

ATTACHMENT 1  
SURRY POWER STATION  
PROPOSED TECHNICAL SPECIFICATION CHANGE  
EXPLOSIVE GAS CONCENTRATIONS

9006010258 900525  
PDR ADDCK 05000280  
P PIC

- c. With gaseous waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.2, a Special Report that includes the following information:
- (i) Explanation of why gaseous radwaste was being discharged without treatment, identification of any inoperable equipment or sub-systems, and the reason for the inoperability,
  - (ii) Action(s) taken to restore the inoperable equipment to operable status, and
  - (iii) Summary description of action(s) taken to prevent a recurrence.

5. Explosive Gas Mixture

- a. The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.
- (i) With the concentration of oxygen in the waste gas holdup system greater than 2% by volume but less than or equal to 4% by volume, reduce the oxygen concentration to the above limits within 48 hours.
  - (ii) With the concentration of oxygen in the waste gas holdup system greater than 4% by volume, immediately suspend all additions of waste gases to the affected tank and reduce the concentration of oxygen to less than or equal to 4% by volume, then take action (i) above.

6. Gas Storage Tanks

- a. The quantity of radioactivity contained in each gas storage tank shall be limited to less than or equal to 24,600 curies of noble gases (considered as Xe-133).

**ATTACHMENT 2  
SURRY POWER STATION  
DISCUSSION OF CHANGE  
SIGNIFICANT HAZARDS CONSIDERATION**

## Discussion

In May of 1983, Virginia Power requested an amendment to the operating licenses for Surry Power Station by proposing adoption of applicable Radiological Effluent Technical Specifications. Among the specifications added was Technical Specification 3.11.B.5, "Explosive Gas Mixture." This specification was based on Section 3.11.2.5 of NUREG-0472, Revision 3, "Standard Radiological Effluent Technical Specifications For Pressurized Water Reactors." NUREG-0472 provides three options for the Explosive Gas Mixture Specification.

The first option is the one which is currently contained in Surry Technical Specification 3.11.B.5 and is also contained in NUREG-0472 as Section 3.11.2.5. NUREG-0472 notes that 3.11.2.5 is applicable to systems designed to withstand a hydrogen explosion. NUREG-0133, "Preparation of Radiological Effluent Technical Specifications For Nuclear Power Plants," states that a system is designed to withstand a hydrogen explosion if it is designed and tested to 20 times its normal operating pressure. The Waste Gas Decay Tanks at Surry are designed to 150 psig and operated at up to 115 psig. By this criteria the gaseous waste system at Surry is not designed to withstand a hydrogen explosion and NUREG-0472 Section 3.11.2.5 is not the appropriate application for Surry Technical Specifications.

The second option (Section 3.11.2.5A of NUREG-0472) is for systems not designed to withstand a hydrogen explosion. While this option could be used as a basis for Technical Specifications the third option, described below, is the most applicable.

The third option (Section 3.11.2.5B) is for hydrogen rich systems not designed to withstand a hydrogen explosion. This option is the one most applicable to Surry, as hydrogen is one of the primary gases processed by the gaseous waste system. Accordingly, Technical Specification 3.11.B.5 should be revised to conform to NUREG-0472, Section 3.11.2.5B.

## Significant Hazards Consideration

The proposed change to the gaseous waste system explosive gas mixture Technical Specification does not involve a significant hazards consideration per 10 CFR 50.92.

1. Operation of the gaseous waste system in accordance with the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed Technical Specification, like the current specification, limits the concentration of hydrogen and/or oxygen in the gaseous waste system to prevent an explosive gas mixture. The proposed specification is more directly applicable for Surry than the existing specification because it is intended for use in hydrogen rich systems, which is the case for the Surry gaseous waste system. Specifically, the proposed change addresses waste gas system rupture prevention measures rather than accident conditions or consequences. No impact on the existing safety analysis is made by these changes. Furthermore, since the proposed changes provide preventive measures directly applicable to the plant design, no significant increase in the probability of an accident will occur. The proposed change prevents explosive mixtures for hydrogen rich gaseous waste systems consistent with standard technical specifications.
2. The proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated. The revised specification and the existing specification both address the same issue: prevention of explosive concentrations of hydrogen and oxygen in the gaseous waste system. No accident or event other than a potential gas explosion is relevant to this proposed change.
3. The revised Technical Specification does not involve a significant reduction in a margin of safety. The proposed change continues to ensure that actions are taken to prevent an explosive gas mixture from forming in the gaseous waste system. The proposed change merely provides a specification which is directly applicable to plant specific design characteristics and consistent with standard technical specifications.