

March 1, 1995

Mr. Jerry W. Yelverton
Vice President, Operations ANO
Entergy Operations, Inc.
Route 3 Box 137G
Russellville, Arkansas 72801

SUBJECT: ISSUANCE OF AMENDMENT NO. 177 TO FACILITY OPERATING LICENSE
NO. DPR-51 - ARKANSAS NUCLEAR ONE, UNIT NO. 1 (TAC NO. M89817)

Dear Mr. Yelverton:

The Commission has issued the enclosed Amendment No. 177 to Facility Operating License No. DPR-51 for the Arkansas Nuclear One, Unit No. 1 (ANO-1). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated June 22, 1994.

The amendment extends the allowable outage time for one inoperable train of emergency feedwater from 36 hours to 72 hours, clarifies the specifications and their associated Bases, and relocates information within the specifications.

A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,
ORIGINAL SIGNED BY:
George Kalman, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosures: 1. Amendment No. 177 to DPR-51
2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

March 1, 1995

Mr. Jerry W. Yelverton
Vice President, Operations ANO
Energy Operations, Inc.
Route 3 Box 137G
Russellville, Arkansas 72801

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A copy of our related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

A handwritten signature in black ink, appearing to read "George Kalman".

George Kalman, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-313

Enclosures: 1. Amendment No. 177 to DPR-51
2. Safety Evaluation

cc w/encls: See next page

Mr. Jerry W. Yelverton
Entergy Operations, Inc.

Arkansas Nuclear One, Unit 1

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

ENTERGY OPERATIONS INC.

DOCKET NO. 50-313

ARKANSAS NUCLEAR ONE, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 177
License No. DPR-51

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Operations, Inc. (the licensee) dated June 22, 1994, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Facility Operating License No. DPR-51 is hereby amended to read as follows:

2. Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 177, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective 30 days following the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George Kalman, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: March 1, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 177

FACILITY OPERATING LICENSE NO. DPR-51

DOCKET NO. 50-313

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE PAGES

40

40a

41

41a

42b

43c

105

105a

INSERT PAGES

40

40a

41

41a

42b

43c

105

105a

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 280°F unless the following conditions are met:
1. Capability to remove decay heat by use of two steam generators.
 2. Fourteen of the steam system safety valves are operable.
 3. A minimum of 11.1 feet (107,000 gallons) of water is available in Tank T41B.
 4. (Deleted)
 5. Both main steam block valves and both main feedwater isolation valves are operable.
- 3.4.2 Components required to be operable by Specification 3.4.1 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 within 24 hours, the reactor shall be placed in the hot shutdown condition within 12 hours. If the requirements of Specification 3.4.1 are not met within an additional 48 hours, the reactor shall be placed in the cold shutdown condition within 24 hours.
- 3.4.3 Two (2) EFW trains shall be operable as follows:
1. The motor driven EFW pump and its associated flow path shall be operable when the RCS is above CSD conditions and any Steam Generator is relied upon for heat removal.
 2. The turbine driven EFW pump and its associated flow path shall be operable when the RCS temperature is $\geq 280^{\circ}\text{F}$.

* Except that during hydrotests, with the reactor subcritical, fourteen of the steam system safety valves may be gagged and two (one on each header), may be reset for the duration of the test, to allow the required pressure for the test to be attained.

** Except that the surveillance testing of the turbine driven EFW pump shall be performed at the appropriate plant conditions as specified by Surveillance Requirement 4.8.1.

3.4.4 If the conditions specified in 3.4.3 cannot be met:

1. With the motor driven EFW pump or its associated flow path inoperable and RCS conditions above CSD and RCS temperature $< 280^{\circ}\text{F}$ and any Steam Generator relied upon for heat removal, immediately initiate action to restore the EFW train to operable status.
2. With the RCS temperature $\geq 280^{\circ}\text{F}$ and one steam generator supply path to the turbine driven EFW pump inoperable, restore the steam generator supply path to operable status within 7 days or be in Hot Shutdown within 6 hours and reduce RCS temperature to $< 280^{\circ}\text{F}$ within the next 12 hours.
3. With the RCS temperature $\geq 280^{\circ}\text{F}$ and one EFW pump or its associated flow path inoperable, restore the EFW train to operable status within 72 hours or be in Hot Shutdown within 6 hours, and reduce RCS temperature to $< 280^{\circ}\text{F}$ within the next 12 hours.
4. With the RCS temperature $\geq 280^{\circ}\text{F}$, both EFW pumps or their associated flow paths inoperable, and the Auxiliary Feedwater pump available, be in Hot Shutdown within 6 hours, and reduce RCS temperature to $< 280^{\circ}\text{F}$ within the next 12 hours.
5. With the RCS temperature $\geq 280^{\circ}\text{F}$ and both EFW pumps or their associated flow paths inoperable, and the Auxiliary Feedwater pump unavailable, immediately initiate action to restore one EFW train or the Auxiliary Feedwater pump to operable status. LCO 3.0.3 and all other LCO Required Actions requiring mode changes are suspended until one EFW train or the Auxiliary Feedwater pump is restored to operable status.

Bases

The Emergency Feedwater (EFW) system is designed to provide flow sufficient to remove heat load equal to 3½ percent full power operation. The system minimum flow requirement to the steam generator(s) is 500 gpm. This takes into account a single failure, pump recirculation flow, seal leakage and pump wear.

In the event of loss of main feedwater, feedwater is supplied by the emergency feedwater pumps, one which is powered from an operable emergency bus and one which is powered from an operable steam supply system. Both EFW pumps take suction from tank T41B. Decay heat is removed from a steam generator by steam relief through the turbine bypass, atmospheric dump valves, or safety valves. Fourteen of the steam safety valves will relieve the necessary amount of steam for rated reactor power.

The EFW system is considered to be operable when the components and flow paths required to provide EFW flow to the steam generators are operable. This requires that the turbine driven EFW pump be operable with redundant steam supplies from each of the main steam lines upstream of the MSIVs (CV-2617 and CV-2667) and capable of supplying EFW flow to either of the two steam generators. The motor driven EFW pump and associated flow path to the EFW system is also required to be operable. The piping, valves, instrumentation, and controls in the required flow paths shall also be operable. One EFW train, which includes the motor driven EFW pump, is required to be operable when above CSD and below 280°F with any steam generator relied upon for heat removal. This is because of reduced heat removal requirements, the short duration EFW would be required, and the insufficient steam supply available in this condition to power the turbine driven EFW pump.

When one of the required EFW trains is inoperable, action must be taken to restore the train to operable status within 72 hours. This condition includes loss of the steam supply to the turbine driven EFW pump. The 72 hour completion time is reasonable, based on the redundant capabilities afforded by the EFW system, time needed for repairs, and the low probability of a DBA occurring during this time period.

With two EFW trains inoperable, the unit must be placed in a mode in which the LCO does not apply using the Auxiliary Feedwater pump. With RCS temperature < 280°F the Decay Heat Removal system may be placed in operation.

With both EFW trains inoperable and the Auxiliary Feedwater pump unavailable, the unit is in a seriously degraded condition with only limited means for conducting a cooldown using nonsafety grade equipment. In such a condition, the unit should not be perturbed by any action, including a power change, that might result in a trip. The seriousness of this condition requires that action be started immediately to restore at least one EFW pump or the Auxiliary Feedwater pump to Operable status. LCO 3.0.3 is not applicable, as it could force the unit into a less safe condition.

The minimum amount of water in tank T41B would be adequate for about 4.5 hours of operation. This is based on the estimate of the average emergency flow to a steam generator being 390 gpm. This operation time with the volume of water specified would not be reached, since the decay heat removal system could be brought into operation within 4 hours or less.

A portion of tank T41B is protected from tornado missiles. The protected volume is sufficient to provide a thirty minute supply of water. This thirty minute period is sufficient to allow manual operator action, if required, to transfer suction of the emergency feedwater pumps to service water.

- 3.5.1.13 The Seismic Monitoring Instrumentation shall be operable with a minimum measurement range of 0.01 - 1.0 g for Triaxial Time - History Accelerographs, 0.05 - 1.0 g for Triaxial Peak Accelerographs, and 2-25.4 Hz for Triaxial Response Spectrum Recorders.
- 3.5.1.14 The Main Steam Line Radiation Monitoring Instrumentation shall be operable with a minimum measurement range from 10^{-1} to 10^4 mR/hr, whenever the reactor is above the cold shutdown condition.
- 3.5.1.15 Initiate functions of the EFIC system which are bypassed at cold shutdown conditions shall have the following minimum operability conditions:
- a. "low steam generator pressure" initiate shall be operable when the main steam pressure exceeds 750 psig.
 - b. "loss of 4 RC pumps" initiate shall be operable when neutron flux exceeds 10% power.
 - c. "main feedwater pumps tripped" initiate shall be operable when neutron flux exceeds 10% power.
- 3.5.1.16 The automatic steam generator isolation system within EFIC shall be operable when main steam pressure is greater than 750 psig.

The OPERABILITY of the Seismic Monitoring Instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10CFR Part 100. The instrumentation is consistent with the recommendations of Safety Guide 12, "Instrumentation for Earthquake," published March 19, 1971, and NUREG-0800 Section 3.7.4, "Seismic Instrumentation."

To support loss of main feedwater analyses, steam line/feedwater line break analyses, SBLOCA analyses, and NUREG-0737 requirements, the EFIC system is designed to automatically initiate EFW when:

1. all four RC pumps are tripped
2. both main feedwater pumps are tripped
3. the level of either steam generator is low
4. either steam generator pressure is low
5. ESAS ECCS actuation (high RB pressure or low RCS pressure)

The EFIC system is also designed to isolate the affected steam generator on a steam line/feedwater line break and supply EFW to the intact generator according to the following logic:

- If both SG's are above 600 psig, supply EFW to both SG's.
- If one SG is below 600 psig, supply EFW to the other SG.
- If both SG's are below 600 psig, but the pressure difference between the two SG's exceeds 100 psig, supply EFW only to the SG with the higher pressure.
- If both SG's are below 600 psig and the pressure difference is less than 100 psig, supply EFW to both SG's.

At cold shutdown conditions all EFIC initiate and isolate functions are bypassed except low steam generator level initiate. The bypassed functions will be automatically reset at the values or plant conditions identified in Specification 3.5.1.15. "Loss of 4 RC pumps" initiate and "low steam generator pressure" initiate are the only shutdown bypasses to be manually initiated during cooldown. If reset is not done manually, they will automatically reset. Main feedwater pump trip bypass is automatically removed above 10% power.

REFERENCE

FSAR, Section 7.1
FSAR, Section 2.7.6

4.8 EMERGENCY FEEDWATER PUMP TESTING

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) By verifying on a STAGGERED TEST BASIS:
 1. at least once per 31 days or within 24 hours after reaching the Hot Shutdown condition following a plant heatup and prior to criticality, that the turbine-driven pump starts, operates for a minimum of 5 minutes and develops a discharge pressure of ≥ 1200 psig at a flow of ≥ 500 gpm through the test loop flow path.
 2. 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 ≥ 1200 psig at a flow of ≥ 500 gpm through the test loop 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) Prior to relying upon any steam generator for heat removal whenever the plant has been in CSD or less for > 30 days, verify proper alignment of each manual valve in each required EFW flow path, which if mispositioned may degrade EFW operation, from the 'Q' condensate storage tank to each steam generator.
- d) At least once per 92 days by cycling each motor-operated valve in each flowpath through at least one complete cycle.
- e) 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 actual or simulated actuation signal.

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 actual or simulated actuation signal. This test is not required to be performed until 24 hours after reaching 800 psig in the steam generators.
3. Verifying that the motor-driven EFW pump starts automatically upon receipt of an actual or simulated 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 automatic 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. Testing of the turbine driven EFW pump is delayed until suitable test conditions are established. This deferral is required because there is insufficient steam pressure to perform the test at 280°F. Testing may occur at a lower steam generator pressure if operational experience shows that sufficient steam pressure to perform the test exists.

Surveillance Requirement 4.8.1.c ensures that the EFW system is properly aligned by verifying the flow paths to each steam generator prior to relying upon any steam generator for heat removal after more than 30 days in Cold Shutdown or below. Operability of the EFW flow paths must be demonstrated before sufficient core heat is generated that would require the operation of the EFW system during a subsequent shutdown. This requirement is reasonable, based on engineering judgment, in view of other administrative controls to ensure that the flow paths are operable. To further ensure EFW system alignment, flow path operability is verified following extended outages to determine no misalignment of valves has occurred. This SR ensures that the flow path from the 'Q' CST to the steam generators is properly aligned.

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.

The automatic actuation circuitry testing and calibration will be performed per Surveillance Specification 4.1, and will be sufficient to assure that this circuitry will perform its intended function when called upon.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 177 TO

FACILITY OPERATING LICENSE NO. DPR-51

ENERGY OPERATIONS, INC.

ARKANSAS NUCLEAR ONE, UNIT NO. 1

DOCKET NO. 50-313

1.0 INTRODUCTION

By letter dated June 22, 1994, the licensee (Entergy Operations, Inc.) requested an amendment to Operating License No. DRP-51 for Arkansas Nuclear One, Unit 1 (ANO-1). The amendment proposes changes to various technical specification (TS) sections and Bases to adapt the requirements for the emergency feedwater (EFW) system set forth in NUREG-1430, "Standard Technical Specifications for B & W Plants", Revision 0, issued September 1992. The amendment will extend the allowable outage time for one inoperable train of EFW from 36 hours to 72 hours, clarify the TSs and their associated Bases, and relocate information to more appropriate sections.

The EFW system for ANO-1 consists of two independent trains of safety grade components. One train contains one steam turbine-driven pump and its associated piping and controls. One train contains one motor-driven pump and its associated piping and controls. Each of the two EFW pumps has sufficient capacity to remove the total reactor decay heat, and has been designed in such a way that either pump can supply the total required feedwater to both steam generators. The turbine-driven EFW pump is powered by steam from upstream of the main steam isolation valve of either steam generator. The motor-driven EFW pump is powered from a 4160v engineered safety bus backed by an emergency diesel generator.

2.0 EVALUATION

2.1 Changes to the Limiting Conditions for Operation associated with TS Section 3.4, "Steam and Power Conversion"

The licensee proposed to delete the current TS Section 3.4.1.4 and its associated footnote related to EFW limiting condition for operation (LCO).

The LCO for the EFW system will be revised and incorporated in TS Section 3.4.3. This proposed TS consists of two parts, specifying the operability requirements when the unit is above cold shutdown (CSD) conditions and when the reactor coolant system temperature is above 280°F. A footnote is also provided to clarify the testing requirements for the turbine-driven EFW pump.

The current LCO requires operability of both EFW pumps when the reactor is heated above 280°F. The proposed TS which reflects the LCO described in NUREG-1430 for EFW will require the motor-driven EFW pump to be operable when the reactor coolant system (RCS) is above cold shutdown and any steam generator is relied upon for heat removal. This proposed change will result in a more restrictive TS in that the motor-driven EFW pump is required to be operable at a slightly lower plant condition. This proposed TS also requires the turbine-driven EFW pump to be operable when RCS temperature is above 280°F. However, this specification has a footnote allowing an exception to the operability of the turbine-driven EFW pump. This exception will allow performance of the surveillance test requirement at the appropriate plant condition as specified in TS Section 4.8.1 to ensure that a sufficient steam supply exists for performing the surveillance, and to clarify the operability requirement of the turbine-driven pump.

Based on its review, the staff finds the requirements of the LCO for the EFW system specified in the proposed TS Section 3.4.3 are more restrictive than those specified in the current TS Section 3.4.1.4. Therefore, the staff finds these proposed TS changes to be acceptable.

2.2 Changes to the required Actions and Allowable Outage Times associated with TS Section 3.4, "Steam and power Conversion"

The licensee proposed a new TS Section 3.4.4 to specify the required actions and allowable outage times (AOTs) in the event the EFW LCO as specified in the above cited new TS Section 3.4.3 is not met. These changes incorporate the guidance and requirements of NUREG-1430 to fit the ANO-1 TS format as follows:

- a. TS Section 3.4.4.1 specifies the following required action when the motor-driven EFW pump or its associated flow path becomes inoperable:

"With the motor-driven EFW pump or its associated flow path inoperable and RCS conditions above CSD and RCS temperature < 280°F and any steam generator relied upon for heat removal, immediately initiate action to restore the EFW train to operable status."

This proposed change will result in a new action not specified in the current ANO-1 TSs and in a clarification of the requirements for the motor-driven EFW pump, and is more restrictive than the current TS requirement. Therefore, the staff finds it acceptable.

- b. TS Section 3.4.4.2 specifies the following required action associated with one steam supply path inoperable:

"With the RCS temperature \geq 280°F and one steam generator supply path to the turbine-driven EFW pump inoperable, restore the steam generator supply path to operable status within 7 days or be in Hot Shutdown within 6 hours and reduce RCS temperature to < 280°F within the next 12 hours."

The staff finds that this proposed change which allows one steam generator supply path to the turbine-driven EFW pump to be inoperable for 7 days results in a new action not specified in the current ANO-1 TSs and is a clarification of the operability requirements of the EFW system, and is more restrictive than the current TS requirement. Therefore, the staff finds this proposed TS change acceptable.

- c. TS 3.4.4.3 specifies the following required actions and AOTs associated with the inoperability of one train of EFW or its associated EFW pump when the RCS temperature is $> 280^{\circ}\text{F}$:

"With the RCS temperature $\geq 280^{\circ}\text{F}$ and one EFW pump or its associated flow path inoperable, restore the EFW train to operable status within 72 hours or be in Hot Shutdown within 6 hours and reduce RCS temperature to $< 280^{\circ}\text{F}$ within the next 12 hours."

Under this requirement, with one train of EFW inoperable, a 72 hour AOT is specified. This is consistent with the requirements described in NUREG-1430, however, it will result in a relaxation of the current ANO-1 TS requirement. The current TS allows a 36 hour AOT. The licensee performed an evaluation to determine the effect of this proposed TS change on the core damage frequency (CDF) previously calculated in the ANO-1 probabilistic risk assessment (PRA). The licensee stated that the new ANO-1 CDF values, incorporating the proposed AOT extension, are $4.73\text{E}-05$ (for the turbine-driven EFW pump) and $4.70\text{E}-05$ (for the motor-driven EFW pump). These values are well below the staff's safety goal of $1.0\text{E}-04$ as stated in the Federal Register (50 FR 32138). The licensee further stated that the ΔCDF associated with this change was evaluated with respect to criteria described in SECY-91-270, dated August 27, 1991, and NUMARC 91-04, dated January 1992, and fall within the category of events of low risk significance requiring no compensatory measure. Consequently, the licensee concluded that this proposed TS change poses no undue risk to public health and safety and involves no significant increase in the consequences of an accident previously evaluated.

Based on its review, the staff concurs with the licensee's conclusion that this proposed TS change poses no undue risk to public health and safety, involves no significant increase in the consequences of an accident previously evaluated, and is consistent with the requirements described in NUREG-1430. Therefore, the staff finds it acceptable.

- d. The licensee proposed to add a new TS Section 3.4.4.4 to specify the following required actions and AOTs associated with the inoperability of both trains of EFW or their associated EFW pumps and the auxiliary feedwater (AFW) pump available:

"With the RCS temperature $\geq 280^{\circ}\text{F}$, both EFW pumps or their associated flow paths inoperable, and the auxiliary feedwater pump available, be in Hot Shutdown within 6 hours and reduce RCS temperature to $< 280^{\circ}\text{F}$ within the next 12 hours."

ANO-1 uses the main feedwater pumps to supply feedwater to the steam generators at all power levels from ~2% to 100% power. Below ~2% power, ANO-1 utilizes the non-safety related auxiliary feedwater pump to supply feedwater to the steam generators until the decay heat system can be placed in service. This capability allows ANO-1 to achieve the hot shutdown condition, and to further cool the RCS to the point at which the decay heat removal system can be placed in service, without reliance upon the EFW system. The licensee stated that the actions currently specified in TS Section 3.4.5 regarding the inoperability of both trains of EFW or their associated EFW pumps take credit for the availability of the AFW pump. These required actions, taking credit for the availability of the AFW pump, were reviewed and found acceptable as stated by the staff in a Safety Evaluation dated February 2, 1981.

Based on its review, the staff concludes that this proposed TS change poses no undue risk to public health and safety and involves no significant increase in the consequences of an accident previously evaluated. Therefore, the staff finds it acceptable.

- e. The licensee proposed to modify the actions associated with a loss of both the EFW pumps and the AFW pump to prevent possible upsets to the plant when no capability exists to supply feedwater to the steam generators below 2% full power. The required actions and AOTs associated with the inoperability of both trains of EFW or their associated EFW pumps and the unavailability of the AFW pump will be specified in TS Section 3.4.4.5 as follows:

"With the RCS temperature $\geq 280^{\circ}\text{F}$, both EFW pumps or their associated flow paths inoperable, and the auxiliary feedwater pump unavailable, immediately initiate action to restore one EFW train or the AFW pump to operable status. LCO 3.0.3 and all other LCO requiring mode changes are suspended until one EFW train or the AFW pump is restored to operable status."

Currently, TS Section 3.4.5.3 requires an immediate plant runback to ~5% power with feedwater supplied by the main feedwater pumps when both of the EFW pumps are inoperable and the AFW pump is unavailable. The proposed TS Section 3.4.4.5 which replaces the current TS Section 3.4.5.3 will require immediate action to restore one EFW train to operable status. LCO 3.0.3 and all other LCOs require actions requiring mode changes to be suspended until one train of EFW is restored to operable status. This proposed TS which no longer requires an immediate runback to ~5% power and is consistent with the guidance of NUREG-1430 and will prevent an action, such as a power change, that might perturb the unit and result in a reactor trip.

Based on its review, the staff finds that this proposed TS change is an enhancement to safety, in that actions which could result in a plant transient have been deleted. Therefore, the staff concludes that this proposed TS change is acceptable.

2.3 Changes to the Bases Associated with TS Section 3.4, "Steam and power Conversion"

The licensee proposed to add information related to the LCOs and required actions for EFW system to TS Section 3.4 Bases.

The licensee stated that information extracted from NUREG-1430 would be formatted to the ANO-1 custom TS to provide the operator with the basis for the individual specifications and clarify the intent of the specifications associated with EFW.

Based on its review, the staff finds this proposed change to add information related to the LCOs and required actions for EFW system acceptable.

2.4 Changes to TS Section 4.8, "Emergency Feedwater Pump Testing"

The licensee proposed to modify the existing phrase, "upon achieving hot shutdown," in TS Section 4.8.1.a.1 as "within 24 hours after reaching the Hot Shutdown condition". This change will clarify when the operability of the turbine-driven EFW pump must be demonstrated.

The current wording gives no time limit for when the surveillance requirement will be performed. This proposed change will place a 24 hour limit on entry into the hot shutdown condition for testing of turbine-driven EFW pump and allow testing of the affected components under conditions in which sufficient steam supply will exist for surveillance testing.

Based on its review, the staff finds this proposed change clarifies when the operability of the turbine-driven EFW pump must be demonstrated and is therefore, acceptable.

2.5 Changes to the Bases Associated with TS Section 4.8, "Emergency Feedwater Pump Testing"

The licensee proposed to add information which will clarify the intent of the specifications associated with surveillance testing of the EFW system to the Bases for TS Section 4.8.

The licensee indicated that this information to be extracted from NUREG-1430 and formatted to the ANO-1 custom format will state the basis for delaying the testing of turbine-driven EFW pump until suitable test conditions are established. This information will also clarify and state the basis for the EFW system alignment verification specified in TS Section 4.8.1.c. The staff finds this proposed change to add information to clarify the intent of the specifications associated with surveillance testing of the EFW system acceptable.

3.0 TECHNICAL CONCLUSION

Based on its review of the licensee's rationale and the evaluation described above, the staff finds that the proposed changes to the above cited TS sections and their associated bases are acceptable. Additionally, the

proposed TS changes are consistent with the guidance and requirements of NUREG-1430. Therefore, the staff concludes that these proposed changes satisfy the requirements of the Commission's Final Policy Statement on Technical Specification Improvement (58 FR 39132).

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Arkansas State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 42339). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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