



50-269

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

March 14, 1997

MEMORANDUM TO: David B. Matthews, Chief
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

FROM: *[Signature]* for
Claudia M. Craig, Senior Project Manager
Generic Issues and Environmental
Projects Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MEETING WITH DUKE POWER TO DISCUSS THE
ENVIRONMENTAL REPORT FOR THE LICENSE RENEWAL STAGE

The subject meeting was held at the Nuclear Regulatory Commission (NRC) offices in Rockville, Maryland on March 5, 1997, between representatives of Duke Power and the NRC staff. The purpose of the meeting was for Duke to provide an overview of the Oconee license renewal project, provide the status of the environmental review for the license renewal stage, and provide the NRC staff with Duke positions regarding certain issues to be contained in the environmental report for license renewal. The meeting was an informational meeting only. At this time, Duke is not requesting NRC review or approval of their environmental report in support of a license renewal application. Attachment 1 is a list of meeting participants. Attachment 2 is a copy of the non-proprietary presentation material that was discussed at the meeting.

Duke described the overall license renewal project for Oconee and stated that the goal of the project is to complete the Oconee license renewal application and be prepared for its submittal by January 1998. The ultimate decision to apply for license renewal will be up to the Duke Board of Directors. The licensee stated that license renewal appears to be a very cost effective and viable business option for Duke at the present time and Duke would like to be in a position of being ready to submit an application should the business decision be made to renew. Duke discussed several options regarding the timeline if a renewal application is submitted at different points in time and what that would mean for addressing alternative energy sources under the no action alternative.

Duke provided a discussion of the affected environment around the Oconee plant, provided an outline of the ER, and discussed each of the Category 2 issues under 10 CFR 51.53(c)(3)(ii). Specific discussions were held on transportation of fuel and waste and the questions and assumptions involved with the high level waste repository with regard to license renewal and the alternatives that need to be addressed for the proposed action. Duke outlined

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portions of the proposed action. Duke's position is that the need for replacement power is not a direct and near term impact of a potential license renewal application denial. Explicit review of replacement energy sources as part of the renewal application is based on the timing of the application, whether there is a regulated environment or a deregulated environment, and is highly dependent on the state energy planning document, the Integrated Resource Plan. Duke believes that consideration of specific alternative energy sources for license renewal does not seem appropriate.

Duke also stated that NEI is coordinating efforts on the following five topics: severe accidents, high level waste transportation, alternatives to the proposed action, environmental justice, and EMF chronic effects. It is believed NEI will contact the NRC staff in the near future to set up a meeting to discuss the point papers developed by NEI on each of these issues.

The staff responded to these areas of discussion by stating that they are aware of these issues and they are being addressed generically within the context of developing guidance for the regulatory guide (RG) and the environmental standard review plan (ESRP). In light of the comments Duke provided, the staff encouraged Duke to comment on the draft RG and ESRP this summer and continue to work through NEI on issues that are generic to the industry.

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

Attachments: As stated

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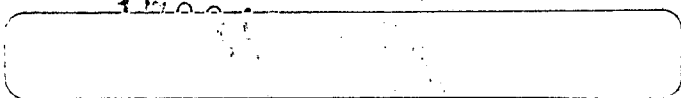
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DUKE / NRC MEETING
ENVIRONMENTAL REPORT FOR LICENSE RENEWAL

MARCH 5, 1997

MEETING PARTICIPANTS

<u>NAME</u>	<u>ORGANIZATION</u>
Claudia Craig	NRC/NRR/PGE
Ralph Architzel	NRC/NRR/PGE
Barry Zalcmán	NRC/NRR/PGE
Tom Yocum	Duke Power
Mitch Baughman	Duke Power
Tricia Heroux	for EPRI
Bob Borsum	B&W Owners Group
Paul Newton	Duke Power
Van Ramsdell	PNNL
Don Cleary	NRC/RES/DRA
Steve Hoffman	NRC/NRR/PDLR
Robert Tucker	Baltimore Gas & Electric
David LaBarge	NRC/NRR/PD II-2
Ricky Buckley	Entergy
Dave Matthews	NRC/NRR/PGE

Duke Power / NRC Meeting

Environmental Reviews -
Operating License Renewal Stage
March 5, 1997

Agenda

- Introductions
- Overview of the Oconee License Renewal Project
- Overview of the draft Environmental Report
- Discussion of Environmental Justice and EMF Chronic Effects reviews
- Closing Remarks

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Purpose of Meeting

- Present an overview of the Oconee License Renewal Project
- Present the current status of our environmental reviews
- Provide input for NRC consideration in the development of regulatory guidance documents

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Oconee License Renewal Project

Mission

- The goal of the Oconee License Renewal Project is to complete the Oconee license renewal application and to be prepared for its submittal by January 1998
- Duke Power Board of Directors will make the decision on whether or not to submit

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Oconee License Renewal Project

- Team Members include:
 - Licensing
 - Civil
 - Mechanical
 - Electrical
 - Environmental
 - Community Relations
 - Legal

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Oconee License Renewal Project

- Industry Interfaces
 - NEI
 - EPRI
 - BWO
 - WOG
 - Utility Environmental Clearinghouse

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Timeline #1

- 5/97 RG Discussion Paper
- 7/97 Draft RG
- 8/97 Draft SRP
- 1998 Earliest Application Submittal
- 2003 Estimated Commission Decision
- 2008 Latest Application Submittal
- 2013-2014 Current EOL

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Environmental Report Outline

- Affected Environment
- Proposed Action
- Purpose and Need for the Proposed Action
- Review of Environmental Issues
- New and Significant Information
- Alternatives to the Proposed Action
- Status of Compliance

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Affected Environment

- Oconee is a 3-unit nuclear station, 2568 MWt, located in northwestern South Carolina on the upper Savannah River drainage
- Duke's Keowee-Toxaway Complex
 - Oconee on Lake Keowee
 - Jocassee Pumped Storage on Lake Jocassee
 - Bad Creek Pumped Storage on Bad Creek Reservoir
- Lake Hartwell, a U.S. Army Corps of Engineers project--immediately downstream of Lake Keowee

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Affected Environment (continued)

- Water quality in reservoirs is very good; low population density, low soil fertility, limited industrial development.
- Municipal water intakes on Lakes Keowee and Hartwell
- Extensive recreational use
- Land use in counties near Oconee
 - Forest
 - Pasture and cropland
 - Residential development

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Proposed Action

- The proposed action is to renew the existing facility operating license for each unit of Oconee
- This action includes the plant modifications and refurbishments identified from the Part 54 reviews

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Purpose and Need

- Allow Duke to make informed business decisions concerning further investments in Oconee during the remaining term of the current operating licenses

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Review of Environmental Issues

- General
 - Format is reader friendly
 - Requirement from 51.53(c)(3)(ii)
 - Summary/Conclusion from GEIS including why Category 2
 - Analysis of Environmental Impact
 - Consideration of Mitigation Alternatives

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Water use conflicts (Plants with cooling towers and cooling ponds) [§51.53(c)(3)(ii)(A)]

- Oconee has a once-through cooling system, and does not use a cooling pond
- Category 1 at Oconee

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Entrainment, impingement and heat shock of fish and shellfish [§51.53(c)(3)(ii)(B)]

- Oconee has a once-through cooling system
- Lake Keowee is the source and receiving water body
 - Skimmer Wall on Intake Canal
 - NPDES Limits:
 - ⇨ 100 °F Daily average (end of pipe)
 - ⇨ 90 °F Daily average discharge to Lake Hartwell

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Entrainment, impingement and heat shock (continued)

- Studies of Effects
 - 1973-1978 Appendix B Technical Specifications
 - 1995 316(a) Demonstration
- Regulatory Status
 - Impingement and entrainment effects -- 316(b)-- were addressed in the Appendix B Technical Specification studies and were accepted by SCDHEC
 - Submittal of 316(a) demonstration has been made and is currently under review

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Ground- water use conflicts (Ranney Wells) [§51.53(c)(3)(ii)(C)]

- Oconee does not use Ranney wells, nor does it use groundwater at all
- On-site wells are used strictly for monitoring groundwater elevation and quality.
- Less than 100 liters per month
- Category 1 at Oconee

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Ground-water quality degradation [§51.53(c)(3)(ii)(D)]

- Oconee does not use a Cooling Pond
- Category 1 at Oconee

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**Refurbishment impacts on terrestrial resources,
and threatened or endangered species**

[\$51.53(c)(3)(ii)(E)]

- Minimal refurbishment activities at Oconee -- no disturbance of terrestrial habitat beyond the current site
- Aquatic impacts would be a continuation of current impacts
- Duke will consult with US Fish and Wildlife Service and SC Department of Natural Resources and obtain their suggestions, if any, for mitigating effects on local species of concern
- Negligible impact for Oconee

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Air quality [\$51.53(c)(ii)(F)]

- Oconee is not located in or near a non-attainment or maintenance area for air pollutants
- Further, refurbishment activities, and operation in the renewal term, will not have any significant incremental impact on air quality
- Negligible impact for Oconee

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Microbiological (thermophilic) organisms

[\$51.53(c)(3)(ii)(G)]

- Consultation in 1996 with SC Department of Health and Environmental Control on this subject has produced the following conclusions:
 - While theoretically possible that Oconee's discharge could increase the public health risks from thermophilic organisms, no evidence to support.
 - Routine monitoring for pathogenic microorganisms is not recommended at this time; "could be established if suspicious illnesses arose or if there were significant community concerns."
- Negligible impact for Oconee

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**Electrical shock due to induced currents from plant
transmission lines [§51.53(c)(3)(ii)(H)]**

- This issue is generic to all electric generating stations
- Transmission lines of interest at Oconee are those from the power house to the 230KV/500KV switchyard
- These transmission lines have been surveyed and determined to meet the National Electric Safety Code
- Category 1 for Oconee
- Regulatory guidance should reflect the acceptability of this approach and level of detail required in the submittal

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**Housing, public services, public utilities impacts,
education, offsite land use impacts
[§51.53(c)(ii)(3)(I)]**

- Major refurbishment activities are not anticipated
- Refurbishment activities and operation in the renewal term will not involve any increases in permanent workforce, beyond current staffing levels at the station
- Similarly, temporary workforce will not increase beyond typical refueling outage levels
- Impacts to housing, land use, public schools, or public water supply due to renewal are expected to be negligible
- Tax Revenue from Oconee, about 20% of Oconee County, will continue to support infrastructure maintenance and improvements

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**Public services, transportation impacts
[§51.53(c)(3)(ii)(J)]**

- Neither permanent nor temporary workforce is expected to increase as a result of License Renewal
- Local Transportation impacts are expected to continue at current levels
- Negligible impact for Oconee

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**Historic and archaeological resources
[§51.53(c)(3)(ii)(K)]**

- Refurbishment activities and continued operation in the renewal term will have no adverse impact on any Historic Properties
- Consultation with S.C. State Historic Preservation Office will be done to obtain their recommendations regarding Historic Properties
- Negligible impact for Oconee

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Severe accidents [§51.53(c)(3)(ii)(L)]

- Duke supports ongoing industry efforts on this topic
- IPE Evaluations for Oconee are complete and have been reviewed by NRC
- IPEEE Evaluations in progress with partial submittals having been made 12/30/96
- Results of the studies have prompted several changes in equipment, plant configuration and procedure enhancements
- Environmental Impact is deemed to be negligible
- Further Mitigation Alternatives review is not considered warranted
- NUREG-1560 (draft) dated October 1996 summarizes results of all IPE reviews

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**Transportation of fuel and waste
[§51.53(c)(3)(ii)(M)]**

- As noted by the NRC, this item is generic to the industry (Table S-4)
- Need additional guidance on how to perform an acceptable review
- Basis for assumptions for roads, rail lines, throughput capacity, population density, geography, etc. needs to be established
- Is interface with state and local officials required, desired, expected? Any pre-emption issues?

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**Transportation of fuel and waste
[§51.53(c)(3)(ii)(M)] (continued)**

- What is the relevance of Yucca Mountain Transportation to a renewal license decision by the Commission?
- Relationship of this review to the transportation portion of the DOE sponsored environmental reviews for repository construction and operation
- NWPA §§117(a)(5), 175(b)(10), and 180 regarding transportation related impacts, negotiations with the state and mitigation

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**Transportation of fuel and waste
[§51.53(c)(3)(ii)(M)] (continued)**

- Renewal license applicants' assessments will be speculative, as DOE has not even completed even preliminary transportation impacts study for Yucca Mountain
- Timing of when to perform the review ?
- When will the standard for making a finding be available?
- Substantial regulatory guidance is needed in this area
- Duke supports the ongoing industry efforts on this topic

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Environmental Review Summary

Items with no impacts (A, C, D, H)	4
Refurbishment items (E, F, I, J, K)	5
Items with negligible impact (G, L)	2
Evaluation still in progress (B, M)	2
 Total Environmental Impacts	 13

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Alternatives to the Proposed Action

- NEPA requires consideration of all reasonable alternatives to the proposed action
- Purpose of this review is to consider the relative environmental consequences of the proposed action given the environmental consequences of other activities, as well as taking no action at all
- Based on reviews conducted to date, environmental consequences of Oconee license renewal are negligible or small
- The alternative to the proposed action is Commission denial of the renewal license application
- If the renewal license is denied, Oconee will continue to operate until it is shutdown prior to or at EOL (~2013)

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Alternatives to the Proposed Action (continued)

- Denial of the renewal application does not directly result in any adverse environmental consequences - the plant continues to operate
- Eventually, the plant will be shutdown and decommissioned, but it would eventually be shutdown regardless of whether a renewal application was submitted
- The need for replacement power is not a direct and near term impact of the denial of the renewal application
- Explicit review of replacement energy sources as part of the renewal application is highly speculative
- Energy planning decisions - including the use of alternative energy sources - are the responsibility of State regulators and utility officials

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Alternatives to the Proposed Action (continued)

- Regulatory Guidance concerning alternatives to the proposed action should be flexible and include the consideration of:
 - Timing of Commission decision,
 - Integrated Resource Planning,
 - Regulated Electric Utility Business Environment, and
 - De - Regulated Electric Utility Business Environment

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Alternatives to the Proposed Action Timeline #2

- 1998 Earliest Application Submittal
- 1998 IRP Submittal
- 2001 IRP Submittal (?)
- 2001 De -Regulation (?)
- 2003 Commission Decision
- 2008 Latest Application Submittal
- 2013-2014 Current EOL (w/o Renewal)
- 2033-2034 EOL (w/Renewal)

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Alternatives to the Proposed Action (continued)

Integrated Resource Plan (IRP)

- Currently required by Federal/State Regulators
- To analyze all current and potential sources and uses of power over the next 15 years. Energy mix will change over time.
- The final plan results in an optimal long-term combination of power-supply options and energy-efficient power-demand options that will serve as a guide for resource planning and ensure adequate and reliable electricity in an environmentally responsible manner to Duke's customers through cost-effective 'Power Management'
- State review and approval of the submitted IRPs

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Alternatives to the Proposed Action (continued)

Regulated Electric Utility Business Environment

- If application is denied, Duke would continue to operate Oconee as long as it is considered prudent by Duke Power and the State of South Carolina
- Currently have an 'Obligation to Serve' all customers within assigned territories
- Duke would be required to provide the replacement power
- Replacement energy sources would be determined by Duke and the State using the IRP process or whatever generation planning process is required at the time by SC

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Alternatives to the Proposed Action (continued)

- The present generation planning process includes consideration of environmental impacts
- Consideration of specific alternative energy sources during license renewal does not seem appropriate in this scenario
- Certificate of need is issued by state prior to initiation of construction of any new power generation

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Alternatives to the Proposed Action (continued)

De-Regulated Electric Utility Business Environment

- Electricity power producers are not expected to have an 'Obligation to Serve', nor the corresponding right to a fair and reasonable return through the regulatory process
- Electricity power producers would be expected to be compensated by competitive returns achieved through the open market (e.g., power pools, long term contracts)
- If application is denied, Duke Power would operate Oconee as long as considered appropriate, but would not be required to provide replacement power when the determination is made to shut down the plant

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Alternatives to the Proposed Action (continued)

- The State regulators will establish requirements for operation in this environment
- Consideration of specific alternative energy sources during license renewal does not seem appropriate in this scenario
- Certificate of need may or may not be required

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Alternatives to the Proposed Action (continued)

Regulatory Guidance documents should:

- Not include requirements to perform an explicit review of alternative energy sources at any time, as review is very time sensitive and will continue to be a State responsibility;
- Include recognition of the existence of Integrated Resource Plans as one means by which future energy sources are identified; and
- Include consideration power plant operation in a regulated electric utility business environment as well as a de-regulated environment.

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Compliance Status

- Section 51.45(d) requires this information
- A list of all environmental permits held by Oconee, and their respective compliance status, will be included in the environmental report
- Permits requiring renewal or re-issuance as a result of license renewal would be identified

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Transition

- The previous slides provided an overview of the Environmental Report contents
- The next discussion covers two issues that are identified as "Not Applicable" in both the GEIS and Table B-1

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Environmental Justice

- Duke is supporting ongoing industry efforts on this topic
- Alternative site location determination review would not seem to be necessary for renewal license review
- Not clear on what NRC expectations are in this area
- Regulatory Guidance documents should include information on how this topic will be addressed

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EMF Chronic Effects

- Duke is supporting ongoing industry efforts on this topic
- Existing scientific evidence indicates that the chronic effect of EMF from transmission lines should not be of concern
- Transmission lines that would seem to be of interest are those outside the plant and part of the utility distribution system, which will continue to be in service beyond the operation of the power plant
- Regulatory Guidance documents should include information on how this topic will be addressed

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Summary

- Five topic areas where discussion needs to continue:
 - ★ Severe Accidents
 - ★ HLW Transportation
 - ★ Alternatives to the Proposed Action
 - ★ Environmental Justice
 - ★ EMF Chronic Effects
- NEI is coordinating industry efforts on these five topics

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Conclusion

- Renewal of the Oconee operating license is currently a very cost effective and viable business option for Duke
- Environmental impacts assessed to date are either non-existent or negligible
- Regulatory Guidance will be valuable to our getting our work finished
- Some areas need more discussion to be clear on direction/expectations

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Duke Power Company

Oconee Nuclear Station

Applicant's Environmental Report

Operating License Renewal Stage

**Renewal Operating License Application
Exhibit D**

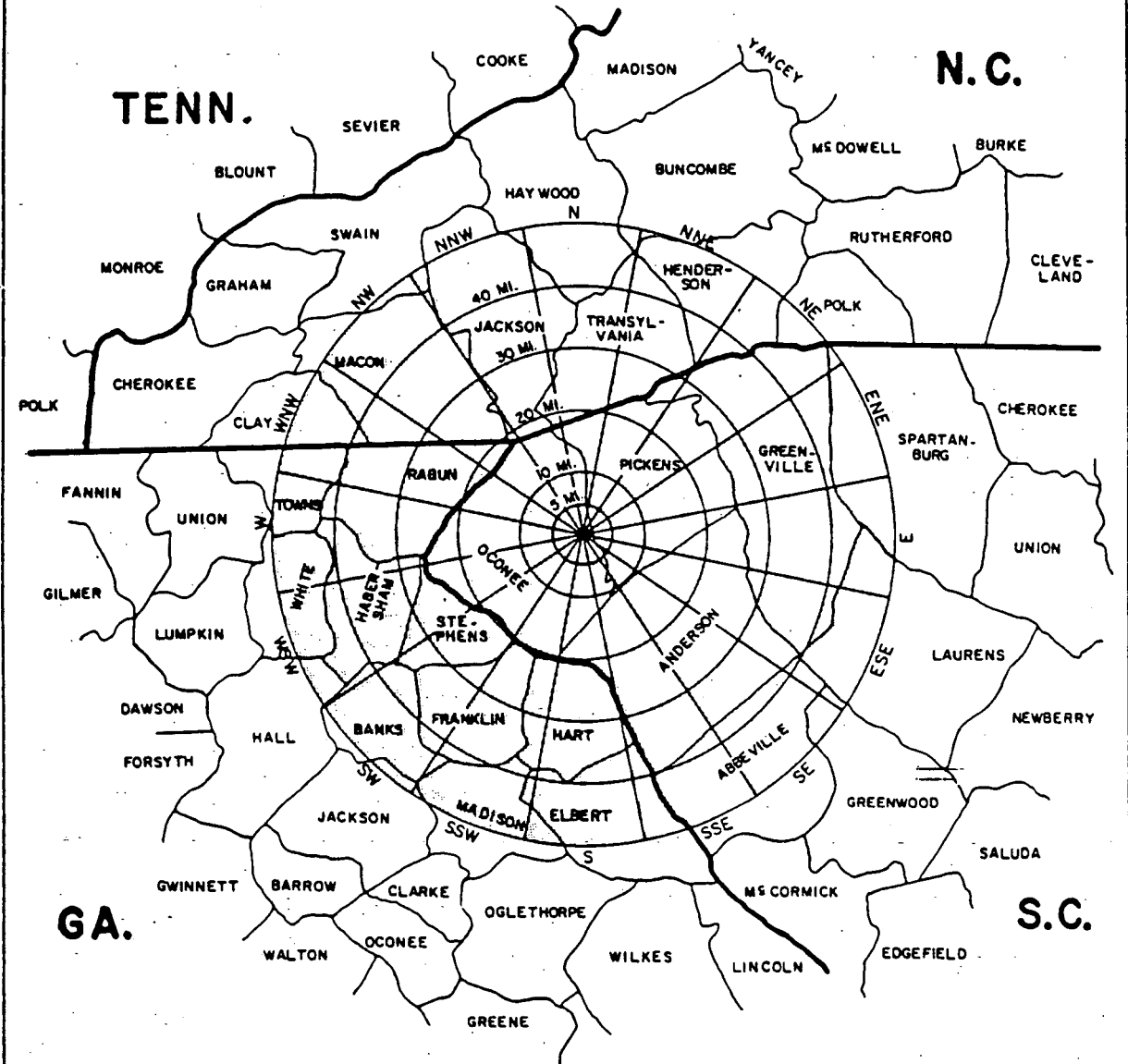
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COUNTIES WITHIN A 50 MILE RADIUS



GENERAL LOCATION
OCONEE NUCLEAR STATION

Figure 2.1-1

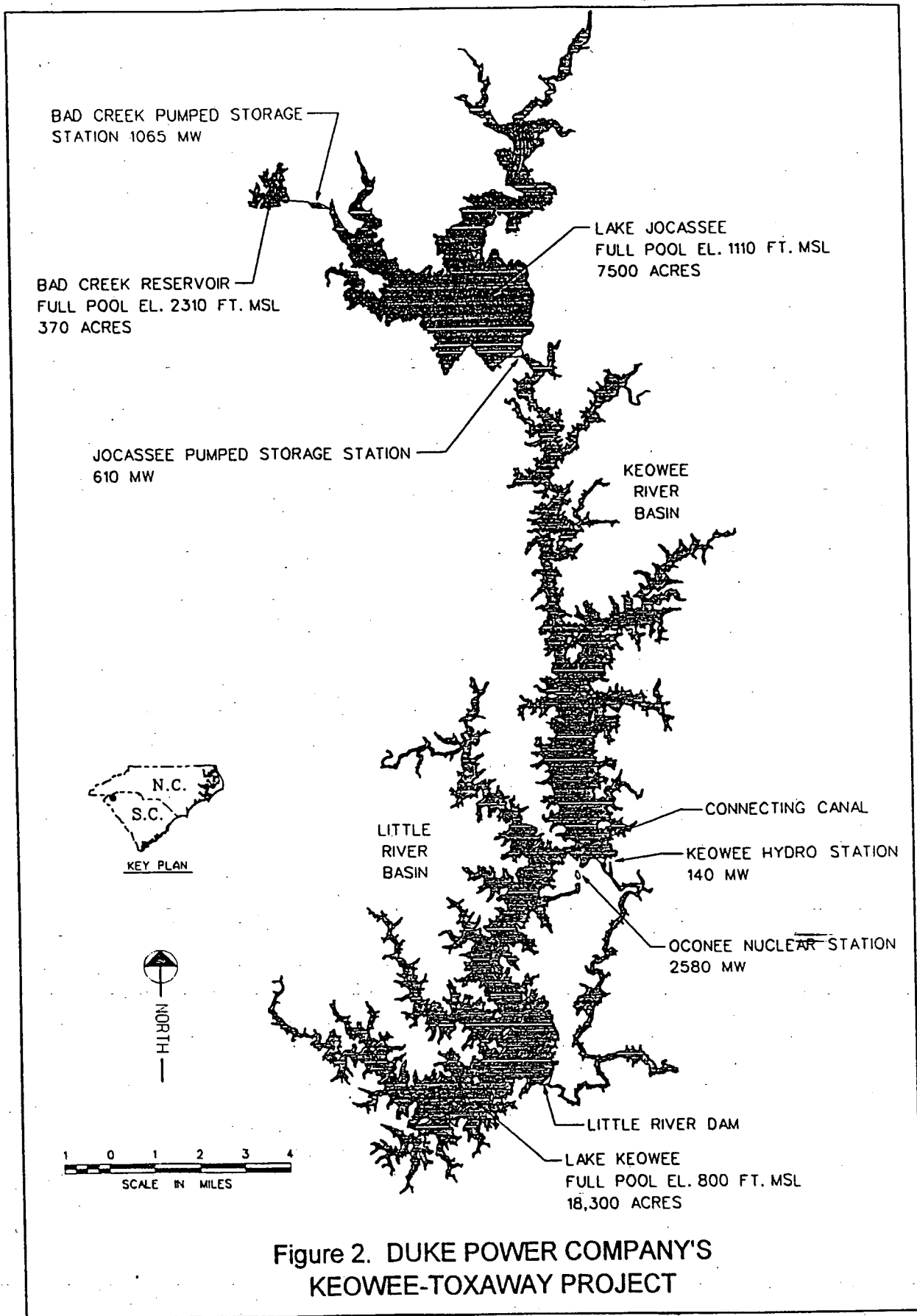
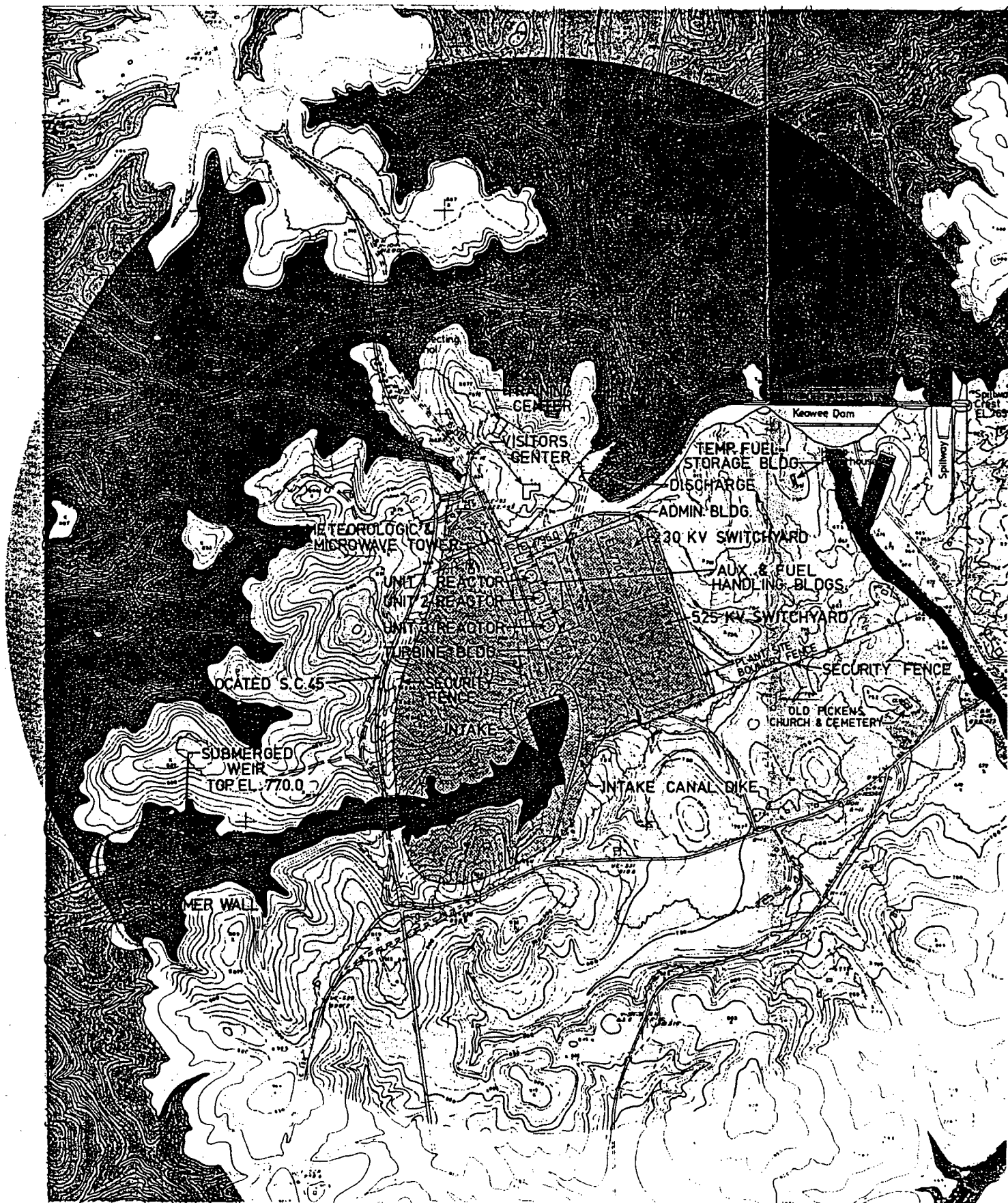
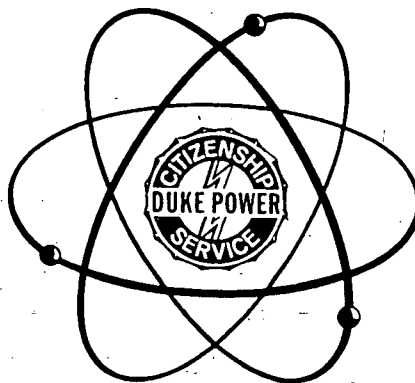


Figure 3-1. Duke Power Company's Keowee-Toxaway project.



DUKE POWER COMPANY
SUPPLEMENT TO
ENVIRONMENTAL QUALITY FEATURES
OF
KEOWEE-TOXAWAY PROJECT

OCTOBER, 1971



T. W. YOCUM

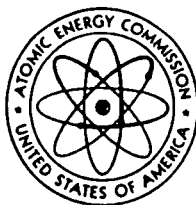
Final

environmental statement

**related to operation of
oconee nuclear station units
1, 2 and 3**

DUKE POWER COMPANY

DOCKET Nos. 50 - 269, 50 - 270, 50 - 287



March 1972

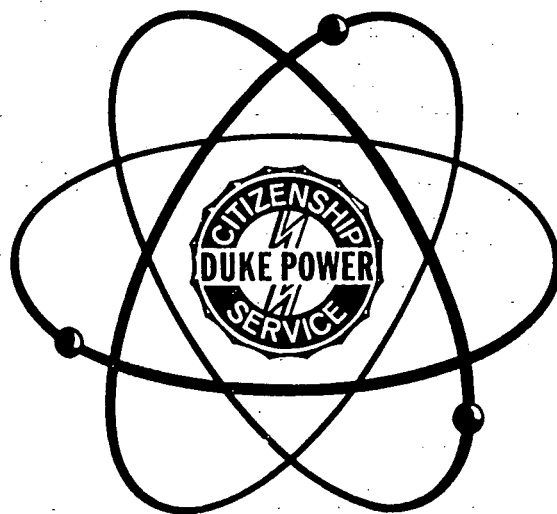
**UNITED STATES ATOMIC ENERGY COMMISSION
DIVISION OF RADIOLOGICAL AND ENVIRONMENTAL PROTECTION**

T. W. Yocum

**DUKE POWER COMPANY
STEAM PRODUCTION DEPARTMENT**

**OCONEE NUCLEAR STATION
ENVIRONMENTAL
SUMMARY REPORT
1971 – 1976**

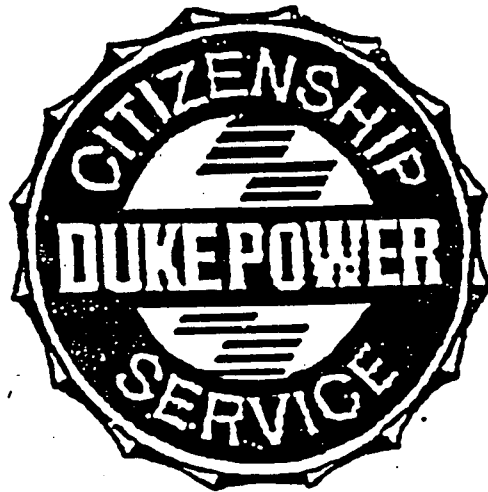
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T. W. Yocum

**OCONEE NUCLEAR STATION
316(A) DEMONSTRATION REPORT**



**DUKE POWER COMPANY
OCONEE NUCLEAR STATION**

JANUARY 1995

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