

**RESOLUTION OF COMMENTS ON DRAFT SAFETY EVALUATION FOR**  
**TOPICAL REPORT WCAP-15942-P-A/WCAP-15492-NP-A, SUPPLEMENT 1, REVISION 1,**  
**“MATERIAL CHANGES FOR SVEA-96 OPTIMA2 FUEL ASSEMBLIES”**

**WESTINGHOUSE ELECTRIC COMPANY**

By letter dated June 24, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19177A371), Westinghouse Electric Company (Westinghouse) provided comments on the draft safety evaluation (SE) for Topical Report (TR) WCAP-15492-P-A/WCAP-15942-NP-A, Supplement 1, Revision 1, “Material Changes for SVEA-96 Optima2 Fuel Assemblies.” Westinghouse stated that there is proprietary information in the draft SE. The following is the U.S. Nuclear Regulatory Commission (NRC) staff’s resolution of these comments:

Draft SE comments for TR WCAP-15942-P-A/WCAP-15492-NP-A, Supplement 1, Revision 1:

1. Westinghouse indicated that the word “flux” in the first sentence of the second paragraph of subsection “Growth and Bow” of Section 3.3, “Material Properties of Low Tin ZIRLO,” should be replaced with word “fluence.”

NRC Resolution for Comment 1 on Draft SE

The NRC staff has reviewed the Westinghouse comment and agrees with the comment. The NRC staff has updated first sentence of the second paragraph of subsection “Growth and Bow” of Section 3.3, “Material Properties of Low Tin ZIRLO.”

First sentence of the second paragraph of subsection “Growth and Bow” of Section 3.3, “Material Properties of Low Tin ZIRLO,” reads now:

Bow is primarily controlled by growth and the differential neutron fluence on the sides of the channel next to a control blade and away from a control blade.

2. First sentence of the first paragraph of subsection “Methodology for Creep Deformation” of Section 3.5.1, “Compatibility with Other Fuel types and Reactor Internals,” reads in the draft SE: “Westinghouse states that it will apply its generic cladding creep model for either Zircaloy-2 or channels.”

Westinghouse suggested that “Low Tin ZIRLO” should be added after “or” in that sentence.

NRC Resolution for Comment 2 on Draft SE

The NRC staff has reviewed the Westinghouse comment and agrees that proposed wording provides additional clarification. The NRC staff has updated the first sentence of the first paragraph of subsection “Methodology for Creep Deformation” of Section 3.5.1, “Compatibility with Other Fuel types and Reactor Internals.”

First sentence of the first paragraph of subsection "Methodology for Creep Deformation" of Section 3.5.1, "Compatibility with Other Fuel types and Reactor Internals," reads now: "Westinghouse states that it will apply its generic cladding creep model for either Zircaloy-2 or Low Tin ZIRLO channels."

3. Third sentence of the first paragraph of subsection "Sample Application for Channel Bow" of Section 3.5.1, "Compatibility with Other Fuel types and Reactor Internals," reads: "Differential growth is caused by lower neutron flux on the channel side adjacent to the control blade relative to the opposite side where no control blade is present."

Westinghouse suggested that word "flux" should be replaced with "fluence and [ ]."

#### NRC Resolution for Comment 3 on Draft SE

The NRC staff has reviewed the Westinghouse comment and agrees that proposed wording provides additional clarification. The NRC staff has updated third sentence of the first paragraph of subsection "Sample Application for Channel Bow" of Section 3.5.1, "Compatibility with Other Fuel types and Reactor Internals."

Third sentence of the first paragraph of subsection "Sample Application for Channel Bow" of Section 3.5.1, "Compatibility with Other Fuel types and Reactor Internals," reads now:

Differential growth is caused by lower neutron fluence and [ ] on the channel side adjacent to the control blade relative to the opposite side where no control blade is present.

4. Second paragraph of Section 3.5.8, "Corrosion of Assembly Components," reads:

The only areas that are impacted by the introduction of these new materials are the Zircaloy-2 end plugs and the Low Tin ZIRLO fuel channels.

Westinghouse suggested that "spacer capture heads" should be added after "end plugs," in that sentence.

#### NRC Resolution for Comment 4 on Draft SE

The NRC staff has reviewed the Westinghouse comment and agrees that proposed wording provides additional clarification. The NRC staff has updated the second paragraph of Section 3.5.8, "Corrosion of Assembly Components."

Second paragraph of Section 3.5.8, "Corrosion of Assembly Components." reads now:

The only areas that are impacted by the introduction of these new materials are the Zircaloy-2 end plugs, spacer capture heads, and the Low Tin ZIRLO fuel channels.

5. Westinghouse provided proprietary markings on the draft SE.

NRC Resolution for Comment 5 on Draft SE:

The NRC staff reviewed the Westinghouse markings and incorporated them into the final SE.

6. Westinghouse provided editorial comments.

NRC Resolution for Comment 6 on Draft SE:

The NRC staff reviewed the Westinghouse comments and finds them acceptable because the changes are editorial in nature.