



## Global Nuclear Fuel

A Joint Venture of GE, Toshiba, & Hitachi

### Global Nuclear Fuel – Americas, LLC

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July 28, 2010

Ms. Mary T. Adams, Senior Project Manager  
Fuel Manufacturing Branch  
Division of Fuel Cycle Safety  
and Safeguards NMSS  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-000

Subject: Request to Amend License SNM-1097 – Supplemental Request

References: 1) SNM-1097, Docket 70-1113  
2) NRC Renewal of SNM-1097 License, 5/19/09  
3) Request to Amend SNM-1097, S. P. Murray to M. T. Adams, 7/12/10

Dear Ms. Adams:

On July 12 2010, the Global Nuclear Fuel – Americas L.L.C. (GNF-A) facility in Wilmington, North Carolina requested revisions to our approved SNM license renewal application (Reference 3).

Attachment 1 to this letter provides a revised chapter 2 to that request with an additional change on page 2.2 (Figure 2.1). As a result, GNF-A requests that Attachment 1 to this letter replace the revised chapter 2 in our July 12 2010 amendment request.

Please contact me on (910) 819-5950 if you have any questions or would like to discuss this matter further.

Sincerely,

S.P. Murray, Manager  
Licensing and Liabilities

Attachment 1

cc: SPM-10-030  
MN Baker, USNRC NMSS  
R. Gibson, USNRC RII

## Attachment 1

**CHAPTER 2.0**  
**ORGANIZATION AND ADMINISTRATION**

**2.1 POLICY**

The GNF-A policy is to maintain a safe work place for its employees, to protect the environment, and to assure operational compliance within the terms and conditions of special nuclear material licenses and applicable NRC regulations.

**2.2 ORGANIZATIONAL RESPONSIBILITIES AND AUTHORITY**

**2.2.1 KEY POSITIONS WITH RESPONSIBILITIES IMPORTANT TO SAFETY (FIGURE 2.1)**

Responsibilities, authorities, and interrelationships among the GNF-A organizational functions with responsibilities important to safety are specified in approved position descriptions and in documented and approved practices.

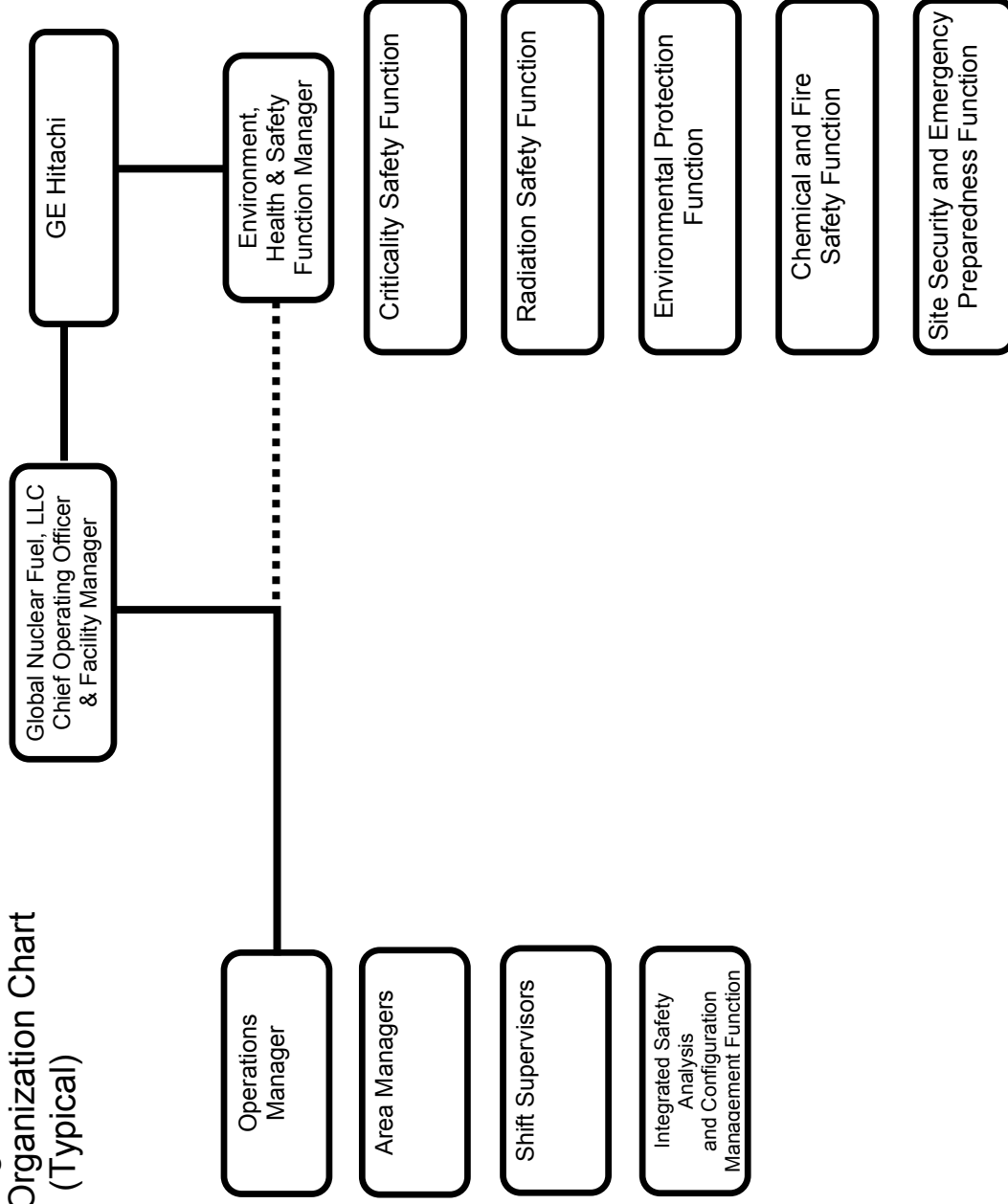
**2.2.1.1 GNF-A's Facility Manager**

The GNF-A Facility Manager is the individual who has overall responsibility for safety and activities conducted at GNF-A. The Facility Manager directs operations by procedure, or through other management personnel. The activities of the Facility Manager are performed in accordance with GNF-A's policies, procedures, and management directives. The Facility Manager provides for safety and control of operations and protection of the environment by delegating and assigning responsibility to qualified Area Managers.

The minimum qualifications of a Facility Manager is a BS or BA degree and two years experience in manufacturing operations. The Facility Manager is knowledgeable of the safety program concepts as they apply to the overall safety of a nuclear facility, and has the authority to enforce the shutdown of any process or facility. The Facility Manager must approve restart of an operation they request be shutdown.

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Figure 2.1  
GNF-A Organization Chart  
(Typical)



### 2.2.1.2 Area Manager

The Area Manager is the designated individual who is responsible for ensuring that activities necessary for safe operations and protection of the environment are conducted properly within their designated area of the facility in which uranium materials are processed, handled or stored. Designated Area Manager responsibilities include:

- Assure safe operation, maintenance and control of activities
- Assure safety of the environs as influenced by operations
- Assure performance of integrated safety analyses for the assigned facility area, as required
- Assure application of assurance elements to safety controls, as appropriate
- Assure configuration control for safety controls for the assigned facility area, as required
- Use approved written operating procedures which incorporate safety controls and limits
- Provide adequate operator training

The minimum qualifications of an Area Manager is a BS or BA degree in a technical field, and two years of experience in manufacturing operations, one of which is in nuclear fuel manufacturing; or a high school diploma with five years of manufacturing experience, two of which are in nuclear fuel manufacturing.

Area Managers shall be knowledgeable of the safety program procedures (including chemical, radiological, criticality, fire, environmental and industrial safety) and shall have experience in the application of the program controls and requirements, as they relate to their areas of responsibility. The assignment of individuals to the position of Area Manager is approved by the Facility Manager, and the listing of Area Managers by area of responsibility is maintained current at the facility.

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### 2.2.1.3 Integrated Safety Analysis and Configuration Management Function

The integrated safety analysis and configuration management function is administratively part of the fuel production operations at GNF-A. Designated responsibilities include:

- Establish and maintain the integrated safety analysis program and identify items relied on for safety (IROFS)
- Establish and maintain the assurance program for safety controls
- Provide advice and counsel to Area Managers on matters of the integrated safety analysis program
- Establish and maintain the configuration control system for fuel manufacturing equipment and safety controls, and related record retention
- Establish and maintain the operating procedure systems

Minimum qualification requirements for the manager of the integrated safety analysis and configuration management function are a BS or BA degree in science or engineering and two years experience in related manufacturing assignments; or a high school diploma with eight years of manufacturing experience. The manager of the integrated safety analysis and configuration management function shall have experience in the understanding and management of the assigned programs.

### 2.2.1.4 Shift Supervisor

Shift supervisors are provided as the interface between management and facility operators. Shift supervisor responsibilities include:

- Provide day to day work direction to operators and other workers.
- Assure safe operation and control of activities
- Assure adherence to written operating procedures and controls
- Provide adequate operator oversight and guidance

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- Identify and communicate off-normal conditions

The minimum qualifications for shift supervisor is one year supervisory experience in a technical field. Shift supervisors shall be knowledgeable of the applicable safety program procedures (including chemical, radiological, criticality, fire, environmental and industrial safety).

#### 2.2.1.5 Criticality Safety Function

The criticality safety function is administratively independent of production responsibilities and has the authority to shutdown potentially unsafe operations. This function must approve restart of an operation they request be shutdown.

Designated responsibilities include:

- Establish the criticality safety program including design criteria, procedures and training
- Provide criticality safety support for nuclear operations including integrated safety analyses and configuration control
- Assess normal and credible abnormal conditions
- Determine criticality safety limits for controlled parameters
- Perform methods development and validation to support criticality safety analyses
- Perform neutronics calculations, write criticality safety analyses and approve proposed changes in process conditions or equipment involving fissionable material
- Specify criticality safety control requirements and functionality
- Provide advice and counsel to Area Managers on criticality safety control measures, including review and approval of operating procedures
- Support emergency response planning and events
- Assess the effectiveness of the criticality safety program through audit programs

The criticality safety function manager shall hold a BS or BA degree in science or engineering, have at least four years experience in assignments involving regulatory

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activities, and have experience in the understanding, application and direction of nuclear criticality safety programs.

Minimum qualifications for a senior engineer within the criticality safety function are a BS or BA degree in science or engineering with at least three years of nuclear industry experience in criticality safety. A senior engineer shall have experience in the assigned safety function, and has authority and responsibility to conduct activities assigned to the criticality safety function.

Minimum qualifications for an engineer within the criticality safety function are a BS/BA degree in science or engineering. An engineer shall have experience in the assigned safety function, and has authority and responsibility to conduct activities assigned to the criticality safety function, with the exception of independent verification of criticality safety analyses.

#### 2.2.1.6 Radiation Safety Function

The radiation safety function is administratively independent of production responsibilities and has the authority to shutdown potentially unsafe operations. This function must approve restart of an operation they request be shutdown.

Designated responsibilities include:

- Establish the radiation protection and radiation monitoring programs
- Establish the radiation protection design criteria, procedures and training programs to control contamination and exposure to individuals
- Evaluate radiation exposures of employees and visitors, and ensure the maintenance of related records
- Conduct radiation and contamination monitoring and control programs
- Evaluate the integrity and reliability of radiation detection instruments
- Provide radiation safety support for integrated safety analyses and configuration control
- Provide analysis and approval of proposed changes in process conditions and process equipment involving radiological safety
- Provide advice and counsel to Area Managers on matters of radiation safety
- Support emergency response planning and events

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- Assess the effectiveness of the radiation safety program through audit programs
- Oversight of the respiratory protection program

The radiation safety function manager shall hold a BS or BA degree in science or engineering, have at least two years experience in assignments that include responsibility for radiation safety, and have experience in the understanding, application and direction of radiation safety programs.

Minimum qualifications for a senior member of the radiation safety function are a BS or BA degree in science or engineering with at least two years of nuclear industry experience in the assigned function. Alternate minimum experience qualification for a senior member of the radiation safety function is professional certification in health physics. A senior member shall have experience in the assigned safety function, and has authority and responsibility to conduct activities assigned to the radiation safety function.

#### 2.2.1.7 Environmental Protection Function

The environmental protection function is administratively independent of production responsibilities and has the authority to shutdown operations with potentially uncontrolled environmental conditions. This function must approve restart of an operation they request be shutdown.

Designated responsibilities include:

- Identify environmental protection requirements from federal, state and local regulations which govern the GNF-A operation
- Establish systems and methods to measure and document adherence to regulatory environmental protection requirements and license conditions
- Provide advice and counsel to Area Managers
- Evaluate and approve new, existing or revised equipment, processes and procedures involving environmental protection activities
- Provide environmental protection support for integrated safety analyses and configuration control
- Assure proper federal and state permits, licenses and registrations for non-radiological discharges from the facilities

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Minimum qualifications for the manager of the environmental protection function are a BS or BA degree in science or engineering and two years of experience in assignments involving regulatory activities or equivalent.

#### 2.2.1.8 Chemical and Fire Safety Function

The chemical and fire safety function is administratively independent of the production responsibilities and has the authority to shutdown operations with potentially hazardous health and safety conditions. This function must approve restart of an operation they request be shutdown.

Designated responsibilities include:

- Identify fire protection requirements from federal, state, and local regulations which govern the GNF-A operations
- Develop practices regarding non-radiological chemical safety affecting nuclear activities
- Provide advice and counsel to Area Managers on matters of chemical and fire safety
- Provide consultation and review of new, existing or revised equipment, processes and procedures regarding chemical safety and fire protection
- Provide chemical and fire safety support for integrated safety analyses and configuration control

Minimum qualifications of the manager of the chemical and fire safety function are a BS or BA degree in science or engineering and two years of experience in related assignments.

#### 2.2.1.9 Site Security and Emergency Preparedness Function

The site security and emergency preparedness function is administratively independent of the production responsibilities. Designated responsibilities include:

- Provide physical security for the site
- Establish and maintain the emergency preparedness program, including training and program evaluations

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- Provide advice and counsel to Area Managers on matters of physical security and emergency preparedness
- Maintain agreements and preparedness with off-site emergency support groups

Minimum qualifications are a BS or BA degree in science or engineering, one year of experience in related assignments, or a high school diploma with eight years of experience in related assignments.

2.2.1.10 Environment, Health & Safety (EHS) Function

The EHS function is administratively independent of production responsibilities but has the authority to enforce the shutdown of any process or facility in the event that controls for any aspect of safety are not assured. This function has designated overall responsibility to establish the radiation safety, criticality safety, environmental protection, chemical safety, fire protection and emergency preparedness programs to ensure compliance with federal, state and local regulations and laws governing operation of a nuclear manufacturing facility. These programs are designed to ensure the health and safety of employees and the public as well as protection of the environment. The managers of the criticality and radiation safety functions report to the EHS function manager.

The manager of the EHS function must hold a BS or BA degree in science or engineering and have five years of management experience in assignments involving regulatory activities. The manager of the EHS function must have appropriate understanding of health physics, nuclear criticality safety, environmental protection, and chemical and fire safety programs.

2.2.2 MANAGEMENT CONTROLS

Management controls for the conduct and maintenance of GNF-A’s health, safety and environment protection programs are contained in documented plant practices described in Section 11, and approved by cognizant management. Such practices are part of a controlled document system, and appropriately span the organizational structure and major plant activities to control interrelationships, and to specify program objectives, responsibilities and requirements. Personnel are appropriately trained to the requirements of these management controls, and compliance is monitored through internal and independent audits and evaluations.

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Management controls documented in practices address requirements including:

- Configuration Management
- Integrated Safety Analysis
- Radiation Safety
- Criticality Safety
- Environmental Protection
- Chemical Safety
- Fire & Explosion Safety
- Emergency Preparedness
- Quality Assurance
- Training
- Procedures
- Maintenance
- Audits
- Incident Investigation & Reporting
- Fissile Material Accountability and Control
- Worker Concerns Program
- Management Measures Necessary to Maintain Items Relied on for Safety

### 2.3 TRAINING AND CONTINUING ASSURANCE

Personnel training and continuing assurance is conducted as necessary to provide reasonable assurance individuals are qualified, continue to understand, and recognize the importance of safety while performing assigned activities.

Training is provided for each individual at GNF-A, commensurate with assigned duties. Training and qualification requirements are met prior to personnel fully assuming the duties of safety-significant positions, and before assigned tasks are independently performed.

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Formal training relative to safety includes radiation and radioactive materials, risks involved in receiving low level radiation exposure in accordance with 10 CFR 19.12, basic criteria and practices for radiation protection, nuclear criticality safety principles not verbatim, but in general conformance with ANSI/ANS 8.19 and ANSI/ANS 8.20 guidance, chemical and fire safety, maintaining radiation exposures and radioactivity in effluents As Low As Reasonably Achievable (ALARA), and emergency response.

The system established for management assurance and record retention of training and retraining is described in Chapter 11.

### 2.3.1 NUCLEAR SAFETY TRAINING

Training policy requires that employees complete formal nuclear safety training prior to unescorted access in the airborne radioactivity controlled area (see Chapter 11, Section 11.4.2.2).

### 2.3.2 OPERATOR TRAINING

Operator training is performance based, and incorporates the structured elements of analysis, design, development, implementation, and evaluation. Job-specific training includes applicable procedures and safety provisions, and requirements. Emphasis is placed on safety requirements where human actions are important to safety. Operator training and qualification requirements are met prior to process safety-related tasks being independently performed or before startup following significant changes to safety controls.

## 2.4 SAFETY COMMITTEES

### 2.4.1 WILMINGTON SAFETY REVIEW COMMITTEE

The functions of the Wilmington Safety Review Committee include responsibility for the following:

- An annual ALARA review which considers:

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- Programs and projects undertaken by the radiation safety function and the Radiation Safety Committee
- Performance including, but not limited to, trends in airborne concentrations of radioactivity, personnel exposures, and environmental monitoring results
- Programs for improving the effectiveness of equipment used for effluent and exposure control
- Review of major changes in authorized plant activities which may affect nuclear or non-nuclear safety practices
- Professional advice and counsel on environmental protection, and criticality, radiation, chemical and fire safety issues affecting the nuclear activities.

The committee is responsible to the Facility Manager. Its proceedings, findings and recommendations are reported in writing to the Facility Manager and to appropriate staff level managers responsible for operations which have been reviewed by the committee. Such reports shall be retained for at least three years.

The committee holds at least three meetings each calendar year with a maximum interval of 180 days between any two consecutive meetings.

#### 2.4.2 RADIATION SAFETY COMMITTEE

The objective of the Radiation Safety Committee is to maintain occupational radiation exposures as low as reasonably achievable (ALARA) through improvements in fuel manufacturing operations.

The committee meets monthly to maintain a continual awareness of the status of projects, performance measurement and trends, and the current radiation safety conditions of shop activities. The maximum interval between meetings does not exceed 60 days.

A written report of each Radiation Safety Committee meeting is forwarded to cognizant Area Managers and the manager of the EHS function. Records of the committee proceedings are maintained for three years.

The committee consists of managers or representatives from key manufacturing functions with activities affecting radiation safety.

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