Docket Nos.: 50-269, 50-270
and 50-287

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

SEP 23 1987

Dear Mr. Tucker:

Subject: Elevated Levels of Radiocesiums in the Environment - Request for Additional Information

Reference: Oconee Nuclear Station, Units 1, 2 and 3

In a July 10, 1986 report, the staff reviewed the information you sent on elevated levels of radiocesiums in the environment around the Oconee Nuclear Power Plant. Three principal concerns were identified in the report. By letter dated April 17, 1987 you sent information responding to the report. Region II has asked us to review your April 17, 1987 submittal.

To complete our review of these issues, we will need the information identified in the Enclosure. Please respond to this request for additional information within 45 days of the date of this letter.

Sincerely,

ISI

Helen N. Pastis, Project Manager
Project Directorate II-3
Division of Reactor Projects-I/II

Enclosure: As stated

cc: See next page

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Mr. H. B. Tucker
Duke Power Company

Oconee Nuclear Station
Units Nos. 1, 2 and 3

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Honorable James M. Phinney
County Supervisor of Oconee County
Walhalla, South Carolina 29621

REVIEW OF DUKE POWER COMPANY'S RESPONSE TO NRC STAFF REPORT
ON ELEVATED LEVELS OF RADIOCESIUMS IN THE ENVIRONMENT
AROUND THE OCONEE NUCLEAR POWER PLANT
REQUEST FOR ADDITIONAL INFORMATION

1. As stated on page 1 of Ref.1, Duke Power Company (DPC) has monitored groundwater at the Oconee Nuclear Power Plant, although the plants Technical Specifications do not require such monitoring. Accordingly, DPC submitted some groundwater sampling data (Attachment 2 of Ref. 1) which show that migration from the chemical treatment ponds is not significant. Since the data do not cover all of the years that the Oconee Nuclear Power Plant has operated, confirm that Attachment 2 of Ref. 1 lists the principal groundwater sampling data obtained by DPC, or, if appropriate, state that data for the years prior to 1985 would still lead to the same conclusion (i.e., migration of radionuclides from the chemical treatment ponds would not lead to exposure of a member of the public to a large fraction of the annual dose design objectives). If there are other data that would lead to a different conclusion, then provide such data.

2. Attachments 8 and 10 of Ref. 1 compare estimated concentrations of Cs-134 and Cs-137, respectively, in fish with the mean measured concentrations over the years 1976 through 1985. Supposedly, these attachments provide evidence that use of Oconee's Offsite Dose Calculation Manual (ODCM), which is based on the Regulatory Guide 1.109 model (hereinafter referred to as the RG model), is more likely to lead to overestimates of radiocesiums in fish rather than underestimates. However, the comparisons of the RG calculated concentrations with the mean measured values at large distances from the plant may not be valid if realistic dilution factors were not used in the analysis. Since the location of the sampling sites changed over the years (from 4.2 miles south southeast of the plant (i.e., location #067) to 0.8 miles east southeast (i.e., location #063)), it would appear that any additional dilution provided by the receiving water body should be taken into account before comparing the mean values at one location with the ODCM estimated values. Presumably, the estimated concentrations of radiocesiums in fish would be higher at the plant discharge area than at location #067. Based on the data contained in Tables 1 and 2 of Attachment 12, it does not appear that the additional dilution provided by the receiving water body was taken into account.

   a. Provide the additional dilution factors that were used in the subject calculations, or

   b. If the additional dilution of the receiving water body was not taken into account, then revise Attachments 8 and 10 accordingly. Provide the basis for the estimates. The revised attachments should show ODCM estimated concentrations for each sampling location.

3. In view of DPC's response to Question 2, provide a basis for maintaining that the models in the ODCM are sufficiently conservative for predicting doses to individuals from fish consumption, or commit to revising the dose calculation models for consumption of fish. If DPC decides to revise the models, then provide a schedule for submitting the revised ODCM for NRC's review. In revising the ODCM, DPC should determine whether the models for consumption of fish need to be revised for any other radionuclides.

4. In regard to the chemical treatment ponds, DPC did not state whether the radioactive inventory limit on CTP-1 and CTP-2 is applicable to each pond, or the sum of the activities of both ponds. In addition, based on the descriptive material provided by DPC (see Ref. 1, pages 6 and 7), it is not clear that DPC includes radionuclides deposited in the pond as part of the pond inventory. Describe the method by which DPC keeps track of the total quantities of radionuclides in CTP-1 and CTP-2 to assure conformance with the inventory limits in TS 3.9.4. Compare the estimated quantities of radionuclides in each pond (i.e., in the water and in the sediment) with the inventory limits, and provide the basis for the estimates.

5. Provide similar estimates (and their basis) for CTP-3.

REFERENCES

1. Letter with 14 Attachments from Hal B. Tucker, Duke Power Company, to NRC, dated April 17, 1987.