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U.S. Nuclear Regulatory Commission
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Your ref: Docket No. 52-006
Our ref: DCP_NRC_002839

March 26, 2010

Subject: Revised RAI Response to RAI-SRP15.0-SRSB-03

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 15. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in this response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

Westinghouse requests the NRC withdraw the response to RAI-SRP15.0-SRSB-03 Rev. 0, transmitted June 30, 2009 via letter DCP_NRC_002544 and replace it with the attached revision. This revision is necessary to identify a need for operator action when addressing an inadvertent actuation of the core makeup tank in accordance with Section 15.5.1.

It should be noted that this new RAI response will require a revision to the current page 15-13 of the current SER for Chapter 15. This page will need to be revised to reflect the conclusions of the new information.

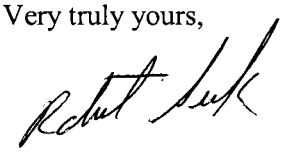
Enclosure 1 provides the response for the following RAI(s):

RAI-SRP15.0-SRSB-03 R1

Questions or requests for additional information related to the content and preparation of this response should be directed to Westinghouse. Please send copies of such questions or requests to the prospective applicants for combined licenses referencing the AP1000 Design Certification. A representative for each applicant is included on the cc: list of this letter.

D063
NRO

Very truly yours,



Robert Sisk, Manager
Licensing and Customer Interface
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/Enclosure

1. Response to Request for Additional Information on SRP Section 15

cc:	D. Jaffe	-	U.S. NRC	1E
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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 15

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP15.0-SRSB-03
Revision: 1

Question:

In Revision 17 of DCD section 15.0.12.1, the following statement in the existing DCD regarding active failure is deleted:

"A single incorrect or omitted operator action in response to an initiating event is also considered as an active failure. The error is limited to manipulation of safety-related equipment and does not include thought process errors or similar error that could potentially lead to common cause or multiple errors."

Confirm that no operator action is credited in the safety analyses of all the design basis transients and accidents in Chapter 15. For the events which are identified as having taken credit of operation action, provide justification for not considering an operator response error as an active failure in the safety analyses.

Westinghouse Response:

(As the Revision 0 of this RAI response is removed from the NRC docket with this Revision 1 RAI response transmittal letter, the previous version text is not included here)

With the exception of the Safety Analysis provided in DCD Section 15.6.2, no explicit operator actions are presented in DCD Chapter 15. The small line break outside containment event presented in DCD Section 15.6.2 assumes isolation at 30 minutes after the start of the event.

DCD Section 15.5.1, Inadvertent Actuation of a Core Makeup Tank event, presents a case that is more limiting than cases where operator actions are assumed to occur 60 minutes after reactor trip. For both of these events, the referenced scenarios that include operator action assume that the operators have recognized that a pressurizer filling event is occurring, and that they are ready to take corrective action within the specified time period. Numerous indications and alarms are available to indicate to the operators that an inventory increase event is occurring, including the high-2 pressurizer level CVS Makeup Line Isolation signal, and the high-3 pressurizer level reactor trip signal. For the cases where operator action is modeled, the operator is assumed to open the safety grade reactor vessel head vent. No active failure is assumed for this operator action. For both of these events the operator action time is as long or longer then what is typically assumed in the design-basis analysis of RCS Inventory Increase Events for operating plants.

The Chemical and Volume Control System Malfunction that Results in a Decrease in the Boron Concentration in the Reactor Coolant analysis for Mode 1 operation with automatic rod control (DCD Section 15.4.6) demonstrates that there is sufficient time for the operator to identify that a

dilution is occurring, and terminate it. The operator has at least 328 minutes from the rod insertion limit low-low alarm until the required shutdown margin is lost. There are numerous alarms to indicate to the operator that a boron dilution event is occurring, including the rod insertion limit- low level alarm, rod insertion limit – low-low level alarm and the axial flux difference alarm (AI outside of the target band). The operator action times and actions associated with this event are consistent with what is currently assumed for operating plants design-basis analysis of Boron Dilution Events.

Design Control Document (DCD) Revision:
None

PRA Revision:
None

Technical Report (TR) Revision:
None