

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, DC 20555-0001

December 1, 2020

NRC INFORMATION NOTICE 2018-11, SUPPLEMENT 1: QUALITY ASSURANCE RECORD
FALSIFICATION AT KOBE STEEL AND OTHER
INTERNATIONAL VENDORS

ADDRESSEES

All holders of an operating license or construction permit for a nuclear power reactor under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic licensing of production and utilization facilities," except those that have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

All holders of an operating license for a nonpower reactor (research reactor, test reactor, or critical assembly) under 10 CFR Part 50, except those that have permanently ceased operations.

All holders of and applicants for a power reactor early site permit, combined license, standard design approval, or manufacturing license under 10 CFR Part 52, "Licenses, certifications, and approvals for nuclear power plants." All applicants for a standard design certification, including such applicants after initial issuance of a design certification rule.

All holders of or applicants for (1) a spent fuel storage cask certificate of compliance under 10 CFR Part 72, "Licensing requirements for the independent storage of spent nuclear fuel, high-level radioactive waste, and reactor-related greater than Class C waste," and (2) a general or site-specific independent spent fuel storage installation license under 10 CFR Part 72.

All contractors and vendors that supply basic components, as defined in 10 CFR Part 21, "Reporting of defects and noncompliance," to U.S. Nuclear Regulatory Commission (NRC) licensees under 10 CFR Part 50 or 10 CFR Part 52.

All holders of and applicants for a fuel cycle facility license under 10 CFR Part 70, "Domestic licensing of special nuclear material."

All holders of and applicants for a transportation package certificate of compliance under 10 CFR Part 71, "Packaging and transportation of radioactive material."

All holders of and applicants for a specific approval for transport of radioactive material shipping containers under 10 CFR Part 71.

PURPOSE

The NRC is issuing this information notice (IN) to alert addressees of alleged quality assurance (QA) record falsification by international vendors that appear to have supplied products to nuclear facilities overseas but may or may not have supplied products to domestic nuclear facilities. This supplement to IN 2018-11, "Kobe Steel Quality Assurance Record Falsification" (Agencywide Documents Access and Management System (ADAMS) ML18190A466) dated September 24, 2018, expands its scope to include additional international vendors involved in QA record falsifications in addition to Kobe Steel. The staff expects that recipients of this IN will review the information for applicability to their facilities and consider taking actions as appropriate. However, suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

The list of international vendors included in this IN is limited to vendors that are more likely to be third-party suppliers to domestic nuclear facilities, and that do not have a 10 CFR 50 Appendix B QA program. This IN may be updated to reflect additional international vendors as information becomes available to the NRC.

DESCRIPTION OF CIRCUMSTANCES

Kobe Steel Record Falsification

Original Issue:

According to the corporate profile on its Web site,¹ Kobe Steel is one of Japan's leading steel-making companies as well as a major supplier of aluminum and copper products. The Kobe Steel Group is composed of numerous consolidated and equity-valued companies in Japan, the Americas, Asia, and Europe. As of March 31, 2020, the group included 215 subsidiaries and 49 affiliated companies. Kobe Steel held an American Society of Mechanical Engineers (ASME) Material Organization Quality System Certificate but allowed it to expire on January 13, 2018. Such a certificate increases the likelihood of its holder to supply parts to the US domestic nuclear industry.

On October 8, 2017, Kobe Steel announced that it had falsified QA data related to the strength and durability of some aluminum and copper products to appear that they met customer standards. Later that month, the scope was expanded to include steel powder, steel and stainless-steel wire, and heavy plates, which impacted more than 500 customers. The triggering event was the detection of a June 2016 quality issue at one of Kobe Steel Group's companies, Shinko Wire Stainless Company, Ltd. To address this problem, Kobe Steel established an independent investigation committee on October 26, 2017, as described in the Kobe Steel report, "[Improper Conduct in the Kobe Steel Group](#)," dated October 26, 2017, and posted on the company's Web site.

As a result of the announcement, the NRC staff gathered data on components used in the U.S. nuclear fleet that Kobe Steel manufactured or for which it supplied materials. These included dry cask storage materials, containment metallic components, and weld filler material at construction sites, but the staff determined that they were not impacted by the falsification activities.

¹ Information obtained from Kobe Steel's Web site at https://www.kobelco.co.jp/english/about_kobelco/kobesteel/profile/index.html.

Issue Updates:

On May 3, 2018, the U.S. Department of Energy's Occurrence Reporting and Processing System updated the NRC staff on the Kobe Steel QA record falsification issue with information in a March 2018 investigation report by the Japanese government. The information contained two major points:

- (1) The timeline of Kobe Steel's misconduct, initially estimated to be less than 10 years, or dating back to 2007, has been expanded to five decades, or dating back to the 1970s.
- (2) The number of impacted Kobe Steel customers is substantially larger than the approximately 500 originally reported in the October 26, 2017, Kobe Steel report.

Following this update, the NRC staff researched the Kobe Steel falsification issue further and found the following additional information:

- The independent investigation committee identified additional impacted products (e.g., compressors, other industrial machinery) and services (e.g., corrosion analysis, heat treatment), bringing the number of impacted customers to nearly 700 as of the time of publication of this IN.
- Some Kobe Steel staff may have falsified inspection data (i.e., falsified to customer specifications) or fabricated test data for unmeasured products (i.e., falsified measurements).
- According to Kobe Steel, "the causes of the misconduct included overemphasis on profitability, inadequate corporate oversight, and insufficient quality control procedures."
- Kobe Steel has initiated corrective actions to deal with the identified causes.

Additional information appears in Kobe Steel's latest misconduct reports "Report on the Kobe Steel Group's misconduct", dated March 6, 2018, and "Progress of the Measures Promoted by the Kobe Steel Group to Prevent Recurrence of the Misconduct", dated August 1, 2018,² posted on the company's Web site.

Additional International Vendor QA Record Falsification Issues

Following the publication of IN 2018-11, the NRC's international counterparts, Autorité de Sûreté Nucléaire (ASN) of France and the Nuclear Regulation Authority (NRA) of Japan, informed the NRC of additional international vendors that appear to have falsified QA records. The ASN information is summarized in a report titled, "Irregularities detected at the metallurgist Aubert et Duval: an initial assessment shows there to be no impact on the safety of installations," dated August 20, 2019 (ADAMS Accession No. ML20295A395). The information in the ASN report is unrelated to the Kobe Steel event. The NRA information contained in a report titled "The Status Report of Nuclear Licensees about Manufacturers Inappropriate Act," dated June 26, 2019 (ADAMS Accession No. ML20295A360), that was provided to the NRC was the result of an extent of condition performed by Japanese licensees. The vendors in question supplied materials to French and Japanese nuclear facilities.

² Reports can be found at https://www.kobelco.co.jp/english/releases/1199082_15581.html and https://www.kobelco.co.jp/english/releases/1199898_15581.html.

According to the above ASN report, a French vendor supplied to the French nuclear industry materials with irregularities consisting mainly of inappropriate processing of certain internal anomaly sheets resulting from the manufacturing process and modifications of laboratory data. The ASN's public Web site (<http://www.french-nuclear-safety.fr/>) includes other related information.

In addition, the NRA informed the NRC in the above NRA report of 12 manufacturers in addition to Kobe Steel that reportedly engaged in improper activities related to products that the manufacturers may have supplied to Japanese nuclear facilities.

BACKGROUND

Related NRC Requirements and Policy

Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50 establishes QA requirements for the design, manufacture, construction, and operation of safety-related structures, systems, and components.

In 10 CFR Part 21 and 10 CFR 50.55, "Conditions of construction permits, early site permits, combined licenses, and manufacturing licenses," the NRC establishes procedures and requirements for reporting noncompliance activities and defects associated with basic components that could create a substantial safety hazard.

Related NRC Generic Communications

IN 1995-45, "American Power Service Falsification of American Society for Nondestructive Testing (ASNT) Certificates," dated October 4, 1995 (ADAMS Accession No. ML031060177), informed addressees of deliberately falsified ASNT certificates given to an NRC licensee in connection with the procurement of commercial-grade services.

Related NRC Inspection Reports

Inspection Report No. 99901395/2017-201 for IHI Corporation (IHI), dated January 25, 2018 (ADAMS Accession No. ML18024A739), identified Kobe Steel-supplied safety-related materials for use at U.S. nuclear construction sites. However, based on verification work by IHI, the inspectors concluded that the Kobe Steel QA record-falsification activities did not impact the materials in question.

The NRC Integrated Inspection Report Nos. 05200027/2017003, 05200028/2017003 for Virgil C. Summer Nuclear Station, Units 2 and 3, dated September 14, 2017 (ADAMS Accession No. ML17257A407), identified a Unit 2 reactor coolant pump casing material that Kobe Steel supplied. However, the review of the related certified material test report did not yield any findings. Shortly after this inspection, but for unrelated reasons, construction of Virgil C. Summer Nuclear Station, Units 2 and 3, was abandoned.

DISCUSSION

The NRC is issuing this IN to inform addressees of QA record falsification by international vendors that may have indirectly supplied material to U.S. nuclear facilities. In the case of Kobe Steel, the vendor formerly held an ASME Quality System Certificate, and the NRC staff found information during inspection activities that, as a third-party supplier, Kobe Steel sold material used in parts for use in safety-related applications at U.S. nuclear facilities. The NRC concluded that falsification activities by Kobe Steel did not impact parts used in U.S. nuclear facilities. Likewise, the NRC does not have direct knowledge that affected material supplied by

any of the additional international vendors identified in this IN was installed in U.S. nuclear facilities. However, given the number of parts potentially affected, it is not possible for the staff to exclude that possibility. The identified vendors produce material that could be provided to suppliers, and potentially be used in safety-related parts. Further, these vendors or suppliers could provide parts to licensees either under their 10 CFR Part 50, Appendix B, QA program or as commercial-grade items to be dedicated, or upgraded in accordance with the requirements of Subparagraph NCA-4255.5, "Utilization of Unqualified Source Material," of Subsection NCA of ASME Boiler and Pressure Vessel Code, Section III, for use in safety-related applications. Addressees should also account for the possibility that affected material may still be lingering in the nuclear supply chain.

CONTACTS

Please direct any questions about this matter to the technical contact listed below.

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**INFORMATION NOTICE 2018-11, SUPPLEMENT 1, "QUALITY ASSURANCE RECORD
FALSIFICATION AT KOBE STEEL AND OTHER INTERNATIONAL VENDORS," Date:
December 1, 2020**

ADAMS Accession No.: ML19357A138; *via email

OFFICE	NRR/DRO/ IOEB/TL*	QTE*	NRR/DRO/ IQVB2*	NRR/DRO/ IOEB/PM*	NRR/DRO/ IOEB/LA*	NRR/DRO/ IOEB/BC*
NAME	Alssa	JDougherty	KKavanagh	MLintz	IBetts	LRegner
DATE	09/08/2020	02/19/2020	09/08/2020	09/04/2020	09/16/2020	09/23/2020
OFFICE	NRR/OIP*	NMSS/MSST/D*	NRR/DRO/D*			
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DATE	09/08/2020	09/16/2020	12/01/2020			

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