEP 03-0150**  
**Enclosure 2**

**Marked-up Technical Specification Page - Unit 1**

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 Scram Discharge Volume (SDV) Vent and Drain Valves

LCO 3.1.8 Each SDV vent and drain valve shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

NOTE <sup>5</sup>

-----  
Separate Condition entry is allowed for each SDV vent and drain line.  
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1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SDV vent or drain lines with one valve inoperable.	A.1 <del>Restore valve to OPERABLE status.</del> <u>Isolate the associated line.</u>	7 days
B. One or more SDV vent or drain lines with both valves inoperable.	B.1 <del>NOTE</del> 2. An isolated line may be unisolated under administrative control to allow draining and venting of the SDV. <del>NOTE</del> Isolate the associated line.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

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Enclosure 3

**Typed Technical Specification Page - Unit 1**



3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 Scram Discharge Volume (SDV) Vent and Drain Valves

LCO 3.1.8            Each SDV vent and drain valve shall be OPERABLE.

APPLICABILITY:    MODES 1 and 2.

ACTIONS

-----NOTES-----

1.    Separate Condition entry is allowed for each SDV vent and drain line.
2.    An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A.    One or more SDV vent or drain lines with one valve inoperable.	A.1    Isolate the associated line.	7 days
B.    One or more SDV vent or drain lines with both valves inoperable.	B.1    Isolate the associated line.	8 hours
C.    Required Action and associated Completion Time not met.	C.1    Be in MODE 3.	12 hours

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Enclosure 4

**Marked-up Technical Specification Page - Unit 2**

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 Scram Discharge Volume (SDV) Vent and Drain Valves

LCO 3.1.8 Each SDV vent and drain valve shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

NOTE (5)

Separate Condition entry is allowed for each SDV vent and drain line.



CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SDV vent or drain lines with one valve inoperable.	A.1 <del>Restore valve to OPERABLE status</del> <u>Isolate the associated line.</u>	7 days
B. One or more SDV vent or drain lines with both valves inoperable.	B.1 <del>NOTE</del> 2. An isolated line may be unisolated under administrative control to allow draining and venting of the SDV. <del>Isolate the associated line.</del> Isolate the associated line.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

**BSEP 03-0150**  
**Enclosure 5**

**Typed Technical Specification Page - Unit 2**

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 Scram Discharge Volume (SDV) Vent and Drain Valves

LCO 3.1.8 Each SDV vent and drain valve shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

-----NOTES-----

1. Separate Condition entry is allowed for each SDV vent and drain line.
2. An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SDV vent or drain lines with one valve inoperable.	A.1 Isolate the associated line.	7 days
B. One or more SDV vent or drain lines with both valves inoperable.	B.1 Isolate the associated line.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

**BSEP 03-0150**  
**Enclosure 6**

**Marked-up Technical Specification Bases Pages - Unit 1**  
**(For Information Only)**

BASES

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**APPLICABLE SAFETY ANALYSES** (continued) capacity to contain the reactor coolant discharge during a full core scram. To automatically ensure this capacity, a reactor scram (LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation") 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.

SDV vent and drain valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii) (Ref. 3).

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**LCO** 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 to ensure that a path is available for the SDV piping to drain freely at other times.

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**APPLICABILITY** In MODES 1 and 2, scram may be required; therefore, the SDV vent and drain valves must be OPERABLE. In MODES 3 and 4, control rods are not able to be withdrawn since the reactor mode switch is in the shutdown position and a control rod block is applied. This provides adequate controls to ensure that control rods cannot be withdrawn. Also, during MODE 5, only a single control rod can be withdrawn from a core cell containing fuel assemblies. Therefore, the SDV vent and drain valves are not required to be OPERABLE in these MODES since the reactor is subcritical and no more than one rod may be withdrawn and subject to scram.

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**ACTIONS** The ACTIONS Table is modified by <sup>5</sup> Note indicating that a separate Condition entry is allowed for each SDV vent and drain line. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable SDV line. Complying with the Required Actions may allow for continued operation, and subsequent inoperable SDV lines are governed by subsequent Condition entry and application of associated Required Actions.

(continued)

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BASES

ACTIONS  
(continued)

A.1

When one SDV vent or drain valve is inoperable in one or more lines, the ~~valves must be restored to OPERABLE status within 7 days.~~ The Completion Time is reasonable, given the redundant capability afforded by the remaining valves in the affected lines and the low probability of a scram occurring while the valve(s) are inoperable. The SDV is still isolable since the redundant valve in the affected line is OPERABLE. During these periods, the single failure criterion may not be preserved, and a higher risk exists to allow reactor water out of the primary system during a scram.

associated line must be isolated to contain the reactor coolant during a scram.

7 day

and the line is not isolated

B.1

If both valves in a line are inoperable, the line must be isolated to contain the reactor coolant during a scram. ~~When a line is isolated, the potential for an inadvertent scram due to high SDV level is increased. Required Action B.1 is modified by a Note that allows periodic draining and venting of the SDV when a line is isolated.~~ During these periods, the line may be unisolated under administrative control. This allows any accumulated water in the line to be drained, to preclude a reactor scram on SDV high level. This is acceptable since the administrative controls ensure the valve can be closed quickly, by a dedicated operator, if a scram occurs with the valve open.

MOVE TO PREVIOUS PAGE

INSERT

The 8 hour Completion Time to isolate the line is based on the low probability of a scram occurring while the line is not isolated and unlikelihood of significant CRD seal and scram exhaust valve leakage.

C.1

If any Required Action and associated Completion Time is not met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours. The allowed Completion Time of 12 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems.

(continued)