

December 29, 1998

Mr. William R. McCollum, Jr.
Oconee Nuclear Site
Duke Energy Corporation
P.O. Box 1439
Seneca, SC 27679

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
OCONEE NUCLEAR STATION UNIT NOS. 1, 2, & 3 ENVIRONMENTAL
REPORT ASSOCIATED WITH LICENSE RENEWAL - ENVIRONMENTAL
(TAC NOS. M99162, M99163, M99164, and M99183)

Dear Mr. McCollum:

By letter dated July 6, 1998, Duke Energy submitted its application for renewal of the Oconee Nuclear Station, Units 1, 2, and 3 licenses. As part of the application, Duke Energy submitted an environmental report (ER) prepared in accordance with 10 CFR Part 51. The staff is continuing its review of the ER, however, the staff has identified areas where additional information is necessary in order to complete its review. The specific requests for information are contained in the enclosure and have been given sequential numbers to facilitate tracking the questions associated with the environmental review. Please note that this request for additional information does not include information requests regarding the severe accident mitigation alternatives review. Those questions will be transmitted under separate cover.

In order to assure that staff review resources are effectively managed, you should provide your schedule for responding to the enclosed questions by close of business on January 15, 1998. Additionally, the staff is willing to meet with Duke Energy prior to submittal of the response to provide clarifications of the staff's request for additional information.

Sincerely,

James H. Wilson, Senior Project Manager
Generic Issues and Environmental Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

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

Enclosure: As stated
cc: See next page
Distribution: See next page

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DATE	12/29/98	12/29/98	12/29/98	12/29/98

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 29, 1998

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Oconee Nuclear Site
Duke Energy Corporation
P.O. Box 1439
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Sincerely,

A handwritten signature in dark ink, appearing to read "James H. Wilson".

James H. Wilson, Senior Project Manager
Generic Issues and Environmental Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

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

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OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST FOR ADDITIONAL INFORMATION
OCONEE NUCLEAR STATION (ONS), UNITS 1, 2, AND 3
DOCKET NOS. 50-269, 50-270, AND 50-287
LICENSE RENEWAL APPLICATION
ENVIRONMENTAL REVIEW

References to pages, chapters, and tables in this request for additional information pertain to those included in the Environmental Report (Volume IV of Duke Energy's application for renewal of the facility operating licenses for the ONS, Units 1, 2, and 3 for a period of an additional 20 years, submitted by letter dated July 6, 1998).

Alternatives

1. Pages 6-6 through 6-9 provide an extensive discussion of the characteristics of conventional coal-fired units, oil and gas combined cycle, and natural gas combined cycle plants, giving quantitative estimates of capacities, costs, and various environmental emissions; however, no references are given to provide the basis for this discussion. Provide the basis for these estimates, giving citations and providing copies of the referenced pages from the citations.
2. Page 6-9 briefly discusses the costs associated with construction and operation of an advanced light water reactor as an alternative. The discussion contains two cost estimates. Provide the basis for these estimates, giving citations and providing copies of the referenced pages from the citations.
3. Table 6.4-1 contains several quantitative estimates (land used, air quality) for which the source is not clear. For example, the relationship of land use to unit size does not appear to be that shown in NUREG-1437. For land use, provide citations for these estimates, with copies of the referenced pages in the citations. Either confirm that the source of emissions estimates is 40 CFR Part 423 or provide the citations for these estimates, with copies of the referenced pages in the citations.
4. Provide a copy of Reference 24, "1997 Short Term Action Plan Integrated Resource Planning" as referred to on Page 6-4 of the ER.

Hydrology

5. Provide a copy of the current National Pollutant Elimination Discharge System (NPDES) permit. In addition, review the simplified water flow schematic that was attached with the Oconee NPDES permit which expired on September 30, 1998, and provide an indication if the numbers on this schematic are correct based on the new permit. If not, provide a corrected schematic.

6. Provide a simplified water flow schematic to assist in understanding the relationships between the Oconee plant and the two adjacent sections of Lake Keowee, Lake Jocassee and the Keowee River. This information will be summarized in Chapter 2 of the Supplemental Environmental Impact Statement (SEIS) as background text on water use and water quality issues. The schematic should include the range of flow rates (including uptake and outfall) and storages for each of the four components. Flows will reverse at the cross-over between the two arms of Lake Keowee and at the interface between Lake Keowee and Lake Jocassee. This is intended to be a very simple box diagram, not a highly detailed spatial representation.

Aquatic Ecology

7. A report published in 1976 by Edwards, Hunt, Miller, and Sevic stated that "The skimmer walls at Marshall Steam Station and Oconee Nuclear Station have not provided a deterrent to the impingement of fish". Although the report did not go into much detail, this contradicts information provided during the site visit. Provide the following two reports and/or other descriptions that are more recent than the 1976 study. This information will be used in the determination of what changes have taken place (if any) that may have affected fish impingement rates (species composition, plant operation, etc.) and to further characterize fish impingement at the Oconee Nuclear Station:

- 1) Barwick, H. 1990. *Fish impingement at Oconee Nuclear Station - 1990*. Scientific Services, Duke Power Company, Huntersville, North Carolina.

- 2) Olmsted, L.L. and W.D. Adair. 1981. *Protection of fish larvae at two southeastern power plants using skimmer walls*. Research Report PES/81-30. Duke Power Company, Huntersville, North Carolina.

8. Provide the current 316(a)/316(b) permit documentation. This will be used to describe the plant's intake and discharge systems and to characterize their effects on the aquatic environment.
9. In order to characterize the working relationship between the South Carolina Department of Natural Resources (SCDNR) and Duke Energy, provide a copy of the following document:

- Keowee-Toxaway Fishery Resources. *Ten-Year Work Plan. January 1996-December 2005*. South Carolina Department of Natural Resources and Duke Power Company.

10. Describe the trends in threadfin shad population dynamics (high mortality during winter months followed by rebounds the following summer) by providing copies of the more recent reports (last several years) detailing hydroacoustic surveys performed during both the spring and fall. These fish have a high rate of mortality in the cold months and the data will be used to help explain why so many are impinged on the screens at that time of year. If other documentation is available that describes estimated threadfin shad population numbers in Lake Keowee, provide these reports also.

Terrestrial Ecology

11. During the site visit, the applicant's staff indicated that there is regular communication between the applicant, the U. S. Fish and Wildlife Service (USFWS), and the SCDNR concerning the incidental take of migratory birds along the applicant's transmission right-of-ways and facilities. Please provide documentation of the applicant's policies and procedures regarding compliance with the Migratory Bird Treaty Act (MBTA), and copies of any MBTA-related permits issued by the USFWS or the SCDNR.
12. Provide a description of the procedures that are used to ensure that environmentally sensitive areas or species of concern are adequately protected during site operations and project planning (i.e., on-site wetland protection and monitoring).
13. During the site visit, the applicant indicated that it had applied for a permit for surface - land disposal of the sludge produced from the on-site water treatment facilities. Provide a copy of this application and provide an estimate of the quantity of sludge expected to be produced annually, along with a basis for the estimate.
14. The applicant's environmental report includes a review of the plant species of concern and the sensitive habitats located within 1 mile of the Oconee site. For completeness, please provide a map of all of the vegetative communities on the site if these are available.
15. Provide documentation of Duke Energy's previous efforts to identify and locate threatened, endangered or other species of concern within the transmission rights-of-way associated with the Oconee station. Include a description of the process used for the discovery of species of concern within the transmission rights-of-way.
16. Provide documentation obtained from the USFWS and the SCDNR describing rare species (including threatened and endangered species or other species of concern) potentially inhabiting or occurring near the Oconee-related transmission corridors.
17. Provide documentation of concurrence by the USFWS and SCDNR for any conclusions drawn by Duke Energy regarding the potential impacts of the transmission corridors on threatened, endangered, or other species of concern.
18. Provide results of any surveillance of threatened, endangered, or candidate species inhabiting Oconee-related transmission rights-of-way performed by Duke Energy, State or Federal agencies, academic institutions, or others.

19. Provide maps that show the routing of each of the transmission corridors, and indicate the location of sensitive habitats within the rights-of-way (i.e., wetlands, floodplains, rare habitats, critical habitats for threatened or endangered species, etc.).
20. Describe the maintenance practices used for the transmission line rights of way, or provide copies of the applicable documentation of current policies or practices for the maintenance of transmission line corridors, including current practices for erosion control, protection of floodplains and wetlands and vegetation control.
21. Provide documentation of any management agreements with State or Federal resource agencies for the management of resources within the transmission rights-of-way (i.e., game management, erosion control, rare species, noxious weed management, etc.). Be sure to include the interaction including copies of any Memorandum of Agreement (MOA), or joint management plan for the Bunched Arrowhead, Schweinitz's sunflower and other species of concern within the transmission corridors.

Human Health

22. 10 CFR 51.53(c)(3)(ii)(H) states that the applicant's transmission lines that were constructed for the specific purpose of connecting the plant to the transmission system must be reviewed to see if they meet the recommendations of the National Electric Safety Code for preventing electric shock from induced currents. If not, an assessment of the impact of the proposed action on the potential shock hazard from the transmission lines must be provided. The ER indicated that the transmission line of concern is between the plant switchyard and the intertie to the transmission system and evaluated this line. However, as a result of the discussion in the FES regarding the length of the transmission system attributed to Oconee the entire 330 miles shown in Table III-1 of the FES needs to be reviewed. Provide a statement as to whether the transmission lines specified in the FES meet the recommendations of the National Electric Safety Code for preventing electric shock from induced currents. If not, provide an assessment of the impact of the proposed action on the potential shock hazard from these transmission lines.

Socioeconomics

23. Page 3-2, in Section 3.5, refers to the Oconee workforce of 1700 persons, of which 1350 are Duke Energy employees, and the remainder contract vendors. Provide the latest count available of the number of employees by city/town and county of residence. For those employees for whom the city is not known, provide county of residence.
24. Table 2.5-1, on Page 2-5, provides forecasts of the total resident population within 80 km (50 mi) of the Oconee site by 10-year increments. Provide the basis for this forecast (copies of the pages of the appropriate reference). Provide forecasts of the resident population for these years by distance and direction, if available.

25. In the course of NRC staff interviews with local county economic development officers, concern was expressed that if the ONS closes, Duke Energy will be less able to offer assistance with business recruiting in the local area. In view of the fact that Oconee, Pickens, and Anderson Counties will still be in Duke Energy's service area if ONS closes in 2013-2014, provide a discussion of whether and how Duke Energy's industrial recruitment assistance might be affected.
26. During the NRC staff interviews with local realtors and county economic development officers, concern was expressed that the area would lose Duke Energy's leadership and technical assistance in keeping Lake Keowee water at exceptionally high quality if ONS's licenses were terminated and the plant decommissioned. Provide a discussion of the assistance currently rendered and the potential effect of plant closure on this assistance.

Historical/Archeological

27. Provide a copy of the following reference, or a description of the pre-impoundment historic and archaeological resources in the Keowee-Toxaway project (to be used in the SEIS for background and descriptive text):

Grove, H. Jesse. *"Duke Power Company Keowee-Toxaway Project - Historic and Archaeological Resources: Pre-impoundment Resource Analysis."*

28. Provide a copy of the following reference, or a discussion of any pertinent archaeological surveys in the transmission corridors within Oconee County (to be used in the SEIS for background and descriptive text):

Gardiner, Jeffrey W., et al. 1988. *"Archaeological Survey of the Jocassee to Bad Creek to Coley Creek Transmission Corridors. Oconee County, SC."*
Prepared for Duke Power Company by Brockington and Associates, Inc.

Meteorology

29. Provide recent meteorological data for the site in the standard NRC format (Standard Review Plan 2.3.3 or Environmental Standard Review Plan 2.7) on 3.5" disks. This information will be summarized in the SEIS as background and descriptive text.

Radioactive Waste Management

30. Provide a brief description of the transportation of radioactive materials offsite. Discuss the types of radioactive materials shipped, the typical number of shipments per year, and any expected increases in shipment during the renewal period. This information will be summarized in the SEIS as background and descriptive text.

Oconee Nuclear Station (License Renewal)

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