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Your ref: Docket No. 52-006
Our ref: DCP/NRC2278

October 17, 2008

Subject: AP1000 Response to Request for Additional Information (SRP8.3)

Westinghouse is submitting a response to the NRC request for additional information (RAI) on SRP Section 8.3. This RAI response is submitted in support of the AP1000 Design Certification Amendment Application (Docket No. 52-006). The information included in the response is generic and is expected to apply to all COL applications referencing the AP1000 Design Certification and the AP1000 Design Certification Amendment Application.

A revised response is provided for RAI-SRP8.3-EEB-01 as agreed upon in a teleconference between Billy Gleaves and Sam Adams on September 23, 2008. This response completes all requests received to date for SRP Section 8.3. A response for RAI-SRP8.3-EEB-01 through -05 was submitted under letter DCP/NRC2223 dated August 15, 2008.

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.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Robert Sisk'.

Robert Sisk, Manager
Licensing and Customer Interface
Regulatory Affairs and Standardization

/Enclosure

1. Response to Request for Additional Information on SRP Section 8.3

cc:	D. Jaffe	- U.S. NRC	1E
	E. McKenna	- U.S. NRC	1E
	B. Gleaves	- U.S. NRC	1E
	P. Ray	- TVA	1E
	P. Hastings	- Duke Power	1E
	R. Kitchen	- Progress Energy	1E
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	G. Zinke	- NuStart/Entergy	1E
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ENCLOSURE 1

Response to Request for Additional Information on SRP Section 8.3

AP1000 TECHNICAL REPORT REVIEW

Response to Request For Additional Information (RAI)

RAI Response Number: RAI-SRP8.3-EEB-01

Revision: 1

Question:

Regarding the following statement in TR79: "The calculated value of short circuit current which represents the DCD defined and calculation supported source equipment sizes (UAT and RAT at 70MVA), and with an impedance value low enough to allow for the starting of the largest pump is well in excess of 50KA (about 58KA conservatively)." Rewrite the sentence as per our phone discussion. Provide justification for this change as to why the interrupting rating changed from 40kA to 63kA. Does this change the onsite distribution system analysis?

Supplemental request from teleconference on 9/23/08:

Revise the response to RAI-SRP8.3-EEB-01 to include the following:

- 1) clarification of the x-y contribution in the secondary winding.
- 2) clarify that the final analysis will include the x-y contributions.

Westinghouse Response:

The onsite distribution system analysis supports the described engineering values. The value change from 40kA to 63 kA is based on a computation of short circuit current from an infinite source upstream of a UAT/ RAT, neglecting the minimal contribution between the X-Y secondary windings of the transformer. Additionally, a conservative assumption of a 100% motor load on a 100% loaded transformer winding using a 6.5 multiplier for motor short circuit contribution was considered. This value was computed while establishing a transformer impedance low enough to allow for starting of the single largest motor. the assumption of infinite impedance between the secondary windings of the UAT/ RAT, a 100% motor contribution from the plant and a 6.5 multiplying factor on motor currents. This computation demonstrates that 40kA is inadequate and that 63kA is bounding given the UAT/ RAT size (defined in the DCD) and the expected largest motor size driving the allowed impedance of the UAT/ RAT transformers. These values will be confirmed with final design calculations. The final design calculations will model and account for the contribution between the X-Y winding and will also more exactly model the final loads and credit short circuit losses through cables, etc.

Design Control Document (DCD) Revision:

None

PRA Revision:

None

Technical Report (TR) Revision:

None