March 30, 2005

Mr. Ronald A. Jones
Vice President, Oconee Site
Duke Energy Corporation
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING RESPONSE TO BULLETIN 2003-01 - OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 (TAC NOS. MC6288, MC6289, AND MC6290)

Dear Mr. Jones:

By letter dated August 7, 2003, you provided the 60-day response to NRC Bulletin 2003-01, "Potential Impact of Debris Blockage on Emergency Sump Recirculation at Pressurized-Water Reactors," dated June 9, 2003, for Oconee Nuclear Station, Units 1, 2, and 3 (ONS). The NRC staff reviewed your response and issued a closure letter on March 30, 2004 (ADAMS ML040830077), which concluded that your response to the bulletin adequately addressed each of the compensatory measures recommended in the bulletin. As such, the NRC staff did not request additional information and closed the Bulletin 2003-01 for ONS based on the information provided in your response.

Since the time that the NRC staff reviewed your bulletin response, concerns regarding degraded containment coatings, adequate remediation efforts and adequacy of Bulletin 2003-01 interim compensatory measures have been elevated by NRC staff. Based on the information available today, the NRC staff finds it necessary to re-open its review of the your Bulletin 2003-01 response and is now requesting the following additional information:

1) Bulletin 2003-01 requested that licensees either confirm compliance with 10 CFR 50.46 or implement interim compensatory measures to reduce the risks associated with sump blockage until analyses to verify compliance could be completed. Remediation of degraded coatings would serve to reduce the risks associated with sump blockage. Please provide a detailed discussion of the periodic coating assessment that is performed to assure that any coatings that may be susceptible to detachment are minimized. The response should address:

a) The specific methods, standards and associated criteria used to identify, evaluate and schedule the repair or replacement of localized areas of degraded coatings. Include a discussion of how the extent of degraded coating is determined.

b) The technical basis for the methods, standards and criteria and a discussion of how the basis correlates to the coating's performance following the design basis loss-of-coolant accident (LOCA). For example, if adhesion testing is performed, what method or standard is used, what are the acceptable values and how does the basis for these values correlate to the coating system performance during a LOCA event?

c) The definition of “localized area,” and the actions and technical basis for addressing degraded areas that are in excess of a “localized area.”

d) The process and technical basis used for estimating the amount of degraded coating.

e) The trending of identified areas with continuing degradation. If trending is not performed, provide the technical basis for not trending. What is the apparent rate of degradation? How is the trend and rate incorporated into the periodic coating assessment and the determination of the total amount of degraded coating?

f) The definition and methods of coating “repair” and coating “replacement,” including the criteria and technical basis used to ensure that the intended function of the repaired/replaced coating is met.

g) The NRC staff is concerned with the adequacy of high-pressure spray washing (or alternate method of remediating) the containment only at elevations below the 4th floor. Coatings at ONS are degrading and detaching at elevations above the 4th floor elevation. Please provide a detailed discussion of the technical justification for not remediating at elevations above the 4th floor, where the coating degradation/delamination is occurring.

2) By letter dated November 11, 1998, you responded to Generic Letter (GL) 98-04, “Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies and Foreign Material in Containment,” dated July 14, 1998. Your response indicated that the amount of degraded coating inside containment will be minimized, as necessary. Minimizing the amount of degraded coatings inside containment is certainly consistent with the intent of Bulletin 2003-01. In light of the results of past assessments and operating experience with large areas of degraded coating, explain the technical basis for permitting large areas of degraded coating to exist and other areas to continue to degrade. Also, address the technical basis for determining that the remaining coating system can meet its intended design function. Your GL 98-04 response did not take exception to the minimization of delaminated coatings for the dome area in Unit 1. Since you have not been repairing/removing the delaminated paint in the Unit 1 dome area, discuss how you are meeting your commitment to repair/remove delaminated areas as necessary.

3) Explain the technical basis for remediating the coating system by limiting the scraping to only areas that are visibly delaminating. Include the criteria used to determine when a degraded area has been sufficiently remediated by scraping. Also, address the continued use and technical basis of this technique when reports indicate that some coatings contiguous to the scraped areas subsequently begin to delaminate.

4) Your response to GL 98-04 indicates that inaccessible areas exist within the containment.

a) Provide the definition of an inaccessible area related to the coating assessment.

b) Provide a list of all areas considered inaccessible and an approximate area associated with each.

c) If periodic assessment cannot be performed in these areas, provide the technical basis for determining that the coating remains "acceptable" in meeting its original design criteria. Include a discussion of why, given the plant operating history and extensive coating degradation, all of the coating in the "inaccessible" areas is not considered unqualified or unacceptable since its condition cannot be adequately evaluated.

d) Degradation and inadequate remediation of this "inaccessible" coating is not consistent with the intent of Bulletin 2003-01, which is to reduce the risks associated with sump blockage. The NRC staff understands that you now have a device that can access these "inaccessible" areas. If so, provide justification for not minimizing the loose paint in these areas during the earliest possible outages.

5) Has a root cause analysis ever been performed to identify causal factors and recommend corrective action associated with the observed coating degradation? If so, provide a detailed description of the cause and recommended corrective action. Identify any corrective action taken and include a discussion of how the corrective action taken to date ensures that coatings will not adversely impact performance of the containment sump. Also, discuss any plans that constitute a final resolution to the observed coating degradation.

6) Provide the technical basis for considering exposed inorganic zinc resulting from the remediation process, or from degradation of the epoxy topcoat, to be an acceptable coating. Include the following:

a) The criteria and technical basis used to evaluate acceptability of exposed residual inorganic zinc. Also, address the testing performed and technical justification for concluding that the inorganic zinc is acceptable based on its method of application (being exposed after having been originally topcoated).

b) The standards, criteria and technical basis used to evaluate exposed inorganic zinc during subsequent periodic assessment.

c) The technical basis for acceptability in light of the inorganic zinc being a remnant of a failed coating system. The inorganic zinc may be a contributor to failure of the coating system and as such may not remain adhered during a LOCA event. Include a discussion addressing ONS reports that indicate that the remaining inorganic zinc is loose and powdery.

d) The technical basis and criteria used to support applying an epoxy topcoat over the existing inorganic zinc primer that was a component of a failed coating system and subsequently considering the entire coating system acceptable.

e) Describe how failure of the exposed inorganic zinc would impact the performance of the containment emergency sump and how this is incorporated into the total amount of degraded coating.

7) In your response to GL 98-04, you stated, "As localized areas of degraded coatings are identified, those areas are evaluated and scheduled for repair and replacement as necessary." In your August 7, 2003, response to Bulletin 2003-01, you stated that the ONS containments are not compartmentalized. The NRC staff agrees with your response that such a configuration

is beneficial with respect to free flow of inventory to the sump. However, this physical configuration can also lead to more direct and easier transport of debris to the sump. Knowing that coatings are degrading and are most likely scattered around the containment floor, the NRC staff is concerned with the adequacy of your interim compensatory measures. Please discuss the technical basis for concluding that the degraded coatings will not transport and adversely impact the emergency core cooling system sump performance.

Please provide your response within 30 days of the date of this letter. If you have any further questions on this matter, please contact me at 301-415-1419.

Sincerely,

/RA/

Leonard N. Olshan, Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

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

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