



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

August 23, 2019

Dr. Jiyong Oh
Senior Manager of Project Coordination
KHNP Washington DC Center
Suite 210
8100 Boone Blvd
Vienna, VA 22182

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT
OF KHNP WASHINGTON DC CENTER NO. 05200046/2019-201

Dear Dr. Oh,

On July 17, 2019, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at Korea Hydro and Nuclear Power's (hereafter referred to as KHNP) facility in Vienna, VA. The purpose of this limited-scope routine inspection was to assess KHNP's compliance with selected portions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 73, "Physical Protection of Plants and Materials," and Commission Order EA-13-033, "Order Imposing Safeguards Information Protection Requirements for Access to Safeguards Information."

This limited-scope inspection specifically evaluated KHNP's implementation of activities associated with the protection of Safeguards Information (SGI) associated with the design of the APR1400 reactor design for use as a U.S. nuclear power plant. The enclosed report presents the results of the inspection. This NRC inspection report does not constitute NRC endorsement of KHNP's overall SGI protection program.

During this inspection, the NRC inspectors observed the physical protections and programmatic processes utilized by KHNP to protect safeguards information. Based on the results of this inspection, the NRC inspection team found the implementation of your SGI protection program met the requirements imposed on you by the NRC. 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," the NRC will make available electronically for public inspection a copy of this letter and its enclosure through the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System, which is accessible at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

Kerri Kavanagh, Chief /RA/
Quality Assurance Vendor Inspection Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: NUCLEAR REGULATORY COMMISSION VENDOR INSPECTION REPORT
 OF KHNP WASHINGTON DC CENTER NO. 05200046/2019-201
 Dated August 23, 2019

Docket No.: 052-046

EPID No.: I-2019-201-0059

Enclosure:
 Inspection Report No. 05200046/2019-201
 and Attachment

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF INSPECTON AND REGIONAL SUPPORT
VENDOR INSPECTION REPORT**

Docket No.: 052-046

Report No.: 05200046/2019-201

Vendor: KHNP Washington DC Center
Suite 210
8100 Boone Blvd
Vienna, VA 22182

Vendor Contact: Dr. Jiyong Oh
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Nuclear Industry Activity: KHNP's facility in Vienna, Virginia is a management and marketing facility for KHNP licensing and marketing activities associated with the APR1400 power plant design in the US. They oversee KHNP's interface with the USNRC and with potential customers for the APR1400 in the US. They also maintain the necessary records for licensing and marketing activities, and previously served to oversee subcontractor efforts in support of licensing and design in the US during those phases of the APR1400 design's lifecycle.

Inspection Date: July 17, 2019

Inspectors: Jeffery Jacobson NRR/DIRS/IQVB, Team Leader
Thomas Herrity NRR/DIRS/IQVB

Approved by: Kerri A. Kavanagh, Chief
Quality Assurance Vendor Inspection Branch
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

Enclosure

EXECUTIVE SUMMARY

Korea Hydro and Nuclear Power Company
Washington D.C. Center
05200046/2019-201

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a vendor inspection at the Korea Hydro and Nuclear Power Company (hereafter referred to as KHNP) facility in Vienna, VA to verify that it had implemented an adequate Safeguards Information (SGI) protection program that complies with selected portions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 73, "Physical Protection of Plants and Materials." This was the second NRC inspection of KHNP at Vienna, VA. This inspection specifically evaluated KHNP's implementation of SGI protection activities associated with maintaining the physical security of the information by access control and the intellectual security by screening the users of the SGI prior to granting access to it.

The following regulations serve as the bases for the NRC inspection:

- 10 CFR 73.21
- 10 CFR 73.22
- Commission Order EA-13-033

During this inspection, the NRC inspection team implemented inspection procedure (IP) 81811, "Protection of Safeguards Information by Design Certification Applicants and Vendors," dated September 6, 2016.

In accordance with the IP, the NRC inspection team conducted the following activities:

- observed the physical security measures KHNP has in place to control access to the SGI;
- reviewed records for receipt, retention, distribution, and destruction of SGI;
- reviewed KHNP procedures for governing the handling of SGI and granting access to individuals and sub-contractor firms;
- conducted interviews with KHNP staff to assess knowledge of processes and procedures
- reviewed personnel records for screening of users to assess the decisions to grant access to individual.

With the exception of the minor issues described below, the NRC inspection team concluded that KHNP's SGI protection policies and implementing procedures comply with the applicable requirements of 10 CFR 73, and the Commission's Order and that KHNP's personnel are implementing these policies and procedures effectively. The results of this inspection are summarized below.

10 CFR 73.21 & 22, and Commission Order

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the implementation of its SGI protection program to verify compliance with the requirements of 10 CFR 73.21 & 22, and the Commission Order.

The NRC inspection team observed that KHNP had updated their SGI procedures to remove a sub-contractor after the conclusion of the contract, but prior to the SGI materials being returned or receiving notice of its destruction. KHNP opened a corrective action request (CAR) to revise their process to prevent revisions prior to return of the SGI or receipt of a notice of destruction.

The NRC inspection team observed that KHNP records documenting their audits of subcontractor SGI protection programs were not sufficiently detailed for an independent reviewer to conclude that the sub-contractor's program was adequate and being conducted properly. KHNP developed a CAR to revise their audit documentation process to address this.

The above two issues were determined to be minor as SGI is no longer being held at Jensen and Hughes and the NRC has performed recent inspections at Structural Solutions and has not identified any concerns with the storage or control of SGI at that facility.

REPORT DETAILS

1. Information Protection System

a. Inspection Scope

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the information protection system to ensure it conforms to the applicable measures specified in Title 10 the *Code of Federal Regulations* (10 CFR) 73.22, "Protection of Safeguards Information: Specific requirements," and the subsequently published Commission Order, EA-13-033, "Order Imposing Safeguards Information Protection Requirements for Access to Safeguards Information."

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that KHNP established its Information Protection System in accordance with the regulatory requirements of 10 CFR 73.22. Based on the limited sample of observations, the NRC inspection team also determined that KHNP is effectively implementing its policies and procedures associated with the Information Protection System. No findings of significance were identified.

2. Access to SGI

a. Inspection Scope:

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the access to SGI program to verify compliance with the requirements of 10 CFR 73.22(b). The NRC inspection team verified that KHNP's program conforms to the following:

- Personnel must have a need-to-know.
- Personnel must have favorably completed a criminal history records review
- Personnel are deemed 'trustworthy', based on a Commission approved review method.
- Personnel meet the exception requirements of 10 CFR 73.59

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observation and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that KHNP established its access to SGI system in accordance with the regulatory requirements of 10 CFR 73.22(b). Based on the limited sample of observations, the NRC inspection team also determined that KHNP is effectively implementing its policies and procedures associated with its access to SGI. No findings of significance were identified.

3. Protection of SGI

a. Inspection Scope

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the protection of SGI to verify compliance with the requirements of 10 CFR 73.22(c)(1) and 10 CFR 73.22(c)(2), specifically, the storage area(s), cabinet(s), lock(s), and work area(s) where SGI is utilized.

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that KHNP established its protection of SGI system in accordance with the regulatory requirements of 10 CFR 73.22(c)(1) and 10 CFR 73.22(c)(2). Based on its observations, the NRC inspection team also determined that KHNP is effectively implementing its policies and procedures associated with its protection of SGI. No findings of significance were identified.

4. Processing, Reproducing and Transmitting SGI

a. Inspection Scope

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the processing, reproducing and transmitting of SGI to verify compliance with the requirements of 10 CFR 73.22(g)(1), 10 CFR 73.22(g)(2), 10 CFR 73.22(e), and 10 CFR 73.22(f)(1), specifically, the computers utilized, the handling, packaging and receipt, process for sending and receiving, and for reproduction were all reviewed against the requirements in the regulations and the Order.

Among the provisions of the subject order was that KHNP shall store the SGI only in the facilities specifically approved by the NRC, and that KHNP could request in

writing approval for additional storage facilities. On April 6, 2015 and April 13, 2015, KHNP requested the NRC approve the storage of SGI at two additional facilities :(1) ANATECH Corp (now Structural Solutions) in San Diego, California and (2) Erin Engineering Research, Inc. (now Jensen and Hughes) in Campbell, California. In its request, KHNP indicated that they had audited these facilities and had determined that their SGI protection programs offered information protection levels equal to that of the KHNP program. Consequently, on April 28, 2015, the NRC granted KHNP permission to transfer and store SGI the two facilities.

In the April 28, 2015 letter, the NRC noted that KHNP would still be responsible for the transferred SGI and as such KHNP would need to modify its security procedures accordingly.

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observation and Findings

The NRC inspection team verified that KHNP had modified its security procedures as discussed above to reference the additional storage locations, but recently, the procedures were modified again to eliminate reference to storing the SGI at alternate locations. According to KHNP, the recent modifications were made since KHNP had asked that all SGI being held at these two locations be destroyed or returned. At the time of the inspection, KHNP indicated that all information at Jensen and Hughes had been destroyed but that Structural Solutions still had not destroyed or returned all the information. Consequently, the NRC inspection team noted that the KHNP procedures had been changed to eliminate reference to storage at the Structural Solutions location while SGI information at Structural Solutions was still being held. As a result of this concern, KHNP initiated CAP # 01306136.

The April 28, 2015 letter from the NRC also indicated that KHNP must ensure adherence of their two contractors to their approved SGI programs. During the inspection KHNP indicated that they had audited their contractors and had verified adherence to the approved SGI programs, but that they had failed to document the audit results. As a result of this concern, KHNP initiated CAP # 01306153.

The above two issues were determined to be minor as SGI is no longer being held at Jensen and Hughes and the NRC has performed recent inspections at Structural Solutions and has not identified any concerns with the storage or control of SGI at that facility.

c. Conclusion

The NRC inspection team concluded that, with the exception of the minor issues noted above, KHNP established its policies and procedure for processing, reproducing and transmitting of SGI system in accordance with the regulatory requirements of 10 CFR 73.22(g)(1), 10 CFR 73.22(g)(2), 10 CFR 73.22(e), 10 CFR 73.22(f)(1) and NRC Order Number EA-13-033. Based on its observations, the NRC inspection team also determined that KHNP is effectively implementing its policies and procedures. No findings of significance were identified.

5. Marking of SGI

a. Inspection Scope

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the marking of SGI to verify compliance with the requirements of 10 CFR 73.22(d)(1), and 10 CFR 73.22(d)(2), specifically, the documents and transmittal cover letters are properly marked in accordance with the requirements in the regulations and the Order.

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team concluded that KHNP's policies and implementing procedures that govern the marking of SGI comply with the requirements of 10 CFR 73.22(d)(1), and 10 CFR 73.22(d)(2), specifically, the documents and transmittal cover letters are properly marked in accordance with the requirements in the regulations and the Order. No findings of significance were identified.

6. Removal of SGI and Destruction

a. Inspection Scope

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the removal and destruction of SGI for KHNP holdings to verify compliance with the requirements of 10 CFR 73.22(h) and CFR 73.22(i), specifically, the documents are reviewed periodically, and when necessary destroyed in a method that prevents re-construction in accordance with the requirements in the regulations and the Order.

The NRC inspection team discussed the program with KHNP's management and staff. The attachment to this inspection report lists the KHNP documents reviewed, and the KHNP staff interviewed by the NRC inspection team.

b. Observations and Findings

No findings of significance were identified.

c. Conclusion

The NRC inspection team reviewed KHNP's policies and implementing procedures that govern the removal and destruction of SGI from KHNP holdings to verify compliance

with the requirements of 10 CFR 73.22(h), and 10 CFR 73.22(i), specifically, the documents are reviewed and when no longer needed are destroyed in an appropriate manner in accordance with the requirements in the regulations and the Order. No findings of significance were identified.

7. Entrance and Exit Meetings

On July 17, 2019, the NRC inspection team discussed the scope of the inspection with Dr. Jiyong Oh, Manager, Project Coordination, and other members of KHNP's management and technical staff. On July 19, 2019, the NRC inspection team presented the inspection results and observations during an exit meeting teleconference with Dr. Jiyong Oh, and other members of KHNP's Washington DC Center staff.

Attachment

1. ENTRANCE/EXIT MEETING ATTENDEES

Name	Title	Affiliation	Entrance	Exit*	Interviewed
Dr. Jiyong Oh	Manager, Project Coordination	Korea Hydro & Nuclear Power Co, LTD	X	X	X
David Yang	Manager, Assistant	KHNP	X	X	X
Robert Sweeney	KHNP Contractor	AECOM	X	X	X
Jeffery Jacobson	Inspector, Team Lead	NRC	X	X	
Thomas Herryty	Inspector	NRC	X	X	

* via tele-conference, July 19, 2019.

2. INSPECTION PROCEDURES USED

Inspection Procedure (IP) 81811, "Protection of Safeguards Information by Design Certification Applicants and Vendors," dated September 6, 2016

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Item Number	Status	Type	Description
NONE			

4. DOCUMENTS REVIEWED

Policies and Procedures

- Korea Hydro & Nuclear Power Co, LTD (KHNP), "DC-DG-03-19, Protection of Safeguards Information (SGI), Revision 3, dated July 2019

- KHNP DC-DG-03-20, Safeguards Information (SGI) Access Authorization, Revision 3, dated July 2019
- Commission Order, EA-13-033, "Order Imposing Safeguards Information Protection Requirements for Access to Safeguards Information"
- NRC letter dated July 1, 2013, to Myung Ki Kim, KHNP, "Issuance of order imposing safeguards information protection requirements, fingerprinting and criminal history records checks required for access to safeguards information"

Corrective Action Reports (CARs) Opened During the NRC Inspection

01306136 – Incomplete Action Prior to Procedure Revision, dated 20190718

01306153 – Failure to Document Contractor Audit, dated 20190718