



**Global Nuclear Fuel**

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January 9, 2019

Director, Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

ATTN: Document Control Desk

Subject: Global Nuclear Fuels – Americas (GNF-A) Request for Exemption from 24-Hour Reporting Requirement of 10 CFR 70.50(b)(1)

References: 1) NRC License SNM 1097, Docket 70-1113  
2) NRC Regulation 10 CFR 70.17 “Specific Exemptions”

Dear Sir or Madam:

In accordance with 10 CFR 70.17, Global Nuclear Fuel – Americas (GNF-A) is requesting an exemption from the 24-hour reporting requirement in 10 CFR 70.50(b)(1) for situations that require the imposition of additional radiological controls for greater than 24 hours due to an unplanned contamination event inside an established contamination-controlled area.

The Attachment to this letter provides GNF-A’s justification and evaluation criteria for the exemption pursuant to 10 CFR 70.17 (Reference 2).

Please contact me if you have any questions or would like to discuss this matter further.

Sincerely,

  
Scott P. Murray, Manager  
Facility Licensing

Attachment: Technical Justification for 10 CFR 70.50(b)(1) Exemption Request

Cc: J. Zimmerman, USNRC NMSS  
T. Naquin, USNRC NMSS  
T. Vukovinsky, USNRC RII  
SPM 19-001

Attachment

Technical Justification for 10 CFR 70.50(b)(1) Exemption Request

**Exemption Request**

GNF-A is the holder of NRC License SNM 1097 for a fuel manufacturing facility at the Wilmington, NC site.

GNF-A is requesting an exemption from the 24-hour reporting requirement in 10 CFR 70.50(b)(1) for situations due to an unplanned contamination event inside an established contamination radiological controlled area (C-RCA) that requires worker access to the contaminated area to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area.

It should be noted that GNF-A is not seeking an exemption that would alter reporting requirements in 10 CFR 70.50(b)(1) for situations due to an unplanned contamination event *outside an established C-RCA*. GNF-A will continue to notify NRC of an unplanned contamination event outside an established C-RCA that requires worker access to an area to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area. This includes non-controlled areas such as adjacent hallways, rooms, rooftops and outdoor areas. The exemption would not preclude reporting of unplanned contamination events by other NRC requirements such as 10 CFR 20.2202 "Notification of Incidents", 10 CFR 20.2203 "Reports of Exposures, Radiation Levels and Concentrations of Radioactive Material Exceeding the Constraints or Limits" and Appendix A to Part 70 "Reportable Safety Events" that result in a failure to meet the performance criteria of 10 CFR 70.61 (i.e. high or intermediate consequence event).

**Basis for Exemption**

Licensed activities at the GNF-A fuel manufacturing facility include the establishment of radiological controlled areas that are controlled as contaminated areas described in the NRC approved license. The function of a C-RCA is to control process and manufacturing areas where unencapsulated uranium is routinely handled. These areas are designed to safely contain and control releases of radioactive material that may occur as the result of operations or maintenance activities. Inherent in the design of these areas is the continued protection of the health and safety of occupational workers, members of the public, and the environment.

Because minor contamination in a C-RCA is common, typical radiological control methods are used to minimize worker exposures, which include engineered controls, ventilation, access controls, protective clothing, respiratory protection, routine contamination surveys, airborne monitoring, exit monitoring, and if necessary, area access restrictions. Adjustments to controls are made as necessary, depending on airborne or contamination levels encountered during normal manufacturing operations (i.e. production and planned maintenance) and abnormal conditions (i.e., loss of containment).

## **Technical Justification**

GNF-A proposes to commit to the following six criteria and provides a technical justification describing how each criterion will be met.

- 1) Established and posted C-RCAs that may require additional controls reside within the licensed Controlled Access Area (CAA) which is not accessible to the public.

The established C-RCAs are clearly posted and reside within a fenced enclosure of the site designated as the CAA with restricted access. The CAA is maintained in accordance with applicable NRC security requirements of 10 CFR 73 and the site Physical Security Plan. The CAA is also controlled as a Restricted Area as defined in 10 CFR 20.1003. Access to the CAA is restricted to individuals that have completed site specific training requirements or individuals that are formally escorted. At no time can members of the public access the CAA without being escorted or trained.

- 2) Controls are imposed as necessary to keep radiation exposures and releases as low as reasonably achievable.

GNF-A maintains and implements an effective Radiation Protection Program to keep worker exposures As Low as Reasonably Achievable (ALARA). These radiation protection principles are necessary to implement NRC ALARA requirements in 10 CFR 20.1101 and include engineering and other exposure control practices such as action levels to protect workers described in approved standard operating procedures. These principles are an integral part of the overall Radiation Protection Program that is routinely inspected by the NRC. Routine control adjustments to minimize exposures include modifications to protective clothing, adding respiratory protective equipment or restricting access to portions of a C-RCA and are anticipated, allowed, and at times prudent. Operations are conducted in accordance with approved procedures for routine work in C-RCAs that provide flexibility for upgrading and downgrading controls in response to changing radiological conditions.

- 3) Radiation protection personnel are trained and qualified in contamination control and are readily available.

GNF-A provides sufficient Radiation Protection Monitor (RPM) staffing on each production shift (day shift, second shift and third shift) to support and respond to radiological conditions in a C-RCA to ensure appropriate and timely actions are taken. The RPMs are trained in contamination-control procedures and techniques required for responding to a contamination event and are readily available to respond as needed. The RPMs must successfully complete a rigorous training and qualification program prior to performing unsupervised activities and complete periodic refresher training to continue unsupervised work. In addition, GNF-A employs a staff of Radiation Safety Health Physicists (HPs) to provide guidance and technical radiation safety expertise to the RPMs.

- 4) Equipment and facilities that may be needed for contamination control are readily available.

C-RCAs are designed to control contamination in process and manufacturing areas at the facility where unencapsulated uranium is routinely handled. These controls include engineered features such as ventilated areas designed to provide air flow from areas of lesser potential contamination to areas of higher potential contamination. Activities and process equipment that could potentially generate airborne uranium are designed with ventilated containment enclosures, hoods, dust capturing exhaust ports, local exhaust systems and other devices to minimize the release of uranium in work areas. The air and gasses from fuel manufacturing processes are exhausted as appropriate through filter media prior to being recirculated back into work areas or exhausted to the environment. Routine engineered and facility control adjustments to minimize exposures and the extent of a release include shutting down equipment, adding localized exhaust ventilation and closing or reducing containment hood openings.

- 5) Radiation surveys of unplanned contamination events in C-RCAs are performed and are available for NRC inspection upon request.

Appropriate radiation surveys are performed by qualified personnel during or after an unplanned contamination event as necessary to assess radiological conditions and provide the appropriate response. The type of survey is determined by staff HPs as described in the NRC approved license and in accordance with approved procedures. Survey results are compared to specified action guides and when contamination levels in excess of action levels are found, appropriate actions are taken, and the affected area is decontaminated in a safe and timely manner. Survey records for contamination events are documented pursuant to 10 CFR 20.2103 and are available for review.

- 6) Unescorted workers in C-RCAs are trained on methods to reduce radiation exposures including contamination controls and response actions for abnormal or upset conditions.

Formal nuclear safety training is required for unescorted workers entering an C-RCA. Visitors to a C-RCA are escorted by trained personnel. The training includes information about radiation and radioactive materials, precautions or procedures to minimize exposure, the purposes and functions of protective devices employed; and their responsibility to report promptly to the licensee any condition which may lead to or cause a violation of NRC regulations and licenses or unnecessary exposure to radiation and/or radioactive material. The training also includes the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material and nuclear criticality safety principles. Training policy requires that workers must complete nuclear safety training prior to unescorted access in the C-RCA. The training is typically provided using computer-based training but may be performed by authorized instructors. Previously trained workers who are allowed unescorted access to the C-RCA are retrained at least every two years. The effectiveness of the training program is evaluated by either initial training exam or re-training exam.

### **10 CFR 70.17 Evaluation Criteria**

Pursuant to 10 CFR 70.17(a), the NRC may grant an exemption from the requirements of 10 CFR Part 70 if the staff determines that the exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest.

GNF-A has determined that granting the proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, other laws, or the Commission's regulations. Therefore, the requested exemption is authorized by law.

GNF-A has also determined that an exemption from the requirement to report within 24 hours a situation due to an unplanned contamination event inside an established contamination radiological controlled area that requires worker access to the contaminated area to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area will not endanger life or property or the common defense and security. As described above, GNF-A has established C-RCAs that are designed to safely contain releases of radioactive material that may occur as a result of operations or maintenance activities that are within a restricted area with no unescorted public access. In addition, GNF-A uses trained and qualified radiation protection personnel who have appropriate equipment readily available. And while the exemption request would eliminate the 24-hour reporting requirement for unplanned contamination events inside a C-RCA, GNF-A will continue to report situations due to an unplanned contamination event outside an established C-RCA, maintain records of these events, and would provide this information to NRC for inspection upon request.

The elimination of the 24-hour reporting requirement also does not involve information or activities that could potentially impact the common defense and security of the United States. Rather, the requested exemption is administrative in nature and would reduce the number of licensee actions triggered by an event that imposes additional radiological controls or by prohibiting entry into an area. Based on its review of this information, GNF-A concludes that granting this exemption request would not endanger life or property or the common defense and security.

Finally, granting this exemption request is otherwise in the public interest because it promotes regulatory efficiency by relieving GNF-A from a reporting requirement that is of low safety significance given the site-specific conditions and programs described above. The exemption would relieve GNF-A from generating initial notification reports within 24 hours and written follow-up reports within 30 days of certain contamination events and the NRC staff from receiving and processing these reports, thereby allowing resources to be focused on other activities of higher significance or consequence.

### **Conclusion:**

Based on the above, GNF-A has concluded that the activities to be authorized by the issuance of an exemption are in compliance with law and will not endanger life or property or the common defense or security. GNF-A also concludes that granting the exemption is in the public interest.

Accordingly, GNF-A requests an exemption from the 24-hour reporting requirement in 10 CFR 70.50(b)(1) for situations due to an unplanned contamination event inside established contamination radiological controlled area that requires worker access to the contaminated area to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area.

GNF-A proposes a new Safety License Condition S-5 be issued to reflect the exemption from reporting as follows:

- S-5 Notwithstanding the requirements of 10 CFR 70.50(b)(1), the licensee is exempt from the requirement to notify the NRC within 24 hours of unplanned contamination events inside an established contamination radiological controlled area (C-RCA) that requires worker access to the C-RCA, or any portion thereof, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area.

The licensee commits to 1) Establish and post C-RCAs that reside within the licensed Controlled Access Area (CAA) which is not accessible to the public without escort, 2) Impose controls as necessary to keep radiation exposures and releases as low as reasonably achievable, 3) Ensure radiation protection personnel are trained and qualified in contamination control and are readily available, 4) Provide equipment and facilities that may be needed for contamination control, 5) Perform radiation surveys of unplanned contamination events in C-RCAs and provide records for NRC inspection upon request, 6) Train unescorted workers in C-RCAs on methods to reduce radiation exposures including contamination controls and response actions for abnormal or upset conditions.