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NRC073



**HITACHI**

**GE Hitachi Nuclear Energy  
Global Laser Enrichment, LLC**

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GLNR-2008-0002

December 8, 2008

Global Laser Enrichment  
Docket Number 70-7016

ATTN: Document Control Desk  
Michael Weber, Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

**SUBJECT: GE-HITACHI GLOBAL LASER ENRICHMENT LLC REQUEST FOR EXEMPTION FROM 10 CFR  
§§70.4 AND 70.23(a)(7) REQUIREMENTS GOVERNING "COMMENCEMENT OF  
CONSTRUCTION"**

Pursuant to Title 10 Code of Federal Regulations Section 70.17(a), GE-Hitachi Nuclear Energy (GEH) Global Laser Enrichment, LLC (GLE) hereby submits a request for an exemption from the regulations in 10 CFR §§70.4 and 70.23(a)(7). GLE intends to submit to the U.S. Nuclear Regulatory Commission (NRC) a license application for a full-scale uranium enrichment facility deploying laser isotope separation technology, to be located in Wilmington, North Carolina. Under the current regulations in 10 CFR Part 70, GLE may not engage in certain site-related activities prior to receipt of its license. Per the attached request, GLE is seeking an exemption that would allow GLE to commence certain activities at the earliest possible time without seeking any NRC licensing approval. The types of activities that GLE intends to perform prior to receiving a license from the NRC include:

- Clearing land for the uranium enrichment facility site
- Constructing access roadways
- Constructing guardhouses
- Installing security systems
- Installing utilities
- Constructing equipment fabrication and storage warehouses
- Constructing administrative buildings
- Installing parking areas.

These activities were evaluated for their environmental impacts during the preparation of the Environmental Report that will precede or accompany the GLE license application. The environmental impacts from these typical site-work activities are considered to be minimal and are summarized below.

The increased traffic associated with the proposed activities would be temporary and variable. Recent experience with construction on the Wilmington site has demonstrated that local traffic is minimally impacted. Noise levels are managed through best management practices to ensure that they remain in compliance with local ordinances. Air quality will be monitored to ensure that best management practices are controlling fugitive dust emissions.

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The site work will occur on approximately 100 acres of land already owned by GE and currently not accessible by the public. No identified cultural or historical resources will be impacted. There will be no visual/resource impacts that are out of character with the Wilmington Site vicinity or that would alter its existing mixed land-use setting. The numbers of workers required will not significantly affect socioeconomics in the region.

The proposed site work will not directly impact any surface waters. The impacts on water bodies from soil erosion will be minimal due to the use of best management erosion control and soil stabilization practices. Groundwater quality should not be impacted. No topographic impacts to floodplains are anticipated. The increase in impervious surface area will cause minor changes in stormwater runoff volume and flow during extreme storm events, and these impacts would be mitigated by natural systems such as collection, retention, and storage ponds. The construction of an access road will potentially cross two jurisdictional wetland areas and potentially impact two isolated wetlands however, direct and indirect impacts to these wetlands would be minimal and mitigated to the extent practicable and as required by regulations. GLE is working with the US Army Corps of Engineers and the North Carolina Division of Water Quality to ensure that the impacts to wetlands are minimized.

Site work on the 100 acres will displace some local wildlife populations and habitat on the site (overall 600 acres). There will be no direct impacts to rare or unique habitats or commercially or recreationally valuable species. The removal of forested biotic communities will alter the composition of habitat, but will not destabilize the existence of these communities, as they will adapt to the change. Overall, some wildlife populations on the Wilmington Site will be altered, but the existence of these species would not be destabilized.

If you have any questions, or require additional information, regarding your review and acceptance of this exemption request, please contact myself, President and Chief Executive Officer of GLE, at 910-819-5752 or email [TammyG.Orr@ge.com](mailto:TammyG.Orr@ge.com); or Albert E. Kennedy at 910-819-1925 or email [AlbertE.Kennedy@ge.com](mailto:AlbertE.Kennedy@ge.com).

Sincerely,



Tammy G. Orr  
President and CEO, GLE

Enclosures: Exemption Request

cc:	H. J. Neems, GEH	A. E. Kennedy, GEH GLE	T. Johnson, FCSS, NMSS, NRC
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**GE-HITACHI GLOBAL LASER ENRICHMENT LLC  
REQUEST FOR EXEMPTION FROM 10 CFR §§70.4 AND 70.23(a)(7) REQUIREMENTS  
GOVERNING “COMMENCEMENT OF CONSTRUCTION”**

**I.     Introduction**

GE-Hitachi Global Laser Enrichment LLC (GLE) intends to submit to the U.S. Nuclear Regulatory Commission (NRC) a license application for a full-scale uranium enrichment facility deploying laser isotope technology, to be located in Wilmington, North Carolina. Under the current regulations in 10 CFR Part 70, GLE may not engage in certain site-related activities prior to receipt of its license.

In particular, Section 193 of the Atomic Energy Act of 1954, as amended (AEA), among other things, prohibits “construction” of a uranium enrichment facility prior to completion of mandatory hearings and issuance of the license. In keeping with Section 193, 10 CFR § 70.23(a)(7) provides that an applicant may not commence construction of a uranium enrichment facility until the Director of Nuclear Material Safety and Safeguards makes certain findings pursuant to 10 CFR Part 51. Both 10 CFR §§ 70.4 and 70.23(a)(7), however, define “commencement of construction” to include various activities that have since been removed by the Commission from that definition in the context of 10 CFR Part 50.<sup>1</sup> The purpose and rationale for the changes to Part 50 (which allow, among other things, a broader range of site-related activities to be conducted without any NRC approval) are directly applicable to materials license facilities, such as the planned GLE enrichment facility. Therefore, GLE is seeking an

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<sup>1</sup> The activities currently prohibited by 10 CFR Part 70 include “any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site.” 10 CFR §§ 70.4, 70.23(a)(7). These activities do not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine site characteristics or other preconstruction monitoring to establish background information related to the suitability of a site or to the protection of environmental values. See 10 CFR §§70.4, 70.23(a)(7).

exemption that would simply conform the requirements governing GLE site-related activities to those now in place for Part 50 facilities, and would allow GLE to commence such activities at the earliest possible time without seeking any NRC licensing approval.

Section 70.17(a) states that:

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

10 CFR §70.17(a).

For the reasons discussed below, GLE's request for exemption from 10 CFR §§70.4 and 70.23(a)(7) is authorized by law, will not endanger life or property or the common defense and security, and is in the public interest. Accordingly, GLE respectfully requests that the NRC grant the requested exemption.<sup>2</sup>

## **II. The Requested Exemption is Authorized By Law.**

The requested exemption is authorized by law because there is no statutory prohibition on its issuance. In particular, Sections 193(b)(1) and (2) of the AEA state, among other things, that:

(1) In General. – The Commission shall conduct a single adjudicatory hearing on the record with regard to the licensing of the construction and operation of a uranium enrichment facility... .

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<sup>2</sup> Based upon the discussion below, the NRC may very well conclude that a generic rulemaking is appropriate to conform other provisions in its regulations, primarily in 10 CFR Parts 30, 40 and 70, to the Part 50 change it has adopted. However, any such rulemaking could take a substantial amount of time and would not afford the prompt relief necessary to meet GLE's project goals and timetables. Thus, the requested exemption is necessary, at least until any such rule changes are adopted. Accordingly, because 10 CFR §§ 30.33(a)(5) and 40.32(e) contain provisions identical to those of 10 CFR §70.23(a)(7), GLE also seeks exemptions from those regulations, pursuant to 10 CFR §§ 30.11 and 40.14, insofar as those regulations apply to the licensing of the proposed GLE enrichment facility.

(2) Timing. – Such hearing shall be completed and a decision issued before the issuance of a license for such construction and operation.

42 U.S.C. §§2243(b)(1) and (2) (2006). Emphasis added. While Section 193 requires a hearing and issuance of a license before uranium enrichment facility construction activities can commence, the AEA does not define the meaning or scope of the term “construction.”

As discussed in the Statements of Consideration accompanying the rule changes for Part 50 licenses, “the term construction is not defined anywhere in the AEA or in the legislative history of the AEA.” Limited Work Authorizations for Nuclear Power Plants, 72 Fed. Reg. 57,416, 57,425 (Oct. 9, 2007). The Commission also stated that “[i]nstead of expressly defining the term in the AEA, Congress entrusted the [NRC] with the responsibility of determining what activities constitute construction.” Id. at 57,427.

The NRC has defined the term in its regulations in varying ways over the years and has most recently narrowed the definition of “construction” under Part 50. In promulgating the new definition of work that can be performed without any prior NRC approval under Part 50, the Commission revised its view of its AEA-derived jurisdiction over certain activities. Specifically, the Commission concluded that its jurisdiction does not extend to site activities that lack a nexus to radiological health and safety or common defense and security. Moreover, the Commission concluded that the National Environmental Policy Act of 1969 (NEPA) cannot be construed to expand the Commission’s authority over such activities. In fact, in adopting the Part 50 rule changes, the Commission stated:

The NRC does not believe that the NRC’s proposed redefinition of “construction” constitutes unlawful “segmentation” which results in non-compliance with NEPA... . NRC’s redefinition reflects its reconsideration of the proper regulatory jurisdiction of the agency, and properly divides what was considered a single Federal action

into private action for which the NRC has no statutory basis for regulation, and the Federal action (licensing of construction activities with a reasonable nexus to radiological health and safety or common defense and security, for which no other regulatory approach is acceptable) which will require compliance with NEPA.

Id. at 57,418-19. Emphasis added. See also Id. at 57,420 (“the NRC does not possess statutory authority to regulate activities that do not have an impact upon radiological health and safety or common defense and security...”). Thus, the NRC has expressly acknowledged that it lacks regulatory jurisdiction to license or circumscribe the “private” activities that are the subject of this exemption request.

Accordingly, because there is no statutory prohibition on the requested exemption (and indeed not granting the exemption would result in the NRC licensing activities beyond its jurisdiction), it is authorized by law and should be granted.

### **III. The Requested Exemption Will Not Endanger Life or Property or the Common Defense and Security.**

Section 70.4 currently states that:

Commencement of construction means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site but does not include changes desirable for the temporary use of the land for public recreational uses, necessary borings to determine site characteristics or other preconstruction monitoring to establish background information related to the suitability of a site or to the protection of environmental values.

10 CFR §70.4.

GLE is requesting an exemption from this provision and from 10 CFR §70.23(a)(7), to the extent required, that parallels 10 CFR §50.10(a)(2) and that would authorize GLE to engage in the following activities prior to completion of hearings and issuance of the license:

- (i) Changes for temporary use of the land for public recreational purposes;
- (ii) Site exploration, including necessary borings to determine foundation conditions or other preconstruction monitoring to establish background information related to the suitability of the site, the environmental impacts of construction or operation, or the protection of environmental values;
- (iii) Preparation of the site for construction of the facility, including clearing of the site, grading, installation of drainage, erosion and other environmental mitigation measures, and construction of temporary roads and borrow areas;
- (iv) Erection of fences and other access control measures;
- (v) Excavation;
- (vi) Erection of support buildings (such as, construction equipment storage sheds, warehouse and shop facilities, utilities, concrete mixing plants, docking and unloading facilities, and office buildings) for use in connection with the construction of the facility;
- (vii) Building of service facilities, such as paved roads, parking lots, railroad spurs, exterior utility and lighting systems, potable water systems, sanitary sewerage treatment facilities, and transmission lines; and
- (viii) Procurement or fabrication of components or portions of the proposed facility occurring at other than the final, in-place location at the facility.

A more specific listing of the currently planned actions is provided in Attachment A. However this exemption request is for the activities described above, and should not be construed to be limited to the actions identified in Attachment A.

The context in which the Part 50 rule was developed is limited to prospective nuclear power plants.<sup>3</sup> The rulemaking associated with this regulation simply did not contemplate or address modifications to 10 CFR Part 70 that would benefit materials licensees. Without apparent intent to do so, the result of the rulemaking was to create an inconsistency between the

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<sup>3</sup> See Limited Work Authorizations for Nuclear Power Plants, 72 Fed. Reg. 57,416.

NRC's definition of "commencement of construction," as that term applies to reactor and materials licensees, notwithstanding the fact that the legal justification underlying the Commission's proposed redefinition of construction applies equally well to facilities licensed under 10 CFR Part 70. Because the definition of "commencement of construction" is virtually identical in Parts 50 and 70, and because these provisions governing construction activities serve the same purpose, the same logic used by the Commission in the recent change to Part 50 should be applied to Part 70 in order to ensure consistency with regard to the scope of the Commission's jurisdiction.<sup>4</sup>

Because the Commission has already concluded that the above activities have no nexus to radiological health and safety or the common defense and security in the context of a Part 50 facility, it is clear that granting an exemption to allow the conduct of such activities at the GLE uranium enrichment facility site would not endanger life or property or the common defense and security.<sup>5</sup> The activities encompassed by the exemption request bear no more nexus to radiological health and safety or the common defense and security for GLE's enrichment facility than they do for a Part 50 facility.

#### **IV. The Requested Exemption Is In the Public Interest.**

Finally, the requested exemption is in the public interest. In promulgating the changes to Part 50, the NRC considered a wide range of comments both in favor of, and opposed to, its

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<sup>4</sup> Indeed, the Commission itself has noted limitations regarding its authority over preclicensing construction activities for a nuclear materials facility. See *Nuclear Fuel Services, Inc.* (Erwin, Tennessee), CLI-03-3, 57 NRC 239, 246-50 (2003) (distinguishing between those actions the Commission can discourage by its authority over licensing, and those actions it can prohibit outright); see also *Pacific Gas & Elec. Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-06-23, 64 NRC 107, 108 n.9 (2006) ("As a legal matter, PG&E does not need an NRC license for [ISFSI-related] construction activity...").

<sup>5</sup> In the NRC's Part 50 rulemaking it made clear that, under NEPA, pre-construction activities "will be considered in the cumulative impacts analysis" in the EIS. Limited Work Authorizations for Nuclear Power Plants, 72 Fed. Reg. at 57,420. GLE's Environmental Report addresses the impacts of the planned pre-construction activities at the GLE site and those impacts will be evaluated as part of the overall EIS prepared by the NRC for the facility.



proposed regulatory changes. *See* Limited Work Authorizations for Nuclear Power Plants, 72 Fed. Reg. at 57,417-25. The NRC noted that neither the EPA or CEQ objected to the rule changes. *Id.* at 57,418. It also noted that power reactor “industry stakeholders ... stated that the business environment, today and in the foreseeable future, requires that new plants applicants minimize the time interval between a decision to proceed with ... construction ... and the start of commercial operation.” *Id.* at 57,426. The NRC “agree[d] that the agency’s regulatory processes should be revised and optimized to ensure that these stakeholders’ needs are met.” *Id.* Comparable considerations apply here.

Construction and operation of the GLE enrichment facility will help achieve an important national objective of national energy security policy long recognized by Congress, the Department of Energy, and other federal agencies. That objective is to assure the availability of diverse *domestic* sources of enriched uranium, in order to lessen dependence on foreign sources and to increase security of supply, through the use of more advanced and energy-efficient technologies than are currently available in the United States.<sup>6</sup> The NRC staff explicitly recognized this important national policy objective in its FEISs for the National Enrichment

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<sup>6</sup> Congress has noted that “domestic enrichment capability is essential for maintaining energy security” (S. REP. No. 101-60, at 20 (1989)), and that “a healthy and strong uranium enrichment program is of vital national interest” (H.R. REP. No. 102-474, pt. 2 at 76 (1992)). Specifically, national security interests require assurance that “the nuclear energy industry in the United States does not become unduly dependent on foreign sources of uranium or uranium enrichment services.” S. REP. No. 102-72, at 144-45 (1991). The Energy Policy Act of 1992 expressly cites the “national need to avoid dependence on imports.” 42 U.S.C. 2296b-6. In a 2002 letter to the NRC that references interagency discussions led by the National Security Council, the DOE cited the need to promote and maintain a viable and competitive domestic uranium enrichment industry for the foreseeable future. *See* Letter from W. Magwood, DOE, to M. Virgilio, NRC (July 25, 2002) *available at* ADAMS Accession No. ML022350130. To enable the potential commercial deployment of the SILEX technology in the United States, the U.S. and Australian governments entered into an Agreement for Cooperation that came into force in May 2001.

Facility (NEF) and the American Centrifuge Plant (ACP) licensing actions,<sup>7</sup> as did the Licensing Board and the Commission in related adjudicatory decisions.<sup>8</sup>

The industry has previously conveyed to the NRC the importance of having multiple domestic enrichment facilities – owned by different entities and deploying different enrichment technologies – assuring a diverse and reliable fuel supply.<sup>9</sup> The need for prompt deployment of additional domestic enrichment capacity is critical given current projections of supply and demand, and the clear need to expand the nation’s nuclear infrastructure to accommodate numerous planned new U.S. reactors. Market forecasts indicate that U.S. and global enrichment requirements and base supply will be in close balance after 2010, with a clear risk of supply shortfall after 2013, even with increased Russian commercial sales to Europe, allowance of some Russian commercial sales to the U.S.,<sup>10</sup> and the combined output of the proposed NEF and ACP at or above their proposed license capacities.<sup>11</sup> As a potential domestic provider of enrichment services, GLE is seeking to deploy its enrichment technology on a commercial scale before that timeframe to facilitate its entry into the market and to help meet the growing demand for enrichment services. Granting the exemption will allow GLE to complete certain, critical on-site

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<sup>7</sup> See NUREG-1790, Vol. 1, Environmental Impact Statement for the Proposed National Enrichment Facility in Lea County, New Mexico, at 1-2 (June 2005), NUREG-1834, Environmental Impact Statement for the Proposed American Centrifuge Plant in Piketon, Ohio, Vol. 1, at 1-5 to -6 (Apr. 2006).

<sup>8</sup> See *La. Energy Services, L.P.* (National Enrichment Facility), LBP-05-13, 61 NRC 385, 442, *aff’d*, CLI-05-28, 62 NRC 721, 726 (2005).

<sup>9</sup> Letter from J. O’Neill and C. Peterson, Shaw Pittman, L.L.P. to M. Lesar, NRC (Nov. 13, 2002) *available at* ADAMS Accession No. ML023250521.

<sup>10</sup> See, e.g., U.S. Department of Commerce, Office of Public Affairs, Press Release, “United States and Russian Uranium Agreement Reached” (Feb. 1, 2008) (announcing that the U.S. and Russia have signed a long-term suspension agreement governing trade in nuclear fuel), *available at* <http://www.commerce.gov/NewsRoom>.

<sup>11</sup> See, e.g., NUREG-1834 at 1-4 to -5 (including various enrichment demand and supply forecasts cited therein); James C. Cornell, President and CEO, NUKEM, Inc., Global Nuclear Renaissance Summit, Washington, DC: Can Supply Catch Up to High Case Demand? (Dec. 5, 2006) (presentation materials *available at* [http://www.nukeminc.com/pdfs/JAMES\\_C\\_CORNELL\\_POWER\\_POINT\\_FOR\\_NUCLEAR%20SUMMIT.pdf](http://www.nukeminc.com/pdfs/JAMES_C_CORNELL_POWER_POINT_FOR_NUCLEAR%20SUMMIT.pdf) and [http://www.nukeminc.com/pdfs/JAMES\\_C\\_CORNELL\\_SPEECH\\_TEXT\\_FOR\\_NUCLEAR\\_SUMMIT.pdf](http://www.nukeminc.com/pdfs/JAMES_C_CORNELL_SPEECH_TEXT_FOR_NUCLEAR_SUMMIT.pdf) (accessed October 16, 2008)).

activities in parallel with the licensing and hearing processes, and enable it to move to undertake actual construction activities promptly upon receipt of the necessary licensing approval. Thus, granting the exemption is clearly in the public interest.

**V. Conclusion**

For the reasons discussed above, GLE's exemption request clearly satisfies the standards set forth in 10 CFR §70.17(a). Accordingly, GLE respectfully requests that the exemption be granted.

**List of Currently Planned Pre-Licensing Actions at the GLE Site**

- Clearing of 100 Acres for GLE Facility  
(Cut & remove trees / Clear & grub stumps and roots / Bush hog perimeter areas)
- Site Grading and Erosion Control (Hydro seeding graded areas not under construction)
- Site Storm water Retention Ponds (3 each)
- Main Access Roadways and Guardhouses
  - Main Access Roadway from Hwy 133 to Site / 3 Guardhouses
  - Site Access Fencing (8'0"h fence along Main Access Roadway)
- Security Systems
  - Security Fencing & Gravel Access Roadway (20'w gravel road / 10'0"h Fence / 20'w gravel road / 10'0"h Fence / 20'w gravel road)
- Security Lighting / Cameras / Motion Detectors
- Vehicle Barriers / Stops
- Utilities
  - New 115 KV Substation (utilizing existing 115 KV power transmission line - limited to 10 MW power draw)
  - U/G Electrical Power to Fabrication Facility / Guardhouses & Security systems / Administrative Buildings
  - Process Water (Extension of existing lines and new lines / construction of New water tower)
  - Potable Water (Extension of existing lines and new lines)
  - Firewater (Extension of existing lines and new lines)
  - Sewerage (Extension of lines to existing sewerage treatment facility)
- Fabrication Facility and Warehouse
  - 60,000 ft<sup>2</sup> Fabrication Facility (necessary to support classified fabrication of long lead items)
  - 20,000 ft<sup>2</sup> warehouse to support Fabrication Facility
  - 35,000 ft<sup>2</sup> concrete pad for covered & conditioned storage
  - 3 Administrative Buildings
    - Parking areas and roadways
    - Landscaping