

ENCLOSURE 3

PLANT VOGTLE - UNITS 1 AND 2  
NRC DOCKETS 50-424, 50-425  
OPERATING LICENSES NPF-68, NPF-81  
REQUEST TO REVISE TECHNICAL SPECIFICATION 3/4.6.1.6

The proposed amendment to the Technical Specification (Appendix A to Operating Licenses NPF-68 and NPF-81) would be incorporated as follows:

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CONTAINMENT SYSTEMS  
CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

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

ACTION:

- a. With more than one Unit 1 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 Unit 1 containment and provide a Special Report to the Commission within 30 days in accordance with Specification 6.8.2 or place Unit 1 in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition, within 90 days of completion of the Unit 1 evaluation, perform an engineering evaluation of Unit 2 containment and provide a Special Report to the Commission in accordance with Specification 6.8.2 or place Unit 2 in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With abnormal degradation of the Unit 1 structural integrity as defined in 4.6.1.6.1.1 item b or 4.6.1.6.4, restore or verify the containment structural integrity within 72 hours and perform an engineering evaluation of Unit 1 containment and provide a Special Report to the Commission within 15 days in accordance with Specification 6.8.2 or place Unit 1 in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. In addition, within 90 days of completion of the Unit 1 evaluation, perform an engineering evaluation of the Unit 2 containment and provide a Special Report to the Commission in accordance with Specification 6.8.2 or place Unit 2 in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any abnormal degradation of the structural integrity other than that defined in ACTIONS a and b above at a level below the acceptance criteria of Specification 4.6.1.6, restore or verify the applicable containment structural integrity within 72 hours and perform an engineering evaluation of the applicable containment and provide a Special Report to the Commission within 15 days in accordance with Specification 6.8.2 or place the applicable unit in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1.1 Containment Tendons (Unit 1). The structural integrity of the Unit 1 containment tendons 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 structural integrity of the tendons shall be demonstrated by:

- a. Determining that a random but representative sample of at least 13 tendons (4 inverted U and 9 hoop) each have an observed lift-off

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SURVEILLANCE REQUIREMENTS (Continued)

force greater than or equal to the predicted lower 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. Lift-off measurements shall be accomplished by unseating and reseating of tendon anchorages without complete detensioning. 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 greater than or equal to their predicted lower 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 during the first three inspections, the sample population for subsequent inspections shall include at least 5 tendons (2 inverted U and 3 hoop).

- b. One hoop tendon and one inverted U tendon shall be detensioned to permit removal of a strand from each for performing an inspection and material test. It shall be determined that over the entire length of both removed strands:
  - 1) The tendon wires or strands are free of corrosion, cracks, and damage,
  - 2) There are no changes in the presence or physical appearance of the sheathing filler-grease, and
  - 3) A minimum tensile strength of 270,000 psi (guaranteed ultimate strength of the tendon material) for at least three strand samples (one from each end and one at mid-length) cut from each removed strand. Failure of any one of the strand samples to meet the minimum tensile strength test is evidence of abnormal degradation of the containment structure.
- c. Performing tendon retensioning of detensioned tendons as close as possible to their observed or predicted lift-off force, whichever is greater but not to exceed a stress level of 70% of the guaranteed ultimate tensile strength (GUTS) for the tendon material. The 16% GUTS to 80% GUTS elongation of a tendon retensioned following strand removal shall not differ from the original elongation by more than 5%. If the elongation between 16% GUTS and 80% GUTS differs by more than 5% from that recorded during installation, an investigation should be made to ensure that the difference is not related to wire failures or slip of wires in anchorages;

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SURVEILLANCE REQUIREMENTS (Continued)

4.6.1.6.1.2 Containment Tendons - Unit 2. The structural integrity of the Unit 2 containment tendons 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 structural integrity of the tendons shall be demonstrated by a visual examination of the tendon anchorage hardware (to the extent practical and without dismantling load bearing components of the anchorage) of a representative sample of tendons selected in the same manner as described in Specification 4.6.1.6.1.1.

4.6.1.6.2 End Anchorages and Adjacent Surfaces. The structural integrity of the end anchorages of all tendons inspected pursuant to Specification 4.6.1.6.1 and the adjacent surfaces shall be demonstrated by determining through visual inspection that no apparent changes have occurred.

- a. All end anchorages including anchor blocks, wedges, shims and bearing plates: inspect for moisture, corrosion and cracks and for warping of bearing plates.
- b. Concrete surfaces adjacent to hoop tendon anchorages: inspect for moisture, corrosion, distortion and cracking.
- c. Steel plating surrounding the inverted U tendon anchorages: inspect for moisture, corrosion, distortion and cracking.

4.6.1.6.3 Containment Surfaces. The structural integrity of the exposed accessible interior and exterior surfaces of the containment including the liner plate, shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of these surfaces. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance or other abnormal degradation.

4.6.1.6.4 Verifying the OPERABILITY of the sheathing filler grease by:

- 1) No voids in excess of 5% of the net duct volume, as indicated by the difference between the volume of grease removed and grease replaced divided by the net volume of the duct.
- 2) Minimum grease coverage exists for the different parts of the anchorage system, and
- 3) The chemical properties of the filler material are within the following limits:

Water Soluble Chlorides	10 PPM Maximum
Water Soluble Nitrates	10 PPM Maximum
Water Soluble Sulfides	10 PPM Maximum
Water Content	10% Dry Weight Maximum
Base Number	Greater than 0

Testing shall be in accordance with the methods specified in ASME section XI, Subsection IWL 2525-1.

## CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the safety analysis for a steam line break accident. Measurements shall be made at all listed locations, whether by fixed or portable instruments, prior to determining the average air temperature.

#### 3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 41.9 psig in the event of a steam line break accident. The measurement of containment tendon lift-off force and the tensile tests of the tendon strands for Unit 1 and the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment and the Type A leakage test for both units are sufficient to demonstrate this capability. (The tendon strand samples will also be subjected to stress cycling tests and to accelerated corrosion tests as required to simulate the tendon's operating conditions and environment.) Unit 1 and Unit 2 containments satisfy the recommendations of Regulatory Guide 1.35, Revision 2, Position C.1.3. Therefore, Unit 2 containment is subject to visual inspection only.

The Surveillance Requirements for demonstrating the structural integrity of each containment utilize the recommendations of Revision 2 of Regulatory Guide 1.35, "Inservice Surveillance of UngROUTed Tendons in Prestressed Concrete Containment Structures," and proposed Regulatory Guide 1.35.1, "Determining Prestressing Forces for Inspection of Prestressed Concrete Containments," April 1979, as discussed in FSAR section 3.8

The required Special Reports from any engineering evaluation of containment abnormalities shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages) or steel plating surrounding the inverted U tendons, the inspection procedures, the tolerances on cracking, the results of the engineering evaluation, and the corrective actions taken.

#### 3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 24-inch containment purge supply and exhaust isolation valves are required to be sealed closed during plant operations since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves sealed closed during plant operation ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System. To provide assurance that these containment valves cannot be inadvertently opened, the valves are sealed closed in accordance with Standard Review Plan 6.2.4. Sealed closed isolation valves are isolation valves under administrative control to assure that they cannot be inadvertently opened. Administrative control includes mechanical devices to seal or lock the valve closed, the use of blind flanges, or removal of power to the valve operator.