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

November 9, 2022

Brad Greene
Vice President of Quality
NAC International, Inc.
3930 East Jones Bridge Rd., Suite 200
Peachtree Corners, GA 30092

SUBJECT: NAC INTERNATIONAL, INC. - U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 72-1031/2022-201

Dear Brad Greene:

On September 26, 2022, through September 29, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an announced onsite inspection at Hitachi Zosen Corporation Ariake Works (HZA) in Nagasu, Kumamoto, Japan. HZA is under contract with NAC International, Inc. (NAC) to fabricate important to safety (ITS) components of the NAC MAGNASTOR system.

The purpose of the inspection was to verify and assess the adequacy of NAC's compliance with the NRC requirements for the design, modification, fabrication, assembly, testing, and procurement of MAGNASTOR components. NAC is the holder of the certificate of compliance (CoC) and designer of the MAGNASTOR system.

The inspection scope included observations of fabrication activities, reviews of records, and interviews with personnel to determine whether a dry cask storage system (DCSS), fabricated by an offsite entity and for use in an independent spent fuel storage installation (ISFSI), is constructed in accordance with the commitments and requirements specified in the safety analysis report (SAR), the NRC's corresponding safety evaluation report (SER), Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72 and the CoC and technical specifications (TS); and to determine whether the outside fabricator's activities are conducted in accordance with NRC-approved quality assurance program (QAP) requirements. The enclosed report presents the results of this inspection, which were discussed with you and other members of your staff on September 29, 2022.

Based on the results of this inspection, the NRC inspection team determined that one Severity Level IV violation of NRC requirements occurred. The NRC is treating this violation as a Non-Cited Violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy. The NRC inspection team described this NCV in the subject inspection report.

If you contest this violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Director, Office of Nuclear Materials Safety and Safeguards; and (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,

Aida E. Rivera-Varona

Digitally signed by Aida E. Rivera-Varona
Date: 2022.11.09 10:08:54 -05'00'

Aida E. Rivera-Varona, Chief
Inspection and Oversight Branch
Division of Fuel Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 72-1031

Enclosure:
NRC Inspection Report No.
72-1031/2022-201

SUBJECT: NAC INTERNATIONAL, INC. - U.S. NUCLEAR REGULATORY COMMISSION INSPECTION REPORT NO. 72-1031/2022-201 DOCUMENT DATED: November 9, 2022

DISTRIBUTION:
MDavis, NMSS
MLearn, NMSS

ADAMS Accession No.: ML22308A194

OFFICE	DFM	DFM	DFM		
NAME	JTapp	WWheatley	ARivera-Varona		
DATE	11/04/22	11/07/22	11/09/22		

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Division of Fuel Management

Docket:	72-1031
Report.:	72-1031/2022-201
Enterprise Identifier:	I-2022-201-0033
Certificate Holder:	NAC International, Inc.
Facility:	Hitachi Zosen Corporation Ariake Works
Location:	Nagasu, Kumamoto, Japan
Inspection Dates:	September 26, 2022, through September 29, 2022
Inspection Team:	Jeremy Tapp, Transportation and Storage Safety Inspector, Team Leader Marlone Davis, Senior Transportation and Storage Safety Inspector Matthew Learn, Transportation and Storage Safety Inspector
Approved By:	Aida E. Rivera-Varona, Branch Chief Inspection and Oversight Branch Division of Fuel Management Office of Nuclear Material Safety and Safeguards

Enclosure

U.S. NUCLEAR REGULATORY COMMISSION
Office of Nuclear Material Safety and Safeguards
Division of Fuel Management

EXECUTIVE SUMMARY

NAC International, Inc.
NRC Inspection Report 72-1031/2022-201

On September 26, 2022, through September 29, 2022, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an announced onsite inspection at Hitachi Zosen Corporation Ariake Works (HZA) in Nagasu, Kumamoto, Japan. HZA is under contract with NAC to fabricate important to safety (ITS) components of the MAGNASTOR system.

The purpose of the inspection was to verify and assess the adequacy of NAC International's (NAC's) compliance with the NRC requirements for the design, modification, fabrication, assembly, testing, and procurement of MAGNASTOR components. NAC is the holder of the certificate of compliance (CoC) and designer of the MAGNASTOR system.

Design Control

- The team determined, for the items selected for review that the fabrication specifications were consistent with the design commitments and requirements documented in the safety analysis report (SAR), CoC, and technical specifications (TS). (Section 1.1)

Corrective Action and Non-Conformance Reports

- The team determined that HZA effectively implemented its nonconformance and corrective action control programs and has adequate procedures in place to ensure compliance with the applicable regulations and quality assurance requirements. (Section 1.2)

Personnel Training and Certifications

- The team determined that individuals performing quality-related activities were trained and certified as required. (Section 1.3)

Human Performance

- The team determined that the offsite fabricator's personnel were familiar with the specified design, designated fabrication techniques, testing requirements, and quality controls (QC) associated with the construction of the dry cask storage systems (DCSSs). (Section 1.4)

Procurement

- The team determined that materials, components, and other equipment received by the fabricator meet DCSS design procurement specifications, and the procurement specifications conform to the design commitments and requirements contained in the SAR, CoC, and TS. (Section 1.5)

Implementing Procedures

- The team determined that DCSS components were generally being fabricated and inspected per approved quality assurance (QA) and Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21 implementing procedures and fabrication specifications. In addition, the team concluded that HZA effectively implemented its measuring and test equipment (M&TE) control program and has adequate procedures in place to ensure compliance with the applicable regulations, industry standards and quality requirements. (Section 1.6)

10 CFR Part 21

- The team determined that fabrication activities were conducted under an NRC-approved QAP (10 CFR 72.140); the provisions of 10 CFR Part 21 were implemented; the fabricator's personnel were familiar with the reporting requirements of 10 CFR Part 21; and the fabricator complied with 10 CFR 21.6, "Posting requirements." (Section 1.7)

Oversight and Audits

- The team determined, for most of the items selected for review that NAC and HZA are performing oversight and audits in accordance with their quality assurance program (QAP). The team identified one Severity Level IV violation of 10 CFR 72.154, “Control of purchased material, equipment, and services” for HZA’s failure to perform an adequate audit of a suppliers QA program to ensure it meets all applicable requirements of 10 CFR Part 72, Subpart G. (Section 1.8)

REPORT DETAILS

1.0 ISFSI Component Fabrication by Outside Fabricators (Inspection Procedure (IP) 60852)

1.1 Design Control

1.1.1 Inspection Scope

The team determined whether the fabrication specifications were consistent with the design commitments and requirements documented in the SAR, CoC, and TSs.

The team reviewed NAC MAGNASTOR licensing drawings against the design and fabrication drawings to verify the consistency of critical dimensions and material specification as well as testing and inspection requirements to determine whether they were consistent with the design. Specifically, the team focused on design commitments and requirements for ITS Category A and B components of the MAGNASTOR Transportable Storage Canister (TSC) design from the NAC MAGNASTOR SAR to design and fabrication drawings, and subsequently shop manufacturing plans. The team reviewed NAC specification 71160-S-05, “Procurement Specification MAGNASTOR TSC,” Revision 3.

The team evaluated the design controls that were in place for the transmittal and handling of design drawings received from NAC and how HZA transitioned from design to fabrication, as applicable. The team also evaluated the process for distributing controlled drawings, their locations, and retrieval to verify that old or uncontrolled versions were not being used. The team reviewed the following HZA quality assurance manual (QAM) sections:

- QAM Section M-10-2, “Design Control,” Revision 4
- QAM Section M-15-1, “Document Control,” Revision 13
- QAM Section Q-30-2, “Standard for Control of Request for Design Change, Specification Change and Material Utilization,” Revision 2

1.1.2 Observation and Findings

The team did not identify any discrepancies between the design and fabrication specifications and the SAR licensing drawings. The team noted that HZA captured all requirements that were applicable to fabrication and noted that HZA fabrication drawings contained the relevant information needed for fabrication and had adequate document control and storage of QA records.

Overall, the team did not identify any issues of concerns in the translation of design information. The team noted fabrication drawings, shop travelers, and procedures were adequately identified at various work locations with each component as necessary and that documents reflected the correct revisions, as applicable.

No findings were identified.

1.1.3 Conclusions

The team determined, for the items selected for review that the fabrication specifications were consistent with the design commitments and requirements documented in the SAR, CoC, and TS.

1.2 Corrective Action and Non-Conformance Reports

1.2.1 Inspection Scope

The team reviewed a sample of nonconformance records and corrective action reports (CARs) to verify that HZA and NAC effectively implemented nonconformance control and corrective action programs (CAPs) in accordance with the requirements of 10 CFR Parts 72 and 21. The team verified that HZA and NAC completed corrective actions for identified deficiencies and nonconformances in a technically sound and timely manner. The team reviewed the following sections of the QAM, and quality standard procedures related to the HZA programs:

- Section M-31-1, “Nonconformance Control,” Revision 9
- Section M-32-1, “Corrective Action,” Revision 11
- Q-15-1, “Control of Nonconforming Items,” Revision 12
- Q-32-1, “Corrective Action Standard,” Revision 2
- Q-32-2, “Implementation of Root Cause Analysis Standard,” Revision 0

The inspectors reviewed nonconformance reports (NCRs) and CARs from the previous four years, which included NAC’s deposition of HZA NCRs and CARs, and several NAC’s CARs related to the fabrication activities at HZA. The team also discussed the NCRs and CARs with both the HZA and NAC personnel.

1.2.2 Observation and Findings

Overall, the team assessed that HZA had an adequate nonconformance and CAP in place to resolve deficiencies. The team assessed that HZA, and NAC appropriately identified issues and implemented corrective actions in a time frame commensurate with their safety significance.

No findings were identified.

1.2.3 Conclusions

The team concluded that HZA effectively implemented its nonconformance and corrective action control programs and has adequate procedures in place to ensure compliance with the applicable regulations and quality assurance requirements.

1.3 Personnel Training and Certifications

1.3.1 Inspection Scope

The team determined whether individuals performing quality-related activities were trained and certified where required. The team reviewed the records of two selected

quality inspectors and two welders that performed nondestructive testing (NDT) and welding. Selected records and personnel interviews were also performed. The following quality procedures were reviewed:

- QAM Section M-50-1, “Examination, Inspection and Test,” Revision 6
- Q-01-2, “Qualification Standard for Inspector and Test Personnel,” Revision 4
- Q-01-4, “NDE Personnel Qualification and Certification Standard,” Revision 8

1.3.2 Observation and Findings

The team noted welder performance qualifications and welder continuity conformed to Section IX of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. For the welding qualification records reviewed, the team noted that the welders were qualified in each applicable process, and that welding continuity was maintained for each of the welding processes qualified to date. The team also noted that personnel performing NDT at HZA are qualified in accordance with the American Society for Nondestructive Testing Recommended Practice No. SNT–TC-1A, which includes the required training, experience, medical testing, and education.

No findings were identified.

1.3.3 Conclusions

The team determined that individuals performing quality-related activities were trained and certified as required.

1.4 Human Performance

1.4.1 Inspection Scope

The team determined whether the fabricator's personnel were familiar with the specified design, designated fabrication techniques, testing requirements, and quality controls associated with the construction of the DCSS.

The team evaluated HZA's control of the fabrication process through observations, examinations of records, and personnel interviews in the areas of fabrication and assembly, test and inspection, and familiarity with tools and equipment.

The team observed/witnessed:

- Ultrasonic thickness testing of the TSC shell
- Ultrasonic testing of the TSC shell to base plate
- Liquid penetrant testing of the TSC shell lift lugs
- Magnetic particle testing of fuel tubes
- Helium leak testing of the TSC shell
- Dimensional testing of the TSC shell
- Laser welding of Fuel Tubes
- Gas Tungsten Arc Welding of the TSC shell to base plate
- Miscellaneous weld fit up and grinding

The team also reviewed a selection of shop travelers for in process MAGNASTOR TSCs as a part of the review of a selection of final document packages to determine if the travelers were being completed adequately.

1.4.2 Observation and Findings

The team noted that HZA personnel performed fabrication activities were adequate and that HZA staff were knowledgeable about the specified design, designated fabrication techniques, testing requirements, and QC associated with the construction of the DCSSs and TSCs. During the observations and reviews of fabrication and NDT activities the team determined that the work was well controlled, individuals were knowledgeable of the applicable fabrication process, and the work was being performed in accordance with the applicable fabrication procedures, shop travelers and weld procedure specifications (WPSs).

No findings were identified.

1.4.3 Conclusions

The team determined that the offsite fabricator's personnel were familiar with the specified design, designated fabrication techniques, testing requirements, and QC associated with the construction of the DCSSs.

1.5 Procurement

1.5.1 Inspection Scope

The team determined whether a) materials, components, and other equipment received by the fabricator meet DCSS design procurement specifications, and b) the procurement specifications conform to the design commitments and requirements contained in the SAR, CoC, and TS.

The team reviewed HZA's processes that address procurement, including traceability and receipt inspection. The team reviewed selected drawings and records and interviewed selected personnel to verify that the procurement specifications for materials, fabrication, inspection, and services performed at HZA met design requirements. The team verified that NAC used a graded approach for identifying ITS components during the design process and applied this graded quality to components and material procurement documents. The team selected ITS components such as the TSC lid and shell material, and TSC corner mounting plate for review. The team reviewed the following implementing procedures and procurement documents:

- QAM Section M-20-1, "Purchase Control," Revision 17
- QAM Section M-20-2, "Control of Purchased Items," Revision 6
- QAM Section M-25-1, "Material Identification and Verification," Revision 4
- Q-20-1, "Procurement Specification Standard," Revision 8
- Q-20-3, "Purchase Order Control Standard," Revision 8
- Q-20-4, "Standard for Procurement Quality Assurance Control," Revision 9
- Q-30-1, "Standard for Dedication of Commercial Grade Items," Revision 9

- 474-T-RI, “Receipt Inspection Procedure,” Revision 0
- NAC QP 7-1, Control of Purchased Items and Services,” Revision 13
- NAC QAM Section 7, “Control of Purchased Items & Services,” Revision 11

The team also reviewed the NAC Qualified Vendor List (QVL) dated 9/15/2022, HZA QVL-01, Revision 70, purchase orders (POs), certified material testing reports, and receipt inspection reports.

1.5.2 Observation and Findings

The team observed that HZA had adequate control of the procurement processes for the ITS materials and components reviewed. Overall, HZA procured ITS materials and components consistent with design requirements and their implementing procedures. Further, HZA’s material traceability, procurement, and receipt inspection controls were adequate. The team determined that the purchase orders were adequate and specified the applicable criteria and requirements including Part 21, as necessary. A master standard block gauge ordered and received by HZA met the design requirements, the critical characteristics and were adequate for the master standard that was commercial grade dedicated. Additionally, HZA verified and maintained the traceability throughout the procurement and receipt process. The team determined that HZA purchased the components from vendors on the HZA QVL, as necessary.

No findings were identified.

1.5.3 Conclusions

The team determined that materials, components, and other equipment received by the fabricator meet DCSS design procurement specifications, and the procurement specifications conform to the design commitments and requirements contained in the SAR, CoC and TS.

1.6 Implementing Procedures

1.6.1 Inspection Scope

The team determined whether DCSS components are being fabricated per approved QA and 10 CFR Part 21 implementing procedures and fabrication specifications. The team evaluated HZA's control of the fabrication process through observations, examinations of records, and personnel interviews in the areas of fabrication and assembly, test and inspection, and tools and equipment.

The team reviewed the following procedures:

- 474-G-01, “Fuel Basket Assembly Dummy Fuel Gauge,” Revision 0
- 474-T-UT–T, “Thickness Measurement (UT-T) Procedure,” Revision 0
- 474-T-HE, “Helium Leak Test Procedure,” Revision 0
- 474-T–VT/PT, “Visual Weld Examination and Liquid Penetrant Examination Procedure,” Revision 1
- 474-T-MT, “Magnetic Particle Examination Procedure,” Revision 1
- 474-T-UT, “Ultrasonic Examination Procedure,” Revision 0

- 474-F-CL, “Cleaning Procedure,” Revision 0

The team also reviewed various WPSs and associated procedure qualification records.

The team reviewed the control of measuring and test equipment (M&TE) program to evaluate how HZA identified, specified, and controlled tools and equipment in accordance with applicable sections of the QAM, quality standard procedures, and regulatory requirements. Specifically, the team reviewed the following quality documents:

- Section M-60-1, “Measuring and Test Equipment Control,” Revision 8
- Section M-60-2, “Gauge Control,” Revision 3
- Q-10-1, “Calibration Standard for Measuring and Test Equipment,” Revision 13
- Q-10-2, “Calibration Standard for Master and Standard Equipment,” Revision 8

The team selected a sample of the M&TE used during the fabrication of the MAGNASTOR fuel baskets and TSCs. The sample included a review of travelers that identified the use of specific M&TE that the team selected such as a pressure gauge, power, clamp and light meters, a thermometer, and an ultrasonic transmitter. The team also selected an x ray fluorescence spectrometer analyzer used to analyze material for counterfeit, fraudulent, and suspect items. The team reviewed the calibration records to verify calibration dates, testing standards, and traceability of the associated M&TE.

1.6.2 Observation and Findings

The team observed that DCSS components were being fabricated to approved procedures. The inspectors observed that the procedures contained the appropriate quantitative and/or qualitative acceptance criteria for determining that ITS activities have been satisfactorily accomplished. The inspectors observed that staff performing ITS activities were adequately following procedures during fabrication activities.

The team assessed that HZA established controls on M&TE in accordance with their quality requirements, industry standards and regulatory requirements. The team assessed that HZA personnel provided the appropriate information on shop travelers in accordance with approved procedures. The team verified that personnel used M&TE within their rated capacities and sensitivities as documented in calibration records.

No findings were identified.

1.6.3 Conclusions

The team determined that DCSS components were generally being fabricated and inspected per approved QA and 10 CFR Part 21 implementing procedures and fabrication specifications. In addition, the team concluded that HZA effectively implemented its M&TE control program and has adequate procedures in place to ensure compliance with the applicable regulations, industry standards and quality requirements.

1.7 10 CFR Part 21

1.7.1 Inspection Scope

The team reviewed the 10 CFR Part 21 quality procedure, Q-20-2, “Reporting Standard of Defects and Noncompliance,” Revision 6, to verify if provisions were in place for reporting defects that could cause a substantial safety hazard and completed the required notification in a timely manner. The inspectors requested a list of 10 CFR Part 21 evaluations and notifications associated with the fabrication activities and interviewed personnel to verify if they were familiar with the implementing procedure. The team also verified if HZA complied with 10 CFR 21.6, “Posting requirements.”

1.7.2 Observation and Findings

The team assessed that HZA and NAC has provisions in place for evaluating deviations and reporting defects that could cause a substantial safety hazard and for design or fabrication deficiencies that could affect the DCSSs ITS structures, systems, and components to perform their intended safety function, as required by 10 CFR Part 21 and 72.242(d), respectively. The team noted that the 10 CFR Part 21 posting at the HZA facility met the approved implementing procedure and the applicable requirements of 10 CFR Part 21.

No findings of significance were identified.

1.7.3 Conclusions

The team determined that fabrication activities were conducted under an NRC-approved QAP (10 CFR 72.140); the provisions of 10 CFR Part 21 were implemented; the fabricator's personnel were familiar with the reporting requirements of 10 CFR Part 21; and the fabricator complied with 10 CFR 21.6, "Posting requirements."

1.8 Oversight and Audits

1.8.1 Inspection Scope

With regard to QA activities, the team determined whether a) the fabricator has been audited by either the licensee or CoC holder, b) for selected audits and inspection findings from (as applicable) QA audit or surveillance and/or inspection reports issued since the last NRC inspection, the findings were appropriately handled with corrective actions implemented in a time frame commensurate with their safety significance, and c) supervision and QC/QA personnel perform appropriate oversight during fabrication activities.

The team reviewed the NAC audit program to determine if NAC scheduled, planned, and performed audits or surveillances of the fabricator (HZA) in accordance with their QAP. The team selected a sample of audits and surveillances from the time of the last NRC inspection to the present. The team reviewed the audit results to determine if NAC identified deficiencies and HZA addressed these deficiencies with their CAP. The team also evaluated whether NAC provided adequate supervision with QC/QA personnel for appropriate oversight during fabrication activities.

The team also reviewed the HZA audit program to determine if HZA scheduled, planned, and performed internal audits and external audits of their suppliers of ITS materials, equipment, and services. The team selected a sample of internal and external audits from the time of the last NRC inspection to the present. This included a sample of lead auditor and auditor certifications and qualifications. The team focused on activities related to HZA fabrication of the MAGNSTOR TSC. The team reviewed the internal audit results to determine if HZA identified deficiencies and addressed these deficiencies within their CAP. The team also reviewed the results of the external audits performed on ITS Category A suppliers, which included material steel suppliers.

The team also reviewed the last two management reviews of the HZA QAP to determine whether they were performed per procedure and were effective tools to assess the overall health of the QAP. The team reviewed the following QAM sections and quality procedure:

- QAM Section M-04-01, “Control of QA Manual,” Revision 4
- QAM Section M-90-1, “Audits,” Revision 7
- Q-01-3, “Audit Personnel Qualification Standard,” Revision 8

1.8.2 Observation and Findings

Overall, the team assessed that for the audits and surveillances sampled, as applicable that NAC and HZA generally conducted oversight with qualified and certified personnel, scheduled and evaluated the applicable quality of HZA’s QA program associated with fabrication activities. The team assessed that, in most cases, HZA and NAC appropriately identified issues and implemented corrective actions in a time frame commensurate with their safety significance.

As part of the external audit sample for HZA, the team reviewed HZA audit report No. V-35-21 of supplier Kobe Steel Ltd. Kakogawa Works (KSL) that was performed in July 2021. In the audit checklist, item number 12.2 asks if the subcontractor is performing calibration services evaluated by onsite audit except a national agency. The HZA auditor confirmed that KSL was not performing onsite audits or commercial grade dedication of calibration subcontractors and was only confirming the status of the calibration subcontractor’s International Laboratory Accreditation Cooperation-Mutual Recognition Agreement (ILAC–MRA) accreditation.

Since HZA was performing an audit of KSL to verify KSL meets all applicable requirements of 10 CFR Part 72, Subpart G, which includes control of measuring and test equipment and purchased material, equipment, and services, KSL would need to meet the NRC’s approved guidance in Nuclear Energy Institute (NEI) Technical Report 14-05A, Revision 1, for use of the ILAC–MRA accreditation in lieu of onsite audit or commercial grade survey as part of the commercial grade dedication process. However, the HZA auditor determined the process being used at KSL was satisfactory to meet 10 CFR Part 72, Subpart G requirements and only documented a recommendation that KSL use the commercial grade dedication process if relying on the ILAC–MRA accreditation without onsite audit. The team discussed with HZA whether it has been verified since this audit in July 2021 that KSL has implemented the process as

recommended, and it was determined that verification has not occurred as of the time of this inspection.

The team determined this was a violation of 10 CFR 72.154, “Control of purchased material, equipment, and services,” which states, in part that the certificate holder (HZA represents the certificate holder NAC) shall establish measures to ensure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery.

Contrary to the above, since July 2021, HZA failed to perform an adequate audit of KSL’s QA program to ensure it meets all applicable requirements of 10 CFR Part 72, Subpart G. Specifically, the NRC-approved process to perform commercial grade dedication in accordance with NEI 14-05A, Revision 1, when relying on an ILAC–MRA accreditation without onsite audit or commercial grade survey as part of the commercial grade dedication process.

The team dispositioned the violation using the traditional enforcement process in Section 2.3 of the Enforcement Policy. The team determined the violation was more-than-minor safety significance in accordance with Inspection Manual Chapter (IMC) 0617, “Vendor and Quality Assurance Implementation Inspection Reports,” Appendix E, “Minor Examples of Vendor and QA Implementation Findings,” Example 8.a; because the suppliers QA program did not meet all applicable requirements of 10 CFR Part 72, Subpart G. The team characterized the violation as a Severity Level IV violation in accordance with the NRC’s Enforcement Policy, Section 6.5. HZA entered the issue into its CAP under CAR C-22-C-07. Because this violation was of low safety significance and was entered into HZA’s CAP, the issue was not repetitive or willful, this is being treated as a Non-Cited Violation (NCV), consistent with Section 2.3.2.a of the Enforcement Policy. **(72-1031/2022-201-01)**.

1.8.3 Conclusions

The team determined, for most of the items selected for review that NAC and HZA are performing oversight and audits in accordance with their QAP. The team identified one violation of NRC requirements concerning the failure by HZA to perform an adequate audit of a suppliers QA program to ensure it meets all applicable requirements of 10 CFR Part 72, Subpart G.

2.0 Entrance and Exit Meeting

On September 26, 2022, the NRC inspection team discussed the scope of the inspection during an entrance meeting with Brad Greene and other members of the NAC and HZA staff. On September 29, 2022, the NRC inspection team presented the inspection results and observations during an onsite exit meeting to Brad Greene and other members of the NAC and HZA staff. Section 1 of the attachment to this report shows the attendance for the entrance and exit meetings.

ATTACHMENT

1. ENTRANCE/EXIT MEETING ATTENDEES AND INDIVIDUALS INTERVIEWED

Name	Title	Affiliation	Entrance	Exit
Jeremy Tapp	Inspection Team Leader	NRC/DFM	X	X
Marlone Davis	Inspector	NRC/DFM	X	X
Matthew Learn	Inspector	NRC/DFM	X	X
Brad Greene	Vice President of Quality	NAC	X	X
Samuel Shock	Fabrication Manager	NAC	X	X
Akinori Murakami	QA Manager	HZA	X	X
Atsushi Higashiiwa	Manager of QA Department	HZA	X	X
Hitoshi Tobita	Design Department General Manager	HZA	X	
Hitoshi Ihara	Project Execution Department General Manager	HZA	X	X
Yoshihiro Hashimoto	NEQAS Manager	HZA	X	X
Naoki Yamashita	Project Engineering Section No. 2 Manager	HZA	X	X
Hiroshige Kikumoto	Quality Assurance Section	HZA	X	X
Ryo Nakanomori	Welding Engineering Section	HZA	X	

2. INSPECTION PROCEDURES USED

IP 60852	ISFSI Component Fabrication by Outside Fabricators
NUREG/CR-6407	Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety
NUREG/CR-6314	Quality Assurance Inspections for Shipping and Storage Containers

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
72-1031/2022-201-01	Closed	NCV	Inadequate supplier audit

4. LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CAR	Corrective Action Report
CFR	*Code of Federal Regulations*
CoC	Certificate of Compliance
DCSS	Dry Cask Storage System
HZA	Hitachi Zosen Corporation Ariake Works
ILAC–MRA	International Laboratory Accreditation Cooperation-Mutual Recognition Agreement
IMC	Inspection Manual Chapter
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
ITS	Important to Safety
KSL	Kobe Steel Ltd. Kakogawa Works
M&TE	Measuring and Test Equipment
NAC	NAC International, Inc.
NCR	Nonconformance Report
NCV	Non-Cited Violation
NDT	Nondestructive Testing
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PO	Purchase Order
QA	Quality Assurance
QAM	Quality Assurance Manual
QAP	Quality Assurance Program
QC	Quality Control
QVL	Qualified Vendors List
SAR	Safety Analysis Report
SER	Safety Evaluation Report
TS	Technical Specifications
TSC	Transportable Storage Canister
WPS	Weld Procedure Specification

5. DOCUMENTS REVIEWED

Certificate holder and fabricator documents reviewed during the inspection were specifically identified in the Report Details above.