Docket

DEC 11 1973

Docket Nos. 50-269
and 50-270

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

Gentlemen:

Your letter of November 21, 1973, requested that Technical Specification 3.4.2, Appendix A to License No. DPR-38 and No. DPR-47, be deleted. This Technical Specification requires the operability of the turbine bypass system prior to heating the reactor above 250°F.

Where the operation of the turbine bypass system is not required for decay heat removal following an accident we presently do not require its operability prior to system heat up. Furthermore, credit for the turbine bypass system is not given in the safety analysis of loss of load from 100% power. Therefore, there is reasonable assurance that the requested change will not endanger the health and safety of the public.

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 3.4 "Steam and Power Conversion System" enclosed. These changes are identified as Change No. 7 to Technical Specifications License DPR-38 and Change No. 2 to Technical Specification License DPR-47, and are effective on date of issuance.

Sincerely,

Original Signed

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

Enclosures:
1. Tech Spec Change No. 7 to License No. DPR-38
2. Tech Spec Change No. 2 to License No. DPR-47

OFFICE➤						
SURNAME➤						
DATE➤						

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

DISTRIBUTION:
AEC PDR
Local PDR
Dockets
PWR-4 Rdg
Wilchins/Gallo
RO (3)
RCDeYoung
DSkovholt
RWKlecker
RVollmer
MJinks (w/4encls)
IAPeltier
EIGoulbourne
ASchwencer
WOMiller (w/encls)
ACRS (16)
5 extra

L:DD/TR JHendrie 12/ /73
L:AD/PWRs RCDeYoung 12/ 11 /7

OFFICE➤	PWR-4	L:C/PWR-4	OGC	RO	L:AD/TR	L:AD/TR
SURNAME➤	IAPeltier:kmf	ASchwencer			HDenton	VStello
DATE➤	12/ 6 /73	12/ 6 /73	12/ 11 /73	12/ /73	12/ 10 /73	12/ /7

3.4 STEAM & 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.

Specification

The reactor shall not be heated above 250°F unless the following conditions are met:

3.4.1 Capability to remove a decay heat load of 5 percent full reactor power from at least one of the following means:

a. A hotwell pump, condensate booster pump, and a main feedwater pump.
b. The emergency feedwater pump.
c. A hotwell pump and a condensate booster pump.

3.4.2 The sixteen steam system safety valves are operable.

3.4.3 A minimum of 72,000 gallons of water per operating unit shall be available in the upper surge tank, condensate storage tank, and hotwell.

3.4.4 The emergency condenser circulating water system shall be operable as per Specification 4.1.

Bases

The feedwater system and the turbine bypass system are normally used for decay heat removal and cooldown above 250°F. Feedwater makeup is supplied by operation of a hotwell pump, condensate booster pump and a main feedwater pump.

The feedwater flow required to remove decay heat corresponding to 5 percent full power with saturated steam in the pressure range from 30 psia (saturation pressure at 250°F) to 1065 psia (lowest setting of steam safety valve) as a function of feedwater temperature is:

°F	Flow, GPM
60	750
90	770
120	790
180	840

One hotwell pump plus one condensate booster pump will supply at least 3000 GPM at 550 psia, and one hotwell pump plus one booster pump plus one main

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feed pump will supply at least 3000 gpm at 1065 psia. The emergency feed pump will supply 1080 gpm at 1065 psia.

In the event of complete loss of electrical power, feedwater is supplied by a turbine driven emergency feedwater pump which takes suction from the upper surge tanks and hotwell. Decay heat is removed from steam generator by steam relief through the main steam relief valves. Condenser cooling water flow is provided by a siphon effect from Lake Keowee through the condenser for final heat rejection to the Keowee Hydro Plant tailrace.

The minimum amount of water in the upper surge tank and condensate storage tank is the amount needed for 11 hours of operating per unit. This is based on the conservative estimate of normal makeup being 0.5% of throttle flow. Throttle flow at full load, 11,200,000 lbs/hr., was used to calculate the operation time. For decay heat removal the operation time with the volume of water specified would be considerably increased due to the reduced throttle flow.

The relief capacity of the sixteen steam system safety valves is 13,105,000 lbs/hr.

REFERENCE

FSAR, Section 10

DEC 1 1 1973

UNITED STATES ATOMIC ENERGY COMMISSION
CHANGE IN TECHNICAL SPECIFICATIONS
LICENSES DPR-38 AND DPR-47
DOCKET NOS. 50-269 AND 50-270
OCONEE NUCLEAR STATION, UNIT 1 AND UNIT 2

Introduction

On November 21, 1973, Duke Power Company requested that Technical Specification 3.4.2, Appendix A to the operating licenses for Oconee Units 1 and 2, be deleted to eliminate the requirement that turbine bypass valves be operable during operation. Duke Power stated that the turbine bypass system will be operable normally but blocking the bypass valves is necessary to facilitate turbine testing.

Evaluation

The turbine bypass system is not required for decay heat removal following an accident. Furthermore, the action of the turbine bypass system during a loss of load from 100% power reduces the offsite doses by no more than 40% of the values calculated for steam system safety valve action only. Steam system safety valve operability is required by Technical Specification 3.4.2. Doses to the thyroid at the site boundary (one mile exclusion distance) are in the order of 1 millirem for the loss of load situation without the turbine bypass system action.

In view of the above, there is reasonable assurance that the health and safety of the public will not be endangered by this change. The staff does not presently require by Technical Specifications the operability of the turbine bypass system.

Conclusion

Appendix A to License Nos. DPR-38 and DPR-47 Technical Specifications 3.4.2 will be deleted to eliminate the requirement that the turbine bypass system be operable prior to reactor heat up.

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