

# **General Electric Hitachi Laser-Based Uranium Enrichment Facility Licensing**

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# Objectives

- **Provide brief summary of**
  - **Proposed General Electric-Hitachi (GEH) enrichment facility**
  - **U.S. Nuclear Regulatory Commission (NRC) licensing process**
  - **Environmental Impact Statement (EIS) process**
  - **NRC inspection program**
- **Answer public questions**

# Project Background



- **GEH is proposing to enrich uranium using a laser-based process at its site in Wilmington, NC**
- **Enriched uranium is needed for fuel for nuclear power plants**
- **After mining and initial processing of ores, uranium is converted into uranium hexafluoride. Uranium hexafluoride is then shipped to an enrichment plant.**

# Project Background



- **The laser-based system separates the U-235 and U-238 isotopes and increases the U-235 content from 0.7 percent to up to 10 percent.**
- **These enrichment levels are well below that needed to make nuclear weapons.**
- **The enriched uranium is then shipped to a fuel fabricator that will produce fuel pellets and fuel assemblies for nuclear power plants.**

# Project Background



- **In May 2008, NRC issued GEH a license to operate a laboratory-scale test loop to demonstrate the laser separation equipment at the Wilmington site.**
- **The test loop is currently under construction.**

# NRC Licensing Process



- **NRC is an independent agency responsible for ensuring protection of public and worker health and safety in use of radioactive materials.**
- **NRC is not a promoter of proposed project.**
- **Enrichment facility construction cannot begin until a license for construction and operation is issued.**
- **Laser safety is regulated by State of North Carolina Department of Labor**

# NRC Licensing Process



- **GEH is scheduled to submit a license application by the end of 2008.**
- **NRC will perform a technical review of the application to ensure it meets NRC health and safety requirements (10 CFR Parts 40 and 70).**
- **NRC will prepare an Environmental Impact Statement.**

# NRC Licensing Process



- **NRC technical review is expected to take 18 months.**
  - **NRC will review application**
  - **Request additional information, if needed**
  - **Document safety review in a Safety Evaluation Report**
- **Hearing is required for uranium enrichment plants**



# NRC Licensing Process



- **Public will have several opportunities to provide input to the licensing process.**
  - **Opportunity to petition for a hearing will be offered shortly after application is submitted**
  - **Environmental review process**
    - **Scoping meeting**
    - **Draft EIS**

# NRC Licensing Process



- **Staff will conduct a public meeting to discuss results of the Final EIS and Safety Evaluation Report.**
- **If license is issued, staff will conduct a public meeting to discuss its inspection program for facility construction.**

# NRC Licensing Process



- NRC has Uranium Enrichment and GEH project web sites.
- <http://www.nrc.gov/materials/fuel-cycle-fac/ur-enrichment.html>
- <http://www/nrc.gov/materials/fuel-cycle-fac/laser.html>

# NRC Licensing Process



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