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U. S. Nuclear Regulatory Commission
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Subject: Oconee Nuclear Station Unit 3
Docket No. 50-287
Maximum Fuel Rod Cladding Corrosion Prediction -
Oconee Unit 3 Cycle 20

References:

1. Letter from D. LaBarge USNRC to W.R. McCollum, Jr., "Use Of Framatome Cogema Fuels Topical Report On High Burnup – Oconee Nuclear Station, Units 1, 2, and 3 (TAC Nos. MA0405, MA0406, MA0407)," March 1, 1999.
2. BAW-10186P-A, "Extended Burnup Evaluation," January 25, 1999.

In Reference 1, Duke Energy Corporation (Duke) received approval for implementing the methodology outlined in Reference 2 for reload licensing applications at Oconee. This methodology included the following conditions specific to the Mark-B fuel design used at Oconee:

- The methodology is acceptable for Mark-B fuel design up to 62 GWD/MTU rod average burnup.
- The maximum predicted oxide thickness will be 100 microns.
- Up to eight fuel assemblies from different sub-batches in each fuel cycle may have fuel rods with predicted oxide layers greater than 100 microns and will be designated as lead corrosion assemblies.
- The total number of lead test assemblies (lead corrosion assemblies and other lead test assemblies) in any fuel cycle will not exceed twelve.

Note: The 100 micron fuel rod corrosion limit is intended to address the concern of potential ductility reduction and other adverse effects on the cladding integrity for high burnup operations and has been widely used in the industry for fuel rod designs. Typically, these assemblies will be placed in non-limiting core positions but with relative high powers to be able to simulate typical operation conditions and corrosion measurements will be performed after these assemblies are discharged from the core.

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These conditions have been implemented by Duke for all reload cycles designed and operated since approval; however, for the current operating cycle (20) of Oconee Unit 3, Duke has predicted that the 100 micron corrosion limit will be exceeded for four fuel assemblies. Although these four assemblies will be discharged at the next refueling outage, these assemblies will be designated lead corrosion assemblies and once discharged, Duke will perform (actual) corrosion measurements on these assemblies in accordance with the requirements outlined in the Safety Evaluation (Reference 1). Duke is in compliance with the other aforementioned conditions.

This notification is being provided to the staff as a courtesy and there are no safety concerns or actions to be taken as a result of these assemblies exceeding the corrosion limit. Inquiries on this matter should be directed to S.C. Newman at (864) 885-4388.

Very truly yours,

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