

UNION ELECTRIC COMPANY

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ST. LOUIS, MISSOURI

DONALD F. SCHNELL
VICE PRESIDENT

April 9, 1984

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Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

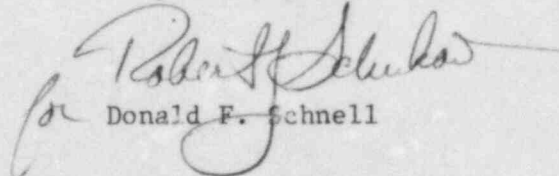
ULNRC-791

DOCKET NUMBER 50-483
CALLAWAY PLANT, UNIT 1
STEAM GENERATOR LEAKAGE TEST FOLLOWING PLUGGING
Reference: FSAR Section 3.9(N)

During the life of the plant it may be necessary to plug certain steam generator tubes. It is not Union Electric's intent to repressurize the secondary side to visually check for leakage on the underside of the tube sheet following plugging. This is consistent with the exemption from pressure testing and examination in paragraphs IWA-4400(b) and IWA-4500(b) of ASME Section XI, Summer of 1978 Edition.

A copy of the revised page from the SNUPPS Standard Plant FSAR page is attached, along with the referenced sections of the ASME Code. This change will be included in FSAR Standard Plant Revision 15.

Very truly yours,


Donald F. Schnell

DS/jm
Attachments

cc: J. Holonich

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STATE OF MISSOURI)
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CITY OF ST. LOUIS)

Robert J. Schukai, of lawful age, being first duly sworn upon oath says that he is General Manager-Engineering (Nuclear) for Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Robert J. Schukai
Robert J. Schukai
General Manager-Engineering
Nuclear

SUBSCRIBED and sworn to before me this 9th day of April, 1984.

Barbara J. Pfaff
BARBARA J. PFAFF
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES APRIL 22, 1985
ST. LOUIS COUNTY

cc: Glenn L. Koester
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Harold R. Denton, Director
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SNUPPS

pressure of 0 psig. The RCS is designed for 10 cycles of these hydrostatic tests, which are performed prior to plant startup.

Additional hydrostatic tests will be performed to meet the in-service inspection requirements of the ASME Code, Section XI, subarticle IS5-20. A total of four such tests is expected. The increase in the fatigue usage factor caused by these tests is easily covered by the conservative number (200) of primary side leakage tests that are considered for design.

Secondary Side Hydrostatic Test

The secondary side of the steam generator is pressurized to 1,481 psig with a minimum water temperature of 120 F coincident with the primary side at 0 psig.

For design purposes, it is assumed that the steam generator will experience 10 cycles of this test.

These tests may be performed either prior to plant startup, or subsequently following shutdown for major repairs or both.

Tube Leakage Test

During the life of the plant, it may be necessary to check the steam generator for tube leakage and tube-to-tube sheet leakage. This is done by visual inspection of the underside (channel head side) of the tube sheet for water leakage, with the secondary side pressurized. Tube leakage tests are performed during plant cold shutdowns.

For these tests, the (maximum pressure on secondary side is 840 psig) secondary side of the steam generator is pressurized with water, initially at a relatively low pressure, and the primary system remains depressurized. The underside of the tube sheet is examined visually for leaks. If any are observed, the secondary side is then depressurized and repairs made by tube plugging. ~~The secondary side is then repressurized (to a higher pressure), and the underside of the tube sheet is again checked for leaks. This process is repeated until all the leaks are repaired. The maximum (final) secondary side test pressure reached is 840 psig.~~

The total number of tube leakage test cycles is defined as 800 during the 40-year life of the plant. Following is a breakdown of the anticipated number of occurrences at each secondary side test pressure:

<u>Test Pressure (psig)</u>	<u>Number of Occurrences</u>
200	400
400	200
600	120
840	80

the repair organization. This Program shall include the following:

(1) requirements for complete and exclusive administration and technical supervision of all welders by the repair organization;

(2) requirements for contractual control which provides the necessary authority to assign and remove welders at the discretion of the repair organization;

(3) evidence that the Quality Assurance Program is acceptable to the Owner's Authorized Nuclear Inservice Inspector.

IWA-4400 PRESSURE TEST

(a) After repairs by welding on the pressure retaining boundary, a system pressure test shall be performed in accordance with IWA-5000.

(b) The following may be exempted from the system hydrostatic pressure tests:

(1) cladding repairs

(2) heat exchanger tube plugging

(3) piping, pump, and valve repairs that do not penetrate through the pressure boundary

(4) pressure vessel repairs where the repaired cavity does not exceed 10% of the minimum design wall thickness

(5) component connections, piping, and associ-

ated valves that are 1 in. nominal pipe size and smaller

Repairs made in accordance with a procedure which allows exception from postweld heat treatment shall not be exempted.

IWA-4500 EXAMINATION

(a) The repaired areas shall be examined to establish a new preservice record. The examinations shall include the method that detected the flaw.

(b) If the repair includes the complete removal or isolation of the item bearing the flaw, such as heat exchanger tube plugging, (a) above shall not apply.

IWA-4600 REPLACEMENTS

The rules and requirements of this Article shall apply to the attaching of replacements (as defined in IWA-7110) to the system where such attachment is by welding.

IWA-4700 RECORDS

The records required by IWA-6000 shall be completed for all repairs.