OCTOBER 18 1982

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Dockets Nos. 50-269, 270 and 287

Mr. Hal B. Tucker
Vice President, Nuclear Production
Duke Power Company
P. O. Box 33189
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

We have reviewed the information provided in your August 6, 1982 letter concerning a tornado protected means of providing steam generator cooling water and find that we require additional information in order to complete our review. We, therefore request that you respond to the enclosed questions within 30 days of their receipt.

After review of the enclosed question, if you so desire, we would be available for a telephone conference or a meeting to exchange additional information. Please contact your Project Manager to make any arrangements.

Since this request relates solely to the Oconee Nuclear Station, fewer than ten respondents are affected; therefore, OMB clearance is not required under P. L. 96-511.

Sincerely,

"ORIGINAL SIGNED BY
JOHN F. STOLZ"
John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

cc:
See next page

OFFICE	ORB#4:DL	C-ORB#4:DL					
SURNAME	PWagner/cb	JStolz					
DATE	10/18/82	10/18/82					

Duke Power Company

cc w/enclosure(s):

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REQUEST FOR ADDITIONAL INFORMATION
OCONEE NUCLEAR STATION

Reference: DRP letter to NRC - August 6, 1982

Regarding the ability to provide steam generator cooling water following a tornado strike, provide the following information:

1. You state that the bounding evaluation of the frequency at which a tornado might be expected to damage the EFWS and the SSF ASWS piping and controls, where they enter the reactor building through the west penetration room, showed that the frequency of occurrence is no higher than approximately 7.5×10^{-5}/yr. for any particular Oconee unit.

   Provide a description of the methodology, assumptions, modeling and error bounds of your analysis.

2. You state that in the event of a tornado induced loss of both the main and emergency feedwater system, the steam generator inventory would be expected to be boiled off within a few minutes. Ample time would be available for opening the manual dump valves on at least one steam generator to maintain a low back pressure for the auxiliary service water pump. Blowdown of the steam generators would not be necessary."

   Provide the results of an analysis which demonstrates that adequate decay heat removal can be continuously maintained through the use of the existing auxiliary service water system, and that such a cooldown method will not result in an accidental overpressurization of the auxiliary service water system or the excessive loss of reactor coolant. As a minimum, the following points should be addressed.

   a. Since the effectiveness of water injection into the steam generator (SG) is of some concern because of the low head capacity of the ASWS, discuss the SG pressure that must be attained in order to provide sufficient ASWS flow into the SG to ensure adequate decay heat removal. Further, provide the dump valve capacity at rate ASWS pressure, and the time period assumed for operator action of the manual dump valves.

   b. Provide a discussion and analytical results (plots if appropriate) of the transient following a reactor trip utilizing the ASWS to remove decay heat. The discussion should include reactor coolant system pressure and temperature, SG pressure, SG water level/flow rate, and decay heat removal versus time. Provide the time at which the secondary steam dump capacity will match decay heat load following a reactor trip provided that the steam generators are at the ASWS operating pressure. Following the reactor trip during the time for which decay heat is greater than the removal capability of the steam dumps at ASWS pressure, provide the mass loss through the reactor system safety valves. Justify that core uncovery will be prevented.

c. Discuss the effects of cold shocking the steam generator as a result of injecting cold water into a relatively dry steam generator.