Docket Files

November 19, 1985

Docket Nos. 50-413
and 50-414

Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Request for Additional Information Regarding Main Steam Line Break in the Doghouse, Catawba Nuclear Station, Unit 1 & 2

The NRC staff has reviewed your evaluation of a main steam line break (MSLB) in the Catawba Doghouse forwarded by your coverletter dated March 15, 1985. We find that additional information, identified in the enclosure, is needed for completion of our review.

Your response to the enclosure is requested within 30 days of this letter. Contact the Project Manager, Kahtan Jabbour, at (301) 492-9789 if you have questions regarding the enclosure or are unable to meet the requested response date.

The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

Sincerely,

Original Signed by

Carl R. Stahle for
Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing

Enclosure:
As stated

cc w/encl:
See next page

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Enclosure

REQUEST FOR ADDITIONAL INFORMATION REGARDING CATAWBA UNITS 1 & 2 STEAM LINE BREAK

Provide the following additional information in regard to your analyses of a main steam line break (MSLB) in the Catawba Doghouse as forwarded by cover-letter dated March 15, 1985.

1. The steam line break analyses in support of Doghouse equipment qualification were performed with an updated but unapproved version of LOFTRAN. Provide a detailed description of the modifications made to LOFTRAN and its validation. Also, confirm the appropriateness of the break flow model for superheated conditions.

2. Superheated break flow conditions could lead to higher heat loss rates from the reactor coolant system when compared to saturated break flow conditions. This could imply that previous versions of the LOFTRAN computer program are non-conservative and that the results submitted in WCAP-9226, "Reactor Core Response to Excessive Secondary Steam Releases," (as referenced in the FSAR) may not be valid for all conditions. Address, in detail, the consequences of modeling superheat and its effect on core response. Provide detailed comparative analyses of the results calculated with the two models (saturated versus superheated steam models).

3. As a consequence of equipment failures from adverse environmental conditions, the main steam isolation valves in the affected Doghouse were assumed to reopen. This led to blowdown of the two steam generators:

   (a) Provide details and justification of the reactivity methodology used in the analyses as well as the nodalization and the primary coolant mixing coefficients applied in the reactor vessel.

   (b) Provide the data and justification to support the mixing coefficients applied to the reactor coolant as well as the reactivity feedback models. (This information was requested by the NRC in 1983 on the WCAP-9226 submittal but Westinghouse has not responded to the request.)

   (c) Describe how the analyses were performed when assuming the stuck rod cluster control assembly to be positioned in loop 1 core sector versus loop 2 core sector.

4. Provide your evaluation of offsite dose, including in particular the case with two steam generator blowdown.