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50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
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SUBJECT: Forwards Proposed Amend 173 to License NPF-14 & Proposed Amend 127 to License NPF-22,adding special test exception to allow RC temps up to 212 F during hydrostatic or inservice leak testing w/o entering Operational Condition 3.

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OCT 21 1994

U.S. Nuclear Regulatory Commission
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SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 173 TO
LICENSE NPF-14 AND PROPOSED AMENDMENT
NO. 127 TO LICENSE NPF-22: ADDITION OF
SPECIAL TEST EXCEPTION FOR HYDROSTATIC
AND INSERVICE LEAK TESTING

PLA-4209 **FILE R41-2**

Docket Nos. 50-387
and 50-388

The purpose of this letter is to transmit a proposed amendment to the Susquehanna SES Unit 1 and Unit 2 Technical Specifications. The proposed change adds a special test exception to allow reactor coolant temperatures up to 212°F during hydrostatic or inservice leak testing without entering OPERATIONAL CONDITION 3.

These proposed amendments are similar to amendments previously approved by the NRC Staff for Nine Mile Point Unit 2 in an SER dated November 12, 1993, and for Hope Creek in Amendment No. 69 to Facility Operating License No. NPF-57 dated April 18, 1994.

BACKGROUND

The purpose of the proposed Special Test Exception 3/4.10.6, "Inservice Leak and Hydrostatic Testing," is to allow reactor coolant pressure tests to be performed in OPERATIONAL CONDITION 4 with the reactor coolant temperature > 200°F but ≤ 212°F that would normally correspond to being in OPERATIONAL CONDITION 3. This Special Test Exception will not require PRIMARY CONTAINMENT INTEGRITY thus allowing unrestricted access to the primary containment for the performance of required inspections. It will also allow outage activities on other systems to continue while maintaining the applicable OPERATIONAL CONDITION 4 requirements that are in effect immediately prior to and immediately following inservice leak or hydrostatic testing.

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DESCRIPTION OF CHANGE

This proposed change adds Special Test Exception 3/4.10.6, "Inservice Leak and Hydrostatic Testing," that allows the performance of pressure testing at reactor coolant temperature up to 212°F while remaining in OPERATIONAL CONDITION 4. This special test exception also requires that certain OPERATIONAL CONDITION 3 Specifications for Secondary Containment Isolation, Secondary Containment Integrity and Standby Gas Treatment System operability be met. This change also revises the Index, Table 1.2, "OPERATIONAL CONDITIONS," and the Bases to incorporate the reference to the proposed special test exception.

Refer to the attached marked up Technical Specifications.

SAFETY ANALYSIS

Allowing the reactor to be considered in OPERATIONAL CONDITION 4 during leak testing, or hydrostatic with a reactor coolant temperature of up to 212°F, is an exception to certain OPERATIONAL CONDITION 3 requirements, including primary containment integrity and total Emergency Core Cooling System operability. This change allows unrestricted access to the primary containment for the performance of required inspections. It will also allow outage activities on other systems to continue while maintaining the applicable OPERATIONAL CONDITION 4 requirements that are in effect immediately prior to and immediately following inservice leak or hydrostatic testing. The hydrostatic or leakage test is performed water solid, or near water solid, and coolant temperature $\leq$ 212°F. The stored energy in the reactor core will be very low and the potential for failed fuel and a subsequent increase in coolant activity above Specification 3/4.4.5, "Reactor Coolant System Specific Activity," limits are minimal. In addition, the secondary containment, which includes automatic isolation dampers and the Standby Gas Treatment System (SGTS), will be operable and capable of handling airborne radioactivity from leaks that could occur during the performance of hydrostatic or inservice leakage testing. Airborne activity would not be significant in the event of a leak since reactor coolant temperature is limited to 212°F; and therefore, little or no flashing of reactor coolant would occur. Requiring the secondary containment to be operable will assure that potential airborne radiation from leaks will be filtered through SGTS that will limit radiation releases to the environment.

In the event of a large primary system leak, the reactor vessel would rapidly depressurize. The capability of the Low Pressure Coolant Injection (LPCI) and Core Spray subsystems, as required in OPERATIONAL CONDITION 4 by Specification 3/4.5.2, "ECCS - Shutdown," would be adequate to keep the core flooded under this condition. Inspections that would detect small leaks before significant inventory loss occurred are included as part of the hydrostatic and inservice leakage test programs.

For the purposes of this test, the protection provided by the normally required OPERATIONAL CONDITION 4 Specifications, in addition to the secondary containment operability requirements of this Special Test Exception Specification, will ensure plant safety during normal hydrostatic and inservice leakage test conditions and will ensure that the plant will respond appropriately during accident conditions.

NO SIGNIFICANT HAZARDS CONSIDERATIONS

1. **Involve a significant increase in the probability or consequences of an accident previously evaluated.**

   The proposed changes are requested to allow inservice leak and hydrostatic testing, with the reactor in OPERATIONAL CONDITION 4 and the average reactor coolant temperature up to 212°F. The change to allow inservice leak and hydrostatic testing in OPERATIONAL CONDITION 4 will not increase the probability or the consequences of an accident. The probability of a leak in the reactor coolant pressure boundary during inservice leak and hydrostatic testing is not increased by considering the reactor in OPERATIONAL CONDITION 4. The hydrostatic or inservice leak test is performed water solid or near water solid, and temperatures ≤ 212°F. The stored energy in the reactor core will be very low and the potential for failed fuel and a subsequent increase in coolant activity above Technical Specification limits are minimal. In addition, secondary containment will be operable and capable of handling airborne radioactivity from leaks that could occur during the performance of hydrostatic or inservice leak testing. Requiring the secondary containment to be operable will ensure that potential airborne radiation from leaks will be filtered through the Standby Gas Treatment System, thus limiting radiation releases to the environment. Therefore, the change will not significantly increase the consequences of an accident.

   In the event of a large primary system leak, the reactor vessel would rapidly depressurize allowing the low pressure ECCS systems to operate. The capability of the systems that are required for OPERATIONAL CONDITION 4 would be adequate to keep the core flooded under this condition. Small system leaks would be detected by leakage inspections before significant inventory loss occurred. This is an integral part of the hydrostatic testing program. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. **Create the possibility of a new or different kind of accident from any accident previously evaluated.**

   Allowing the reactor to be considered in OPERATIONAL CONDITION 4 during hydrostatic or leak testing, with a reactor coolant temperature of up to 212°F, is an exception to certain OPERATIONAL CONDITION 3 requirements, including primary containment integrity and

total Emergency Core Cooling System operability. The hydrostatic or inservice leakage test is performed water solid, or near water solid, and coolant temperature ≤ 212°F. The stored energy in the reactor core will be very low and the potential for failed fuel and a subsequent increase in coolant activity above Technical Specification limits are minimal. In addition, the secondary containment will be operable and capable of handling airborne radioactivity from leaks that could occur during the performance of hydrostatic or inservice leakage testing.

The inservice leak or hydrostatic test conditions remain unchanged. The potential for a system leak remains unchanged since the reactor coolant system is designed for temperatures exceeding 500°F with similar pressures. There are no alternations of any plant systems that cope with the spectrum of accidents. The only difference is that a different subset of systems would be utilized for accident mitigation from those of OPERATIONAL CONDITION 3. Therefore, this change will not create the possibility of a new or different kind of accident from any previously evaluated.

3. **Involve a significant reduction in a margin of safety.**

The proposed change allows inservice leak and hydrostatic testing to be performed with a reactor coolant temperature up to 212°F and the reactor in OPERATIONAL CONDITION 4. Since the reactor vessel head will be in place, secondary containment integrity will be maintained and all systems required in OPERATIONAL CONDITION 4 will be operable in accordance with the Technical Specifications, the proposed change will not have any significant impact on any design bases accident or safety limit. The hydrostatic or inservice leak testing is performed water solid, or near water solid, and temperature ≤ 212°F. The stored energy in the core is very low and the potential for failed fuel and a subsequent increase in coolant activity would be minimal. The reactor pressure vessel would rapidly depressurize in the event of a large primary system leak and the low pressure injection systems required to be operable in OPERATIONAL CONDITION 4 would be adequate to keep the core flooded. This would ensure that the fuel would not exceed the 2200°F peak clad temperature limit.

Also requiring secondary containment integrity will assure that potential airborne radiation can be filtered through the SGTS. This will assure that offsite doses remain well within the limits of 10CFR100 guidelines. Small system leaks would be detected by inspections before significant inventory loss could occur. Therefore, this special test exception will not involve a significant reduction in safety margin.

FILE R41-2 PLA-4209
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IMPLEMENTATION

Pennsylvania Power & Light Company request that this change be approved by February 10, 1995, in order to support testing during the next scheduled refueling outage on Unit 1.

If you have any questions, please contact Mr. C. T. Coddington at (610) 774-7915.

Very truly yours,

R. G. Byram

Attachment

cc: NRC Region I
Ms. M. Banerjee, NRC Sr. Resident Inspector
Mr. C. Poslusny, NRC Sr. Project Manager
Mr. W. P. Dornsife, Pa. DER