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Alabama Power
the southern electric system

October 8, 1982

Docket No. 50-364

Director, Nuclear Regulatory Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. S. A. Varga

Joseph M. Farley Nuclear Plant - Unit 2
Turbine Valve Technical Specification Change Request

Gentlemen:

In accordance with Unit 2 Technical Specification 3/4.3.4, Alabama Power Company is required to perform periodic surveillance testing of turbine valves to demonstrate valve operability. These surveillance requirements necessitate all turbine stop, governor, reheat stop and reheat intercept valves to be stroked through their complete cycle from their operational position. Alabama Power Company requests a one-time change to Technical Specification 4.3.4.2.a and 4.3.4.2.b to waive turbine valve testing during the remainder of the first fuel cycle for Unit 2.

Steam enters the high pressure turbine through four turbine stop valves in series with four governor valves. Steam exits the high pressure turbine, flows through the moisture separator reheaters, and enters the low pressure turbines through four reheat stop valves in series with four reheat intercept valves. The turbine is equipped with an emergency trip system that is designed to close the turbine stop, governor, reheat stop and reheat intercept valves in the event of turbine overspeed, low bearing oil pressure, low vacuum, or thrust bearing failure. An electric trip system is also provided for remote manual trips and various other trips. Turbine trip for an overspeed condition is effected by three overspeed sensors. The primary overspeed control is provided by the Digital Electro-Hydraulic Control System which is set to produce a turbine trip at 103% of rated shaft speed. The first backup overspeed protection is provided by a mechanical overspeed mechanism and trips the turbine at 111% of rated shaft speed. The secondary backup overspeed protection is provided by the electro-hydraulic control system if the rated shaft speed exceeds 111.5%. This redundancy in both turbine valves and overspeed protection controls provides high assurance that turbine speed control will be maintained.

A001
w/check:
$ 4000.00

Alabama Power Company has reviewed the results of the weekly performances of the Unit 2 turbine valve technical specification surveillance requirement and past performance of valve operation during Unit 2 turbine trips and has determined that no turbine valve has failed to close on demand. Additionally, turbine valves on Unit 1, identical models to Unit 2, have never failed to fully close on demand during associated turbine valve tests and turbine trips. These results are based on 40 turbine trips and 69 valve tests for Unit 2 and 118 turbine trips and over 90 valve tests for Unit 1. This history of trouble-free valve operation provides added assurance of the dependability of these valves and the redundant overspeed protection systems. In addition to the turbine stop and governor valves, the main steam isolation valves, which are periodically tested, provide another mechanism to terminate steam flow to the turbine.

In order to perform the turbine valve tests required by the technical specifications, the unit must be reduced to approximately 85% power. As the reactor core nears end-of-life, cycling of the nuclear steam supply system imposes operational difficulties in maintaining the axial flux difference within the technical specification target band limitation and results in a potential restriction of 50% power for 24 hours. The return to full power following turbine valve tests performed near the end of reactor core life necessitates the processing of significant amounts (i.e., 20,000 gallons) of reactor coolant. In returning to full power, operational difficulties also occur from overcoming negative reactivity due to xenon transients. These power transients and the potential for delays in the return to power from turbine valve tests performed during the end of reactor core life are unnecessary because the turbine valves and overspeed protection system have been demonstrated as highly reliable.

Since Alabama Power Company has demonstrated the high reliability of the turbine overspeed protection system and turbine valves, this proposed one-time change does not represent a risk to the health and safety of the public nor jeopardizes the safe operation of the Farley Nuclear Plant - Unit 2. In order to avoid the unnecessary cycling of the nuclear steam supply system and the potential delays in the return to power from the turbine valve tests, Alabama Power Company requests a one-time change to Technical Specification 4.3.4.2.a and 4.3.4.2.b to waive turbine valve testing during the remainder of the first fuel cycle for Unit 2. The Unit 2 first fuel cycle is expected to end in late October, and this proposed one-time change would waive approximately two turbine valve tests required by the current technical specifications.

The Plant Operations Review Committee and the Nuclear Operations Review Board of Alabama Power Company have reviewed this proposed one-time Technical Specification change (Attachment 1) and have determined that this change does not involve an unreviewed safety question as shown in the attached safety evaluation (Attachment 2).

Your response to this proposed one-time technical specification change is requested by October 8, 1982, 5:00 p.m. CDT, in order to waive the requirements prior to the upcoming turbine valve tests scheduled for the weekend of October 9, 1982.

This proposed amendment is designated as Class III for Unit 2 in accordance with 10 CFR 170.22 requirements. Enclosed is a check for $4,000 to cover the total amount of fees required.

In accordance with 10 CFR 50.30(c)(1)(i) three signed originals and forty (40) additional copies of the proposed changes are enclosed.

Yours very truly,

F L Clayton Jr

F. L. Clayton, Jr.

FLCJr/MAL:lsh-D9
Attachments
cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 8th DAY OF October, 1982

Linda Humber
Notary Public

My Commission Expires

11-29-82