

July 10, 2003

Mr. G. R. Peterson
Vice President, Catawba Site
Duke Power Company
4800 Concord Road
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 - ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT RELATED TO
THE EXEMPTION FROM THE REQUIREMENTS OF 10 CFR 50.44,
10 CFR 50.46, AND 10 CFR PART 50, APPENDIX K (TAC NOS. MB6907 AND
MB6908)

Dear Mr. Peterson:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application for exemptions from the requirements of *Title 10 Code of the Federal Regulations* (10 CFR) Part 50, Section 50.44, Section 50.46, and Appendix K. The proposed exemptions would allow the use of eight lead test assemblies containing fuel rods, guide thimble tubes, and instrumentation tubes fabricated with a cladding material that contains a nominally lower tin content than the already approved ZIRLO material. This action is in response to your letter dated December 3, 2002, as supplemented by letter dated April 8, 2003.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Robert E. Martin, Senior Project Manager, Section 1
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos.: 50-413 and 50-414

Enclosure: As stated

cc w/encl: See next page

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DATE	06/03/2003	06/19/03	06/16/03	07/03/03	07/09/03

OFFICIAL RECORD COPY

Catawba Nuclear Station

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Catawba Nuclear Station

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UNITED STATES NUCLEAR REGULATORY COMMISSION
DUKE ENERGY CORPORATION
NORTH CAROLINA ELECTRIC MEMBERSHIP CORPORATION
SALUDA RIVER ELECTRIC COOPERATIVE, INC.
DOCKET NOS. 50-413 AND 50-414
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of exemptions from Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.44, Section 50.46, and Appendix K, for Facility Operating License Nos NPF-35 and NPF-52, issued to Duke Power Company, et al, (the licensee), for operation of the Catawba Nuclear Station (CNS), Units 1 and 2, located in York County, South Carolina. Therefore, pursuant to 10 CFR 51.21, the NRC is issuing this environmental assessment and finding of no significant impact.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would exempt the Catawba Nuclear Station, Units 1 and 2, from the requirements of 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50, Appendix K, to allow the use of eight Lead Test Assemblies (LTAs) fabricated with a cladding material that contains a nominally lower tin content than previously approved cladding materials.

The proposed action is in accordance with the licensee's application dated December 3, 2002, as supplemented by letter dated April 8, 2003.

The Need for the Proposed Action:

As the nuclear industry pursues longer operating cycles with increased fuel discharge burnups and more aggressive fuel management, the corrosion performance specifications for the nuclear fuel cladding become more demanding. Industry data indicates that corrosion resistance improves for cladding with a lower tin content. The optimum tin level provides a reduced corrosion rate while maintaining the benefits of mechanical strengthening and resistance to accelerated corrosion from abnormal chemistry conditions. In addition, fuel rod internal pressures (resulting from the increased fuel duty, use of integral fuel burnable absorbers and corrosion/temperature feedback effects) have become more limiting with respect to fuel rod design criteria. By reducing the associated corrosion buildup, and thus, minimizing temperature feedback effects, additional margin to fuel rod internal pressure design criteria is obtained.

As part of a program to address these issues, the Westinghouse Electric Company has developed an LTA program in cooperation with the licensee that includes a ZIRLO fuel cladding with a tin content lower than the currently licensed range for ZIRLO. The NRC's regulations in 10 CFR 50.44, 10 CFR 50.46 and in 10 CFR Part 50, Appendix K, make no provision for use of fuel rods clad in a material other than Zircalloy or ZIRLO. The licensee has requested the use of an LTA with a tin composition that is less than that specified in the licensing basis for ZIRLO, as defined in Westinghouse design specifications. Therefore, use of the LTA calls for exemptions from 10 CFR 50.44, 10 CFR 50.46 and 10 CFR Part 50, Appendix K. As part of this program, the licensee's current plans are to include eight LTAs in the Catawba Nuclear Station, Unit 1, Cycle 15, core in non-limiting core locations during the refueling outage currently scheduled to begin in the Fall of 2003. The licensee has requested the exemption for both Catawba units, and the staff finds the exemption request for a total of up to eight LTAs to be applicable to either of the Catawba units.

Environmental Impacts of the Proposed Action:

The NRC staff has completed its environmental evaluation of the proposed action and concludes that the proposed exemptions would not increase the probability or consequences of accidents previously analyzed and would not affect facility radiation levels or facility radiological effluents.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released offsite, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not involve any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC staff concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no-action" alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

The action does not involve the use of any different resource than those previously considered in the Final Environmental Impact Statement for the CNS, Units 1 and 2, NUREG-0921 - "Final Environmental Impact Statement Related to the Operation of Catawba Nuclear Station; Units 1 and 2", U.S. Nuclear Regulatory Commission, dated January 1983.

Agencies and Persons Consulted:

On July 9, 2003, the staff consulted with the South Carolina State official, Mr. Henry Porter, of the Department of Health and Environmental Control, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated December 3, 2002, as supplemented by letter dated April 8, 2003. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland, this tenth day of July, 2003 .

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Leonard N. Olshan, Acting Chief, Section I
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

