



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

July 6, 2018

MEMORANDUM TO: Kerri A. Kavanagh, Chief
Quality Assurance Vendor Inspection Branch-2
Division of Construction Inspection
and Operational Programs
Office of New Reactors

FROM: Andrea T. Keim, Reactor Operations Engineer */RA/*
Quality Assurance Vendor Inspection Branch-2
Division of Construction Inspection
and Operational Programs
Office of New Reactors

SUBJECT: CLOSURE OF INSPECTIONS, TESTS, ANALYSES, AND
ACCEPTANCE CRITERIA RELATED-FINDING FOR OBAYASHI
INSPECTION REPORT NO. 99901409/2011-201

The purpose of this memorandum is to document the U.S. Nuclear Regulatory Commission (NRC) staff's closure of the Notice of Nonconformance (NON) documented in Obayashi Corporation (hereafter referred to as Obayashi) Inspection Report No. 99901409/2011-201, dated November 3, 2011 (Agencywide Document Access and Management System (ADAMS) Accession No. ML11286A106).

On September 12-16, 2011, the NRC staff completed an inspection at the Obayashi facility in Tokyo, Japan. The purpose of the technically-focused, limited-scope inspection was to evaluate Obayashi's implementation of quality activities affecting current and future design analyses, calculations, and drawings that Obayashi supplies to Westinghouse Electric Company (WEC) in support of the AP1000 design.

In Inspection Report No. 99901409/2011-201, the NRC staff issued Notice of Nonconformance (NON) 99901409/2011-201-03, which the NRC staff determined that the examples documented in this NON were material to the acceptance criteria of inspections, tests, analyses, and acceptance criteria (ITAAC) No. 3.3.00.02a.i.a (760), 3.3.00.02a.i.b (761), 3.3.00.02a.i.c (762), and 3.3.00.02a.i.d (763) from Revision 19 of the certified AP1000 Design Control Document.

NON 99901409/2011-201-03 documents a finding against Criterion III, "Design Control," of Appendix B, "Quality Assurance Program Criteria for Nuclear Power Plants and Fuel Processing Plants," to Title to 10 of the *Code of Federal Regulations* Part 50, "Domestic Licensing of Production and Utilization Facilities," for Obayashi's failure to: 1) correctly implement the

CONTACT: Andrea Keim, NRO/DCIP
301-415-1671

provisions of the American Concrete Institute (ACI) 349, "Code Requirements for Nuclear Safety-Related Concrete Structures & Commentary;" 2) implement measures to identify and implement organizational interfaces between Obayashi and WEC for design control, design changes and technical directions; and 3) ensure that design changes were reviewed and verified with the same rigor as the original design.

In letters dated December 12, 2011 (ADAMS Accession No. ML113460990), February 2, 2012 (ADAMS Accession No. ML12097A145), and April 5, 2012 (ADAMS Accession No. ML12102A349), Obayashi described their corrective actions to address the issues identified in NON 99901409/2011-201-03. Specifically, in letter dated December 12, 2011, Obayashi discussed that WEC issued a stop work order on Obayashi and that Obayashi AP1000 design work will be performed under the WEC quality assurance program and procedures. The NRC staff reviewed Obayashi's corrective actions taken to address the issues identified in NON 99901409/2012-201-03. The NRC staff also performed an inspection at WEC from May 21–25, 2018. During the inspection, the staff reviewed WEC's corrective actions and oversight of Obayashi. As part of WEC's corrective actions, WEC performed an extent of condition of work performed by Obayashi. The results of the review found no errors but did make recommendations for reconciliation of ongoing structural design changes. The WEC review is documented in "Review of Obayashi Technical Analyses," dated October 28, 2011 and "Review Supplement of Obayashi Technical Analyses," dated November 23, 2011.

Based on the documentation reviewed, the NRC staff has determined that the corrective actions taken by Obayashi and WEC are adequate to address the identified nonconformance. NON 99901409/2011-201-03 is closed and no additional inspection follow-up is required to verify completion/adequacy of the corrective actions.

Enclosure:

Summary of NRC Inspection at Westinghouse Electric Company related to Obayashi Affecting ITAAC

SUBJECT: CLOSURE OF INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE
CRITERIA RELATED-FINDING FOR OBAYASHI INSPECTION REPORT
NO. 99901409/2011-201 Dated July 6, 2018

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| OFFICE | NRO/DCIP/QVIB-2 | NRO/DCIP/QVIB-2 |
| NAME | AKeim | KKavanagh (PPrescott for) |
| DATE | 07/06/2018 | 07/06/2018 |

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Summary of NRC Inspection Westinghouse Electric Company Related to Findings at Obayashi Affecting ITAAC

1. AFFECTED INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

The U.S. Nuclear Regulatory Commission (NRC) inspectors identified the following inspection, test, analysis, and acceptance criteria (ITAAC) related to components being fabricated by Obayashi Corporation (here after referred to as Obayashi). For the ITAAC listed below, the NRC staff reviewed Obayashi's corrective actions and Westinghouse Electric Company's (WEC's) oversight in response to Notice of Nonconformance (NON) 99901409/2011-201-03. The ITAAC's design commitments referenced below are for future use by the NRC staff during the ITAAC closure process; the listing of these ITAAC design commitments does not constitute that they have been met and closed. The NRC staff identified one finding with three examples associated with the ITAACs identified below.

| Source Document | ITAAC Index No. | ITAAC | Acceptance Criteria |
|---|-----------------|----------------|--|
| Appendix C from the Combined License for Vogtle Electric Generating Plant Units 3 and 4 | No. 760 | 3.3.00.02a.i.a | i.a) A report exists which reconciles deviations during construction and concludes that the as-built containment internal structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions. |
| Appendix C from the Combined License for Vogtle Electric Generating Plant Units 3 and 4 | No. 761 | 3.3.00.02a.i.b | i.b) A report exists which reconciles deviations during construction and concludes that the as-built shield building structures, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions. |
| Appendix C from the Combined License for Vogtle Electric Generating Plant Units 3 and 4 | No. 762 | 3.3.00.02a.i.c | i.c) A report exists which reconciles deviations during construction and concludes that the as-built structures in the non-radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions. |

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|---|---------|----------------|--|
| Appendix C from the Combined License for Vogtle Electric Generating Plant Units 3 and 4 | No. 763 | 3.3.00.02a.i.d | i.d) A report exists which reconciles deviations during construction and concludes that the as-built structures in the radiologically controlled area of the auxiliary building, including the critical sections, conform to the approved design and will withstand the design basis loads specified in the Design Description without loss of structural integrity or the safety-related functions. |
|---|---------|----------------|--|

2. FINDINGS AND OBSERVATIONS

During an inspection at WEC from May 21 – 25, 2018, the NRC staff reviewed the corrective actions that WEC performed. WEC reviewed all work performed by Obayashi. WEC also had Obayashi work under the WEC’s quality assurance program as documented in APP-GW-GAH-032, “AP1000 Plant Engineering Obayashi Scope Project Quality Plan.” The NRC finds that the corrective actions taken by Obayashi and WEC in response to NON 99901409/2011-201-03 are adequate to address the identified nonconformance. NON 99901419/2011-201-03 is closed and no additional inspection follow-up is required to verify completion/adequacy of the corrective actions.

3. ITEMS OPENED, CLOSED, AND DISCUSSED

| Item Number | Status | Type | Description | Applicable ITAAC |
|----------------------|--------|------|---------------|--|
| 99901409/2011-201-03 | CLOSED | NON | Criterion III | 3.3.00.02a.i.a, 3.3.00.02a.i.b, 3.3.00.02a.i.c, and 3.3.00.02a.i.d |