

Public Service  
Electric and Gas  
Company

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Vice President - Nuclear Operations

**JUL 14 1992**

**NLR-N92092**

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Gentlemen:

**CORRECTION OF SAFETY EVALUATION REPORT  
APPENDIX R EXEMPTIONS  
SALEM GENERATING STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-272 AND 50-311**

This letter requests corrections to the Safety Evaluation Report (SER) and to the Approval Letter, dated July 20, 1989, that granted, to Salem Generating Station, several exemptions from the requirements of 10CFR50 Appendix R.

Since receipt of the exemption approval, PSE&G has determined that there are some significant typographical errors. Additionally, several of the discussions in the SER and in the Approval Letter, which provide the background and basis for exemption approval, contain information that is inconsistent with the corresponding information contained in our June 15, 1988 exemption request.

PSE&G believes that sound technical bases for these exemptions were provided in our submittal, and that the inconsistencies that we have identified do not adversely affect the conclusions in the SER. However, we want to ensure a proper understanding of each exemption approval basis.

Attachment 1 includes descriptions of the exemptions for which the SER contains technical discrepancies and Attachment 2 provides a listing of typographical errors and minor clarifications.

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JUL 14 1992

If you have any questions regarding this request, we will be pleased to discuss them with you.

Sincerely,



C Mr. T. T. Martin, Administrator  
USNRC Region I

Mr. J. C. Stone  
USNRC Licensing Project Manager

Mr. T. P. Johnson  
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Mr. K. Tosch, Chief,  
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**ATTACHMENT 1**

**TECHNICAL DISCREPANCIES**

GENERIC CORRECTION - APPLICABILITY OF PREVIOUS SUBMITTALS

The NRC, in a letter dated July 20, 1989, granted certain exemptions from the requirements of 10 CFR 50, Appendix R as requested and justified in PSE&G's Revised Exemption Requests submittal dated July 15, 1988. Page 1-1 of the NRC's supporting Safety Evaluation Report references that "The July 15, 1988 submittal supplements and amends information contained in previous letters to the staff including those letters dated January 31, 1985 and January 17, 1986." In fact, PSE&G's transmittal cover letter dated July 15, 1988 states, "The attached requests represent a complete package and replace the previous submittals in their entirety."

The approach of replacing previous submittals in their entirety was taken to avoid future confusion in that the technical position developed for several fire areas shifted over the years due to evolving interpretations and more effective solutions. Therefore, not all information previously submitted is still applicable. It should also be noted that, relative to Appendix R interpretations provided, this approach is consistent with that taken in Generic Letter 86-10 which states, "To the extent that this guidance may be inconsistent with prior guidance (including Generic Letter 83-33), it is intended that the current letter takes precedence."

It remains PSE&G's position that the requests attached to our July 15, 1988 submittal represent a complete package and replace our previous submittals in their entirety. Therefore, the NRC justification for granting the requested exemptions should not reference the earlier PSE&G exemption requests to the extent that information in those requests may be inconsistent with our current submittal.

This issue is also reflected on page 2 of the Approval Letter.

CORRECTION TO EXEMPTION NO. 2, CONTROL ROOM COMPLEX  
(CONTROL ROOM DOORS AND VENTILATION)

Exemption No. 2 for fire area 12FA-AB-122A, Control Room Complex, as submitted to the NRC in PSE&G's July 15, 1988 Revised Exemption Requests (RER) is a request for exemption from the requirements of 10CFR50 Appendix R, Section III.G.3 to the extent that it requires a fixed fire suppression system for an area where alternate shutdown capability is provided. The exemption approval, dated July 20, 1989, contains a description of the Control Room Complex that was not provided in our RER.

Specifically, page 6, section 2.2 of the Approval Letter and page 3-1 of the SER contain the following statements, "Although the walls separating the control rooms are not fire walls, the doors leading to the control rooms are rated for 3/4 hour. The doors are marked as fire doors and must remain closed. They are also equipped with automatic door closures. The doors have been included in the fire door list and are governed as a Technical Specification item. The restrictions on these doors are designed to prevent the propagation of smoke from one control room to the other....The ventilation systems for both units have been balanced to maintain equal pressure in both control rooms. Tests have been performed and it has been confirmed that smoke does not propagate between control rooms when the ventilation systems are balanced. The damper vanes are mechanically locked in position to maintain the pressure balance."

PSE&G's Exemption Request No. 2, dated July 15, 1988, describes the physical configuration of the control room complex as follows: "The rooms within this area are separated by hollow core metal office partitions except the Air Conditioning Rooms, which are separated by a reinforced concrete wall. The two Control Rooms are separated by a 10' wide corridor. Room partitions between the Control Rooms and the Senior Shift and Shift Supervisor's office contain glass panels. The Control Rooms are separated from their associated control Equipment Rooms by built-in steel frame control cabinets. Dropped ceilings are finished with acoustic tile."

Neither the identification of 3/4 hour rated fire doors nor the arrangement of the ventilation system was included in PSE&G's submittal.

The information referred to in the NRR approval correspondence was material included in a previously submitted request for exemption from the requirements of 10CFR50 Appendix R, Section III.G.3 to the extent that there is no fixed fire suppression in the Control Room Complex, and from Section III.G.2.a to the extent that the Unit 1 and Unit 2 control rooms are not separated by a 3-hour rated fire barrier as submitted in letter dated January 17, 1986. The issue associated with the requirements of Section III.G.2.a focused on the personnel requirements necessary for simultaneously performing alternate shutdown actions for both units. Technical justification provided for these two exemptions was developed considering the combined effects of both exemptions rather than looking at each request individually. The overriding consideration of the combined effects was the need to avoid simultaneously evacuating both control rooms and performing alternate shutdown actions on both units due to personnel limitations. Although not specifically stated, various provisions included in the technical justification were associated with either lack of a fixed fire suppression system or lack of a 3-hour rated fire barrier, not necessarily both issues.

Correction to Exemption No. 2 - Continued  
(Control Room Doors and Ventilation)

Recognizing that technical justification for lack of a fixed fire suppression system focuses on the ability for early warning detection of a fire provided by the addition of smoke detectors throughout the area and quick response to a fire due to the constant manning of the control rooms, it can be concluded that the fire, itself, would not be cause to evacuate both control rooms simultaneously. Without physical separation between the control rooms, the potential for propagation of smoke resulting from the fire could be cause for simultaneous control room evacuation. The provisions that included the identification of 3/4 hour fire rated doors leading to the control rooms and the discussion that the doors are equipped with automatic door closures, would remain closed, and would be governed as a Technical Specification item along with the description of the ventilation systems were intended to support the position that a fire in one control room would not force the evacuation of the other control room due to uncontrolled smoke propagation. Therefore, these provisions were specifically associated with the request for exemption from the requirements of 10CFR50 Appendix R, Section III.G.2.a to the extent that the Unit 1 and Unit 2 control rooms are not separated by a 3-hour rated fire barrier. Subsequently, via letter dated August 29, 1986, PSE&G withdrew the request for exemption from the requirements of Section III.G.2.a for lack of a 3-hour fire rated barrier between the control rooms. As such, those provisions contained in the technical justification that were specific to this exemption request were no longer necessary. In PSE&G's letter dated July 15, 1988, all of the exemption requests were compiled and resubmitted for clarity and ease of review. Indication was provided in Exemption No. 2 for the control room complex (with regard to the basis for our withdrawal of the exemption request) that adequate personnel are available to perform simultaneous alternate shutdown of both units. Specific provisions previously included in the technical justification pertaining to this condition, including the identification of the 3/4 hour rated fire doors and discussion of the ventilation system, were removed. The resubmitted exemption request focuses on the fire area as a whole, with no provision for subdivision for separating the control rooms.

It is PSE&G's position that while maintaining the doors between the control rooms closed plays a role in the overall effectiveness of the ventilation systems for the control rooms and represents a good practice to fire protection, as identified in Exemption No. 2, their necessity as fire rated components is no longer relevant and the imposition of Technical Specification provisions against the doors is not necessary. In addition, physical design constraints placed on the ventilation system when considering possible future design changes solely for fire protection purposes are no longer necessary. Finally, it should be noted that smoke propagation alone is not considered to be cause for immediate evacuation of control rooms. Based on the requirements of Branch Technical Position APCSB 9.5-1 Appendix A, self-contained breathing apparatus has been provided for control room personnel.

CORRECTION TO EXEMPTION NO. 5, MECHANICAL PENETRATION AREAS  
(PARTIAL AREA DETECTION)

Exemption No. 5 for fire areas 1 & 2FA-MP-78I, Mechanical Penetration Areas as submitted in our July 15, 1988, Revised Exemption Requests (RER) is a request for exemption from the requirements of 10CFR50 Appendix R, Section III.G.2 to the extent that it requires separation of redundant cables and equipment by 1-hour rated fire barriers plus automatic suppression and area-wide detection. Specifically, fire areas 1 & 2FA-MP-78I are not protected by automatic suppression systems and area-wide detection capability.

Relative to area-wide detection, Enclosure 1, page 13 of PSE&G's July 15, 1988 submittal states, "Partial area detection is installed for the protection of the major fire hazards on Elevation 78' and 100'." In addition, Enclosure 1, page 14 declares, "The electrical cables are widely dispersed and protected by the partial detection system." Finally, as stated in the conclusion for Exemption No. 5, "...the installation of area-wide detection...in the area would not significantly enhance the level of fire protection for safe shutdown cabling."

However, the NRC's letter dated July 20, 1989, which granted the exemptions from the requirements of 10CFR50 Appendix R, indicates, in Section 4.1, page 11, that an exemption was requested from Section III.G.2.c to the extent that it requires an automatic fire suppression system installed in a fire area that contains redundant safe shutdown equipment. There is no mention made of our description of partial area detection. Subsequently, Section 4.2, states, "The existing fire protection includes an area-wide fire detection system..."; and in Section 4.3 it states that, "An area-wide detection system is available in this area and in adjacent areas."

This information is inconsistent with PSE&G's July 15, 1988 submittal as noted above. In addition, the information introduced, dealing with the detection provided in adjacent fire areas, was neither provided with Exemption No. 12 nor is it consistent with the configuration of adjacent areas as described in our Exemption No. 4 for fire areas 1 & 2FA-EP-100G and for 1 & 2FA PP-100H to the east, and Exemption No's. 3 and 7 for fire areas 1 & 2FA-AB-100C and 1 & 2FA-AB-84B, respectively, to the north (south for Unit 2).

For those other fire areas for which an exemption for partial area detection was requested, the position established by the July 20, 1989 NRC letter is that an exemption is not required. For example, Section 3.3 states, "The absence of area-wide detection systems is not considered a non-conformance. Generic Letter 86-10 stipulates that where partial coverage automatic fire detection and suppression exist in an area, licensees may perform a fire hazards evaluation to justify the lack of complete coverage. The staff considers the summary analysis contained in the exemption requests as being sufficient to satisfy the guidelines issued in the Generic Letter." Later, Section 3.5 states, "The licensee's request for an exemption pertaining to the lack of area-wide automatic fire detection in these areas is not needed." Therefore, there appears to be an inconsistency in the NRC evaluation of this fire area relative to the treatment of other fire areas with partial area detection and with the current information submitted by PSE&G. PSE&G maintains that installation of area-wide detection would not significantly enhance the present level of fire protection for safe shutdown cabling.

CORRECTION TO EXEMPTION NO. 5, MECHANICAL PENETRATION AREAS  
(FIRE LOAD)

Exemption No. 5 for fire areas 1 & 2FA-MP-78I, Mechanical Penetration Areas as submitted in our July 15, 1988, Revised Exemption Requests (RER) is a request for exemption from the requirements of 10CFR50 Appendix R, Section III.G.2 to the extent that it requires separation of redundant cables and equipment by 1-hour rated fire barriers plus automatic suppression and area-wide detection. Specifically, fire areas 1 & 2FA-MP-78I are not protected by automatic suppression systems and area-wide detection capability.

The discussion relative to this fire area provided in Section 4.2 of the SER dated July 20, 1989 states, "The fire load in this area is low (less than 10,000 Btu per square foot) and there are no fire hazardous equipment or concentrated heavy fire loads in the area. The low fire loads of 10,000 Btu per square foot translates into a fire severity of less than 10 minutes...". A similar reference to a fire load of less than 10,000 Btu per square foot is made later, in Section 4.3, as well.

This information is contrary to the PSE&G July 15, 1988 submittal (Enclosure 1, Page 13), which describes the fire load in this area, stating, "The in-situ combustibles in the Mechanical Penetration Area will result in a total fire load of approximately 28,000 Btu/ft<sup>2</sup> (21 minutes)." Additionally, described on page 14, "...major combustibles in the area consist of charcoal filters and electrical cable insulation. The charcoal filters are protected by automatic deluge suppression systems. The electric cables are widely dispersed..."

It is PSE&G's position that the information presented in the SER, dated July 20, 1989, incorrectly reflects the plant conditions as described in our 1988 exemption request. However, it is not considered that this discrepancy would impact the approval of the exemption for lack of automatic suppression and area wide detection as requested by PSE&G. When considering the type of combustible material representing the majority of the fire load (cable insulation), it would be anticipated that, if a fire were to start, it would be slow burning and develop smoke in its incipient stage. The smoke would be detected by the partial area detection system, permitting the Fire Brigade to be summoned. Recognizing the nature of this type of fire, the difference between 10,000 Btu/ft<sup>2</sup> and 28,000 Btu/ft<sup>2</sup> is considered to be insignificant. In addition, as noted in PSE&G's July 15, 1988 letter, 1-hour fire barriers were proposed (and have been, subsequently, installed) that maintain one division of cable needed for safe shutdown free of fire damage until the Fire Brigade extinguishes the fire.



CORRECTION TO EXEMPTION NOS. 7 & 9, 460V & 4160V SWITCHGEAR ROOMS  
(MANUAL CO2 SUPPRESSION SYSTEM)

Exemption No. 7, granted for fire areas 1 & 2 FA-AB-84A, 460V Switchgear Room, in the NRC letter dated July 20, 1989, credits the use of "a manually actuated fire suppression system in lieu of an automatic system in the 460V Switchgear Room." Exemption No. 9, granted for fire areas 1 & 2 FA-AB-64A, 4160V Switchgear Room, as stated on page 26 of the SER, does not include this provision. It should. The description by NRC in Section 5.1, states, "In addition, the fire suppression system in the 4160V switchgear room is manually actuated." In Section 5.3 it states, "Also, the 4160V switchgear room is protected by a manually actuated fire suppression system. The staff issued an exemption for the lack of an automatic fire suppression system in the 4160V switchgear room by letter dated June 17, 1983." Finally, in Section 5.4 it is stated, "The staff's evaluation of the June 17, 1983 exemption request for the lack of an automatic fire suppression system in the 4160V switchgear room remains valid."

The above discussions are also consistent with the information provided in Exemption No. 9 4160V Switchgear Room as submitted in PSE&G's July 15, 1988, Revised Exemption Requests. Also included in that submittal, and described in Exemption No. 6, 460V Switchgear Room, "The existing manual carbon dioxide suppression system in this area will be changed to an automatic suppression system."

Based on the information provided in PSE&G's July 15, 1988 letter, and in Section 5 of NRR's July 20, 1989 SER, it is PSE&G's position that the exemption granted for use of a manual CO2 system in lieu of an automatic system is associated with fire areas 1 & 2 FA-AB-64A (NRR Exemption No. 9) rather than fire areas 1 & 2 FA-AB-84A (NRR Exemption No. 7).

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ATTACHMENT 2

TYPOGRAPHICAL CORRECTIONS AND MINOR CLARIFICATIONS

TYPOGRAPHICAL CORRECTIONS AND MINOR CLARIFICATIONS

1. Section 2, page 2 and throughout - "Fire Areas 1 and 2 FA-AB-122A should read "Fire Area 12 FA-AB-122A" (also see page 5-1 and throughout the SER).
2. Section 3.2, page 9 - "Fire Areas 1 and 2 FA-EP-1006 should read "Fire Areas 1 and 2 FA-EP-100G" (also see page 5-1 and throughout the SER).
3. Section 4, page 11 and throughout - "Fire Areas 1 and 2 FA-MP-781" should be "...FA-MP-78I (also see page 4-1 and throughout the SER).
4. Section 4, page 11 - References to the Safety Injection System correspond to the Charging System (high head) listed on page 14 of Enclosure 1 of the July 15, 1988, Revised Exemption Requests (also see Section No. 4 of the SER).
5. Section 6, page 15 - References to the Chemical and Volume Control System (CVCS) correspond to the Charging System discussed on page 20 of Enclosure 1 of the July 15, 1988, Revised Exemption Requests (also see Section No. 7 of the SER).
6. Section 8.4, page 22 - "Panel 35" should be "Panel 335" (also see page 9-2 of the SER).
7. Summary No. 11, page 27 - Lists the exemption as only applicable to Fire Areas 1 and 2 FA-AB-45A. This exemption also applies to Fire Areas 1 and 2 FA-AB-45B.