

January 14, 2014

Mr. Thomas Ray, Manager
U.S. Licensing and Regulatory Support
Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

SUBJECT: ACCEPTANCE FOR REVIEW OF WESTINGHOUSE'S TOPICAL REPORT,
"EXTRA SAFETY AND MONITORING SINGLE FAILURE PROOF CRANES,"
REVISION 5

Dear Mr. Ray:

By letter dated September 26, 2013, Westinghouse Electric Company (WEC) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review, topical report (TR) EDR-1, Revision 5, "eXtra Safety and Monitoring (X-SAM) Single Failure Proof Cranes. Staff has performed an acceptance review of the TR and found that except for the issues identified below, the material presented provides the technical information in sufficient detail to enable the staff to complete a detailed technical review. The key issues identified by the staff as having potential schedule impact are:

- TR does not clearly address the use of current NRC guidance for safety-related, single failure proof cranes. Instead, the TR focuses on demonstrating compliance with RG 1.104 criteria, which was withdrawn and replaced by NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants." The current AP1000 combined license (COL) applicants do not reference nor commit to use of RG 1.104 criteria. This complicates the review in order to determine whether pertinent guidance of NUREG-0554, NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants: Resolution of Generic Technical Activity A-36," and NOG-1, "Rules for Construction of Overhead and Gantry Cranes" have been addressed for the single failure proof design for use in new nuclear power plants. The staff expects that requests for additional information (RAIs) will be needed to develop a full understanding.
- The TR does not clearly address the basis regarding how NOG-1 supplements the single failure proof design. Design Control Document (DCD) Section 9.1.5.2 states, "The polar crane and cask handling crane are designed according to the requirements of NUREG-0554 supplemented by ASME NOG-1 for a Type I, single-failure-proof crane..." The staff expects additional information will be necessary to determine the extent of the American Society of Mechanical Engineers (ASME) NOG-1 requirements applied.

- TR specifies, "Typical design data is provided for cranes and hoists of the reference design that range in capacity from 10 Tons to 250 Tons." Table III.F.I of TR further defines the typical cask handling and polar cranes having capacities of 130 ton and 250 tons, respectively. With the current Westinghouse DCD design capacities exceeding these values, additional analysis may be necessary to justify the applicability of the TR to larger crane capacity designs.

WEC is requesting review and approval of the TR EDR-I, Revision 5 document with the X-SAM hoisting system for use in a wide variety of applications in new facilities. These include cask handling cranes, containment building polar cranes, and auxiliary and compact hoists for use when the critical loads are smaller than casks and reactor vessel heads. The TR EDR-1, being generic in nature, will be applied to all types of nuclear facilities, including new construction, requiring "single-failure-proof" overhead handling equipment.

The staff has developed a schedule that will support issuance of an advance safety evaluation by December 2014. This schedule relies on WEC being able to address the key issue stated above and any other issues identified during the review process in a timely manner. The estimates for the review will require approximately 800 staff hours, including project management time, in the Office of New Reactors and approximately 350 staff hours, including project management time, in the Office of Nuclear Reactor Regulation.

The above schedule for completion of staff's review and issuance of its safety evaluation assumes:

- One round of RAIs
- Westinghouse's response to RAIs within 60 days
- No interaction with Advisory Committee on Reactor Safeguards

Section 170.21 of Title 10 of the *Code of Federal Regulations* requires that TRs are subject to fees based on the full cost of the review. You did not request a fee waiver; therefore, NRC staff hours will be billed accordingly.

If you have any questions, please contact the Project Manager, Bruce Bovol at (301) 415-6715 or Bruce.Bovol@nrc.gov.

Sincerely,

/RA/

Lawrence J. Burkhart, Chief
Licensing Branch 4
Division of New Reactor Licensing
Office of New Reactors

Project No. 0801

cc: See next page

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The above schedule for completion of staff's review and issuance of its safety evaluation assumes:

- One round of RAls
- Westinghouse's response to RAls within 60 days
- No interaction with Advisory Committee on Reactor Safeguards

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If you have any questions, please contact the Project Manager, Bruce Bavol at (301) 415-6715 or Bruce.Bavol@nrc.gov.

Sincerely,

/RA/

Lawrence J. Burkhart, Chief
Licensing Branch 4
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Office of New Reactors

Project No. 0801

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