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WILLIAM CAVANAUGH III
Vice President
Generation & Construction

June 8, 1979

1-069-3

Director of Nuclear Reactor Regulation
ATTN: Mr. Robert W. Reid, Chief
Operating Reactors Branch #4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Arkansas Nuclear One-Unit 1
Docket No. 50-313
License No. DPR-51
Proposed Technical Specification
(File: 1510, 1511.1)

Gentlemen:

Attached is a supplement to our May 16, 1979, submittal which proposed changes to the Technical Specifications which define limiting conditions for operation upon loss of emergency feedwater (EFW) equipment. With this supplement, we have restructured the specification and added a requirement for actuation of EFW pumps and block valves to be automatic, or by a dedicated operator when the temperature of the RCS is above 280F. This supplement also revises the surveillance requirements to include testing of the automatic actuation of the pumps and valves in the EFW system and verification of manual operation of the EFW. Also, operational tests of each EFW train will be required once per 31 days, prior to exceeding 280F RCS average temperature and after any EFW system alignment alterations. We believe these changes, along with our submittal of June 6, 1979 will address the design and procedural changes which have been completed in compliance with the provisions of the May 17, 1979 Commission Order.

Long term improvements to the EFW system and its control system are presently being evaluated. Inoperable or bypassed status indication is among these improvements. A schedule for these improvements which our evaluation determines are necessary will be provided commensurate with the schedule for the long term

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modifications described in Section II of the May 17, 1979 Commission Order. In the short term, a shift turnover check-off sheet will be implemented to ensure that personnel coming on shift will be aware of the status of systems which are vital to plant safety.

Very truly yours,

William Cavanaugh, III

WC/ERG/ew

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STATE OF ARKANSAS)
) SS
COUNTY OF PULASKI)

William Cavanaugh III, being duly sworn, states that he is Vice President, Generation & Construction, for Arkansas Power & Light Company; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this Supplementary Information; that he has reviewed or caused to have reviewed all of the statements contained in such information, and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information and belief.

William Cavanaugh III

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the County and State above named, this 8th day of June 1979.

Robert E. Baker
Notary Public

My Commission Expires:

February 17, 1982

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3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

Applies to the turbine cycle components for removal of reactor decay heat.

Objective

To specify minimum conditions of the turbine cycle equipment necessary to assure the capability to remove decay heat from the reactor core.

Specifications

3.4.1 The reactor shall not be heated, above 280F unless the following conditions are met:

1. Capability to remove a decay load of 5% full reactor power by at least one of the following means:

   a. A condensate pump and a main feedwater (MFW) pump, using turbine by-pass valve.

   b. A condensate pump and the auxiliary feedwater (AFW) pump using turbine by-pass valve.

2. Fourteen of the steam system safety valves are operable.

3. A minimum of 16.3 ft. (107,000 gallons) of water is available in the condensate storage tank.

4. Both emergency feedwater (EFW) pumps and both EFW block valves are capable of automatic actuation, or a dedicated operator is available for their operation.

5. Both main steam block valves and both main feedwater isolation valves are operable.

6. The emergency feedwater valves associated with Specification 3.4.4 shall be operable.

3.4.2 The Steam Line Break Instrumentation and Control System (SLBIC) shall be operable when main steam pressure exceeds 700 psig and shall be set to actuate at 600 ±25 psig.

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3.4.3 Components required by Specification 3.4.1 and 3.4.2 to be operable shall not be removed from service for more than 24 consecutive hours. If the system is not restored to meet the requirements of Specification 3.4.1 and 3.4.2 within 24 hours the reactor shall be placed in the hot shutdown condition within 12 hours. If the requirements of Specification 3.4.1 and 3.4.2 are not met within an additional 48 hours, the reactor shall be placed in the cold shutdown condition within 24 hours.

3.4.4 The reactor shall not be heated above 280F unless both EFW pumps are operable.

3.4.5 If the condition specified in 3.4.4 cannot be met:

1. With one EFW flow path inoperable, the unit shall be brought to hot shutdown within 36 hours, and if not restored to an operable status within the next 36 hours, the unit shall be brought to cold shutdown within the next 12 hours or at the maximum safe rate.

2. If both EFW trains are inoperable, the AFW pump shall be demonstrated operable immediately, and the unit shall be brought to hot shutdown within one hour. The unit shall be placed in cold shutdown within the next 12 hours or at the maximum safe rate.

3. If both EFW trains and the AFW pump are inoperable, the unit shall be immediately run back to $\leq$5% full power with feedwater supplied from the MFW pumps. As soon as an EFW train or the AFW train is operable, the unit shall be placed in cold shutdown within the next 12 hours or at the maximum safe rate.

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4.8 EMERGENCY FEEDWATER PUMP

Applicability

Applies to the periodic testing of the turbine and electric motor driven emergency feedwater pumps.

Objective

To verify that the emergency feedwater pump and associated valves are operable.

Specification

4.8.1 Each EFW train shall be demonstrated operable:

a) at least once per 31 days or upon achieving hot shutdown following a plant heatup and prior to criticality, by verifying that the turbine-driven pump starts, operates for a minimum of 5 minutes, and develops a discharge pressure of $\geq$ 1560 psig through the automatically isolable recirculation flow path.

b) at least once per 31 days by verifying that each valve (manual, power operated or automatic) in each EFW flowpath that is not locked, sealed, or otherwise secured in position, is in its correct position.

c) at least once per 31 days by verifying that the motor driven EFW pump starts, operates for a minimum of 5 minutes and develops a discharge pressure of $\geq$ 1400 psig on minimum recirculation flowpath.

d) prior to exceeding 280F Reactor Coolant temperature and after any EFW system alignment alterations by verifying that each manual valve in each EFW flowpath which, if mis-positioned may degrade EFW operation, is locked in its correct position.

e) At least once per 92 days by cycling each motor-operated valve in each flowpath through at least one complete cycle.

f) at least once per 18 months by functionally testing each EFW train and:

1. Verifying that each automatic valve in each flowpath actuates automatically to its correct position on receipt of an actuation signal.

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2. Verifying that the automatic steam supply valves associated with the steam turbine driven EFW pump actuate to their correct positions upon receipt of an actuation signal.

3. Verifying that the motor-driven EFW pump starts automatically upon receipt of an actuation signal.

4. Verifying that feedwater is delivered to each steam generator using the electric motor-driven EFW pump.

5. Verifying that the EFW system can be operated manually by over-riding ICS actuation signals to the EFW valves.

Bases

The monthly testing frequency will be sufficient to verify that both emergency feedwater pumps are operable. Verification of correct operation will be made both from the control room instrumentation and direct visual observation of the pumps. The cycling of the emergency valves assures valve operability when called upon to function.

The functional test, performed once every 18 months, will verify that the flow path to the steam generators is open and that water reaches the steam generators from the emergency feedwater system. The test is done during shutdown to avoid thermal cycle to the emergency feedwater nozzles on the steam generator due to the lower temperature of the emergency feedwater.

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