

January 25, 2001

Mr. Robert H. Bryan, Chairman
Westinghouse Owners Group
Tennessee Valley Authority
1101 Market Street - Mail Stop LP4J
Chattanooga, TN 37402

SUBJECT: ACCEPTANCE REVIEW OF WESTINGHOUSE TOPICAL REPORT, WCAP-15604-NP, REV. 0, "LIMITED SCOPE HIGH BURNUP LEAD TEST ASSEMBLIES" (TAC NO. MB0591)

Dear Mr. Bryan:

We have received your letter dated November 15, 2000, concerning staff review of WCAP-15604-NP, Rev. 0. As you know, the staff met with NEI and the industry on December 6, 2000, to discuss the subject report and to express the NRC staff's concerns related to the report. At the conclusion of the meeting, it was agreed that the staff would provide written comments concerning the report and that the industry would then determine whether it could address the comments and also notify the NRC of the schedule.

The staff comments and questions are enclosed. We consider this our acceptance review of the topical report and anticipate that there will be additional requests for information, if the industry wishes to have the review continued.

As requested in NEI's letter of November 21, 2000, those individuals identified in the enclosure to that letter are included in our distribution of this letter and will be included in any future distribution of correspondence related to the review and approval of the topical report.

If you have any questions regarding this matter, you can contact either the technical reviewer, Margaret Chatterton at 301-415-2889 or myself at 301-415-1396.

Sincerely,

/RA/

L. Raynard Wharton, Project Manager, Section 2
Project Directorate IV & Decommissioning
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Project No. 694

Enclosure: Comments

cc w/encl: See next page

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Westinghouse Owners Group

Project No. 694

cc:

Mr. H. A. Sepp, Manager
Regulatory and Licensing Engineering
Westinghouse Electric Corporation
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. Andrew Drake, Project Manager
Westinghouse Owners Group
Westinghouse Electric Corporation
Mail Stop ECE 5-16
P.O. Box 355
Pittsburgh, PA 15230-0355

Mr. David J. Modeen
Nuclear Energy Institute
1776 I Street, NW
Washington, DC 20006

Mr. Jerald S. Holm
Siemens Power Corporation
2101 Horn Rapids road
Richland, WA 99352

Dr. Odelli Ozer
EPRI
P.O. Box 10412
Palo Alto, CA 94304

Mr. John Willse
Framatome Technologies
3315 Old Forest Road
Lynchburg, VA 24501

Mr. Robert A. Rand
General Electric/GNF
Mail code F25
Castle Hayne Road
Wilmington, NC 28401

Dr. Rosa Yang
EPRI
P.O. Box 10412
Palo Alto, CA 94304

NRC STAFF'S COMMENTS

TOPICAL REPORT WCAP-15604-NP, REV. 0, "LIMITED SCOPE HIGH BURNUP LEAD TEST ASSEMBLIES"

General Comments

Several areas/items of concern are repeated throughout the report. They are described generally followed by specific comments.

1. Maximum number of lead test assemblies (LTAs) allowed: The numbers proposed are too large and justification for the numbers proposed is not provided. For PWRs, eight might be a reasonable number provided adequate justification is provided. For BWRs, similar justification and maximum number needs to be provided. The subject of additional LTAs (traditional LTAs or LTAs for another purpose) in the core should also be addressed.
2. Pre-characterization of the LTAs: If fuel is to be operated above the current licensed limit, it must be characterized before irradiation above that limit. The amount and type of pre-characterization should be described as well as why the proposed amount is adequate.
3. Post irradiation examinations of the LTAs: The description of the post-irradiation program should include a minimum set of examinations that will be performed and justification for why this set is adequate, as well as details for deciding which types of LTAs require additional testing. In addition, the type of LTAs and/or examination results that trigger hot-cell examinations should be stated.
4. Reporting: The intent to irradiate LTAs and the results of post irradiation examinations (PIEs) need to be reported to the NRC. A reporting templet would serve as a model for each of these reports. The schedule for these reports should be specified. The specific purpose for the LTAs should be part of the initial report.
5. Safety Assessment: Analytical models used to evaluate the LTAs will likely need to be used beyond the currently approved limits for the models. Justification for use of these models beyond approval limits needs to be provided.

Executive Summary

1. 2nd bullet - "data from post irradiation examinations (PIEs)..." This statement needs to state that data will be reported to the NRC.
2. 3rd bullet - First sentence needs to be modified to state that fuel will be characterized before operation above the current licensed rod average burnup.
3. 4th bullet - The maximum number of allowed LTAs stated is too large.

4. Page 3, 2nd paragraph - Pre-characterization oxide thickness should be limited. No pre-irradiation spallation or blistering should be allowed.
5. Page 4, 4th paragraph - More explanation is required for removal of any conservatism, as well as why additional uncertainty is not needed if additional uncertainty is not incorporated.
6. Page 5 - See general comments on pre-characterization.
7. Page 6 - See general comments on PIE.
8. Page 8, 3rd paragraph - See comment above on removing conservatism.
9. Page 9 - Some parameter limits, like oxide thickness, will apply to all fuel. These should be stated, as well as why others do not apply to all fuel.
10. Pages 11 and 12, Sections 3.5.3 and 4.1 - These sections need to be expanded and updated to include recent work and discussions on burnup extension.