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DEC 3 1973

Docket No. 50-269

Duke Power Company
ATTN: Mr. Austin C. Thies
Senior Vice President,
Production & Transmission
422 South Church Street
P. O. Box 2178
Charlotte, N. C. 28201

DO NOT REMOVE

Gentlemen:

We have reviewed your request of December 3, 1973 for a waiver of Oconee Unit 1 Technical Specification 3.5.2.5. We find that there is reasonable assurance that the health and safety of the public will not be endangered by the requested waiver provided that the enclosed conditions are satisfied. We request that you keep us informed of your plans to repair the inoperative control rod and provide us with information regarding the results of steady state and transient power maps as soon as practical.

Sincerely,

Original Signed By
K. R. Goller.

R. C. DeYoung, Assistant Director
for Pressurized Water Reactors
Directorate of Licensing

Enclosure:
Waiver of Technical
Specification 3.5.2.5

cc: Mr. William L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, N. C. 28201

bcc: J. R. Buchanan, ORNL
Thomas B. Abernathy, DTIE

PR 12-3-73

OCONEE UNIT 1 TECHNICAL SPECIFICATIONS
WAIVER OF TECHNICAL SPECIFICATION
3.5.2.5-c

The 80% power restriction at the upper boundary of the permissible operating region shown on the "Control Rod Group Withdrawal Limits" figure (Figure 3.5.2-1-1 in the Technical Specifications) may be waived provided that:

1. Reactor power is maintained below 92% full rated power,
2. Quadrant tilt does not exceed 4%,
3. The reactor has operated at 80% power for at least 12 hours before proceeding to above 80% power, and
4. Power maps are taken using the in-core instrumentation system every 4 hours during steady state operation. Immediately following a power transient of greater than 10% full rated power, a power map will be taken and once every 2 hours for 12 hours following the transient. If the power maps indicate that the LOCA kw/ft limit is being exceeded, the power level will be reduced to below 80% of full rated power.

This waiver is in effect until:

1. December 30, 1973,
2. The Oconee Unit 1 Technical Specification 3.5.2 is revised, or
3. The reactor is shutdown to repair the inoperative control rod.

Which ever occurs first.

Docket

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Docket Nos. ~~50-269~~
and 50-270

Change No. 6 License No. DPR-38
Change No. 1 License No. DPR-47

Duke Power Company
ATTN: Mr. Austin C. Thies
Senior Vice President,
Production & Transmission
422 South Church Street
P. O. Box 2178
Charlotte, N. C. 28201

Gentlemen:

We are transmitting herewith Technical Specification changes to the operating licenses for Oconee Nuclear Station, Units 1 and 2, which remove the 95% of power operating restriction initially imposed on Unit 1 and extended to Unit 2 pending confirmation of satisfactory performance of Unit 1 at significant power.

Oconee Unit 1 achieved criticality April 19, 1973, and is presently in commercial operation at power levels of up to 95% of full rated power. Based on information which you have made available to the Regulatory staff from the date of criticality to the present, a period of over six months, this power plant has performed as expected in all significant respects during start-up, testing and all modes of power operation, and that the increase to full license power reflected by this change, does not, involve significant hazards consideration.

Based on discussions with you on this date, November 8, 1973, you have committed to fully document this plant performance in an extensive report on or before November 19, 1973.

In view of the above, we have concluded that Oconee Units 1 and 2, can be operated, as requested, at 100% of full rated power (2568 MWt) with reasonable assurance that the health and safety of the public will not be endangered. Therefore, pursuant to Section 50.59 of 10 CFR Part 50, Technical Specifications, Appendix A to License

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Docket Nos. 50-269
and 50-270

Duke Power Company
ATTN: Mr. Austin C. Thies
Senior Vice President,
Production & Transmission
422 South Church Street
P. O. Box 2178
Charlotte, N. C. 28201

Gentlemen:

We are transmitting herewith Technical Specification changes to the operating licenses for Oconee Nuclear Station, Units 1 and 2, which remove the 95% of power operating restriction initially imposed on Unit 1 and extended to Unit 2 pending confirmation of satisfactory performance of Unit 1 at significant power.

Oconee Unit 1 achieved criticality April 19, 1973, and is presently in commercial operation at power levels of up to 95% of full rated power. Based on information which you have made available to the Regulatory staff from the date of criticality to the present, a period of over six months, you have provided assurance that this prototype power plant has performed as expected in all significant respects during start-up, testing and all modes of power operation.

Based on discussions with you on this date, November 8, 1973, you have committed to fully document this plant performance in an extensive report on or before November 19, 1973.

In view of the above, we have concluded that Oconee Units 1 and 2, can be operated at 100% of full rated power (2568 MWt) with reasonable assurance that the health and safety of the public will not be endangered. Therefore, pursuant to Section 50.59 of 10 CFR Part 50, Technical Specifications, Appendix A to License

Nos. DPR-38 and DPR-47, have been changed in accordance with the revised Technical Specification 3.11 Maximum Power Restriction enclosed. These changes are identified as Change No. 6 to the Technical Specifications License DPR-38 and Change No. 1 to the Technical Specifications License DPR-47, respectively and are effective immediately.

Sincerely,

Original Signed



R. C. DeYoung, Assistant Director
for Pressurized Water Reactors
Directorate of Licensing

Enclosure:
Technical Specification Changes

cc: William L. Porter
Duke Power Company
P. O. Box 2178
422 South Church St.
Charlotte, N. C. 28201

bcc: J. R. Buchanan, ORNL
T. B. Abernathy, DTIE

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3.11 MAXIMUM POWER RESTRICTION

Applicability

Applies to the nuclear steam supply system of Units 1 and 2 reactors.

Objective

To maintain core life margin in reserve until the system has performed under operating conditions and design objectives for a significant period of time.

Specification

- 3.11.1 The first reactor core in Unit 1 may not be operated beyond 7500 effective full power hours until supporting analyses and data pertinent to fuel clad collapse under fuel densification conditions have been approved by Directorate of Licensing staff.
- 3.11.2 The first reactor core in Unit 2 may not be operated beyond 11,040 effective full power hours until supporting analysis and data pertinent to fuel clad collapse under fuel densification conditions have been approved by the Directorate of Licensing.

Bases

The licensing staff has reviewed the effects of fuel densification for the first core in Oconee Units 1 and 2 and concluded that clad collapse will not take place within the first fuel cycle (7500 effective full power hours for Unit 1 and 11040 effective full power hours for Unit 2). However, the clad collapse model used is questionable for extrapolation of clad collapse time out beyond the first fuel cycle because of limited experimental verification.

Date of Issuance: November 8, 1973

Docket
50-269

UNITED STATES ATOMIC ENERGY COMMISSION
CHANGE IN TECHNICAL SPECIFICATIONS
LICENSE DPR-38
DOCKET NO. 50-269
LICENSE DPR-47
DOCKET NO. 50-270
OCONEE NUCLEAR STATION, UNITS 1 AND 2

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Introduction

On October 8, 1973, Duke Power Company, assisted by B&W, reviewed by phone for the AEC, its start-up and power escalation programs and the first several months of power operation below 95% full rated power. The purpose of the review was to confirm the bases for lifting the 95% power restriction which was imposed by the Technical Specifications until significant power operation had been achieved up to 95% power. The justification for the 95% power restriction was the fact that Oconee Unit 1 was a prototype B&W design and the AEC wanted assurance that the plant would operate as predicted. When Unit 2 was licensed on October 6, 1973, the same power restriction was imposed on Unit 2 because Unit 1 was still undergoing some high power testing.

Evaluation

Oconee Unit 1 went critical on April 19, 1973 and after a series of start-up and power escalation tests up to 75% power, the Unit was declared to be in commercial operation by Duke Power at 75% power on July 16, 1973. Since that time, except for routine shutdowns and additional power escalation testing up to 95% full rated power, the Unit has been in commercial operation. During this period Duke Power has kept the AEC informed on operational experience and status and in addition, has submitted the first semiannual report for the period ending June 30, 1973, required by the Technical Specifications. In general the Unit has performed as predicted and no basis has developed to reduce assurance that the Unit cannot operate safely at 100% of full rated power.

The Technical Specifications require that Unit 1 be operated in the range of 2352 MWt to 2452 MWt for 30 days except that 50% of the time the power could be as low as 2000 MWt. This requirement was met as of November 8, 1973 at which time Unit 1 had been operated in the range of 2352 to 2452 MWt for 26.6 days and 2000 to 2352 MWt for 9.4 days.

The start-up report required by Technical Specifications to be submitted 60 days after start of commercial operation was postponed per agreement with the AEC by letter dated September 18, 1973, until November 19, 1973, in order that the report could include additional high power testing above 75% power. On November 8, 1973, Duke Power Company summarized the start-up report and other operational experience and confirmed its

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commitment to submit the start-up report by November 19, 1973. In general Duke Power Company's summary confirmed that in all safety matters related to operation at 100% of full rated power, the Unit is operating in accordance with predictions used as the basis for safety evaluation and that the requirements of the Technical Specification have been met. Specifically:

1. Start-up testing was successful and confirmed predictions of nuclear steam supply system performance.
2. Operations at 75% and 95% full rated power were satisfactory and without significant safety incidents.
3. Analytical predictions of core nuclear and thermal performance, were confirmed for both transient and steady state conditions.

Conclusion

The staff has concluded that Oconee Units 1 and 2, can be operated at 100% of full rated power with reasonable assurance that the health and safety of the public will not be endangered. Therefore, the Technical Specifications for Units 1 and 2, will be changed to lift the 95% power restriction and permit 100% power operation.



I. A. Peltier, Project Manager
Pressurized Water Reactors Br. No. 4
Directorate of Licensing



A. Schwencer, Chief
Pressurized Water Reactors Br. No. 4
Directorate of Licensing