

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8702260214 DOC. DATE: 87/02/18 NOTARIZED: NO DOCKET #
 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co. 05000269
 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270
 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287

AUTH. NAME TUCKER, H. B. AUTHOR AFFILIATION Duke Power Co.
 RECIP. NAME RECIPIENT AFFILIATION Document Control Branch (Document Control Desk)

SUBJECT: Forwards addl info re transportation of facility spent fuel
 via TN-B/TN-BL casks in support of util 851119 & 860616
 requests to amend Licenses DPR-38, DPR-47 & DPR-55.

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3
 TITLE: OR Submittal: General Distribution

NOTES: AEOD/Ornstein: 1cy. 05000269
 AEOD/Ornstein: 1cy. 05000270
 AEOD/Ornstein: 1cy. 05000287

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PWR-B EB	1 1	PWR-B PEICSB	2 2
PWR-B FOB	1 1	PWR-B PD6 LA	1 0
PWR-B PD6 PD 04	5 5	PASTIS, H	1 1
PWR-B PEICSB	1 1	PWR-B RSB	1 1

INTERNAL: ADM/LFMB	1 0	ELD/HDS4	1 0
NRR/DHET/TSCB	1 1	NRR/ORAS	1 0
<u>REG FILE</u> 01	1 1		

EXTERNAL: EG&G BRUSKE, S	1 1	LPDR	03 1 1
NRC PDR 02	1 1	NSIC	05 1 1

NOTES: 1 1

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

February 18, 1987

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

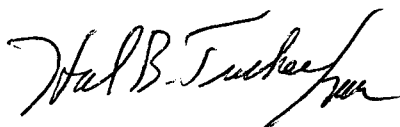
Subject: Oconee Nuclear Station
Docket No. 50-269, -270, -287
TN-8, TN-8L Multielement Spent Fuel Casks

Gentlemen:

By letter dated November 19, 1985 and supplement dated June 16, 1986 Duke Power Company (Duke) submitted a proposed amendment to the Oconee Facility Operating License and revisions to the Oconee Nuclear Station Technical Specifications. The amendment would allow use of the TN-8/TN-8L multielement spent fuel casks in the Oconee Nuclear Station Unit 3 spent fuel pool.

Per NRC Staff request, please find attached additional information addressing the conditions of 10CFR 51.52 with respect to transportation of Oconee spent fuel to McGuire Nuclear Station via TN-8/TN-8L casks.

Very truly yours,



Hal B. Tucker

PJN/128/jgm

Attachment

xc: Dr. J. Nelson Grace
Regional Administrator
U.S. Nuclear Regulatory
Commission - Region II
101 Marietta St. NW
Suite 2900 - Atlanta, GA 30323

Mr. Heyward Shealy, Chief
Bureau of Radiological Health
S.C. Dept. of Health and
Environmental Control
2600 Bull Street
Columbia, S.C. 29201

Ms. Helen Pastis
Office of Nuclear
Reactor Regulation
U.S. Nuc. Regulatory Commission
Washington, D.C. 20555

Mr. J.C. Bryant
NRC Resident Inspector
Oconee Nuclear Station

8702260214 870218
PDR ADCK 05000269
P PDR

Asal
9/1

DUKE POWER COMPANY
OCONEE NUCLEAR STATION

INFORMATION FOR ENVIRONMENTAL ASSESSMENT
TRANSPORTATION OF OCONEE SPENT FUEL TO McGUIRE VIA TN-8/TN-8L CASKS

The environmental impact results contained in Table S-4 of 10CFR 51.52 make several assumptions on fuel assembly characteristics, traffic and population densities. As discussed below, each of these assumptions is applicable to the proposed shipments of spent fuel from Oconee to McGuire. Consequently, all of the conditions in paragraph (a) of Section 51.52 are met.

- Reactor type - Table S-4 assumes LWR with limited thermal power of 3800 Megawatts. Oconee and McGuire are both LWR Nuclear Stations with unit thermal power ratings of 2568 and 3411 Megawatts respectively.
- Fuel type - Table S-4 assumes Zr-4 clad UO_2 at enrichments below 4%. Oconee fuel is UO_2 with Zr-4 cladding. Maximum initial enrichment of fuel that would be shipped from Oconee is 3.20%.
- Fuel history - Table S-4 assumes fuel burnup levels below 33,000 MWD/MTU and a minimum cooling time of 90 days. Oconee's candidate fuel assemblies will have average burnup levels less than 33,000 MWD/MTU. Minimum cooling time is expected to be 5 years, but in no instance will it be less than the 270 days minimum specified in McGuire's operating license.
- Transport Mode - Table S-4 assumes that shipments of irradiated fuel utilize truck, rail or barge transport modes. All shipments from Oconee to McGuire will be by truck.
- Heat Loads - Table S-4 assumes a maximum of 250,000 Btu/hr heat load per cask during shipment. Due to the extended cooling time for the candidate fuel assemblies this limit will never be exceeded. For 5-year cooled fuel the heat content will be less than one KW or 3,400 Btu/hr; or 10,200 Btu/hr per TN-8/TN-8L cask.
- Weight limits - As mentioned in Table S-4, weight limitations will be governed by State and Federal regulations which will be observed by Duke Power Company.
- Frequency of Shipments - Shipments with the TN-8/TN-8L cask will be scheduled at the rate of one per week. The Table S-4 limits of 1 truck shipment per day and 3 rail shipments per month will not be exceeded.
- Doses to Transportation Workers - DOT regulations limit exposure in occupied areas of the transport vehicle to a maximum of 2 mr/hr. Assuming 2 persons in the transport vehicle, 3 1/2 hours per Oconee to McGuire shipment, 52 shipments per year, and 2 mr/hr, the yearly cumulative dose to transportation workers would not exceed .728 man-rem. Historical data indicates that actual dose rates will be much less than 2 mr/hr.

Doses to
Onlookers

- Table S-4 assumes that for each shipment, 10 onlookers are exposed for 3 minutes at a distance of 3 feet from the cask. For Ocone to McGuire shipments, there are no planned stops during the 3 1/2 travel time and, consequently, no onlookers are expected to be exposed to radiological doses.

Doses to
Public
Along Route

- The approved shipping route between Ocone and McGuire is 172 miles in length. Population density along this route is conservatively estimated at 719 persons per square mile. (This is based upon 1980 census data.) If a one mile wide corridor is examined, the total population is 123,668 which is less than the Table S-4 value of 600,000 by a factor of 4.8. Cumulative yearly dose to this population will not exceed the 3 man-rem limit specified in Table S-4 since that figure was based on a dose rate 6 feet from the cask equal to the legal limit.

Accidents in
Transport

- The risks specified in Table S-4 were based on 155,000 vehicle miles per year. The subject shipments will result in only 8,944 miles per year by which the accident rate would be lower by a factor of 17.