SAFETY EVALUATION REPORT

DOCKET NUMBER: 07007016

LICENSE NUMBER: SNM-2019

LICENSEE: GE-Hitachi Global Laser Enrichment Facility

SUBJECT: TERMINATION OF SPECIAL NUCLEAR MATERIALS LICENSE NUMBER SNM-2019 FOR THE GLOBAL LASER ENRICHMENT FACILITY

1.0 BACKGROUND

On June 26, 2009, General Electric-Hitachi Global Laser Enrichment LLC (GLE) (the applicant) submitted to the U.S. Nuclear Regulatory Commission (NRC), an application requesting a license, under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30, 40, and 70, to possess and use byproduct, source, and special nuclear material (SNM) in a laser-based uranium enrichment facility. GLE proposes that the facility be located in Wilmington, North Carolina, and have a nominal capacity of 6 million separative work units (SWUs)[1]. The application stated that the facility would possess natural, depleted, and enriched uranium, and will enrich uranium up to a maximum of 8 weight percent uranium-235. The applicant also requested a facility clearance for classified information under 10 CFR Part 95.

In September 2012, the NRC staff completed its review of the GLE facility license application, and on September 12, 2012 issued Special Nuclear Materials License Number 2019 (SNM-2019) to GLE to construct and operate the Global Laser Enrichment Facility. The results of the review were documented in NUREG-2120, "Safety Evaluation Report for the General Electric-Hitachi Global Laser Enrichment LLC Laser-based Uranium Enrichment Facility in Wilmington, North Carolina" (Agencywide Documents Access and Management System [ADAMS] Accession Number ML12060A007).

2.0 PROPOSED ACTION

In accordance with 10 CFR Paragraphs 30.36(d)(2), 40.42(d)(2), and 70.38(d)(2), by letter dated February 18, 2020 (ADAMS Accession Number ML20071H219), as revised on August 25, 2020 (ADAMS Accession Number ML20282A567) GLE requested termination of SNM-2019 for the Global Laser Enrichment. In its letter GLE stated that the facility, as described in the licensing documents listed in Condition 10 of SNM-2019, has not been constructed, and that no physical or principal activities authorized by the license had been conducted at the facility site. In its letter, GLE also stated that it has decided that the facility will not be constructed, and therefore, the license should be terminated.

[1] An SWU is a unit of enrichment that measures the effort required to separate isotopes of uranium.

3.0 DISCUSSION

Regulatory Requirements

Requirements for termination of the license under Sections 30.36, 40.42, and 70.38 of 10 CFR include the submission of NRC Form 314, "Certificate of Disposition of Materials," or equivalent information. The NRC staff finds that GLE met these requirements through the information submitted in its February 18, 2020, letter as revised on August 25, 2020.

GLE's Principal Activities

In Section 1.0 of its Safety Analysis Report, Revision 7, Chapter 1, "General Information," (ADAMS Accession Number ML12242A227), GLE provided a general description and purpose of the Global Laser Enrichment Facility. Based on the description provided by GLE, the facility's main activity/purpose was going to be the enrichment of uranium for producing nuclear fuel for use in commercial nuclear power plants. Enrichment of uranium was to be based on the laser enrichment process. However, since the facility was never constructed, this activity never took place.

Condition 11 of SNM-2019 stated, in summary, that introduction of uranium hexafluoride (UF_6) into any module of the Global Laser Enrichment Facility shall not occur until the Commission completed an operational readiness review (ORR) to verify that the facility has been constructed, and would be operated safely and in accordance with the requirements of the license. However, since the Global Laser Enrichment Facility was not constructed, no UF_6 was ever introduced. Therefore, an ORR would not be necessary.

Decommissioning Funding and Waste Management Activities

Condition 19 of SNM-2019 stated that, at least 6 months prior to obtaining regulated material, GLE shall provide an updated decommissioning funding plan (DFP), updated facility decommissioning cost estimate (DCE), and final copies of proposed financial assurance instruments to the NRC for review.

No licensed radioactive material was received under license SNM-2019, and therefore there is no licensed material requiring disposition. Furthermore, as the GLE Commercial Facility was not constructed, and no licensed material was possessed or generated under the license, no licensed material was processed, used or stored in this area. Consistent with the MARSSIM approach (NUREG-1575, Supplement 1, Section 2.2, dated January 2009), this area is concluded to be non-impacted, and there is no reasonable potential for residual licensed radioactivity requiring decommissioning that would preclude termination of the license. The land in which the facility was to be constructed was, and continues to be, deeded to General Electric. No change of ownership every occurred, and the land remains undeveloped. Therefore, there are no decommissioning obligations associated with SNM-2019 for this property.

Since the facility was not constructed, no radioactive material was ever received under the license, no regulated activities were ever conducted, and no buildings, structures, or facilities were built at the site, the NRC staff concluded that GLE does not need to provide the updated DFP, DCE, and/or the proposed financial assurance instruments.

Material Control and Accounting

The NRC staff determined that there are no material control and accounting issues or concerns that need to be addressed at the site. The Global Laser Enrichment Facility was not constructed, and no regulated activities were ever conducted at the site.

Information Security and Protection of Classified Matter

The NRC staff determined that there was no classified matter possessed, or classified information handled by GLE at the site because the facility was not constructed, no regulated activities were ever conducted, and no buildings, structures, or facilities were built. The site-specific facility clearance that was issued for GLE will also be terminated as part of this licensing action. GLE has requested a standalone security clearance which has been evaluated as a separate action (ADAM Accession Number ML20290A396). Therefore, there are no concerns regarding appropriate disposal or transfer of classified matter or classified information handling that need to be addressed.

Environmental Considerations

GLE seeks to terminate the license for which construction never commenced and nuclear material was never procured or brought on site. Terminating a license is a licensing action that would ordinarily require an environmental assessment under 10 CFR 51.21, unless a categorical exclusion (CATX) in 10 CFR 51.22(c) applies, and no special circumstances under 10 CFR 51.22(b) exist. Actions listed in 10 CFR 51.22(c) were previously found by the Commission to be part of a category of actions that "does not individually or cumulatively have a significant effect on the human environment."

The CATX identified in 10 CFR 51.22(c)(20) includes:

> Decommissioning of sites where licensed operations have been limited to the use of:
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> (i) Small quantities of short-lived radioactive materials;
> (ii) Radioactive materials in sealed sources, provided there is no evidence of leakage of radioactive material from these sealed sources; or
> (iii) Radioactive materials in such a manner that a decommissioning plan is not required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1), and the NRC has determined that the facility meets the radiological criteria for unrestricted use in 10 CFR 20.1402 without further remediation or analysis.

This CATX captures decommissioning activities at sites where contamination from radioactive material is determined to be nominal. In the case of the Global Laser Enrichment Facility, no associated radiological contamination exists because construction never commenced, and nuclear material was never procured or brought on site. As a result, a decommissioning plan for this site is not required by 10 CFR 30.36(g)(1), 40.42(g)(1), or 70.38(g)(1), and the site meets the radiological criteria for unrestricted use in 10 CFR 20.1402 without further remediation or analysis. Furthermore, no special circumstances under 10 CFR 51.22(b) apply. The factors listed in 10 CFR 51.22(c)(20) are consistent with the circumstances here because there is no environmental impact associated with terminating the license, which is even less than the nominal impacts anticipated by the CATX. Therefore, application of the CATX to the termination of the license is warranted. Consequently, in accordance with 10 CFR 51.22(c)(20), an environmental assessment is not required for the termination of SNM-2019.

4.0 CONCLUSION

As discussed above, the NRC staff has determined that the GLE termination request for SNM-2019 meets the categorical exclusion criteria set forth in 10 CFR 51.22(c)(20). The land in which the facility was to be constructed was and continues to be deeded to General Electric. No change of ownership every occurred, and the land remains undeveloped. Therefore, there are no decommissioning obligations associated with SNM-2019 for this property.

The NRC staff determined that no associated radiological contamination exists because construction never commenced, and nuclear material was never procured or brought on site. The NRC staff concludes that terminating the GLE SNM-2019 materials license for the Global Laser Enrichment facility does not represent an increased risk to public health and safety and the environment, and that a sufficient basis exists to terminate the license. Therefore, the NRC staff recommends that SNM-2019 for the Global Laser Enrichment Facility be terminated as requested by GLE.