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STD-ES-03-31

August 12, 2003

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC. 20555-0001
ATTENTION: MS. L. C. FIELDS

Dear Ms. Fields:

SUBJECT: REQUEST FOR IRIS NEAR TERM REVIEW AND BUDGET ESTIMATE

SUMMARY

We appreciated the opportunity to meet with you, Joe Williams and Jerry Wilson on August 6, 2003 to discuss our expectations for near term staff review of the submitted IRIS topical. The purpose of the near term review will be to provide informal staff feedback that will be very useful in our preparation of the various documents related to the IRIS planned test program. NRC-Westinghouse concurrence on this test program is one of the two objectives of the pre-application.

We expect the majority of this feedback will be provided by an informal meeting with the staff, after they have reviewed the following:

1. Sections 1 and 2 of WCAP-16103-P to provide comments regarding the system decomposition (i.e., completeness of the identification of phenomena, constituents and interfaces). We do not request a review of Section 3, except for the adequacy of its approach.
2. WCAP-16082-P Vol. I and II to provide comments regarding: 1) the IRIS principle of safety-by-design; 2) adequacy of the identified event sequences (i.e. is additional information required?), 3) adequacy of consideration of IRIS unique sequences (i.e. have all unique sequences been accounted for or are there additional ones to be considered?); and 4) issues bearing on identification of IRIS specific test requirements.

BACKGROUND

To date the following four sets of IRIS documents have been submitted to the NRC:

1. Eleven IRIS overview papers
2. WCAP-16062-P, "IRIS Plant Description Document"
3. WCAP-16103-P, "IRIS Scaling Analysis, Part I"
4. WCAP-16082-P, "IRIS Preliminary Safety Assessment, Vol. I"

The eleven overview papers include information on IRIS overall approach and philosophy, design status, and systems and components design. They provide a general overview, the basic principles of design, safety analysis, and computational methods. These papers are only intended to provide background information for the current pre-licensing effort.

WCAP-16062-P provides a detailed overview of the IRIS design. It is only intended to provide background information for the current review effort. The information in the topical focuses on IRIS specific characteristics, addressing only cursorily or not at all what we expect will be very similar to AP600/AP1000. While this should not affect the current review, we are ready to provide additional information, if in the staff judgement, the topical and overview papers do not provide sufficient design information for the scope of this pre-application.

WCAP-16103-P provides a detailed overview of the first two stages of the IRIS Scaling Analysis, Stage 1 (System Decomposition) and Stage 2 (Scale Identification) of the Hierarchical, Two-Tiered Scaling Analysis. Westinghouse is requesting staff review of Section 1.0 "Scaling methodology – Introduction to Hierarchical, Two-Tiered Scaling Analysis" and Section 2.0 "Stage 1 – System Decomposition" of this topical to provide comments regarding the decomposition and physical approach of this scaling analysis.

WCAP-16082-P provides a preliminary safety assessment of the IRIS reactor and includes an overview of the IRIS approach to safety. Volume I includes both an overview of the IRIS approach to safety and analyses for the following transient categories:

- Increase In Heat Removal From The Primary System
- Decrease In Heat Removal By The Secondary System
- Decrease In Reactor Coolant System Flow

By the end of September we will also submit WCAP-16082-P, "IRIS Preliminary Safety Assessment, Vol. II." This volume will include analyses for the following transient categories:

- Reactivity And Power Distribution Anomalies
- Increase In Reactor Coolant Inventory
- Decrease In Reactor Coolant Inventory
- Radioactive Release From A Subsystem Or Component
- Anticipated Transients Without Scram

The events analysed in these topical are a subset of those studied for AP1000 and AP600, and have been selected (1) to address those events where IRIS response is different from AP1000, and (2) to provide an initial overview of the IRIS response to different anticipated operational occurrences and design basis events.

REQUESTED NEAR TERM REVIEW

The purpose of the near term review will be to provide staff feedback that we will use in generating the set of documents which will define the IRIS planned test program.

We request that the majority of this feedback be provided via an informal meeting (to be held in the October-November time period) with the staff, after they have reviewed the information identified above.

In addition, for budgeting reasons we are also requesting an estimate of the costs for this near term review (documents review, informal meeting, limited follow-on to the meeting).

ESTIMATED IRIS LICENSING PROCESS/SCHEDULE

At your request the we are also providing our best estimate of the IRIS licensing process/schedule. First we must note that this process/schedule should not adversely impact the AP1000 design certification. Also the schedule discussed below is our current best estimate and may change due to the timing of NRC review feedback and changing priorities at Westinghouse.

As we have previously stated, the objectives of the IRIS pre-licensing application are currently limited to a critical assessment of 1) the planned test program and 2) the application of risk informed regulations.

Subsequent to receiving the staff feedback discussed above, we will prepare topical reports describing the IRIS planned test program, including detailed information on the IRIS PIRT used to justify the test program. These topical will be submitted by March 2004. We will request formal NRC review and documented feedback on these topical. This feedback should be completed by mid-2004, and we are looking to an agreement on the adequacy of the IRIS test program, prior to its inception.

Early in 2005, we will submit a topical report describing the anticipated application of risk informed regulations to the IRIS licensing process. One of our major applications will be to justify the reduction of the emergency planning zone to the exclusion area of the IRIS plant. We will request formal NRC review and documented feedback on this topical. This feedback should be complete by mid-2005, prior to our initiation of a formal pre-licensing process.

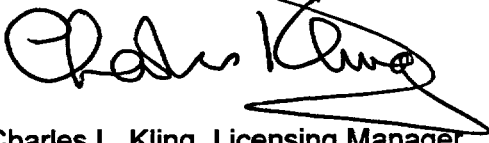
Following completion of the AP1000 design certification, currently scheduled for late 2005, we would expect another round of pre-licensing submittals/reviews in the process of generating the information required to docket the IRIS design and start formal design certification.

In the long term, our goal is to have the first IRIS module deployed in the 2012-2015 timeframe. To meet this goal we need to start IRIS specific testing by the end of 2004 and to begin the formal design certification process in 2006.

In addition to submitting these topical on schedule, we expect 1) to respond to any informal questions, meeting requests, RAIs, etc. in a timely fashion and 2) to have periodic meetings with the staff to discuss the review progress.

Please contact me (860) 731-6604 or Mario Carelli (412) 256-1042 if you need any clarification or more information regarding this request.

Regards,

A handwritten signature in black ink, appearing to read "Charles L. Kling". The signature is stylized with a large, sweeping "C" and a long, horizontal stroke at the end.

Charles L. Kling, Licensing Manager
IRIS Project

cc: M. D. Carelli (W)
R. A. Matzie (0428, Windsor)
J. E. Goossen (401 2x27A)
C. B. Brinkman (W)