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December 21, 2022

Subject: Submittal of the Westinghouse Advanced Logic System (ALS)[®] v2 Topical Reports
(WCAP-18762-P/NP and WCAP-18780-P/NP)

I am pleased to submit on behalf of Westinghouse Electric Company LLC (Westinghouse) the following two Topical Reports for the Advanced Logic System (ALS) v2. Both proprietary and non-proprietary versions are enclosed as follows:

- WCAP-18762-P, Revision 0, “Advanced Logic System[®] v2 Platform Topical Report” (Enclosure 3) (PROPRIETARY)
- WCAP-18762-NP, Revision 0, “Advanced Logic System[®] v2 Platform Topical Report” (Enclosure 4)
- WCAP-18780-P, Revision 0, “Advanced Logic System[®] v2 Development Process Topical Report” (Enclosure 5) (PROPRIETARY)
- WCAP-18780-NP, Revision 0, “Advanced Logic System[®] v2 Development Process Topical Report” (Enclosure 6)

As discussed in the November 10, 2022 pre-submittal meeting between Westinghouse and NRC, Westinghouse requests NRC review and generic approval of the ALS v2 Topical Reports for use of ALS v2 in nuclear safety-related instrumentation and control (I&C) applications.

The purpose of the ALS v2 Platform Topical Report is to describe the enhancements that have been included to create the second generation of the ALS platform, known as ALS v2.

The purpose of the ALS v2 Development Process Topical Report is to define the overall life cycle development process and to identify the detailed supporting processes by which safety-related I&C activities will be executed for ALS v2 platform development and maintenance, and applications of the ALS v2 platform.

In addition to the two Topical Reports listed above, Westinghouse is also providing the following proprietary documents to support NRC's review of both Topical Reports. The supporting documents are enclosed herein as indicated:

- 6003-00011, Revision 1, "ALS v2 Platform Design Specification" (Enclosure 7) (PROPRIETARY)
- 6003-00010, Revision 1, "ALS v2 Platform Requirements Specification" (Enclosure 8) (PROPRIETARY)
- Field Programmable Gate Array (FPGA) Requirements Specifications:
 - 6003-15206, Revision 1, "ALS-152 FPGA Requirements Specification" (Enclosure 9) (PROPRIETARY)
 - 6003-35206, Revision 0, "ALS-352 FPGA Requirements Specification" (Enclosure 10) (PROPRIETARY)
 - 6003-36106, Revision 0, "ALS-361 FPGA Requirements Specification" (Enclosure 11) (PROPRIETARY)
 - 6003-37106, Revision 0, "ALS-371 FPGA Requirements Specification" (Enclosure 12) (PROPRIETARY)
 - 6003-45206, Revision 0, "ALS-452 FPGA Requirements Specification" (Enclosure 13) (PROPRIETARY)
 - 6003-47106, Revision 0, "ALS-471 FPGA Requirements Specification" (Enclosure 14) (PROPRIETARY)
 - 6003-65106, Revision 0, "ALS-651 FPGA Requirements Specification" (Enclosure 15) (PROPRIETARY)
- 6003-00004, Revision 2, "ALS v2 Equipment Qualification Plan" (Enclosure 16) (PROPRIETARY)
- WNA-PV-00129-GEN, Revision 0, "Advanced Logic System v2 Software Verification and Validation Plan" (Enclosure 17) (PROPRIETARY)

Additionally, the following documents have been previously provided to NRC on the docket, and are applicable to the review of these Topical Reports:

- 6002-00002-P, Revision 11, "ALS Configuration Management Plan" (PROPRIETARY)
- 6002-00006, Revision 3, "ALS Security Plan" (PROPRIETARY)

These documents were originally submitted by Westinghouse to NRC on October 30, 2015 via LTR-NRC-15-94 (ML15314A703) as Enclosures 1 and 2, respectively.

As discussed in the November 10, 2022 pre-submittal meeting on these Topical Reports, Westinghouse anticipates additional documents to become available to NRC in the future, identified in proprietary Enclosure 2, in support of these Topical Reports.

Westinghouse requests a one-year review from NRC on these Topical Reports (Enclosures 3-6) and seeks approval by December 31, 2023.

This submittal contains proprietary information of Westinghouse. In conformance with the requirements of 10 CFR Section 2.390, as amended, of the Nuclear Regulatory Commission's (Commission's) regulations, we are enclosing with this submittal an Affidavit (Enclosure 1). The Affidavit sets forth the basis on which the information identified as proprietary may be withheld from public disclosure by the Commission.

Correspondence with respect to the proprietary aspects of this submittal or the Westinghouse Affidavit should reference AW-22-053 and should be addressed to Anthony J. Schoedel, Manager, Advanced Reactors Licensing Engineering, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 1, Cranberry Township, PA 16066.



Anthony J. Schoedel
Manager, Advanced Reactors Licensing Engineering

cc:

Mohamed Shams	(NRC)	Michael Waters	(NRC)
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Joseph Ashcraft	(NRC)	Samir Darbali	(NRC)
Richard Stattel	(NRC)		

Enclosures:

1. Affidavit AW-22-053
2. Future Additional ALS v2 Documents Schedule (PROPRIETARY)
3. WCAP-18762-P, Revision 0, "Advanced Logic System[®] v2 Platform Topical Report" (PROPRIETARY)
4. WCAP-18762-NP, Revision 0, "Advanced Logic System[®] v2 Platform Topical Report"
5. WCAP-18780-P, Revision 0, "Advanced Logic System[®] v2 Development Process Topical Report" (PROPRIETARY)
6. WCAP-18780-NP, Revision 0, "Advanced Logic System[®] v2 Development Process Topical Report"
7. 6003-00011, Revision 1, "ALS v2 Platform Design Specification" (PROPRIETARY)
8. 6003-00010, Revision 1, "ALS v2 Platform Requirements Specification" (PROPRIETARY)
9. 6003-15206, Revision 1, "ALS-152 FPGA Requirements Specification" (PROPRIETARY)
10. 6003-35206, Revision 0, "ALS-352 FPGA Requirements Specification" (PROPRIETARY)
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12. 6003-37106, Revision 0, "ALS-371 FPGA Requirements Specification" (PROPRIETARY)
13. 6003-45206, Revision 0, "ALS-452 FPGA Requirements Specification" (PROPRIETARY)
14. 6003-47106, Revision 0, "ALS-471 FPGA Requirements Specification" (PROPRIETARY)
15. 6003-65106, Revision 0, "ALS-651 FPGA Requirements Specification" (PROPRIETARY)
16. 6003-00004, Revision 2, "ALS v2 Equipment Qualification Plan" (PROPRIETARY)
17. WNA-PV-00129-GEN, Revision 0, "Advanced Logic System v2 Software Verification and Validation Plan" (PROPRIETARY)