

ENVIRONMENTAL EVALUATION BY THE DIRECTORATE OF LICENSING

SUPPORTING AMENDMENT NO. 1 TO DPR-51

(CHANGE NO. 1 TO THE TECHNICAL SPECIFICATIONS)

ARKANSAS POWER & LIGHT COMPANY

ARKANSAS NUCLEAR ONE, UNIT 1

DOCKET NO. 50-313

Introduction

By letter dated November 20, 1974, Arkansas Power & Light Company (AP&L) proposed interim monitoring requirements for Environmental Technical Specifications 2.1.1 and 2.1.2.

Discussion and Evaluation

Environmental Technical Specification (ETS) 2.1.1 limits the maximum differential temperature (ΔT) across the Arkansas Nuclear One-Unit 1 condenser to 15°F during normal operation with all four circulating water pumps in operation. The ΔT is to be measured at the condenser inlet and outlet every hour utilizing the computer output or every two hours utilizing the condenser temperature recorder when the computer is inoperable. ETS 2.1.2 limits the maximum discharge temperature to 105°F. The condenser discharge is to be measured every hour utilizing the computer output or every two hours utilizing the condenser temperature recorder when the computer is inoperable.

The ΔT measured at 75% Full Power (FP) was 18-20°F using the computer and the condenser temperature recorder. However, when the outlet temperature was measured at the end of the discharge canal (before mixing with lake water) it was found to be only 6-7°F higher than the inlet. Thus, it appears that the outlet temperature detector, which is located in the discharge pipe just outside the condenser water box is not measuring the true average condenser outlet temperature. The assumed cause of this is thermal stratification of the water in the water box.

To alleviate the problem, AP&L plans to relocate the condenser outlet temperature detector in the discharge canal, but prior to mixing with the lake water. This will provide an accurate indication of the condenser ΔT to the computer and the condenser temperature recorder.

Since the condenser outlet temperature sensor is not measuring true temperature, AP&L has been monitoring the temperature of the condenser outlet to the discharge canal manually every two hours to comply with the requirements of ETS 2.1.1 and 2.1.2.

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AP&L has proposed the following monitoring of condenser outlet temperature as an interim measure:

1. With the plant operating at steady state power levels, the condenser ΔT will be monitored once each shift using measurements at the condenser inlet and near the end of the discharge flume.
2. At each power plateau reached in the Power Escalation Sequence the condenser ΔT will be measured within two (2) hours after the power level has stabilized.
3. If the condenser inlet temperature exceeds 85°F with all four circulating water pumps running or 70°F with less than four circulating water pumps running, the condenser outlet temperature will be monitored every two (2) hours to assure that ETS 2.1.2 on maximum outlet temperature is met.

It is our view that the proposed monitoring restores the capability to provide for adequate monitoring of the condenser ΔT and is adequate to assure compliance with State Water Quality Standards and will provide for adequate protection of the environment.

AP&L will prepare a revision to the Environmental Technical Specifications to reflect the new temperature sensor location in the discharge canal and which will be implemented upon completion of the installation of the sensor in its new location.

Conclusions

Based on the above discussion and evaluation, we have concluded that the proposed Change No. 1 to Technical Specifications as modified by the staff for incorporation into the Facility Operating License No. DPR-51 as Amendment No. 1, Change No. 1 is approved for environmental considerations. Since no safety related systems are affected by this change, we conclude that the Change No. 1 does not involve significant hazards considerations. We have also concluded that there is reasonable assurance: (1) that activities

authorized by this amendment can be conducted without endangering the health and safety of the public; and (2) that such activities will be conducted in compliance with the Commission's regulations.

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