December 12, 2002

ORGANIZATION: WESTINGHOUSE ELECTRIC COMPANY

SUBJECT: SUMMARY OF OCTOBER 3, 2002, MEETING WITH WESTINGHOUSE ELECTRIC COMPANY REGARDING THE INTERNATIONAL REACTOR INNOVATIVE AND SECURE (IRIS)

The Nuclear Regulatory Commission (NRC) held a public meeting with Westinghouse Electric Company (Westinghouse) on October 3, 2002, at NRC Headquarters to discuss the pre-application review issues related to the IRIS modular light water reactor design. A list of attendees is provided as Enclosure 1. Enclosure 2 contains the agenda for the meeting.

Westinghouse provided handouts during the meeting which can be accessed through the Agencywide Documents Access and Management System (ADAMS). The system provides text and image files of NRC's publicly available documents. The handouts mentioned above may be accessed through the ADAMS system under Accession No. ML022810493. If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Pre-application Overview

During the meeting Westinghouse discussed the issues related to the pre-application review including the following: pre-application objectives, the design overview, the safety approach, the licensing approach, and the status of the IRIS testing program. Westinghouse explained that the IRIS design will rely heavily on AP600/AP1000 precedents and early NRC feedback during the pre-application review will be beneficial in addressing long lead items and new licensing issues.

Westinghouse stated that the first phase of the pre-application is targeted for completion by the middle of 2003 and the second phase will continue from 2003 to early 2005 which will begin the formal application phase. Westinghouse described their pre-application objectives for the IRIS design as follows: (1) to identify technical issues associated with the proposed test program for the IRIS design; (2) to define the approach for preparing a risk-informed application; (3) to develop scope, schedule, and budget for work associated with the IRIS design; and (4) to develop a design certification schedule for the formal application phase which is targeted for 2008.

Design Overview

Westinghouse provided an overview of the IRIS design and emphasized changes that have been made to the design since the last public meeting on IRIS (documented in meeting summary dated May 11, 2002, ADAMS Accession No. ML011310423). The evolution of the IRIS design includes a larger vessel diameter with 1000 MWt core, improved core performance,

low pressure drop design, extended fuel cycle, less than five percent fuel enrichment, helical coil steam generator, and passive cooling of containment through a coupled arrangement.

Safety Approach

Westinghouse explained that their safety design approach for IRIS includes eliminating the possibility of accidents, decreasing the probability of occurrence of accident scenarios, and mitigating the consequences of an accident. The IRIS "safety by design" approach utilizes an integral vessel configuration with no large diameter external primary piping, has a high degree of natural circulation, and maintains a large water inventory inside the vessel to both slow transient evolutions, and keep the core covered during accident conditions. According to Westinghouse, the IRIS concept utilizes pressurized water reactor technology arranged in a design configuration that allows for passive accident decay heat core cooling. Additional IRIS design information and safety characteristics are provided in the meeting handouts.

Licensing Approach

Westinghouse stated that IRIS is specifically designed to meet current licensing requirements because the IRIS design is based on proven light water reactor technology. Westinghouse intends to review and determine the applicability of current regulations to the IRIS design and establish a high level design and safety criteria. Westinghouse indicated that they will prepare a preliminary risk assessment to help resolve safety related defense-in-depth issues with NRC staff. Westinghouse requested that the staff provide recommendations on which NRC guidance is best to use for testing.

IRIS Test Program

There was general discussion of the testing and analysis that will be performed. Westinghouse plans to develop a complete set of evaluation models for IRIS according to the evaluation model development and assessment procedure. Westinghouse has started work on the phenomena identification and ranking activity (PIRT) using the AP1000 design as a basis. Westinghouse announced that they will perform testing where data does not exist and will rely on existing test data (i.e., AP600) where possible. A list of test facilities is provided in the handouts (ADAMS Accession No. ML022810493).

NRC Comments

The NRC technical staff emphasized that more technical data needs to be submitted on the IRIS design and hardware. NRC suggested that Westinghouse consider addressing policy issues that may require rulemaking before the identification of technical issues. Specifically, NRC suggested that the details on parts of the design that are new and different from NRC-approved designs, be presented at an early stage. NRC technical staff informed Westinghouse that they should consider what types of modeling codes they will submit for NRC review. Westinghouse was informed that any new codes will have to be reviewed and approved by the staff; and therefore, valid code justification and methodology should be submitted. It was suggested that all plant models should show the behavior of the plant. In response to NRC questions regarding the seismic testing and analysis, Westinghouse stated that no seismic tests have been performed to-date. NRC encouraged Westinghouse to present graphs and technical papers showing the differences between IRIS and other designs.

Final Comments

In conclusion, Westinghouse stated that they will request the next meeting after the submittal of a detailed plant description document, a safety assessment, a PIRT analysis, and a technical report showing how the design meets current SRP requirements. Westinghouse's primary interest at this time is to interact with NRC staff on areas where early feedback from NRC would be most beneficial.

/RA/

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Enclosures: As stated

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PUBLIC MEETING WITH WESTINGHOUSE ELECTRIC COMPANY

OCTOBER 3, 2002

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