



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 49 TO FACILITY OPERATING LICENSE NPF-35
AND AMENDMENT NO. 42 TO FACILITY OPERATING LICENSE NPF-52
DUKE POWER COMPANY, ET AL.
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS. 50-413 AND 50-414

INTRODUCTION

By letter dated June 29, 1987, supplemented by letters dated December 4, 1987 and April 1, 1988, the licensee requested amendments to Facility Operating License Nos. NPF-35 and NPF-52 for the Catawba Nuclear Station, Units 1 and 2. The proposed amendments would revise Technical Specification (TS) Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements" to delete the requirement to test the reactor coolant flow rates in the bypass loops in which Resistance Temperature Detectors (RTDs) are installed to measure the hot leg and cold leg temperatures. The flow rates affect the time response of the temperature signals which are needed for reactor controls and protection. The revisions are applicable to Catawba Unit 1 only; however, Unit 2 is included administratively because the TSs for both Units are combined in one document.

The proposed amendments would be in effect only until the licensee completes the planned removal of the RTD bypass manifold in Unit 1 and the installation of the RTDs directly in the hot leg and cold leg piping. These plant modifications were authorized by license amendments issued February 17, 1988. The station modifications have already been completed for Unit 2 during its recent refueling outage. For Unit 1, they are scheduled to be completed during its fourth refueling outage in March 1990.

EVALUATION

The licensee justifies the proposed deletion of the bypass loop flow rate tests on the bases that (1) other means are available to indicate and measure these flows, and (2) a significant radiation dose would be avoided because the performance of the tests involves four workers spending four hours each in lower containment.

Individual low flow alarms with status lights for each reactor coolant loop bypass flow are provided on the main control board in the control room. The alarms and status lights provide the operator with immediate indication of a low flow condition (less than 90% of its initial value) in any bypass loop.

Since the initial measured values for all of the loop flows are well above the minimum acceptable flow rates, the annunciators would alarm well in advance of any loop flow rate dropping below the acceptance criterion flow rate. A quarterly channel calibration will be performed on the control room low flow alarms, starting in September 1988.

Local indicators accessible during power operation are provided in the containment annulus to verify the total flow through the RTD bypass manifold for each loop. These flow indicators will be monitored on a quarterly basis to provide an alternative measurement of possible flow degradation.

Since initial operation of Unit 1 in December 1984, there have been no observations of flow diminution or blockage in the bypass loops, indicating a low potential for significant blockage before the March 1990 outage.

On the basis of its review of the information summarized above, the staff concludes that the deletion of the bypass flow rate tests will not significantly degrade the safety aspects of the RTD temperature measurement capability and that adequate systems are available to detect bypass flow degradation in the time period before the March 1990 power outage. Therefore, the proposed TS changes are acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve changes to the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and changes in surveillance requirements. The staff has determined that the amendments involve 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 exposure. The NRC staff has made a determination that the amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, the amendments meet 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 these amendments.

CONCLUSION

The Commission made proposed determinations that the amendments involve no significant hazards consideration which were published in the Federal Register (52 FR 49223) on December 30, 1987, and (53 FR 17788) on May 18, 1988. The Commission consulted with the state of South Carolina. No public comments were received, and the state of South Carolina did not have any comments.

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: S. Kirslis, PD#II-3/DRP-1/II
K. Jabbour, PD#II-3/DRP-1/II
J. Zeiler, Region II

Dated: July 27, 1988

Mr. H. B. Tucker
Duke Power Company

cc:
A.V. Carr, Esq.
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

J. Michael McGarry, III, Esq.
Bishop, Liberman, Cook, Purcell
and Reynolds
1200 Seventeenth Street, N.W.
Washington, D. C. 20036

North Carolina MPA-1
Suite 600
3100 Smoketree Ct.
P.O. Box 29513
Raleigh, North Carolina 27626-0513

S. S. Kilborn
Area Manager, Mid-South Area
ESSD Projects
Westinghouse Electric Corp.
MNC West Tower - Bay 239
P.O. Box 355
Pittsburgh, Pennsylvania 15230

County Manager of York County
York County Courthouse
York South Carolina 29745

Richard P. Wilson, Esq.
Assistant Attorney General
S.C. Attorney General's Office
P.O. Box 11549
Columbia, South Carolina 29211

Piedmont Municipal Power Agency
100 Memorial Drive
Greer, South Carolina 29651

Mr. Michael Hirsch
Federal Emergency Management Agency
Office of the General Counsel
Room 840
500 C Street, S.W.
Washington, D. C. 20472

Catawba Nuclear Station

North Carolina Electric Membership
Corp.
3400 Sumner Boulevard
P.O. Box 27306
Raleigh, North Carolina 27611

Saluda River Electric Cooperative,
Inc.
P.O. Box 929
Laurens, South Carolina 29360

Senior Resident Inspector
Route 2, Box 179N
York, South Carolina 29745

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission,
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. Heyward G. Shealy, Chief
Bureau of Radiological Health
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Karen E. Long
Assistant Attorney General
N.C. Department of Justice
P.O. Box 629
Raleigh, North Carolina 27602

Spence Perry, Esquire
General Counsel
Federal Emergency Management Agency
Room 840
500 C Street
Washington, D. C. 20472

Brian P. Cassidy, Regional Counsel
Federal Emergency Management Agency,
Region I
J. W. McCormach POCH
Boston, Massachusetts 02109