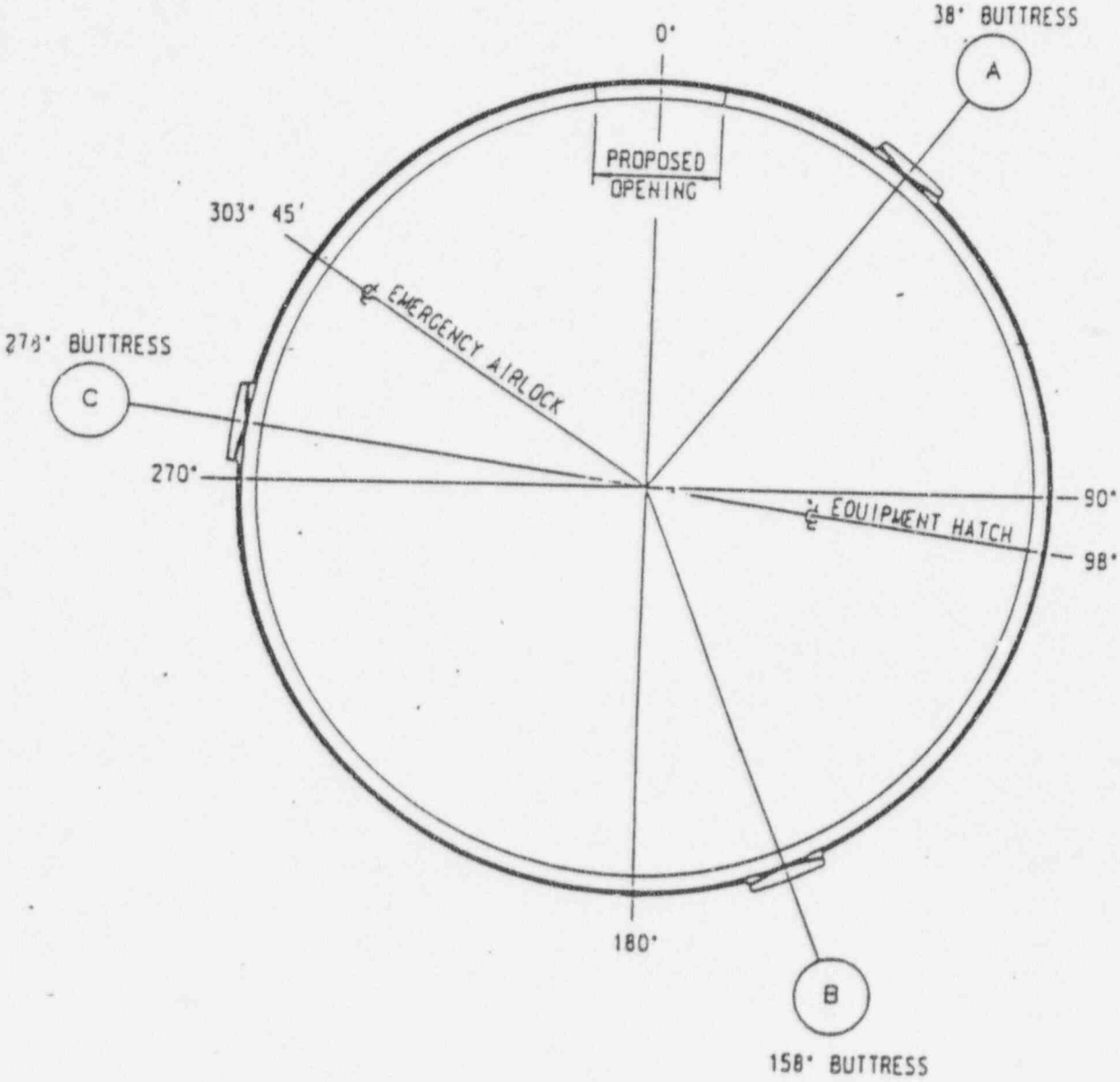

FIGURE 1

CONTAINMENT PLAN VIEW

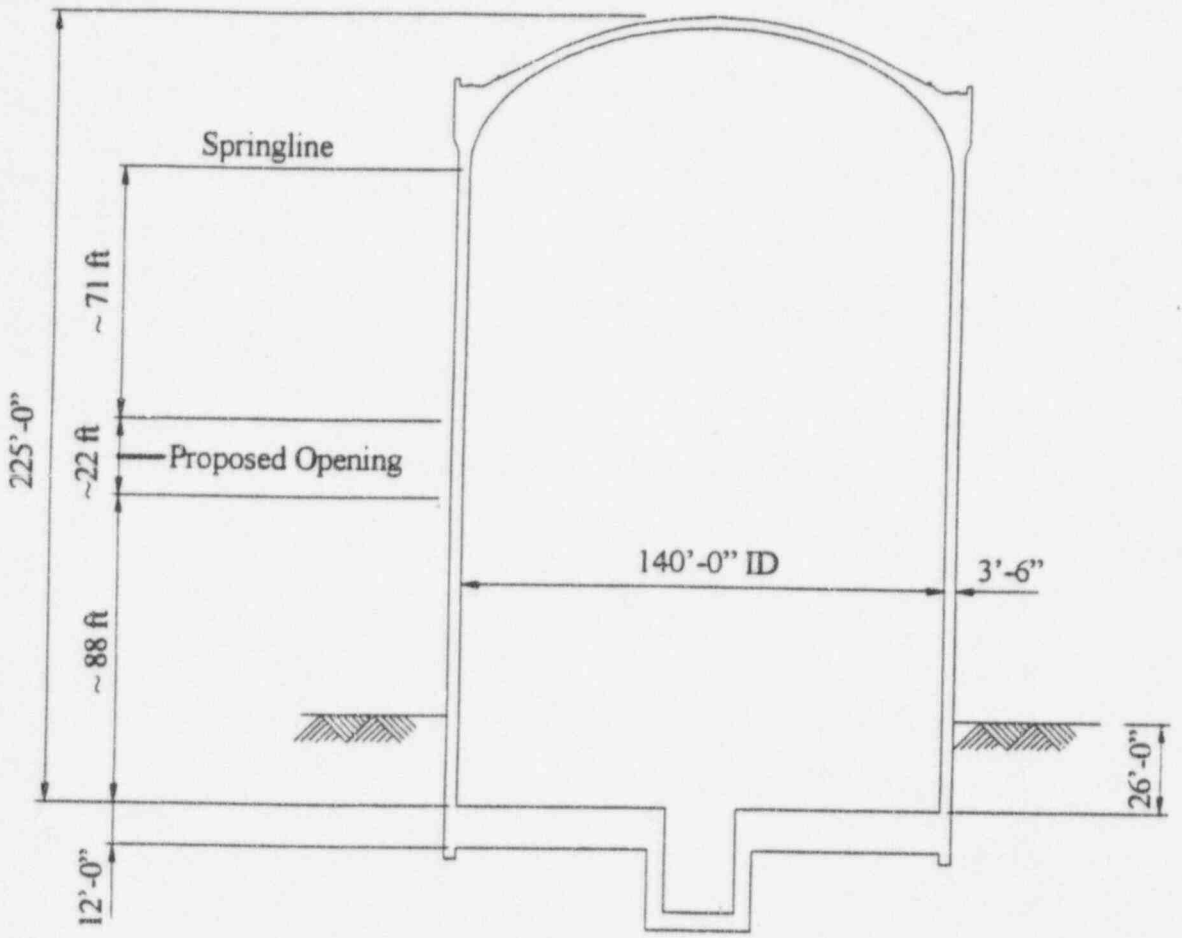

FIGURE 2

CONTAINMENT SECTIONAL VIEW

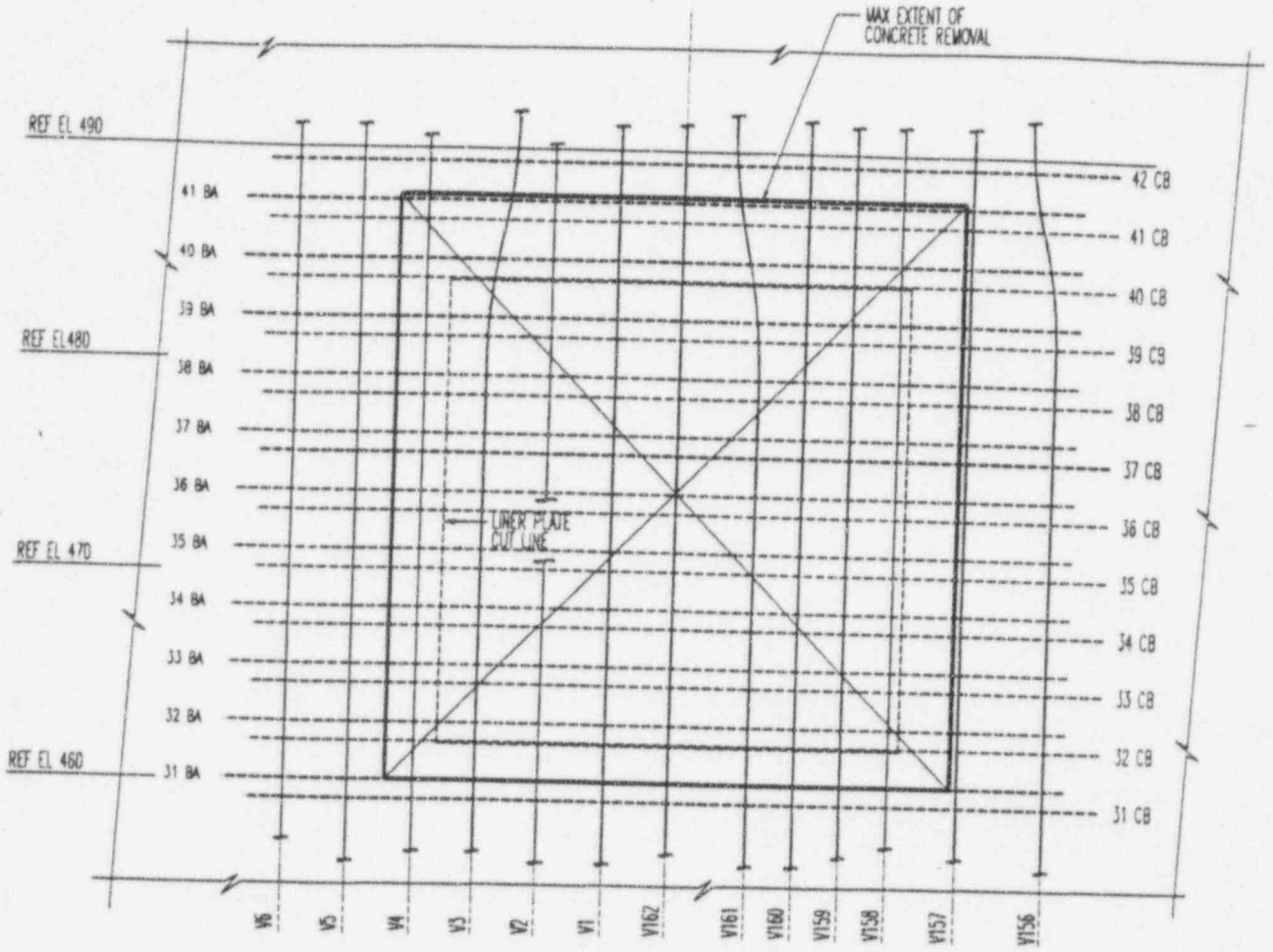

FIGURE 3

TENDON ARRANGEMENT IN CONTAINMENT OPENING AREA

ATTACHMENT B-1

PROPOSED CHANGES
TO APPENDIX A, TECHNICAL SPECIFICATIONS,
OF FACILITY OPERATING LICENSE
NPF-37 and NPF-66

BYRON NUCLEAR POWER STATION

Affected Page

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CONTAINMENT SYSTEMS

CONTAINMENT VESSEL STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specifications 4.6.1.6.1,* 4.6.1.6.2, and 4.6.1.6.3.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With more than one tendon with an observed lift-off force between the predicted lower limit and 90% of the predicted lower limit or with one tendon below 90% of the predicted lower limit, restore the tendon(s) to the required level of integrity within 15 days and perform an engineering evaluation of the containment and provide a Special Report to the Commission within 30 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any abnormal degradation of the structural integrity other than ACTION a. at a level below the acceptance criteria of Specifications 4.6.1.6.1, 4.6.1.6.2, and 4.6.1.6.3, restore the containment vessel to the required level of integrity within 72 hours and perform an engineering evaluation of the containment and provide a Special Report to the Commission within 15 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1 Containment Vessel Tendons. The containment vessel tendons' structural integrity shall be demonstrated at the end of 1, 3, and 5 years following the initial containment vessel structural integrity test and at 5-year intervals thereafter. The tendons' structural integrity shall be demonstrated by:

a. Determining that a random but representative sample of at least 19 tendons (5 dome, 6 vertical, and 8 hoop) each have an observed lift-off force within predicted limits for each. For each subsequent inspection one tendon from each group may be kept unchanged to develop a history and to correlate the observed data. If the observed lift-off force of any one tendon in the original sample population lies between the predicted lower limit and 90% of the predicted lower limit, two tendons, one on each side of this tendon should be checked for their lift-off forces. If both of these adjacent tendons are found to be within their predicted limits, all three tendons should be restored to the required level of integrity. This single deficiency may be considered unique and acceptable. Unless there is abnormal degradation of the containment vessel during the first three inspections, the sample population for subsequent inspections shall include at least 10 tendons (3 dome, 3 vertical, and 4 hoop);

* Unit 1 may have sheathing filler grease voids in excess of 5% of the net duct volume for up to 35 tendons until the end of BIEOL.

ATTACHMENT B-2

PROPOSED CHANGES
TO APPENDIX A, TECHNICAL SPECIFICATIONS,
OF FACILITY OPERATING LICENSE
NPF-72 and NPF-77

BRAIDWOOD NUCLEAR POWER STATION

Affected Page

3/4 6-8

CONTAINMENT SYSTEMS

CONTAINMENT VESSEL STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment vessel shall be maintained at a level consistent with the acceptance criteria in Specifications 4.6.1.6.1, 4.6.1.6.2, and 4.6.1.6.3.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With more than one tendon with an observed lift-off force between the predicted lower limit and 90% of the predicted lower limit or with one tendon below 90% of the predicted lower limit, restore the tendon(s) to the required level of integrity within 15 days and perform an engineering evaluation of the containment and provide a Special Report to the Commission within 30 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any abnormal degradation of the structural integrity other than ACTION a. at a level below the acceptance criteria of Specifications 4.6.1.6.1, 4.6.1.6.2, and 4.6.1.6.3, restore the containment vessel to the required level of integrity within 72 hours and perform an engineering evaluation of the containment and provide a Special Report to the Commission within 15 days in accordance with Specification 6.9.2 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1 Containment Vessel Tendons. The containment vessel tendons' structural integrity shall be demonstrated at the end of 1, 3, and 5 years following the initial containment vessel structural integrity test and at 5-year intervals thereafter. The tendons' structural integrity shall be demonstrated by:

a. Determining that a random but representative sample of at least 19 tendons (5 dome, 6 vertical, and 8 hoop) each have an observed lift-off force within predicted limits for each. For each subsequent inspection one tendon from each group may be kept unchanged to develop a history and to correlate the observed data. If the observed lift-off force of any one tendon in the original sample population lies between the predicted lower limit and 90% of the predicted lower limit, two tendons, one on each side of this tendon should be checked for their lift-off forces. If both of these adjacent tendons are found to be within their predicted limits, all three tendons should be restored to the required level of integrity. This single deficiency may be considered unique and acceptable. Unless there is abnormal degradation of the containment vessel during the first three inspections, the sample population for subsequent inspections shall include at least 10 tendons (3 dome, 3 vertical, and 4 hoop);

* Unit 1 may have sheathing filler grease voids in excess of 5% of the net duct volume for up to 35 tendons from May 1, 1995, until the end of 1RC7.

ATTACHMENT C

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATIONS FOR PROPOSED CHANGES TO APPENDIX A, TECHNICAL SPECIFICATIONS, OF FACILITY OPERATING LICENSES NPF-37, NPF-66, NPF-72 AND NPF-77

Commonwealth Edison Company (ComEd) has evaluated this proposed amendment and has determined that it involves no significant hazards considerations. According to Title 10, Code of Federal Regulations, Section 50, Subsection 92, Paragraph c (10 CFR 50.92 (c)), a proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or
2. Create the possibility of a new or different kind of accident from any accident previously evaluated, or
3. Involve a significant reduction in margin of safety.

A. INTRODUCTION

Commonwealth Edison Company (ComEd) proposes to amend Technical Specification (TS) 3.6.1.6, "Containment Vessel Structural Integrity," for Byron Nuclear Power Station, Units 1 and 2 (Byron) and Braidwood Nuclear Power Station, Units 1 and 2 (Braidwood) to allow a one-time exemption to the Technical Specification Surveillance Requirement (TSSR) 4.6.1.6.1.e.1) to allow greater than 5% of the tendon sheathing filler grease to be removed for a period of time in support of steam generator replacement on Unit 1 of each station. ComEd wishes to remove the sheathing filler grease in the tendon sheathing in up to thirty-five tendons in advance of the steam generator replacement outages (SGROs).

The old steam generators will be removed through a containment opening that will be created for the replacement outage. A system of prestressing tendons runs both horizontally and vertically through the containment wall. Each tendon is enclosed in tendon sheathing which has been filled with grease to prevent tendon corrosion. The outside air temperatures during the scheduled SGROs are expected to result in increased removal forces that could result in damage to the tendons or sheathing system due to reduced grease temperature. To overcome the effect of increased grease viscosity on removal forces, a majority of the sheathing filler grease will be removed prior to the

SGROs. Grease removal will take place during the warm weather months to ensure that the maximum volume of grease is removed.

B. NO SIGNIFICANT HAZARDS ANALYSIS

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The prestressing tendons are passive components that form part of the containment structure. As passive components, there are no tendon failure modes that could act as accident initiators or precursors. Consequently, the proposed change to remove a portion of the tendon sheathing filler grease will not increase the probability of an accident previously evaluated.

The tendons, in their passive role, function to limit the consequences of accidents previously evaluated, and their continued integrity is important to the ability of the containment to mitigate design basis accidents. Structural degradation of the containment is a predictable process that can be monitored by a comprehensive containment tendon monitoring program as required by Technical Specification Surveillance Requirement 4.6.1.6. The monitoring program is based on proposed Revision 3 of Regulatory Guide 1.35, "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures," April 1979.

The tendon surveillances conducted at both Byron and Braidwood have consistently shown that structural integrity of the tendon system has been maintained, including adequate corrosion protection for the tendon wires and end anchorage components, and there has been no evidence of grease leakage from the tendon sheathings. While a number of below-grade hoop tendons have shown signs of water intrusion, the tendons that will have grease removed are above-grade and are not expected to experience water intrusion.

A review of domestic nuclear facility experience found cases where large grease voids existed for periods longer than requested under the proposed change without resultant corrosion in those tendon systems. A case where tendon wires removed from a decommissioned plant were exposed to an environment more severe than expected in a sealed tendon sheath did not show signs of corrosion. These experiences demonstrate the effectiveness of the initial corrosion protection systems applied to the tendons and the effectiveness of partial grease protection in the tendon sheathing.

Based on the above cases, it can be concluded that the removal of the filler grease (grease voids greater than 5 percent) from the tendon sheathing in up to thirty-five tendons for a limited period will not adversely affect the integrity of the tendons or the capability of the tendon system to fulfill its design basis function.

The removal process will only remove the grease not directly adhering to the tendons. The grease remaining will be adequate to protect the tendons during the relatively short period of partial grease removal. Therefore, no changes in the

tendon properties would be expected, and the consequences of design basis accidents previously evaluated will not be affected by the proposed change.

2. **The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.**

The proposed change only affects the tendon sheathing filler grease void limits of TSSR 4.6.1.6. No new equipment is being installed and no existing equipment is being modified. Operation with a grease void in excess of current requirements does not alter system configurations such that any new or different accidents can be initiated. Therefore, no new or different accident initiators or precursors are being introduced, and the proposed change will not create the possibility of a new or different kind of accident from any previously evaluated.

3. **The proposed change does not involve a significant reduction in a margin of safety.**

The margin of safety applicable to the proposed change is defined by the difference between the design pressure of the containment and the point at which the containment would actually fail. The design pressure of the containment is 50 psi. As a result of conservatisms inherent in the design techniques and in the material selections made for the Byron and Braidwood containments, a substantial margin to failure exists in the containment. This margin is discussed in Subsection 3.8.1.8 of the UFSAR. It is noted therein that the ultimate capacity of the concrete shell is 125 psi, corresponding to the initiation of yield in the hoop post-tensioning tendons in conjunction with yielding of the reinforcement near the mid-height of the containment wall.

It is also noted in Subsection 3.8.1.8 that the ultimate capacity of a containment electrical penetration is 108 psi. While this value is substantially greater than the 50 psi required of the design, it is lower than the 125 psi at which failure of the containment wall section would be predicted. Therefore, tendon strength is not the limiting factor in the margin of safety inherent in the containment.

As previously discussed, no degradation of the tendons is expected to occur as a result of the proposed TS change. Further, the tendon strength is not the limiting factor in the containment ultimate capacity, which is substantially greater than the requirement placed on the containment design by the plant design basis. Therefore, the proposed change will not reduce the margin of safety designed into Byron and Braidwood.

Based on the above evaluation, ComEd has concluded that the proposed change involves no significant hazards considerations.

ATTACHMENT D

ENVIRONMENTAL ASSESSMENT FOR PROPOSED CHANGES TO APPENDIX A, TECHNICAL SPECIFICATIONS, OF FACILITY OPERATING LICENSES NPF-37, NPF-66, NPF-72 AND NPF-77

Commonwealth Edison Company (ComEd) has evaluated this proposed license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with Title 10, Code of Federal Regulations, Part 51, Section 21 (10 CFR 51.21). ComEd has determined that this proposed license amendment request meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9). This determination is based upon the following:

1. The proposed licensing action involves the issuance of an amendment to a license for a reactor pursuant to 10 CFR 50 which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or which changes an inspection or a surveillance requirement. This proposed license amendment request permits Unit 1 operation with tendon sheathing filler grease voids in excess of 5% of the net duct volume for up to 35 tendons for a limited time period;

2. this proposed license amendment request involves no significant hazards considerations as demonstrated in Attachment C;

3. there is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite; and

4. there is no significant increase in individual or cumulative occupational radiation exposure.

Therefore, pursuant to 10 CFR 51.22(b), neither an environmental impact statement nor an environmental assessment is necessary for this proposed license amendment request.