



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
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ATLANTA, GEORGIA 30303-8931

November 3, 2004

EA-04-189

Duke Energy Corporation  
ATTN: Mr. D. M. Jamil  
Site Vice President  
Catawba Nuclear Station  
4800 Concord Road  
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION - NRC INSPECTION REPORT  
05000413/2004010 AND 05000414/2004010

Dear Mr. Jamil:

This letter is in reference to an in-office inspection completed by the NRC staff on October 29, 2004, concerning Duke Energy Corporation's (DEC) proposed license amendment request of February 27, 2003. DEC's request, as supplemented by additional letters through October 29, 2004, proposed to revise its Technical Specifications to allow the use of four mixed oxide (MOX) fuel lead test assemblies (LTAs) at the Catawba Nuclear Station, Units 1 and 2. Based on our review of this information, the NRC staff has identified three apparent violations as discussed below. The results of this inspection were discussed with you and your staff on November 1, 2004.

DEC's license amendment request of February 27, 2003, and supplements, were reviewed by the NRC staff and approved as documented in our Safety Evaluation Report (SER) dated April 5, 2004. On April 12, 2004, as a result of NRC review and questioning of DEC representatives, the NRC became aware that the first fuel cycle for Catawba, Unit 1, that is projected to use MOX LTAs will also contain eight LTAs of a Westinghouse Next Generation Fuel (NGF) design. This represented additional information that was not included in the DEC's February 27, 2003, license amendment request or subsequent submittals that supported the SER of April 5. This additional information raised concerns about the completeness and accuracy of the information provided to the NRC staff for review in support of DEC's request to use MOX fuel. To understand the implications of this new information, the NRC staff conducted a public meeting with members of your staff on April 23, 2004, and issued a request for additional information (RAI) on April 30, 2004. This RAI was superseded by a second RAI issued on May 19, 2004. Additionally, the staff conducted an audit of technical information at DEC's General Office in Charlotte, NC, on May 12-14, 2004. The audit was concluded with a public exit meeting on May 14, 2004.

Your response to the staff's RAI was reviewed and considered with the staff's audit findings. The staff's evaluation of the information related to the eight NGF LTAs was documented in a supplement to the SER, which was issued on July 27, 2004. In its SER supplement, the staff concluded that the effect of the eight NGF LTAs on the core had been conservatively evaluated by DEC and that the NGF LTAs would not have any significant effect on the MOX LTAs.

In August 2004, DEC identified a second issue involving the completeness and accuracy of its February 27, 2003, license amendment request and supplements. DEC's letters of August 31, 2004, and September 20, 2004, documented that some of the radiation dose information provided to the NRC in support of the amendment request was based on out-of-date input values for design basis accident doses with low enriched uranium cores. In its correspondence, DEC indicated that the dose information was derived from data listed in Table 15-4 of the Catawba Updated Final Safety Analysis Report (UFSAR). The staff subsequently determined that the out-of-date values were obtained from UFSAR Table 15-14, not Table 15-4. The NRC issued an RAI to DEC on October 7, 2004, to understand the implications of this issue. In its response to the RAI, dated October 29, DEC indicated that the doses in the UFSAR table had not been updated for a period of time. The staff is continuing its review of the RAI response.

Related to the above issue, it also appears that previous license amendment requests and/or cumulative plant changes have affected the dose calculation data contained in UFSAR Table 15-14. As an example, License Amendment No. 151 was issued on August 29, 1996, for Catawba Unit 1, to reflect replacement of the steam generators. The dose calculations for the Locked Rotor and Ejected Rod analyses, as documented in DEC's letter of August 27, 1996, were revised to reflect the latest dose calculations at that time. It appears, however, that such updated dose calculations were not incorporated into periodic updates of the UFSAR as required by 10 CFR 50.71(e).

Based on the above, three apparent violations (AVs) were identified and are being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. The current Enforcement Policy is included on the NRC's Web site at [www.nrc.gov](http://www.nrc.gov); select **What We Do, Enforcement**, then **Enforcement Policy**. The first two AVs involve the requirements of 10 CFR 50.9, and the third AV involves the failure to periodically update the UFSAR as required by 10 CFR 50.71(e). In the first AV, DEC's February 27, 2003, license amendment request and supplements were not complete and accurate, in that the submittals failed to identify that the reactor core would also include eight NGF LTAs as part of the complete core loading of 193 fuel assemblies. In the second AV, DEC's February 27, 2003, submittal and supplements used inaccurate radiation dose information for the proposed reactor core composition. This information was material to the NRC in that, as part of the license amendment review, substantial further inquiry by the NRC was necessary to review the acceptability of the thermal-hydraulic conditions, mechanical design, and radiation doses for the actual intended core composition. The third AV involves DEC's failure to periodically update Table 15-14 of the UFSAR, based on changes that have been made to the facility.

An open, predecisional enforcement conference to discuss these AVs will be scheduled at the NRC's White Flint North office in Rockville, Maryland. The details of this conference will be coordinated with your staff, and the NRC will issue a separate meeting announcement containing additional information on this public meeting. The decision to hold a predecisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference is being held to obtain information to assist the NRC in making an enforcement decision. This may include information to determine whether violations occurred, information to determine the significance of violations, information related to the identification of violations, and information related to any corrective

actions taken or planned. The conference will provide an opportunity for you to provide your perspective on these matters and any other information that you believe the NRC should take into consideration in making an enforcement decision.

You will be advised by separate correspondence of the results of our deliberations on this matter. Also, please be advised that the number and characterization of the apparent violations may change as a result of further NRC review. No response regarding these apparent violations is required at this time.

For administrative purposes, this letter is issued as a separate NRC Inspection Report, No. 05000413/2004010 and 05000414/2004010, and the above apparent violations are identified as follows: AV 05000413,414/2004010-01, Failure to Provide Complete and Accurate Information Involving MOX Amendment Fuel Assemblies; AV 05000413,414/2004010-02, Failure to Provide Complete and Accurate Information Involving MOX Amendment Dose Calculations; and AV 05000413,414/2004010-03, Failure to Update the FSAR Involving Dose Calculations.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room (PDR) or from the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

(Note: Public access to ADAMS has been temporarily suspended so that security reviews of publicly available documents may be performed and potentially sensitive information removed. Please check the NRC Web site for updates on the resumption of ADAMS access.)

Should you have any questions regarding this letter, please contact Carolyn Evans, Region II Enforcement Officer and Regional Counsel, at 404-562-4414, or Rani Franovich, Enforcement Coordinator, Office of Nuclear Reactor Regulation, at 301-415-1868.

Sincerely,

*/RA/*

Victor M. McCree, Director  
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Docket Nos.: 50-413, 50-414  
License Nos.: NPF-35, NPF-52

cc: (see page 4)

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