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 FACIL: 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.  
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 LAINAS, G.C. Assistant Director for Operating Reactors

DOCKET #  
05000287

SUBJECT: Requests FR publication of 830310 proposed license amend to expand storage capacity of spent fuel pool by reracking w/ poison racks. Action must be noticed before 830901 fuel load or unwarranted expense will result.

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HAL B. TUCKER  
VICE PRESIDENT  
NUCLEAR PRODUCTION

August 8, 1983

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. G. C. Lainas  
Assistant Director for Operating Reactors

Subject: Oconee Nuclear Station  
Docket No. 50-287

Dear Sir:

On March 10, 1983 Duke Power Company submitted a proposed license amendment concerning the expansion of the storage capacity of the Oconee Unit 3 spent fuel pool by reracking with poison racks. Duke's schedule had called for reracking to begin in September 1983 and to be completed prior to the Unit 3 refueling outage currently scheduled to start in March 1984. To achieve a greater degree of safety in the reracking operation, the current inventory of spent fuel assemblies stored in the Unit 3 spent fuel pool will be completely transferred to the Unit 1 and 2 shared pool for temporary storage. This will be complete by the end of August and would allow the reracking to be accomplished with no fuel in the pool.

As of August 8, 1983, the NRC had not noticed, as required by 10 CFR 50, §50.91, in the Federal Register, the Duke request for an amendment revision to increase Unit 3's spent fuel storage capacity, even though a no significant hazards determination has been made by both Duke and the NRC Staff. Without this notice, the license amendment cannot be approved to allow for the reracking operations to begin within a reasonable period of time and to assure completion prior to Unit 3's refueling outage as a 30-day comment period is required. As will be shown, further delay beyond that which has been incurred thus far will result in undesirable safety and economic impacts.

The further delay to the proposed schedule would result in the delay of the reracking until after the completion of the Unit 3 refueling outage which would then result in performing the reracking modification with 68 spent fuel assemblies discharged from Unit 3, either in the pool or transferred to the Unit 1, 2 spent fuel pool. If these assemblies remained in the Unit 3 pool, they would pose additional hazards to the personnel involved by the following:

- a) The handling of the temporary construction crane over the spent fuel will be necessary.
- b) A substantial loss in the amount of margin associated with the distance between the divers and freshly discharged fuel assemblies would occur. Due to the design features of the presently installed racks and the Unit 3 spent fuel pool, removal of these racks presents a greater real potential for the overexposure of the divers if the 68 freshly discharged spent fuel assemblies are left in the pool. Based

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on this reduction in the amount of margin, a decision was made in 1982 to remove all fuel assemblies from the Unit 3 pool.

- c) The cutting instrument used to remove the presently installed racks was justified based on a no fuel scenario. Thus, the use of this cutting instrument with fuel in the pool has not been evaluated with respect to reactions with fuel assembly material.
- d) There would be a substantial increase in the person-rem dose due to the increased time required to complete the job with fuel in the pool. The person-rem dose may increase by as much as a factor of 3.

Based on the above points, Duke has considered removal of these 68 freshly discharged fuel assemblies from Unit 3's pool prior to commencing with reracking operations. However, this alternative results in the loss of full core discharge capability in the Oconee 1, 2 shared spent fuel pool, which is operationally undesirable.

Considering the amount of time necessary for pre-shipment decay and actual on-site transfer of these 68 assemblies, installation of the Oconee 3 fuel racks under this delayed schedule would not be completed prior to Oconee 1 and Oconee 2 refueling outages and resultant spent fuel discharges scheduled for March 1985 and September 1983, respectively. The combination of the 68 Oconee 3 assemblies and the Oconee 1 and 2 discharges (64 and 72 assemblies, respectively) will totally exhaust the now available full core discharge capacity in the Oconee 1, 2 pool, assuming no transfers to McGuire Nuclear Station.

Full core discharge capability at Duke Power Company has historically been a necessary tool for operation of the Oconee Nuclear Station. More specifically, if an off-load is required in order to replace failed core barrel bolt rings, the upcoming refueling outage for Oconee 2 would be the fifth consecutive refueling outage requiring a complete core off-load at Oconee Nuclear Station.

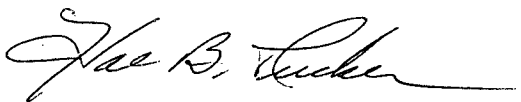
Avoiding a compromise of full core discharge capability will require approximately 190 spent fuel shipments to the McGuire Nuclear Station between now and initiation of reracking operations, a period of about 22 months. While this endeavor would be theoretically achievable due to Duke's approval to ship up to 300 assemblies to McGuire, the physical, economical, and logistical limitations on shipping 190 assemblies over a period of only 22 months make it practically impossible, based on Duke's recent experience with transshipment of spent fuel between Oconee and McGuire. We are continuing to ship spent fuel to McGuire but cannot reasonably accommodate the increased rate required by this alternative.

In summary, performance of the Oconee 3 reracking under a delayed schedule would have adverse safety and economic impacts on Duke Power which are not justified in light of the detailed analyses by Duke which have shown that this reracking

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August 8, 1983  
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does not involve any significant hazards, as submitted on March 10, 1983. This analysis has been reviewed by the NRC Staff and to this date has been concurred with. The safety analysis is virtually complete. Duke urgently requests that the appropriate notice be promptly published in the Federal Register so that the planned rerack of Oconee 3 may begin promptly upon the expiration of the comment period and issuance of the license amendment.

Very truly yours,



Hal B. Tucker

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