

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Paul S. Ryerson, Chairman
Dr. James F. Jackson
Dr. Michael O. Garcia

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In the Matter of)	Docket No. 70-7016-ML
)	
GE-HITACHI GLOBAL LASER ENRICHMENT)	ASLB No. 10-901-03-ML-BD01
LLC)	
)	
(GLE Commercial Facility))	June 22, 2012
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**GE-HITACHI GLOBAL LASER ENRICHMENT'S PREFILED TESTIMONY ON
TOPIC 2B (LICENSING AN EVOLVING DESIGN)**

I. INTRODUCTION

Q1. Please state your full name.

A1. My name is Julie Anne Olivier.

Q2. Please summarize your educational background and experience.

A2. I am Julie Anne Olivier. I have a B.S. in Chemistry from the University of New Orleans and a Masters Degree in Environmental Science and Engineering from Virginia Polytechnic Institute and State University (Virginia Tech). In addition, I have taken post-graduate doctoral courses in Environmental Systems Engineering at Clemson University. Over the course of my career in the nuclear industry, I have served in various technical, project management and licensing capacities, including over eight years (1999 to 2007) at the U.S. Nuclear Regulatory Commission (NRC). During my tenure at the NRC, I was a project manager for various fuel fabrication, uranium enrichment and other facilities, with duties ranging from the

lead technical reviewer for licensing actions involving chemical safety, to the lead environmental reviewer responsible for ensuring compliance with the National Environmental Policy Act (NEPA). Since 2007, I have worked at GE-Hitachi (GEH), holding positions within the Global Laser Enrichment (GLE) project as the Senior Licensing Professional and the Licensing and Regulatory Affairs Manager, my current title. At GLE, I have been intimately involved with the preparation and submittal of the License Application (LA), as well as the technical lead for environmental issues.

A full copy of my curriculum vitae is attached to this testimony as Appendix A.

Q3. What is the purpose of your testimony?

A3. The purpose of my testimony is to respond to Topic 2, “Licensing an Evolving Design,” Subpart B, one of six prefiled testimony areas identified by the NRC’s Atomic Safety and Licensing Board (Board) in its May 16, 2012 Memorandum and Order. Subpart A of this topic will be addressed by the NRC Staff in their prefiled testimony. My testimony addresses whether GLE’s design will change, and to the extent it does, how GLE will determine whether the change could impact the safety of the CF.

II. EVOLVING DESIGN

Q4. Are there aspects of the design of the GLE facility that are still evolving?

A4. Yes.

Q5. Do you believe that these will impact the safety of the CF?

A5. No.

Q6. Could you please explain the basis for your opinion?

A6. Yes. It is important to understand that a level of design detail for the CF was established that was sufficient to enable GLE to perform an effective and thorough safety review

and Integrated Safety Analysis (ISA). This level of design did not, of course, contain all of the detail needed to eventually construct the facility. Instead, it contained the basic design assumptions and parameters needed to perform the ISA, and to develop the safety basis for the CF.

The design used for that purpose was based on conservative and anticipated bounding assumptions, including such things as system descriptions, system interfaces, materials of construction, environmental conditions, handling devices, working area descriptions, measuring and monitoring instruments, devices for disposal of radioactive effluents and wastes, storage facilities, criticality accident alarm systems, fire safety systems, and maximum amounts of material-at-risk. So, for example, for uranium hexafluoride cylinder handling, the exact type of vehicle to be used to transport cylinders on site has not been decided. However, GLE committed to a generic on-site transport vehicle (OSTV) with certain attributes (including, fuel type and capacity, and load capability) to ensure safe and reliable operation. As another example, the Operations Building was conservatively specified at a height to handle the tallest configuration of several possible equipment configurations. This conservative assumption provided bounding limits on the aircraft crash analysis and on the structural analysis for natural phenomena events.

The NRC Staff reviewed the design at this stage of facility development and found it to be adequate for purposes of GLE's safety analyses (including the ISA) and sufficient for the NRC to perform its safety review, as reflected in the SER. It should be noted that, in my experience, it is unusual at best for a license applicant to have a complete design at the time it submits its license application, and that design evolution after license submittal (and even after license approval) is the rule not the exception in NRC practice. To that end, the NRC's NUREG 1520 states that "[t]he level of detail required for a licensing decision generally does not require

final facility design; however, identification of all IROFS and possible accident sequences is necessary to make a licensing decision.”

That level of design was used, as mentioned above, to perform the ISA and develop the safety basis for the CF. This safety basis includes, among other things, analysis of accident sequences, identification of Items Relied On For Safety (IROFS), Management Measures to ensure the IROFS are available and reliable when needed, defense in depth measures, and commitment to codes and standards to support ongoing design and construction to satisfy 10 CFR § 70.62.

Q7. Given the fact that the design is evolving, explain the basis for your conclusion that such design evolution will not impact the safety of the CF and how GLE will assist the NRC in ensuring that any future changes fall within the parameters of the license issued on the basis of the current design.

A7. First, in accordance with 10 CFR § 70.72(a), GLE has established and maintains a Configuration Management (CM) system to evaluate, implement and track changes to the site, structures, processes, systems, equipment, components, computer programs and activities of personnel. The CM program ensures that “prior to implementing any change” the following are addressed, among other things:

- Impact of the change on safety and health or control of licensed material;
- Authorization requirements for the change;
- Impacts of the change on the ISA, ISA Summary (ISAS) or other safety program, developed in accordance with 10 CFR § 70.62

Before implementing a change to the CF (such as design changes), a Change Request (CR) is prepared. A CR is a documented workflow process that must be completed prior to implementing design changes. Every CR is reviewed against the criteria in LA Section 1.2.5.5 and the criteria in 10 CFR § 70.72 to determine whether NRC approval is required prior to implementing the change. When a CR is submitted, the ISA Manager conducts an ISA review

(using qualified ISA Reviewers) against the approved ISA safety basis to determine if there are any impacts requiring prior NRC approval.

In addition, the Licensing Manager reviews the changes against the License Application to determine whether the changes “decrease the effectiveness of the license commitments”, in accordance with Section 1.2.5.5 of the License Application. If the changes trigger the criteria either in 10 CFR § 70.72 or Section 1.2.5.5, then GLE will submit to the NRC, for review and approval, an application to amend the license, which includes, as required, supporting documentation and revisions to the ISAS. Such changes shall not be implemented until approval is granted.

Upon documented completion of a CR for a facility or process, GLE may make changes in the facility or process as described in the LA, or conduct tests or activities not discussed in the LA, without prior NRC approval, subject to the following conditions: (1) there is no degradation in the safety commitments in the License; (2) the change, test, or activity does not conflict with any condition specifically stated in the LA; and (3) the change does not meet the criteria for a license amendment set forth in 10 CFR § 70.72. Dedicated records of such changes must be maintained, including technical justification and management approval to enable NRC inspection upon request at the CF. A report containing a description of each such change, and appropriate revised sections to the LA must be submitted to the NRC within three months of implementing the change. Any changes to the ISA not requiring NRC approval are submitted to the NRC on a yearly basis.

Q8. Does GLE have programs and procedures for evaluating potential design changes?

A8. Yes. GLE has established formal programs and procedures consistent with the criteria in 10 CFR § 70.72 and Section 1.2.5.5 of the License Application to evaluate such changes and to determine whether prior NRC approval is required.

The important point here is that if a design change is consistent and within the bounds of the safety basis established and approved on the basis of the existing design, then the change is bounded by that design and there are no safety implications. If it is not, then prior NRC approval must be obtained before implementing the design change.

Q9. Does GLE evaluate the effectiveness of the Configuration Management Program?

A9. Yes. GLE conducts planned internal and independent assessments to evaluate the application and effectiveness of Management Measures and implementation of programs related to facility safety. Periodic assessments of the Configuration Management Program are conducted to determine the program's effectiveness and correct any identified deficiencies. These assessments include review of documentation and system walk downs of the as-constructed CF. Configuration Management assessments are performed, at a minimum, on an annual basis. Individuals not involved in the area being assessed will conduct independent assessments.

III. CONCLUSION

Q10. Please summarize your overall conclusions regarding Topic 2B.

A10. I conclude that GLE's design will evolve, but any changes will not likely impact the safety of the CF. Any changes to the design will be thoroughly evaluated, implemented, and tracked based on GLE's Configuration Management Program and applicable change management processes. Changes within the existing safety basis will not affect the safety of the CF. Other changes will require prior NRC approval before the change can be made.

Q11. Does this conclude your testimony?

A11. Yes.

Q12. In accordance with 28 U.S.C. §1746, do you state under penalty of perjury that the forgoing is true and correct?

A12. Yes.

Executed in accord with 10 C.F.R. § 2.304(d)
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EDUCATION

1992, BS Chemistry, University of New Orleans
1993, MS Environmental Science and Engineering, Virginia Tech
Post-Graduate Doctoral Courses, Environmental Systems Engineering, Clemson University

PROFESSIONAL EXPERIENCE

Global Laser Enrichment, Wilmington NC

Licensing and Regulatory Affairs Manager (4/10 to Present)

- Responsible for managing the Federal, State, and Local government interactions
- Responsible for obtaining a license from the Nuclear Regulatory Commission to construct and operate the commercial laser enrichment facility
- Technical lead for environmental issues

Senior Licensing Professional (10/07 to 4/10)

- Technical lead for preparing and submitting the Global Laser Enrichment License Application to the Nuclear Regulatory Commission
- Author of chemical safety, environmental protection, decommissioning, management measures, and administration chapters of the License Application
- Interface between design and safety analysis teams

Nuclear Regulatory Commission, Rockville, MD

Senior Project Manager (10/6 to 10/07)

- Project Manager for Category I fuel fabrication facility
- Project Manager for gas centrifuge facility
- Acted as the Section Chief from 08/01/05 to 10/14/05
- Senior environmental reviewer, which includes preparation of documentation (e.g., Environmental Assessments, Categorical Exclusions) to ensure compliance with the National Environmental Policy Act (NEPA)
- Senior analyst for evaluations involving decommissioning of fuel conversion and fabrication facilities
- Senior technical reviewer for licensing actions involving chemical safety
- Prepared budget for the branch to be used in strategic planning

Special Assistant to the Chairman for Materials and Security (10/05 to 10/06)

- Reviewed and evaluated Commission papers, and provided recommendations to the Chairman regarding technical and policy decisions
- Prepared Congressional correspondence from the Chairman regarding security and nuclear materials issues.
- Represented the Chairman in meetings with staff and industry

Project Manager (5/99 to 10/05)

- Project manager for four fuel fabrication facilities
- Lead environmental reviewer for the fuel manufacturing section, which included preparation of documentation (Environmental Assessments, Categorical Exclusions) to ensure compliance with the National Environmental Policy Act (NEPA)
- Lead analyst for evaluations involving decommissioning of fuel conversion and fabrication facilities
- Technical reviewer for licensing actions involving chemical safety

Dames and Moore, Orchard Park, NY**Engineering Specialist (4/97 to 4/99)**

- Technical lead for field laboratory chemical analyses performed on soil and water samples for a chemical landfill remediation project at the U.S. Department of Energy's Brookhaven National Laboratory
- Project manager and lead author of the multi-volume West Valley Safety Analysis Reports, the primary document required by the Department of Energy to ensure safe operation and deactivation of nuclear facilities
- Lead analyst for all safety evaluations involving chemical reactions including the use of acids to clean out underground radioactive waste tanks, and the generation of oxides of nitrogen gases in process test facilities
- Authored extensive documentation including hazards assessments, facility deactivation plans, process safety requirements, procedural checklists, and position papers to demonstrate compliance with Department of Energy regulations and to ensure the safety of client activities
- Provided engineering calculations and technical guidance for Department of Energy contractors to ensure compliance with state emissions laws and reportable quantities of hazardous chemicals