



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 14, 2021

Camille T. Zozula, Manager
Regulatory Compliance & Corporate Licensing
Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION OF
WESTINGHOUSE ELECTRIC COMPANY REPORT NO. 99900404/2021-202

Dear Ms. Zozula,

On July 26-August 4, 2021, the United States (U.S.) Nuclear Regulatory Commission (NRC) staff conducted a virtual inspection of the Westinghouse Electric Company (WEC) facilities in Warrendale, Pennsylvania. The purpose of this limited-scope inspection was to assess WEC's compliance with the provisions of selected portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

This technically-focused inspection evaluated aspects of WEC's programs for the development of the Core Protection Calculator System (CPCS) for Entergy's Waterford Unit 3 (WF3) digital upgrade project (Agencywide Document Access and Management System (ADAMS) Accession No. ML20205L588). For this project, WEC is responsible for the development of requirements and design, implementation all software and hardware, conduction of testing and delivery of the completed CPCS to the WF3 site. During this inspection, the NRC inspection team reviewed WEC's activities associated with the design, implementation, and completed portions of the factory acceptance testing phases of the system development lifecycle and witnessed a sample of factory acceptance tests for the four-channel CPCS.

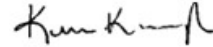
The enclosed report presents the results of this inspection. This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC inspection team found the implementation of your QA program met the requirements imposed on you by your customers or NRC licensees. No findings of significance were identified.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's Rules of Practice, a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system, ADAMS, which is accessible from the NRC Web site at <http://www.nrc.gov/readingrm/adams.html>.

Sincerely,

Kerri Kavanagh, Chief



Signed by Kavanagh, Kerri
on 09/14/21

Quality Assurance and Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Docket No.: 99900404
EPID No.: I-2021-001-0132

Enclosure:
Inspection Report No. 99900404/2021-202
and Attachment

SUBJECT: NUCLEAR REGULATORY COMMISSION INSPECTION OF WESTINGHOUSE
ELECTRIC COMPANY REPORT NO. 99900404/2021-202
Dated: September 14, 2021

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ADAMS Accession No.: ML21251A610 NRR-106

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NAME	SDarbali	KKavanagh	
DATE	9/8/2021	9/14/2021	

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF REACTOR OVERSIGHT
VENDOR INSPECTION REPORT**

Docket No.: 99900404

Report No.: 99900404/2021-202

Vendor: Westinghouse Electric Company

Vendor Contact: Camille T. Zozula, Manager
Phone: +1 (412) 374-2577
Email: zozulact@westinghouse.com

Inspection Dates: July 26 – August 4, 2021

Vendor Location: Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

Inspection Team Leader: Greg Galletti, NRR/DRO/IQVB

Inspectors: Deanna Zhang NRR/DRO/IQVB
Richard Stattel NRR/DRO/EICB
Samir Darbali NRR/DEX/ELTB

Approved by: Kerri Kavanagh, Chief
Quality Assurance Vendor Inspection Branch
Division of Reactor Oversight
Office of Nuclear Reactor Regulation

Enclosure

EXECUTIVE SUMMARY

Westinghouse Electric Company
99900404/2021-202

The United States (U.S.) Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Westinghouse Electric Company (WEC) facilities in Warrendale, Pennsylvania. The purpose of this limited-scope inspection was to assess WEC's compliance with the provisions of selected portions of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities." The NRC inspection team conducted this inspection from July 26 – August 4, 2021.

This technically-focused inspection evaluated aspects of WEC's programs for the development of the Core Protection Calculator System (CPCS) for Entergy's Waterford Electric Station Unit 3 (WF3) replacement project (Agencywide Document Access and Management System (ADAMS) Accession No. ML20205L588). For this project, WEC is responsible for the development of the system requirements, software and hardware requirements, detailed software and hardware design and implementation, all factory acceptance testing, and delivery of the completed CPCS to the WF3 site.

During this inspection, the NRC inspection team reviewed documentation for the design, implementation, and completed portions of the factory acceptance testing (FAT) phases of the WF3 CPCS development lifecycle. The NRC inspection team verified traceability of system requirements to lower level documentation, verified the implementation of WEC's configuration management and design control processes, verified independent verification and validation activities conducted by WEC staff, witnessed select FAT tests performed for the four-channel CPCS, and evaluated WEC's nonconformance and corrective action processes used during product development.

The following regulations served as the bases for this NRC inspection:

- Appendix B to 10 CFR Part 50
- 10 CFR Part 21, "Reporting of Defects and Noncompliance."

During the course of this inspection, the NRC inspection team used Inspection Procedure (IP) 43002, "Routine Inspections of Nuclear Vendors," dated January 27, 2017, and IP 35710, "Quality Assurance Inspection of Software Used in Nuclear Applications," dated January 30, 2018.

The information below summarizes the results of this inspection.

Design Control – CPCS Design and Implementation Phase Review

The NRC inspection team reviewed WEC's policies and implementing procedures that govern the design and implementation phase activities and design output documents for the WF3 CPCS project, to verify compliance with the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a select sample of WF3 CPCS replacement project documentation for activities identified in each of the WF3 CPCS

specific plans and confirmed that these activities were performed in accordance with WEC policies and procedures. The NRC inspection team sampled Waterford 3 CPCS system requirements and confirmed that there was traceability of these system requirements to lower level documents. No findings of significance were identified.

Design Control – Independent Verification and Validation

The NRC inspection team reviewed WEC's policies and implementing procedures that govern independent verification and validation activities (IV&V), to verify compliance with the requirements of Criterion III, "Design Control," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of WEC's IV&V task reports, implementation processes, RITs (Instrumentation and Controls (I&C) issues tracking reports) identified by the IV&V team for the WF3 CPCS design, implementation, and FAT phases and verified that the activities and results documented adhered to WEC processes and procedures related to IV&V. No findings of significance were identified.

Test Control

The NRC inspection team reviewed WEC's policies and implementing procedures that govern the implementation of its test control program to verify compliance with the requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed the WF3 CPCS one-channel and four-channel test procedures, a sample of the one-channel test results for the WF3 CPCS, and witnessed a select set of four-channel CPCS FAT tests. Based on the sample of documents reviewed and FAT tests witnessed, the NRC inspection team confirmed that WEC test engineers performed these tests and documented the test results in accordance with applicable test procedures. No findings of significance were identified.

Nonconformances and Corrective Action

The NRC inspection team reviewed WEC's policies and implementing procedures that govern Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50. The NRC inspection team reviewed a sample of WEC's nonconformances and corrective action reports. The NRC inspection team confirmed adequate implementation of the nonconformance processes, corrective action program, and I&C issues tracking processes in accordance with Westinghouse instructions and procedural guidance. No findings of significance were identified.

REPORT DETAILS

1. Design Control – CPCS Design and Implementation Phase Review

a. Inspection Scope

The U.S. Nuclear Regulatory Commission (NRC) inspection team reviewed Westinghouse Electric Company, LLC's (hereafter referred to as WEC) policies and implementing procedures that govern the design and implementation phase activities of the development lifecycle for the Waterford Steam Electric Station Unit 3 (WF3) Core Protection Calculator System (CPCS) to verify compliance with the regulatory requirements of Criterion III, "Design Control," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

The NRC inspection team reviewed a select sample of WF3 CPCS replacement project documentation for activities identified in each of the WF3 CPCS specific plans and confirmed that these activities were performed in accordance with WEC policies and procedures. The NRC inspection team sampled Waterford 3 CPCS system requirements, which encompassed design attributes related to system response time, system loading, equipment qualification, electrical and data isolation, and cyber security. The NRC inspection team confirmed that there was traceability of these system requirements to lower level documents (e.g., software requirements and design specifications, hardware design specification and drawings, software code, test procedures, preliminary test results).

The NRC inspection team discussed the WF3 CPCS design processes and development plans with WEC's management and technical personnel. The references and attendance lists in the attachment to this inspection report identify the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team concluded that WEC's implementation of their policy and procedures for control of the requirements phase activities satisfied the regulatory requirements set forth in Criterion III of Appendix B to 10 CFR Part 50. Based on the limited set of documents reviewed, the NRC inspection team determined that WEC was implementing its policies and procedures associated with design and development activities for the WF3 CPCS replacement project. No findings of significance were identified.

2. Design Control – Independent Verification and Validation (IV&V)

a. Inspection Scope

The NRC inspection team evaluated WEC's policies and procedures that govern the implementation of independent verification and validation (IV&V) process for WF3 CPCS to verify compliance with the regulatory requirements of Criterion III to Appendix B of 10 CFR Part 50. The NRC inspection team concentrated their review on plans and procedures established for IV&V for the WF3 CPCS digital upgrade project.

The NRC inspection team reviewed a sample of IV&V task reports completed for the design and implementation phases of the WF3 CPCS development lifecycle and verified that the activities and results documented in these reports adhered to WEC processes and procedures related to IV&V. The NRC inspection team also reviewed a sample of RITS (I&C issues tracking) identified in the IV&V task reports and confirmed that the deficiencies identified were adequately captured in the RITS database, and that proposed corrective actions were identified and implemented or continued to be adequately tracked for implementation. The NRC inspection team reviewed RITS documenting IV&V review activities for these analyses and confirmed the issues identified were adequately documented and dispositioned.

The NRC inspection team discussed the IV&V processes and procedures with WEC's management and technical personnel. The references and attendance lists in the attachment to this inspection report identify the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusions

The NRC inspection team concluded that WEC was implementing its IV&V programs activities in accordance with the regulatory requirements of Criterion III of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and activities observed, the NRC inspection team determined that WEC was implementing its policies and procedures associated with IV&V program activities. No findings of significance were identified.

3. Test Control

a. Inspection Scope

The NRC inspection team reviewed WEC's policies and implementing procedures that govern the implementation of its test control program to verify compliance with the requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed the WF3 CPCS one-channel test procedure and a sample of the one-channel test results for the WF3 CPCS and verified that the sample of one-channel test results reviewed met the acceptance criteria in the test procedure. The

NRC inspection team reviewed the four-channel test procedure for the WF3 CPCS and witnessed a select set of factory acceptance tests performed for the four-channel CPCS. The NRC inspection team verified that the test procedure provided adequate coverage to validate the system functions. The NRC inspection team observed that WEC test engineers performed these tests and documented the test results in accordance with these test procedures.

The NRC inspection team discussed the test control program with WEC's management and technical staff. The attachment to this inspection report lists the documents reviewed and the staff interviewed by the NRC inspection team with WEC's management and technical personnel.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that WEC was implementing its test control program in accordance with the regulatory requirements of Criterion XI of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and the factory acceptance tests witnessed for the four-channel CPCS, the NRC inspection team determined that WEC was implementing its policies and procedures associated with its test control program. No findings of significance were identified.

4. Nonconformance and Corrective Action Program (CAP) Review

a. Inspection Scope

The NRC inspection team reviewed WEC's policies and implementing procedures that govern the control of nonconformances and corrective action to verify compliance with the requirements of Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50.

The NRC inspection team reviewed the quality procedures governing the corrective action and nonconformance processes including development and disposition of RITS, Requests for Engineering Changes (RECs), and Software Change Requests, and sampled each for the WF3 CPCS replacement projects. The NRC inspection team sampled issues identified during the design and implementation phases, as well as, one-channel testing, four-channel CPCS FAT dry-run testing, and on-going FAT of the four-channel CPCS. The NRC inspection team confirmed adequate implementation of the nonconformance processes, corrective action program, and RITS processes in accordance with WEC instructions and procedural guidance.

The NRC inspection team discussed the nonconformance and the corrective action programs with WEC's management and technical personnel. The references and attendance lists in the attachment to this inspection report identify the documents reviewed and personnel interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that WEC was implementing its nonconformances and corrective action program in accordance with the requirements of Criterion XV and Criterion XVI of Appendix B to 10 CFR Part 50. Based on the limited sample of documents reviewed and activities observed, the NRC inspection team determined that WEC was implementing its policies and procedures associated with nonconformances and corrective action program activities. No findings of significance were identified.

5. Entrance and Exit Meetings

On July 26, 2021, the NRC inspection team presented the inspection scope during an entrance meeting with, Ms. Camille Zozula, Manager, Regulatory Compliance & Corporate Licensing, and other WEC personnel. On August 4, 2021, the NRC inspection team presented the inspection results and observations during an exit meeting with Ms. Camille Zozula, and other WEC personnel. The attachment to this report lists the attendees of the entrance and exit meetings, as well as those individuals whom the NRC inspection team interviewed.

ATTACHMENT

1. PERSONS CONTACTED AND NRC STAFF INVOLVED:

Name	Affiliation	07/26/2021 Entrance	08/04/2021 Exit	Interviewed
Matthew Shakun	WEC	X	X	X
Maria Assard	WEC	X	X	
Roger Costantino	WEC	X	X	X
Christopher Crefeld	WEC	X		
Allen Denyer	WEC	X		X
Matt Johnson	WEC			X
Nicole Kurant	WEC	X	X	X
Alex Lee	WEC	X		X
Kenneth Lunz	WEC	X	X	
Lisa Manning	WEC	X	X	X
Tyler Morissette	WEC	X	X	X
Warren Odess-Gillett	WEC	X	X	X
David Malarik	WEC	X	X	X
Brett Henchar	WEC	X	X	X
Brad LeDonne	WEC			X
Lori Richards	WEC	X	X	
Christopher Srock	WEC	X		
Jerry Stanley	WEC			X
Serdar Uyar	WEC	X	X	X
Murat Uzman	WEC	X	X	X
Earl Wagoner	WEC	X	X	X
Michael Pezek	WEC	X		X
Matthew Wereb	WEC	X		
Dimitri Niaros	WEC	X	X	
Terry Rudek	WEC	X	X	
David Moody	WEC		X	X
Jason Rotondo	WEC			X
Tara Werner	WEC			X
Chris Phillips	WEC			X
Camille Zozula	WEC	X	X	
Steve Packard	WEC	X		X
Matthew Thompson	WEC			X
Robert Beasley	WEC	X		X
Brian Domitrovich	WEC	X	X	X
Chad Gigliotti	WEC	X	X	
Loren Miller	WEC	X	X	
Erin Orga	WEC	X		X
Jonathan Drexler	WEC			X

Name	Affiliation	07/26/2021 Entrance	08/04/2021 Exit	Interviewed
Gary Brassert	WEC		X	
John Hornsby	Entergy		X	
William Truss	Entergy	X	X	
Chris Talzac	Entergy	X	X	
Alan Harris	Entergy	X	X	
Remy Devo	Entergy	X		
Jacob Champagne	Entergy		X	
Brian Vickery	Entergy	X		
Greg Galletti	NRC	X	X	
Deanna Zhang	NRC	X	X	
Richard Stattel	NRC	X	X	
Samir Darbali	NRC	X	X	
Michael Brown	NRC	X		
Kerri Kavanagh	NRC	X	X	
Shiattin Makor	NRC	X	X	
Michael Waters	NRC	X	X	
Jeanne Johnston	NRC		X	

2. INSPECTION PROCEDURES USED:

IP 43002, "Routine Inspections of Nuclear Vendors," dated July 15, 2013
IP 35710, "Quality Assurance Inspection of Software Used in Nuclear Applications," dated January 30, 2018

3. REFERENCES FOR DOCUMENTS REVIEWED

Procedures

1. WNA-PQ-00496-CWTR3, "Entergy Operations Inc. Waterford Steam Electric Station Unit 3 Project Quality Plan for the Core Protection Calculator System Upgrade Project," Revision 2, dated May, 2021
2. WNA-WI-00403-GEN, "Reporting and Resolution of IV&V RITS Issues Work Instructions," Revision 2, dated October 8, 2018
3. W2-5.1-101, "Westinghouse Corrective Action Program Procedure," Revision 7.1, dated February 28, 2020
4. W2-5.1-201.W01, "Nuclear Safety Review Staff Work Instruction," Revision 2.1, dated April 22, 2020
5. NA 15.1, "Control of Nonconformances," Revision 20.0, dated January 16, 2021
6. NA 4.19.9, "Issue Reporting and Resolution," Revision 3.1, dated February 20, 2019
7. NABU-DP-00014-GEN, "Design Process for Common Q™ Safety Systems," Revision 12, dated September 2020
8. W2-9.14-100, "Control of Nonconforming Process Outputs, Products and Services," Revision 2.0, dated February 27, 2018
9. W2-8.6-104, "Software Problem Reporting," Revision 1.0, dated September 4, 2018
10. WNA-DS-02884-GEN, "Isolated Development Infrastructure Requirements," Revision 3, dated April 2018
11. WNA-WI-00412-GEN, "Common Q RITS Work Instruction," Revision 6, dated June 2021
12. WNA-IG-00974-GEN, "HU Self-Check/Place-keeping for GICP Shop Personnel," Revision 0, dated July 2021
13. NA 10.1.3, "Inspections," Revision 6.1, dated February 15, 2019
14. QA-2.9, "Qualification of Inspection and Testing Personnel," Revision 4.0, dated June 24, 2021
15. GPECP-PMP-2019-000020, "Waterford 3 Core Protection Calculator Upgrade Project Management Plan," Revision 2, dated April 3, 2019
16. WNA-WI-00412-GEN, "Common Q RITS Work Instruction", Revision 6, dated June 8, 2021

WF3 CPCS Upgrade Project Documents

17. WNA-PD-00594-CWTR3, "Software Development Plan for the Core Protection Calculator System Upgrade Project," Revision 3, dated June 2021
18. WNA-PT-00303-CWTR3, "Test Plan for the Common Q Core Protection Calculator System," Revision 2, dated April 2021
19. WNA-DS-04517-CWTR3, "System Requirements Specification for the Core Protection Calculator System," Revision 5, dated December 2020

20. WNA-DS-04618-CWTR3, "Software Requirements Specification for the Common Q Core Protection Calculator System," Revision 3, dated June 2021
21. WNA-DS-04650-CWTR3, "Hardware Design Description for the Core Protection Calculator System," Revision 3, dated April 2021
22. WNA-SD-00691-CWTR3, "Software Design Description for the Common Q Core Protection Calculator System CEA Position Processor," Revision 1, dated July 2021
23. WNA-RTM-00076-CWTR3, "Requirements Traceability Matrix for the Core Protection Calculator System Upgrade Project," Revision E, dated July 7, 2021
24. 00000-ICE-30158, "System Requirements Specification for the Common Q Core Protection Calculator System," Revision 14, dated 2015
25. 14273-ICE-37781, "Requirements Traceability Matrix for the Arizona Public Service CPCS Project," Revision 00, dated July 2003
26. WCAP-16096-P-A, "Software Program Manual for Common Q™ Systems," Revision 5, dated November 2018
27. SPEC-18-00005-W, "Core Protection Calculator System Procurement Specification," Revision 0, dated July 24, 2019
28. 00000-ICE-3233, "Software Requirements Specification for the Common Q Core Protection Calculator System," Revision 9, dated January 2015
29. WNA-PV-00110-CWTR3, "Software Verification & Validation Plan for the Core Protection Calculator System Upgrade Project," Revision 1, dated June 2021
30. WNA-VT-00839-CWTR3, "IV&V Task Report for Software Design Evaluation and Traceability Analysis," Revision 0, dated March 2021
31. WNA-VT-00845-CWTR3, "IV&V Task Report for Evaluation of AUXCPC Custom PC Element Library," Revision 0, dated July 2021
32. WNA-VT-00846-CWTR3, "IV&V Task Report for Evaluation of CEAC Custom PC Element Library," Revision 0, dated July 2021
33. WNA-VT-00847-CWTR3, "IV&V Task Report for Evaluation of CPCOPT Custom PC Element Library," Revision 0, dated July 2021
34. WNA-VT-00848-CWTR3, "IV&V Task Report for Evaluation of CPP Custom PC Element Library," Revision 0, dated July 2021
35. WNA-VR-00573-CWTR3, Common Q Core Protection Calculator Flat Panel Display Code Review Report, Revision 0, dated July 2021
36. WNA-VR-00574-CWTR3, "Code Review Report for Common Q Core Protection Calculator AC160 Applications," Revision 0, dated July 2021
37. WNA-AR-00861-CWTR3, "Software Hazard Analysis for the Common Q Core Protection Calculator System," Revision 3, dated June 2021
38. WNA-AR-00909-CWTR3, "Failure Mode and Effects Analysis for the Core Protection Calculator System," Revision 1, dated March 2020
39. WNA-PC-00069-CWTR3, "Configuration Management Plan for the Core Protection Calculator System Upgrade Project," Revision 1, dated July 2019
40. WNA-TP-06781-CWTR3, "Four Channel System Test Procedure for the Common Q Core Protection Calculator System," Revision 0, dated July 2021
41. WNA-IG-00942-CWTR3, "Site Installation Guideline for the Auxiliary Protective Cabinets," Revision 0, dated February 2021
42. SCD-WEC-0001, "Westinghouse Source Control Drawing for PC Node Box Product Specification Gen 2a," Revision M, dated March 11, 2020
43. 2E10723, "Node Box Outline and Installation," Revision 2

44. 10125D54, "Standard Safety Generation II-A PC Node Box Hardware Procurement," Revision 8
45. 2E10700, "CPCS Mounting and Installation," Revision 2
46. 2E10726, "APC MUX Assembly", Revision 7
47. 3D91672, "Standard Safety Flat Panel Display System Hardware Procurement," Revision 47

Purchase Orders

48. Purchase Order 10587546, Revision 2, dated August 15, 2019
49. Purchase Order 10587546, Revision 3, dated October 23, 2019

Request for Engineering Change

50. WT3-CPCS-00097, "Cost Collection: Maximum Subgroup Deviation Calculation Correction," dated April 19, 2021
51. WT3-CPCS-00098, "Cost Collection: Safety Software RITSs identified by SD, SW, IV&V, and Test through 4/23/2021," dated April 19, 2021

I&C Issue Tracking System (RITS)

52. RITS 75864, "EQ restrictions documented into the technical manuals, CPC and Mux," dated April 15, 2021
53. RITS 76208, "WF3 CPCS," dated July 21, 2021
54. RITS 76255, "WF3 Formal Four Channel Testing failure - 7.6 System Fault Tests: Loss of CEAPDS Data Links," dated August 2, 2021
55. RITS 72885, "Discrepancies identified during software design evaluation and software design traceability analysis," dated January 15, 2021
56. RITS 73235, "Discrepancies between Legacy SRS (00000-ICE-3233, Rev 9) and SDD (WNA-SD-00685-CWTR3 Rev 0)," dated March 16, 2021
57. RITS 75974, "UPDTMOD8 Custom PC Element (CPCE) Element Software Test (EST) findings identified during dry-runs," dated May 11, 2021
58. RITS 76081, "CEAPD - Incorrect display of CEA positions for Shutdown Group A," dated June 1, 2021
59. RITS 76181, "Waterford 3: Four Channel System Testing: Time Response Criteria for THOT and TCOLD inputs," dated July 13, 2021
60. RITS 75828, "WF3: Maximum subgroup deviation output update," dated April 5, 2021
61. RITS 73164, "Discrepancies found between 00000-ICE-3233 Revision 9 and source code," dated March 2, 2021
62. RITS 75801, "Recommended Clarifications to WNA-PT-00303-CWTR3, Revision 1," dated March 25, 2021
63. RITS 76112, "Channel A and Channel D relay errors caused by mechanical issues," dated June 16, 2021
64. RITS 76150, "HSL link errors on WF3 CPCS Channel B," dated July 28, 2021
65. RITS 73198, "Inconsistent conventions used for numbering bits in error codes," dated March 8, 2021

Corrective Action Program Issue Report

66. CAP IR-2021-3614, "Waterford CPCS RITS Severity Level," dated March 25, 2021
67. CAP IR-2021-7932, "Security Management solution within the Isolated Development Infrastructure is not in compliance with monitoring requirements defined in WCAP-16096-P-A," dated July 16, 2021
68. CAP IR-2021-1360, "Components Failing to Meet Performance Critical Characteristics were Incorrectly Deemed Commercially Dedicated," dated February 3, 2021
69. CAP IR-2021-407, "Possible CI631 Product Rev H Failures," dated January 15, 2021
70. CAP IR-2021-2797, "Waterford 3 CPCS Level 2 and Level 3 Procedural Non-compliance," dated March 5, 2021
71. CAPS IR-2021-3642, "Core Protection Calculator System (CPCS) - Subgroup Deviation display outputs," dated March 25, 2021

I&C Issue Tracking System (RITS) Generated as a Result of NRC Inspection

72. RITS 76233, "Add USB port locks to the MCR/PMC staging rack drawing 2E10750," dated July 29, 2021
73. RITS 76237, "One Channel - Test 21 data collection," July 29, 2021
74. RITS 76181, "Waterford 3: Four Channel System Testing: Time Response Criteria for THOT and TCOLD inputs," Revision 1, dated August 3, 2021