May 31, 2002

Mr. David A. Christian
Senior Vice President - Nuclear
Virginia Electric and Power Company
5000 Dominion Blvd.
Glen Allen, Virginia 23060

SUBJECT: SURRY UNITS 1 AND 2 - ADDITIONAL TECHNICAL SPECIFICATION REQUIREMENTS FOR PRESSURIZER POWER-OPERATED RELIEF VALVE BACKUP AIR SUPPLY (TAC NOS. MB2131 AND MB2132)

Dear Mr. Christian:

The Commission has issued the enclosed Amendment No. 231 to Facility Operating License No. DPR-32 and Amendment No. 231 to Facility Operating License No. DPR-37 for the Surry Power Station, Unit Nos. 1 and 2, respectively. The amendments change the Technical Specifications (TS) in response to your application transmitted by letter dated May 31, 2001, as supplemented by letters dated October 17, 2001, and March 5, 2002.

The amendments revise TS Sections 3.1.A.6 and 4.1.B and the associated Bases. The changes include the addition of a 14-day allowed outage time for the power-operated relief valve backup air supply, and additional surveillance, functional testing, and calibration requirements.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Gordon E. Edison, Senior Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-280 and 50-281

Enclosures:
1. Amendment No. 231 to DPR-32
2. Amendment No. 231 to DPR-37
3. Safety Evaluation

cc w/encls: See next page

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Virginia Electric and Power Company

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VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 231
License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Virginia Electric and Power Company (the licensee) dated May 31, 2001, as supplemented by letters dated October 17, 2001, and March 5, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and 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 rules and 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;

   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 3.B of Facility Operating License No. DPR-32 is hereby amended to read as follows:

   (B) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 231, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 31, 2002

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 231
License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Virginia Electric and Power Company (the licensee) dated May 31, 2001, as supplemented by letters dated October 17, 2001, and March 5, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and 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 rules and 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;

   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 3.B of Facility Operating License No. DPR-37 is hereby amended to read as follows:

   (B) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 231, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

John A. Nakoski, Chief, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 31, 2002

ATTACHMENT TO

LICENSE AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-32

LICENSE AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NOS. 50-280 AND 50-281

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 Page	Insert Page
TS 3.1-5	TS 3.1-5
TS 3.1-5c	TS 3.1-5c
TS 4.1-1	TS 4.1-1
TS 4.1-5	TS 4.1-5

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-32

AND AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-280 AND 50-281

1.0 INTRODUCTION

By letter dated May 31, 2001, as supplemented by letters dated October 17, 2001, and March 5, 2002, Virginia Electric and Power Company (VEPCO, the licensee) submitted a request to change the Technical Specifications (TS) for Surry Power Station, Units 1 and 2. The October 17, 2001, and March 5, 2002, letters contained clarifying information only and did not change the initial no significant hazards consideration determination or expand the scope of the initial application. The proposed TS changes are to TS 3.1.A.6 and 4.1.B, and the associated Bases. The changes provide new TS for the backup air supply for the pressurizer power-operated relief valves (PORVs). The specific TS changes proposed are listed below:

- Add new TS 3.1.A.6.f:

  With one or both PORV(s) inoperable (but capable of being manually cycled) because of an inoperable backup air supply, within 14 days either restore the PORV(s) backup air suppy(ies) to OPERABLE status or be in at least HOT SHUTDOWN within the next 6 hours and reduce Reactor Coolant System average temperature to <350°F within the following 6 hours.

- Add the following TS 3.1 Bases paragraph:

  With one or both PORVs inoperable (but capable of being manually cycled) due to an inoperable backup air supply, continued operation for 14 days is allowed provided the normal motive force for the PORVs, i.e., the instrument air system, continues to be available. Instrument air has a high system reliability, and the likelihood of it being unavailable during a demand for PORV operation is low enough to justify a reasonable length of time (i.e., 14 days) to repair the backup air system.

Add new surveillance requirements 4.1.B.1.d and e:

d. Verifying that the pressure in the PORV backup air supply is greater than the surveillance limit at least once per 92 days.

e. Performing functional testing and calibration of the PORV backup air supply instrumentation and alarm setpoints at least once per 18 months.

- Add new paragraphs to Section 4.1, Bases:

  Pressurizer PORV, PORV Block Valve, and PORV Backup Air Supply
  The safety-related, seismic PORV backup air supply is relied upon for two functions - mitigation of a design basis steam generator tube rupture accident and low temperature overpressure protection (LTOP) of the reactor vessel during startup and shutdown. The surveillance criteria are based upon the more limiting requirements for the backup air supply (i.e. more PORV cycles potentially required to perform the mitigation function), which are associated with the LTOP function.

  The PORV backup air supply system is provided with a calibrated alarm for low air pressure. The alarm is located in the control room. Failures such as regulator drift and air leaks which result in low pressure can be easily recognized by alarm or annunciator action. A periodic quarterly verification of air pressure against the surveillance limit supplements this type of built-in surveillance. Based on experience in operation, the minimum checking frequencies set forth are deemed adequate.

The proposed TS amendments do not change the requirements for the LTOP system of TS 3.1.G.

The licensee stated that the risk benefit of these TS amendments are twofold. First, under the current TS, the initial response to an inoperable valve that is capable of being manually cycled is to close the associated block valve within 1 hour. Since in the large majority of cases instrument air remains available to the PORV, the preferable response to an inoperable backup air supply is to leave the block valve open. This leaves the valve available to perform its normal pressure control function in the event of a transient. Second, an inoperable PORV requires that the unit be placed in hot shutdown within 6 hours. Thus, the proposed change reduces the potential for a forced shutdown action with its attendant risks in response to a condition (loss of the backup air) that the licensee found to have very low risk significance.

The evaluation of these TS amendments focuses on the potential impact of the PORV air bottles being out of service for 14 days with the unit at power.

2.0 EVALUATION

Initially, the PORV power sources were addressed by the staff as part of NUREG-0737, Item II.G.1, “Emergency Power for Pressurizer Equipment to Enhance PORV Reliability.” VEPCO responded by indicating that in the event of loss of offsite power (LOOP), emergency motive power would be provided by seismically supported high-pressure nitrogen tanks. As the safety role of the PORV increased, the staff issued Generic Letter 90-06 that required operating

pressurized-water reactor plants to modify the limiting conditions for operation of the PORVs and block valves for MODES 1, 2, and 3.

Consequently, a surveillance requirement was added that required testing the emergency power sources for the PORVs and block valves by manually transferring the motive and control power from the normal to the emergency power and operating the valves through a complete cycle of travel. Also, plant operation in Modes 1, 2, and 3 with PORVs and block valves inoperable for reasons other than seat leakage was not permitted beyond 72 hours.

In addition, current Surry TS ACTION statements provide requirements for configurations involving inoperable PORVs. These action statements take into consideration the ability to manually cycle the PORVs. However, operability of the backup nitrogen accumulators is not addressed and there are no surveillance requirements associated with the PORV nitrogen accumulators.

The licensee proposes to provide an ACTION statement for PORVs that are inoperable because of an inoperable backup air supply. The licensee also proposes to include surveillance requirements on the backup nitrogen supply accumulator pressure.

2.1 Deterministic Evaluation

For the case with one or both of the PORVs inoperable due to an inoperable backup nitrogen supply, the licensee proposes continued operation of 14 days provided the normal motive force for the PORVs (instrument air) remains available. The licensee is requesting to extend the allowed outage time (AOT) in the case where one or both PORVs are capable of manual operation, but the safety grade backup nitrogen supply is inoperable. This change has no impact on the current safety analysis, but instead is an extension of the current AOTs. Therefore, the current safety analysis remains valid. Since the safety analysis remains valid, it is concluded that there is no difference in the deterministic safety significance of the extension of the AOT for the safety grade motive force. The difference in the current TS versus the proposed extension lies in the added risk due to the extension of the AOT, which is reviewed in Section 2.2, “Risk-based Evaluation,” of this Safety Evaluation.

The licensee’s proposal for a 14-day AOT is a conservative deviation from the standard TS because without the proposed AOT, the licensee will operate the plant with PORVs isolated if the backup air bottles become inoperable. If the reactor operates with the PORVs isolated, there is an increased probability of failure to assist in pressure control or decay heat removal during transients. The addition of a 14-day AOT therefore establishes a limit to the time the plant may be operated with the backup air bottles inoperable.

The staff also examined the impact of the proposed AOT on defense-in-depth. Specifically, the staff examined the impact of operating the plant more than 14 days without the backup air bottles in light of other available mitigating systems and frequency of challenges that rely solely on the backup air bottles for PORV operation. Seismic events and loss-of-air events rely completely on the backup air bottles for PORV operation. The frequency of these events is low. Furthermore, the auxiliary feedwater system provides a diversity to the functions performed by PORVs in accident mitigation. Consequently, the proposed AOT meets defense-in-depth and it will not create risk outliers.

The proposed addition of a surveillance requirement to verify that the PORV back-up air bottles are above the required pressure at least once every 92 days provides greater assurance than currently exists that the backup air supplies for the pressurizer PORVs are capable of performing their safety function. Also, the proposed addition of a surveillance requirement to perform functional testing and calibration of the pressurizer PORV backup air supply instrumentation and alarm setpoints is consistent with existing standard TS requirements. Therefore, the staff considers surveillance requirements proposed by TS 4.1.B.1.d and TS 4.1.B.1.e to be acceptable.

2.2 Risk-informed Evaluation

The licensee provided a risk-informed TS change request using the guidance in Regulatory Guide (RG) 1.177, "An Approach For Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" and RG 1.174, "An Approach For Using Probabilistic Risk Assessment in Risk-Informed Decision on Plant-Specific Changes to the Licensing Bases." Risk-informed TS amendments follow a three-tiered process as discussed in RG 1.177. Tier 1 involves using Probabilistic Safety Analysis (PSA) techniques to gain risk insights. The second tier addresses the avoidance of risk-significant configurations. Tier 3 contains provisions for a risk-informed configuration management program. The need for this third tier stems from the difficulty of identifying all possible risk-significant configurations under Tier 2 that will ever be encountered over extended periods of plant operation.

Tier 1: PSA Capability and Insights

The PORV backup air bottles supply motive air to the PORVs upon loss of the normal supply, the Containment Instrument Air (IA) system. Each pressurizer PORV has four air bottles as a backup air supply, two of which are installed spares. Each bottle has the capacity for approximately 115 cycles of a PORV. Each unit has two redundant 100-percent capacity Containment IA system air compressors powered from normal station service buses. In the event that these compressors become unavailable, such as from a LOOP, a safety-related backup air supply, the Turbine Building IA system, can be used for PORV air motive force. The Turbine Building IA system consists of two compressors (one per unit) that can be cross-tied to the Containment IA system. Each unit's Containment IA system can be cross-tied to either unit's Turbine Building IA system.

The PORVs function to: provide feed-and-bleed cooling if auxiliary feedwater (AFW) and main feedwater are not available to provide steam generator cooling; provide a means for primary side cooldown and depressurization such as would be necessary following a steam generator tube rupture (SGTR) event; and provide overpressure protection such as would be needed following an anticipated transient without a scram (ATWS). The success criteria for feed-and-bleed cooling and for an SGTR event is one of two PORVs. For ATWS scenarios, the success criteria is two of two PORVs.

The Surry PSA model and its documentation are controlled by the licensee's Quality Assurance Program in compliance with 10 CFR Part 50, Appendix B. This is implemented by a number of established procedures. The Surry PSA model update was completed in 1998, and included the addition of the IA systems. The current model includes a detailed representation of the PORV air bottle trains, the Containment IA system, and Turbine Building IA system.

The staff noted that the Surry PSA model did not have a loss of IA supply as an initiating event. This is not a significant omission in the model, though. The likelihood of loss of Turbine Building IA (as the initiating event) simultaneous with loss of Containment IA is small because these two systems are physically independent. In addition, the AFW system would still be available to provide steam generator cooling. The only AFW IA dependencies are the air-operated steam admission valves for the turbine-driven AFW pump that are equipped with backup nitrogen bottles. The bleed function in feed-and-bleed cooling would also be available for this initiating event, provided an alternate backup air supply to a PORV can be established. A PORV air bottle (if available), the service air compressors, or the diesel-driven air compressor (given loss of the Containment and Turbine Building IA air compressors) are additional backup supplies. All backup air systems have adequate capacity to provide for their normal system loads, as well as the motive force to the PORVs. The feed function in feed-and-bleed cooling, provided by the Safety Injection (SI) system that is not impacted by loss of IA since it has no IA dependencies, would also be available.

In addition to AFW system and feed-and-bleed function IA dependencies, the licensee reviewed the air-operated valves and dampers that support room cooling or ventilation of safety-related equipment and found that these components, on a loss of IA, fail to their safe position as designed and installed. Procedural controls are also in place to verify proper alignment of air-operated valves and dampers if a loss of IA occurs.

The Tier 1 risk measures discussed in the regulatory guidance for risk-informed TS are: (1) the increase in annual average core damage frequency (ΔCDF), (2) the incremental conditional core damage probability (ICCDP), (3) the increase in annual average large early release frequency (ΔLERF), and (4) the incremental large early release probability (ICLERP). The acceptance guidelines for the ΔCDF over the baseline CDF and the ΔLERF over the baseline LERF is provided in RG 1.174. The acceptance guidelines for the ICCDP and the ICLERP are provided in RG 1.177.

The baseline CDF from the Surry PSA is 7.53×10^{-5}/year, combining the CDF from internal and external event initiators. The baseline LERF is 2.72×10^{-6}/year, from internal events only. The ΔCDF and ΔLERF for a 14-day LCO during which both air bottle trains are unavailable is small enough to meet the RG 1.174 acceptance guidelines, according to the Surry PSA model. Also, the ICCDP and the ICLERP for a 14-day limiting condition for operation (LCO) during which both air bottle trains are unavailable are also small enough to meet the acceptance guidelines of RG 1.177, according to the Surry PSA model.

The risk associated with events not in the PSA model also needs to be considered. As noted previously, a loss of IA was not included in the Surry PSA. A loss of the Turbine Building IA system as an initiating event and simultaneous loss of the Containment IA system is not a risk-significant scenario. Other scenarios are relevant, but typically not included in a PSA model: (1) loss of Turbine Building IA and subsequent LOOP, and (2) simultaneous occurrence of loss of an IA system and an SGTR. These scenarios may require the PORV function, and are considered below.

First, the low frequency of occurrence of a loss of Turbine Building IA and subsequent LOOP, coupled with the redundant mitigation systems, results in low risk significance for this scenario. The second scenario (simultaneous loss of an IA system and an SGTR) also has a low frequency of occurrence, but mitigation can be challenging. During the LCO, when one or both

PORV air bottles are unavailable, an SGTR and a loss of Turbine Building or Containment IA would have a significant impact on the ability to depressurize the reactor coolant system. Since SGTR and loss of an IA system are independent events, the frequency of simultaneous occurrence of these two events is low. An SGTR and a loss of Turbine Building IA would not impact the ability to cycle the PORVs since the Containment IA system is still available (although secondary side cooldown is affected). An SGTR and a loss of the Containment IA system would result in loss of pressurizer spray, but would not result in the unavailability of the secondary side dumps to the condenser and to the atmosphere. Pressurizer sprays or pressurizer PORVs are needed post-SGTR. These types of emergent condition considerations (e.g., simultaneous inoperability of the Containment IA system) would be evaluated by the Surry configuration risk management program as appropriate, thus providing greater assurance that the risk is adequately considered.

The Surry PSA model indicated that the dominant sequences associated with the proposed TS changes were related to loss-of-coolant accidents. The staff notes that the LOOP initiator is an important contributor also. A LOOP event results in loss of Containment IA. If both PORV air bottle trains are unavailable, then the safety-related Turbine Building IA system air compressors would need to be cross-tied to the Containment IA system to provide PORV air motive force. The licensee indicates that the swing emergency diesel generator will power either the 1J or the 2J bus (but not both). The station blackout (SBO) diesel generator is a separate generator with a direct feed to the D and E transfer buses; and the SBO diesel can thus power the 2H and (if needed) the 1J buses. Therefore, redundant diesels exist to power the Turbine Building IA system air compressors. In addition, both the 1J and 2J emergency buses can be backfed from Station Service. The cross-tie between IA systems involves local manual operator action to open two manual gate valves in series, and is directed by station procedures. Therefore, establishing the IA system cross-tie should be a relatively easy task for the operators. Once the cross-tie is established, a Turbine Building IA system air compressor will supply the Containment IA system piping with higher flow rate capacity than that of a Containment IA system air compressor. The Turbine Building IA system pressure is approximately 100-110 psig, and the minimum air pressure required to fully stroke the PORVs is 85 psig. Procedural controls are in place and provide guidance and direction regarding the use of these air systems. In addition, the risk from LOOP sequences is further decreased during the proposed AOT by the plant IA design since there is little or no impact on the AFW and the SI system availabilities upon loss of IA.

External events risk was considered qualitatively. The licensee considered the external event risk contribution to be small based on the following considerations:

1. The pressurizer PORVs are minor contributors to plant risk due to internal events.

2. The Containment IA system is a support system for a minor risk contributor.

3. The backup bottled air supply is less of a risk contributor than the Containment IA system. Each PORV has its own train of bottled air located in containment, a Class I seismic structure.

4. The proposed TS change will not significantly impact the availability of the bottled air system, which is less than a minor risk contributor.

5. A quantitative external events risk analysis would yield results comparable to the internal events analysis because any external events that would make both the Containment IA and the Turbine Building IA systems unavailable are very low in frequency. Furthermore, critical system components and designated containment isolation features of the IA subsystems are designed to seismic Class I criteria.

6. The Turbine Building Fire Protection system includes a complete coverage sprinkler system below the operating deck.

7. Fires were evaluated as part of the Individual Plant Examination of External Events study. PORV failures as a result of a fire were not identified as a significant contributor to CDF.

8. The locations of the IA compressors, the service air compressors, and the bottled air supply to the PORVs provide adequate spatial separation to limit the impact of external events.

The staff agrees, based on qualitative considerations, that external events risk is small.

Uncertainties in the IA system unavailabilities were also considered. The IA system unavailabilities in the Surry PSA are as follows: (1) Containment IA is 2.1×10^{-4}, (2) Turbine Building IA is 8.1×10^{-5}, and (3) each train of bottled air to the pressurizer PORVs has an unavailability of 7.4×10^{-4}. Uncertainty sensitivity studies in these unavailabilities do not change the conclusion that the numerical risk estimates are sufficiently small to meet the risk-informed TS guidance.

Finally, it is noted that the performance of the pressurizer PORVs is monitored. The performance of the PORVs is included in the maintenance rule scoping and performance criteria matrix for the Surry Power Station. The PORVs are classified as safety-related risk significant components in the matrix, and each valve is allowed 100 hours of unavailability. Unavailability in excess of 100 hours would result in required corrective actions.

Based upon the above considerations, the staff concludes that Tier 1 is met.

Tier 2: Avoidance of Risk-Significant Plant Configurations

The second tier provides reasonable assurance that risk-significant plant equipment outage configurations will not occur when specific plant equipment is out of service consistent with the proposed TS change. Risk insights indicate the importance of:

- availablity of redundant IA supplies to the PORVs
- electric power to the Turbine Building IA air compressors
- reliable AFW and SI systems
- spray systems

The specific risk of unavailability associated with these structures, systems, and components (SSCs) that may occur concurrent with one or both PORV air bottle trains out of service would be evaluated under the Surry configuration risk management program, as appropriate.

There are also plant controls in place to reduce the potential for human error, or to mitigate human errors, while troubleshooting or otherwise working on the pressurizer air bottles with the unit at power. Practices in place to prevent human error during troubleshooting and maintenance on the PORV air bottles include personnel training and qualifications, pre-job briefings, self checking, peer checking, procedure compliance, questioning attitude, and clear communications. In addition, scheduled maintenance on the PORV backup air supply is assessed using the Safety Monitor. Additional considerations relate to the backup air supply configuration and layout: (1) in the event that a low-pressure alarm is received or maintenance is needed, the spare bottles need only to be valved in, and (2) the air bottles for each PORV are located in bottle racks that are physically separated, thus reducing the possibility of manipulating the incorrect set of bottles.

The staff concludes that no additional controls are needed for Tier 2 of this proposed TS amendment, and Tier 2 is met.

Tier 3: Risk-Informed Configuration Management

The Surry configuration risk management program has been set up to comply with the requirements of 10 CFR 50.65(a)(4) and the guidance document NUMARC 93-01, “Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.” Procedures require assessment and management of configuration risk for planned and emergent maintenance. The management process provides direction for compensatory and/or corrective steps when high instantaneous or integrated risk occurs. The Safety Monitor program is used to quantify the risk in a full fault tree solution for each configuration (i.e., each unique combination of equipment unavailability due to maintenance and testing) during power and transition operations. An expert panel, including representatives from the Probabilistic Risk Assessment, Operations, and System Engineering groups, has reviewed the scope of the SSCs in the model. In addition, an expert panel developed the performance criteria matrix, risk-ranked the functions, and established functional performance criteria.

The staff finds that the configuration risk management program satisfies Tier 3 for these proposed TS amendments.

These proposed TS amendments have associated risk benefits. First, under the current TS, the initial response to an inoperable PORV that is capable of being manually cycled is to close the associated block valve within 1 hour. Since in the large majority of cases IA remains available to the PORV, the preferable response to an inoperable backup air supply is to leave the block valve open. This leaves the valve available to perform its normal pressure control function in the event of a transient. Second, an inoperable PORV requires that the unit be placed in hot shutdown within 6 hours. Thus, the proposed change reduces the potential for a forced shutdown action with its attendant risks in response to a condition (loss of the backup air). The staff has reviewed the proposed TS AOT for the backup air bottle trains, and concludes that the risk-informed guidance in RG 1.177 and RG 1.174 is met.

The addition of surveillance, functional testing, and calibration requirements in the TS are conservative changes because the requirements do not currently exist and are, therefore, acceptable. A quantitative risk evaluation is unnecessary.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendments. The State official had no comment.

4.0 ENVIRONMENTAL CONSIDERATION

These 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 and change surveillance requirements. 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 these amendments involve no significant hazards consideration, and there has been no public comment on such finding (66 FR 64310). Accordingly, these 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 these amendments.

5.0 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

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