

February 22, 2013

Mr. Mark Varno  
Senior Vice President, Advanced Programs  
General Electric-Hitachi Nuclear Energy  
3901 Castle Hayne Road  
Office 5506; Bldg. J  
Mail Code J32  
Wilmington, NC 28402-2819

SUBJECT: NRC INSPECTION REPORT 07200001/12003(DNMS) - GENERAL ELECTRIC-  
HITACHI MORRIS OPERATION FACILITY

Dear Mr. Varno:

On February 14, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed inspection activities at the General Electric-Hitachi Morris Operation Facility in Morris, Illinois. The purpose of the inspection was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. Specifically, the inspectors evaluated actions by the licensee to remove approximately 565 acres known as Parcel 1 from the Consolidated Safety Analysis Report. At the conclusion of the inspection, the results were discussed during an exit meeting on February 14, 2013.

Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of documentation to facilitate changes, tests, and experiments and radiation and environmental monitoring evaluations.

Based on the results of this inspection, the inspectors did not identify any violations of NRC requirements.

In accordance with Title 10 of the Code of Federal Regulations 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

M. Varno

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We will gladly discuss any questions you have concerning this inspection. If you have questions, please contact Mr. Matthew Learn at (630) 829-9603.

Sincerely,

**/RA/**

Christine A. Lipa, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch

Docket No. 07200001  
License No. SNM-2500

Enclosure:  
Inspection Report 07200001/12003(DNMS)

cc w/encl: J. Tenorio, Morris Operation  
C. Settles, Head Resident Inspection  
Illinois Emergency Management Agency

M. Varno

-2-

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C. Settles, Head Resident Inspection  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.:	072-00001
License No.:	SNM-2500
Report No.:	07200001/12003(DNMS)
Licensee:	GE-Hitachi Nuclear Energy Americas, LLC
Facility:	Morris Operation
Location:	7555 East Collins Road Morris, IL 60450
Dates:	In office review from July 12,2012 through February 14, 2013
Inspectors:	Matthew Learn, Reactor Engineer Jeremy Tapp, Health Physicist
Approved by:	Christine A. Lipa, Chief Materials Control, ISFSI, and Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

## **EXECUTIVE SUMMARY**

### **GE-Hitachi Nuclear Energy Americas, LLC Morris Operation NRC Inspection Report 07200001/12003(DNMS)**

The inspection consisted of a review of documentation to facilitate changes, tests, and experiments and radiation and environmental monitoring evaluations. Specifically, the inspectors evaluated actions by the licensee to remove approximately 565 acres known as Parcel 1 from the Consolidated Safety Analysis Report (CSAR).

#### **Changes, Tests, and Experiments**

- The licensee maintains its Changes, Tests, and Experiments program in accordance with applicable regulations, the License, and Technical Specifications. (Section 1.1)

#### **Radiation Protection and Environmental Monitoring**

- The licensee established and maintained its Environmental Monitoring and Radiation Protection Programs in accordance with applicable Title 10 of the Code of Federal Regulations (CFR) Part 20 and 72 regulations, the License, and Technical Specifications. The licensee adequately demonstrated that Parcel 1 was non-impacted through soil and water sampling analysis results at background levels. The licensee adequately demonstrated continued compliance with 10 CFR 72.104 and 72.106 without Parcel 1. (Section 1.2)

## **Report Details**

### **1.0 Away from Reactor Independent Spent Fuel Storage Installation (ISFSI) (IP 60858)**

#### **1.1 Changes, Tests, and Experiments**

##### **a. Inspection Scope**

The inspectors reviewed the licensee's implementation of the Changes, Tests, and Experiments Program to ensure compliance with 10 CFR 72.48 for removal of Parcel 1 from the CSAR.

##### **b. Observations and Findings**

The licensee completed "10 CFR 72.48 Applicability Analysis for Changes, Test, Experiments," dated May 23, 2012, and two subsequent revisions to the analysis. The analysis was completed to remove reference of Parcel 1, from the CSAR. Parcel 1 is not described in the License or Technical Specifications.

General Electric-Hitachi Morris Operation (GEH-MO) facilities are located on a tract of approximately 886 acres owned by General Electric Hitachi Company in Gooselake Township, Grundy County, Illinois, near the confluence of the Kankakee and Des Plaines Rivers.

GEH-MO facilities occupy approximately 52 acres in the north portion of the tract. Principal plant structures, including the ventilation stack, are located within an area of approximately 15 acres. Access to the facility is controlled by gates and a large fence. The remainder of the tract is enclosed by an agricultural fence.

Parcel 1 is made up of approximately 562 acres of land on the southern half of the GEH-MO tract. GEH-MO facilities are not located on Parcel 1.

The licensee's analysis discussed that GEH has never used the Parcel 1 for principal activities and plans to remove reference to Parcel 1 in the CSAR. The analysis discussed that GEH has reviewed site history and operations and determined that Parcel 1 is a non-impacted area and can be released without any limitations or conditions. In addition, the analysis discussed that Parcel 1 has undergone environmental studies to support the removal of Parcel 1 from the CSAR.

The inspectors reviewed the licensee's analysis to ensure compliance with applicable regulations. Specifically the inspectors reviewed the licensee's analysis to ensure: compliance with 10 CFR 72.48; continued compliance with 10 CFR 20.1301, 10 CFR 72.104 and 10 CFR 72.106; and 10 CFR 72.54 and 10 CFR 20.1402. Compliance with these radiological requirements is discussed in Section 1.2

No violations were identified.

c. Conclusion

The licensee established and maintains its Changes, Tests, and Experiments Program in accordance with applicable regulations, the License, and Technical Specifications.

**1.2 Radiation Protection and Environmental Monitoring**

a. Inspection Scope

The inspectors reviewed the licensee's Radiation Protection and Environmental Monitoring Program and reviewed documentation to ensure compliance with 10 CFR 20.1301, 10 CFR 72.104, 10 CFR 72.106, 10 CFR 72.54 and 10 CFR 20.1402 for removal of Parcel 1 from the CSAR.

b. Observations and Findings

The inspectors reviewed the licensee's analysis and supporting information to remove reference to Parcel 1 from the CSAR and ensure compliance with 10 CFR 72.54 and 20.1402. The analysis discussed that GEH has reviewed site history and operations and determined that Parcel 1 is a non-impacted area and could be released without any limitations or conditions.

To support the conclusion that Parcel 1 was non-impacted, the licensee performed additional environmental studies. Specifically the licensee performed soil, surface water, and groundwater sampling on Parcel 1. The soil samples were analyzed for gross alpha, gross beta, and tritium; and gamma spectroscopy was performed on a selected number of samples. Water samples were analyzed for gross alpha, gross beta, and tritium. Soil sample gamma spectroscopy results showed no radionuclides present from GEH-MO operations. The licensee compared both soil and water sample results to known background levels to demonstrate the site was non-impacted.

In addition to the above, the inspectors reviewed groundwater sample data from within the operational site boundary to verify that leakage from the spent fuel basin, if any has occurred, has not migrated onto to Parcel 1. No radionuclides resulting from GEH-MO operations were detected.

The inspectors reviewed the licensee's analysis and supporting information to remove reference to Parcel 1 from the CSAR and ensure compliance with 10 CFR 20.1301, 10 CFR 72.104, and 10 CFR 72.106.

The inspectors reviewed the licensee's historical annual offsite dose environmental reports to ensure that the reduction in the property acreage would not impact the licensee's compliance with 10 CFR 72.104 and 10 CFR 20.1301.

The inspectors reviewed the licensee's CSAR to ensure that the licensee's analyzed design basis accidents and associated projected offsite dose would not exceed 10 CFR 72.106 limits with the reduction in the property acreage.

The inspectors observed that during past CSAR revisions the definition of "owner controlled area" which defines the boundary at which the accident dose requirements

apply per 10 CFR 72.106 was unclear and may have changed from an area encompassing the entire tract of 886 acres to an area of 15 acres immediately surrounding GEH-MO facilities. The inspectors were concerned that if the accident analysis were performed utilizing an owner controlled area of 886 acres, the sale of Parcel 1 could invalidate these analyses and new analyses would need to be performed.

The inspectors reviewed the licensee's accident analysis contained within the CSAR that demonstrate compliance with 10 CFR 72.106 and observed that no quantitative distances were included in the CSAR, but rather boundaries were only qualitatively defined as the "owner controlled area." The inspectors questioned the licensee about the specific quantitative distances used in the analyses. The licensee was unable to provide additional information regarding specific quantitative distances, however, in response to the inspectors question the licensee performed additional calculations. The licensee performed "GEH Morris Operation Alternate Calculations of CSAR Fuel Bundle Drop and Fuel Basket Drop Events," Revision 0, dated February 7, 2013 to demonstrate that the accident analysis contained within the CSAR corresponded to an "owner controlled area" of 15 acres rather than 886 acres.

The inspectors reviewed the licensee's new calculations and concluded that 10 CFR 72.106 requirements would be met at the reduced property acreage described in the licensee's 10 CFR 72.48 report.

No violations were identified.

c. Conclusion

The licensee established and maintained its Environmental Monitoring and Radiation Protection Programs in accordance with applicable 10 CFR Part 20 and 72 regulations, the License, and Technical Specifications. The licensee adequately demonstrated that Parcel 1 was non-impacted through soil and water sampling analysis results at background levels. The licensee adequately demonstrated continued compliance with 10 CFR 72.104 and 72.106 without Parcel 1.

## **2.0 Exit Meeting**

The inspectors presented the inspection results to licensee management at the conclusion of the inspection on February 14, 2013.

ATTACHMENT: SUPPLEMENTAL INFORMATION



## **SUPPLEMENTAL INFORMATION**

### **PARTIAL LIST OF PEOPLE CONTACTED**

J. Tenorio, Plant Manager GEH Morris Operation  
B. Partney, Coordinator, Operation and Maintenance  
J. Legner, Administrator, EHS and Procurement  
M. Varno, Senior Vice President, Advanced Programs

### **INSPECTION PROCEDURE USED**

60858                      Away-From-Reactor ISFSI Inspection Guidance

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

Opened  
None

Closed  
None

Discussed  
None

### **LIST OF ACRONYMS USED**

ADAMS	Agencywide Documents Access and Management System
CFR	Code of Federal Regulations
CSAR	Consolidated Safety Analysis Report
DNMS	Division of Nuclear Materials Safety
GEH-MO	General Electric-Hitachi Morris Operation
NRC	United States Nuclear Regulatory Commission
MCID	Materials Control, ISFSI, and Decommissioning Branch
MO	Morris Operation
URI	Unresolved Item

## **LIST OF DOCUMENTS REVIEWED**

10 CFR 72.48 Applicability Analysis for Changes, Tests, Experiments; dated May 23, 2012

10 CFR 72.48 Applicability Analysis for Changes, Tests, Experiments; dated October 19, 2012

Release of South Section of Morris, Illinois Site; May 2012 (environmental study, with initial gross alpha gross beta)

GEH Morris Facility Groundwater Monitoring Results; August 16, 2012

Supplemental Information – Release of South Section of Morris Illinois Site; dated October 22, 2012

GEH Morris Operation Alternate Calculations of CSAR Fuel Bundle Drop and Fuel Basket Drop Events; dated February 7, 2013