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RESOLUTION OF NUCLEAR INNOVATION NORTH AMERICA (NINA) AND
WESTINGHOUSE COMMENTS ON DRAFT SAFETY EVALUATION FOR TOPICAL REPORT
WCAP-17079-P FOR ABWR “SUPPLEMENT 3 TO BISON TOPICAL REPORT RPA 90-90-A
SAFIR CONTROL SYSTEM SIMULATOR”
WESTINGHOUSE ELECTRIC COMPANY PROJECT NUMBER 772

By letter dated April 11, 2012 (ADAMS #ML12107A121), NINA and Westinghouse provided 73 comments on the draft Safety Evaluation (SE) for Topical Report (TR) WCAP-17079-P for ABWR, “Supplement 3 to BISON Topical Report RPA 90-90-A SAFIR Control System Simulator.” Some information in the draft SER for this TR was identified by the applicant as proprietary and will be marked with brackets “[]” accordingly and the bracketed material will be removed from the public version of this SE.

Draft SE comments for TR WCAP-17079-P:

1. On page 2, paragraph 1, line 1, Westinghouse requests that “ofCENPD-300-P-A” be changed to “of CENPD-300-P-A”. NRC staff agreed and made the requested change.
2. On page 3, paragraph 4, line 4, Westinghouse specified that the date of the audit held was on July 30 and not July 29. NRC staff indicated that July 29 was the correct date. No change was made.
3. On page 2, paragraph 8, line 3, and page 3, paragraph 1, line 2, Westinghouse requests that the reference to ERI’s technical evaluation report (TER) (Ref. 8) be removed from the SER including the Reference list on page 13 or make the TER available for Westinghouse proprietary review. NRC staff agreed with the applicant and these references were removed.
4. On page 3, paragraph 8, line 4, Westinghouse requests that “[]”, be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
5. On page 4, paragraph 1, line 1, and paragraph 2, line 1, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
6. On page 5, paragraph 2, line 3, “Section 0” is referenced. NRC agreed with the error and changed it to “Section 2.4.5” accordingly.
7. On page 4, paragraph 7, line 3, Westinghouse requests that the period is removed from “Appendix B”. NRC agreed and made the change accordingly.
8. On page 6, paragraph 6, line 4, “Section 0” is referenced. NRC agreed with the error and changed it to “Section 2.6” accordingly.
9. On page 7, paragraph 1, line 3 and 4 Westinghouse proposes changing: “...to confirm that adequacy of the model.” to: “...to confirm the adequacy of the model.” NRC agreed and made the change accordingly.

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10. On page 7, paragraph 3, line 2, “Section 0” is referenced. NRC agreed with the error and changed it to “Section 2.4.5” accordingly.
11. On page 8, paragraph 2, line 3, Westinghouse requests the “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
12. On page 8, Section 2.4.3 header, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER. However, for clarity NRC added “Swedish BWR” to the header of this section.
13. On page 8, paragraph 7, lines 1 and 9, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
14. On page 9, paragraph 1, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
15. On page 10, paragraph 4, line 2, Westinghouse proposes changing “(Ref. 6)” to “(Ref. 6)”. NRC agreed and made the change accordingly.
16. On page 10, paragraph 7, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
17. On page 10, paragraph 9, line 2-4, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
18. On page 11, paragraph 1, line 1, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
19. On page 11, Westinghouse requests that the following bullets be identified as proprietary:

- “[]”
- “[]”
- “[]”

The NRC staff agreed and these items were removed from the public version of the SER.

20. On page 11, paragraph 4, lines 2-3, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.

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21. On page 12, Section 3.0 header, Westinghouse proposes changing “Limitations” to “Limitations.” NRC agreed and made the change accordingly.
22. On page 12, Condition and Limitation 1, Westinghouse proposed changing: “Approval of SAFIR is limited to use in combination with NRC-approved BISON as described in the response to RAI 42, Revision 1 (Ref.20)” to: “Approval of SAFIR is limited to use in combination with an NRC-approved transient code as described in the response to RAI 42, Revision 1 (Ref. 20).”

NRC considered the applicant’s proposal and reworded Limitation 1 to clarify the incorporation of the response to RAI 42 as follows:

“Approval of SAFIR is limited to use in combination with NRC-approved BISON. BISON is the transient code interacting with SAFIR, but other dynamic BWR codes may be used as described in other licensing topical reports and subject to NRC approval on a code-by-code basis.”

23. On page 13, Reference 9, Westinghouse proposes removing “U7-C-N” from the citation. NRC corrected the citation accordingly.
24. On Appendix B page 4, Response paragraph 2, lines 2-8, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
25. On Appendix B, page 5, Response paragraph 1, line2, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
26. On Appendix B, page 5, Response paragraph 1, lines 3-6, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
27. On Appendix B, page 5, Response paragraph 2, Westinghouse requests that the following be identified as proprietary:

“[]”

”

The NRC staff agreed and these items were removed from the public version of the SER.

28. On Appendix B, page 5, Response paragraph 5, lines 2-3, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.

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29. On Appendix B, page 7, Response paragraph 2, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
30. On Appendix B, page 10, Response paragraph 1, line 1, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
31. On Appendix B, page 10, Response 3, lines 1-6, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
32. On Appendix B, page 10, Evaluation paragraph 1, lines 4-5, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
33. On Appendix B, Page 16, Response paragraph 2, lines 2-5, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
34. On Appendix B, page 16, Evaluation paragraph 1, lines 1-3, Westinghouse requests that, “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
35. On Appendix B, Page 17, Response paragraph 1, line 1-2, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
36. On Appendix B, Page 17, Evaluation paragraph 1, lines 2-5, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
37. On Appendix B, Page 21, Response paragraph 3, lines 4-5, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
38. On Appendix B, page 22, Westinghouse requests that Figure 1 be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
39. On Appendix B, page 22, Response paragraph 2, lines 2-13, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
40. Westinghouse requests that Appendix B, pages 23 and 24 be identified as proprietary in their entirety. The NRC staff agreed and these items were removed from the public version of the SER.
41. On Appendix B, page 25, Follow-up Question paragraph 3, Westinghouse proposes correcting the placement of the quotation marks so that the paragraph reads, “...and

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also states “SAFIR is capable of...and valve failures.” NRC agreed and made the change accordingly.

42. On Appendix B, page 28, Response paragraph 5, line 7, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
43. On Appendix B, page 31, Evaluation paragraph 1, with respect to “...the the evaluation of SAFIR will be performed with respect to the use of SAFIR with the BISON computer code only, and this evaluation should not be construed to apply to SAFIR use with any other computer codes.”, Westinghouse requested clarification that the usage of POLCA-T with SAFIR has been reviewed in connection with WCAP-16747-P, Appendix C for the ABWR. NRC reworded the paragraph as follows:

“However, this also means that the evaluation of SAFIR will be performed with respect to the use of SAFIR with the BISON computer code only, and this evaluation should not be construed to apply to SAFIR use with any other computer codes beyond those previously identified in the staff’s Final Safety Evaluation (ML100780156) for WCAP-16747-P, “POLCA-T System Analysis Code with Three Dimensional Core Model”.
44. On Appendix B, page 34, Westinghouse identified that the figures provided along with the responses to RAI-18 part b), g), and h) are not presented in the NRC staff’s SER. NRC did not believe that the figures were needed for their evaluation findings and left them out accordingly.
45. On Appendix B, page 35, Westinghouse requests that the response to part a) be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.
46. On Appendix B, page 35, Response b, lines 7-14, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
47. On Appendix B, page 35, Westinghouse requests that the response to part c) be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.
48. On Appendix B, page 36, Westinghouse requests that the response to part g-h) be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.
49. On Appendix B, page 36, Westinghouse requests that the response to part i), subpart i. be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.
50. On Appendix B, page 37, Westinghouse requests that the response to part i), subpart iii. be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.

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51. On Appendix B, page 37, Westinghouse requests that the response to part k) be considered proprietary in its entirety. The NRC staff agreed and these items were removed from the public version of the SER.
52. On Appendix B, page 38, Evaluation paragraph 1, line 1, Westinghouse requests that “[[]]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
53. On Appendix B, page 38, Follow-up Action paragraph 3 (part f, i), lines 3-6, Westinghouse requests that “[[]]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
54. With respect to comment #53 above, Westinghouse proposed a more technically correct and non-proprietary statement as follows:

“SAFIR uses the current state of the interface variables calculated by the transient code. To determine the values of the interface variables in between two adjacent BISON timesteps, interpolation is used.”

The NRC agreed and replaced this statement accordingly.

55. On Appendix B, page 42, Response paragraph 1, lines 4-12, Westinghouse requests that “[[]]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
56. On Appendix B, page 43, Westinghouse requests that Figure 9 be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
57. On Appendix B, page 52, Follow-up Question paragraph 1, lines 3-4, Westinghouse requests that “[[]]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
58. On Appendix B, page 55, Westinghouse requests that Figures 1 and 2 be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
59. On Appendix B, page 56, Evaluation paragraph 1, the staff evaluation of the response is inaccurate. The response to RAI-25 did not state that SAFIR will not be used to model the ABWR turbine generator, but instead stated that the current model does not include such models, as these are currently not needed. However, the ability to model these may be needed in the future. Westinghouse proposes changing the text to read:

“The STP response clarifies that SAFIR has not yet been used to model the ABWR turbine and generator, and that they were present in the submittal merely as an example of the verification and validation process.”

The NRC staff agreed and replaced this statement accordingly.

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60. On Appendix B, page 56, Evaluation paragraph 2, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
61. On Appendix B, page 60, Follow-up Action line 4, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
62. On Appendix B, page 69, Evaluation paragraph, Westinghouse proposes deleting the sentence to reflect that current modeling does not require these components, but may be required of the need to model an advanced controller arises. If this need arises, such models would be developed by the procedure described in the topical report. Therefore, Westinghouse proposes the following text be deleted from the evaluation paragraph:
- “Furthermore, the issue is unimportant because in the response to the RAI, STP states that no such components are necessary for modeling the ABWR even though they are described in the SAFIR topical report.”*
- The NRC staff agreed and removed this statement accordingly.
63. On Appendix B, page 71, Westinghouse requests that Table 1 in the Response be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
64. On Appendix B, page 71, Westinghouse requests that the text following Table 1 be removed. The NRC staff found that this text was provided in the response to RAI-32 and was included by mistake in the applicant’s response to RAI-35. The NRC staff removed this text accordingly.
65. On Appendix B, page 76, Westinghouse proposes that the bullets in the question be changed to “a, b, c”. The NRC staff agreed and made the editorial change.
66. On Appendix B, page 81, Westinghouse requests that Figures 1 and 2 in the response be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.
67. On Appendix B, page 82, Follow-up Question, line 4, there is a typo. Westinghouse requests that “micros” be changed to “macros”. The NRC staff agreed and made the change.
68. On Appendix B, page 83, there is a typo on line 4, where “micros” is used instead of “macros”. The NRC staff agreed and made the change.
69. On Appendix B, page 85, Response paragraph 1, line 2, Westinghouse proposes adding a space between “by” and “underlined”. The NRC staff agreed and made the change.
70. On Appendix B, page 87, Response paragraph 2, line 16, Westinghouse requests that “[]” be identified as proprietary. The NRC staff agreed and these items were removed from the public version of the SER.

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71. On Appendix B, page 88, Question line 5, Westinghouse proposes the space be deleted from “w ell”. The NRC staff agreed and made the change.
72. In the Appendix B References section, Westinghouse requests that References A.5, A.7, and A.11 either be removed from the list and/or a copy be provided for Westinghouse to review in order to identify proprietary information.
73. Westinghouse requests that the ML number be completed for Appendix B Reference A.15. The NRC staff agreed and made the change.