

Frequently Asked Questions Westinghouse Nuclear Fuel Fabrication Facility

General Information

Q1. What does Westinghouse do at this location?

A. Westinghouse Electric Company owns and operates a nuclear fuel fabrication facility in Hopkins, South Carolina, (the Columbia Fuel Fabrication Facility) that fabricates fuel for nuclear power plants. This facility will be referred to simply as “Westinghouse” or “the facility.” The facility is approximately 550,000 square feet on 1,156 acres and has been in operation since 1969. This facility manufactures nuclear fuel assemblies and components. Nuclear fuel manufactured at this facility is used to generate electricity throughout the United States.

Q2. What is the NRC’s regulatory role with regard to the Westinghouse facility and the environment?

A. The Nuclear Regulatory Commission (NRC) regulates the commercial use of nuclear material. In this capacity, the NRC protects public health and safety and the environment, by ensuring compliance with NRC regulatory requirements and the specific provisions of the NRC Westinghouse license. The NRC sets regulatory limits for radiation exposure to the public from NRC-regulated activities, including liquid effluents, which are found in Section 20.1301 of the *Code of Federal Regulations* (10 CFR 20.1301), "Dose limits for individual members of the public," and 10 CFR 20.1302, "Compliance with dose limits for individual members of the public." This includes radiological sources such as liquid and gaseous effluents and environmental monitoring programs used to demonstrate compliance with NRC requirements.

The NRC requires Westinghouse to submit a semi-annual report specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and gaseous effluents during operations. These effluent monitoring reports are publicly available and can be found at: <https://www.nrc.gov/info-finder/fc/westinghouse-fuel-fab-fac-sc-lc.html>.

Additional information on how the NRC regulates can be found:

<https://www.nrc.gov/materials/fuel-cycle-fac.html>.

Q3. Which regulatory agency has jurisdiction over radiological effluents from Westinghouse?

A. While the NRC has jurisdiction over radiological effluent releases resulting from activities authorized in the NRC license such as activities associated with the handling of nuclear material, the South Carolina Department of Health and Environmental Control (State) maintains authority over groundwater, drinking water, and surface water under the Safe Drinking Water Act and other relevant laws. The State has issued a permit to Westinghouse for discharges to the Congaree River from the Westinghouse facility. The State and Westinghouse have also entered into a Voluntary Cleanup Contract to address historical volatile organic compounds (VOCs) contamination located on the facility’s property.

Additional information can be found at the South Carolina Department of Health and Environmental Control website:

<https://www.scdhec.gov/westinghouse-electric-company>.

Q4. How does the NRC and the State oversight work together to ensure CFFF operates safely, securely and to protect the environment?

The NRC is responsible for licensing the CFFF under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70, “Domestic Licensing of Special Nuclear Material.” The NRC provides licensing and oversight for the safety, security, and environmental protection of operations involving radiological materials. For the CFFF facility, the license authorizes processing of source and special nuclear materials – specifically uranium in various chemical and physical forms for the manufacture of fresh, unirradiated nuclear fuel for power plants.

CFFF is required to monitor the release of any radioactive materials in liquid or the air effluents, as well as any direct radiation from the plant. They must track their releases so they can report them to the NRC. If there is a release above as low as reasonably achievable levels, the plant must make a special report to the NRC. CFFF also measures radiation levels in the groundwater and air samples at multiple monitoring location around the site. They also collect routine surface water and sediment samples onsite and near the wastewater release point on the Congaree River. The NRC requires CFFF to have and maintain the appropriate environmental programs (environmental monitoring, waste treatment, and controls on effluents). Failure to comply with these programs and permits requires CFFF to report to the NRC in a timely manner, see 10 CFR Part 70, Appendix A, “Reportable Safety Events.”

The State regulates any releases from the facility to the environment. For example, the State issues CFFF’s air permit and water discharge permit for releases to the Congaree River. The State is responsible for implementing environmental regulations and ensuring drinking water meets the U.S. Environmental Protection Agency’s standards. Wastewater containing trace amounts of radioactive materials is released from CFFF to the Congaree River as permitted by the State. These releases are controlled and monitored to meet conservative regulatory limits to protect public health, safety, and the environment. CFFF is required to submit an annual report to the State.

As stated on the State website for CFFF (<https://scdhec.gov/westinghouse-electric-company>), “DHEC and the company have also entered into a Voluntary Cleanup Contract to address historical contamination located on the facility’s property. Both the NRC and DHEC regulations promote safe operations of the facility and are intended to be protective of public health and the environment.”

Environmental Releases

Q5. What happened recently related to a leak at Westinghouse in Hopkins?

A. In July of 2018, the NRC and the State were notified by Westinghouse that a leak had occurred in a building at the facility. Westinghouse informed the NRC that the equipment was immediately shut down upon discovering the leak in June. The area was further inspected and workers discovered damage to concrete below the equipment. The leak contained hydrofluoric acid (HF) and uranyl nitrate, a uranium salt. The acid caused damage to a small area (about 3 inches in diameter) of the concrete floor near the leak.

During Westinghouse’s initial investigation, samples of soil directly underneath the location of the leak indicated that the leaked chemicals had seeped into the soil. Additional sampling is being conducted to continue to monitor the presence of the leaked chemicals.

Q6. When and where did the leak take place?

A. The leak occurred in one of two HF spiking station systems which are located inside the process building. The HF spiking station is used in the ammonium diuranate (ADU) conversion process where scrap uranium is dissolved in nitric acid to produce uranyl nitrate. The uranyl nitrate is then sent to the HF spiking station as part of the ADU process.

At 8 a.m. on June 16, 2018, an operator checked for leaks as part of daily procedures and found no leaks. (The spiking station is checked for leaks three times a day -- between midnight and 1 a.m., between 8 and 9 a.m., and between 4 and 5:00 p.m.)

At about 12:35 p.m. on June 16, the same operator found about three gallons of solution inside the dike resulting from a flange leak. When the process was stopped, some additional solution leaked into that area, but the total was estimated to be 30 gallons or less. The exact amount that may have gone through the crack in the dike area liner into the soil below the building is unknown. Therefore, the NRC estimates that the leak lasted approximately four and one-half hours.

Q7. Is there any risk to the public from the recent leak?

A. Based on current information and data received by the NRC, there is no immediate threat to the public from this recent release. This release is confined to a small area underneath the building and well within the property of Westinghouse. The NRC and the State continue to oversee an investigation of this leak and will notify the public if at any time there are any potential offsite impacts to public health.

Q8. What were the chemicals that leaked?

A. The leak contained hydrofluoric acid and uranyl nitrate. Hydrofluoric acid, also known as "HF," is a strong acid. Uranyl nitrate is a uranium salt. Because the leak is confined to a small area on a secure site, the NRC does not expect that the public will have been exposed to the chemicals that leaked. The NRC and the State are overseeing an ongoing investigation by Westinghouse to determine whether or not any of the process fluid has leaked into the soil with the potential to impact the groundwater in the future.

Q9. How much uranium leaked into the ground?

A. The exact amount that may have gone through the crack in the dike area liner into the soil below the building is unknown. When the event was discovered, Westinghouse estimated that about 30 gallons of liquid leaked into the area contained within the dike. Most of the liquid was recovered, so the amount getting into the soil was far less than 30 gallons. Since it is possible additional material may have entered the soil before it was discovered, Westinghouse is implementing a soil sample plan approved by the State to determine the extent of contamination in that area.

Q10. How did a hole develop in the containment vessel?

A. On March 23, 2018, an annual liner integrity test was successfully completed and no leaks were found. Sometime between March 23 and June 16, a small hole or crack developed in the liner which allowed some of the spilled liquid to get between the liner and the concrete dike, resulting in the small hole in the concrete floor beneath the HF spiking station.

Q11. What is going on now to evaluate the leak?

A. In order to determine the extent of the leaked material, a team of technical staff from the State and Westinghouse has developed a soil sampling plan. The company has removed a portion of the concrete floor inside the process building and is in the process of sampling the soil nearest to the location of the leak.

Q12. Why hasn't there been a determination whether the leaked chemicals reached the groundwater?

A. Westinghouse must take extra safety precautions due to the nature of the chemicals used in the process. Sampling must be done in a manner that prevents any spread of contamination. Westinghouse has an approved soil sampling plan from the State to determine the extent of the contamination and determine if the chemicals have reached groundwater. The analysis of each soil sample is time consuming and will take several weeks to complete.

Q13. How fast does the groundwater move, and in what direction?

A. Groundwater in this location moves from the site in a south-southwest direction, away from the Hopkins Community, at a speed of approximately 150 feet per year.

Q14. What will be the remediation action for the leak?

A. The leak occurred in one of two spiking station systems which was emptied of all chemicals, placed into a "safe shut down" mode and removed from service. The other spiking station liner was re-tested and no leaks were found. Long term corrective actions are still being developed by Westinghouse. A corrective action was entered into their Corrective Action Program to determine the extent of condition and develop long term corrective actions. Once these actions are approved internally, they will be implemented and the same actions will be taken on the other spiking station. The NRC plans an inspection in September to follow up on the event and evaluate the corrective actions being taken and planned.

Westinghouse continues to work with the State on their soil sampling plan to determine the extent of contamination. Concrete below the HF Spiking station was removed and soil samples taken from various locations at different depths to determine the extent of contamination. Westinghouse is waiting on lab results for these samples, and once received, will coordinate with the State for the next steps in accordance with the soil sampling plan.

Q15. What is the NRC doing about these leaks at Westinghouse?

A. The NRC is supporting the State with their investigation into this event and is reviewing the corrective actions Westinghouse has placed in effect. The NRC had inspectors on site reviewing the event on August 13, 2018. In addition, the NRC will have an inspection team on site the week of September 17, 2018, to conduct an environmental inspection in accordance with Inspection Procedure 88045, "Effluent Controls and Environmental Protection." Through the inspection process, the NRC will evaluate Westinghouse's procedures to minimize leaks to ensure that if future spills occur Westinghouse has the procedures and controls in place to stop and address the leaks appropriately. The inspection will also evaluate whether there are adequate monitoring methods to determine if contamination migrates offsite and the corrective actions Westinghouse takes if needed.

Q16. How has the NRC communicated with the local community?

A. The NRC was first notified of the leak through an Event Notification (EN) submitted by Westinghouse to the NRC Operations Center on July 12, 2018. The event notification (EN 53504) is publicly available through the NRC website (<https://www.nrc.gov/reading-rm/doc-collections/event-status/event/>). As stated above, the NRC will conduct an inspection into this issue on the week of September 17, 2018 and the results of that inspection will be publicly available by the end of October. Additionally, the NRC will be conducting a public meeting in October to discuss the license renewal and inspection activities.

License Renewal Review

Q17. When would the 40 year license renewal take effect, if approved? Would the 40 years be in addition to what was left on the license or just start 40 years upon approval?

A. If the license renewal is issued for a 40 year renewal term, the 40-year period would start the day the renewal is issued. For example, if the NRC were to renew the license on September XX, 2018, the expiration of the new license would be September XX, 2058.

Q18. Is the NRC considering granting Westinghouse a license to be renewed for 40 years or can the NRC consider a different renewal period?

A. The NRC has established a maximum license term of 40 years for fuel cycle facilities. When issuing new licenses or renewing existing licenses, the NRC has the discretion to grant licenses for shorter periods of time after considering all relevant factors on a case by case basis. As part of the renewal review, the NRC staff is evaluating whether Westinghouse's safety programs are adequate to ensure safe operation for the maximum 40-year renewal period or whether a shorter renewal period is appropriate.

Q19. What duration of the license renewal should be applied to CFFF?

EARLY BACKGROUND FOR LICENSE TERMS:

In the 1960s, the Commission established a policy that source, byproduct and special nuclear material licenses would be given terms up to 5 years long. The Commission determined this renewal period does not negatively impact public health and safety, the common defense and security, or the environment. Longer renewal periods decrease the number of renewal applications submitted to the NRC and, consequently, decrease the regulatory burden on materials licensees, without any adverse effect on the public health and safety, the common defense and security, or the environment.

In the 1980s, operations at major fuel cycle licensees had become more established, with few significant changes to their licenses and their operations. As part of NRC's overall program to make licensing more efficient and effective, NRC concluded the term for major operating fuel cycle licenses could be increased from 5 years to 10 years with no adverse effect on public health and safety, security, or the environment. This change also had a positive effect on safety, because it allowed the NRC to focus additional resources on oversight of these facilities through increased plant operational assessments, periodic safety demonstration reviews, and increased interactions with licensees through management meetings and periodic workshops

IMPLEMENTATION OF THE INTEGRATED SAFETY ANALYSIS REQUIREMENTS:

Traditionally, the license renewal process has been used as an opportunity for the Commission to review: (1) the history of the licensee's operating performance; and (2) to ensure the licensees programs employ up-to-date technology and practices in the protection of health, safety, and the environment and compliance with any new or amended regulations. However, regardless of the license term, licensees are required to adhere to the regulations and their

license conditions. In practice, most of the proposed changes to licensed operations are implemented as license amendments, rather than during the license renewal process. In addition, fuel cycle facilities are subject to a comprehensive inspection program that is conducted on a routine 18-month period, which can be increased if performance issues are identified. This ensures the NRC staff are in a position to identify, by inspection or other means, violations that affect public health and safety, security, and the environment and to take appropriate enforcement action, when needed.

In the 2000's, the NRC completed a rulemaking to implement 10 CFR Part 70, Subpart H, "Additional Requirements for Certain Licensees Authorized to Possess a Critical Mass of Special Nuclear Material." Part 70, Subpart H required certain fuel cycle licensees, including CFFF to develop an Integrated Safety Analysis (ISA). (An ISA is a systematic analysis to identify facility and external hazards and their potential for initiating accident sequences, the potential accident sequences, their likelihood and consequences, and the items relied on for safety which are implemented to prevent potential accidents or to mitigate their potential consequences). The implementation of this rulemaking served as a basis for the Commission to extend the license term for certain fuel cycle facilities up to 40 years.

MAINTAINING THE SAFETY BASIS:

Before the implementation of Part 70, Subpart H, a large focus of the license renewal process was to verify the safety basis of a facility. There was no regulatory requirement for a licensee to submit changes to the safety basis before license renewal. The ISA and the related ISA Summary provide a more extensive safety basis than was previously required in the license application. Also, licensees are required to keep the ISA Summary up-to-date and provide an annual update to NRC. The annual ISA Summary update allows for the safety bases to be maintained up to date and routinely reviewed by the NRC staff during the 40 years between license renewals.

MATERIAL DEGRADATION AND AGING:

Unlike reactors, fuel cycle licensees can halt processes at any time to replace or repair equipment in the facilities. Thus, material degradation and aging can be dealt with throughout the lifetime of fuel cycle facilities, rather than at outage times, as is often the case at reactors. Since licensees must submit annual updates of ISA summaries to NRC for approval, NRC is aware of changes due to material degradation or aging throughout the lifetime of the facility. Therefore, material degradation and aging do not affect the duration of a license term.

The Commission documented its decision to approve maximum license terms of 40 years for fuel cycle facilities that have an ISA (e.g., CFFF), in Staff Requirements Memorandum – SECY-06-0186, "Increasing Licensing Terms For Certain Fuel Cycle Facilities," see references below. The Commission also approved license terms for less than 40 years on a case-by-case basis where there are concerns with safety risk to the facility or where a licensee introduces a new process or technology.

Q20. Is the public provided the opportunity to comment on the results of the NRC license renewal review?

A. In accordance with our licensing process, the NRC provided public notice of receipt of Westinghouse's application for license renewal and the opportunity to request a hearing in a Federal Register Notice published on February 27, 2015 (80 FR 10727). The public notice stated that the deadline for receipt of hearing requests was April 28, 2015. Under the NRC's regulation governing the filing of hearing requests, in 10 CFR 2.309, hearing requests filed after the deadline must demonstrate good cause for the late filing under the standards set forth in 2.309(c).

The NRC staff is also reviewing information concerning the leak reported in July 2018. This information emerged after the NRC published its environmental assessment and finding of no significant impact (EA and FONSI). The NRC will either issue a draft supplemental EA and FONSI for public comment or, if the staff cannot make a FONSI in light of this new information, the staff will proceed with the development of an environmental impact statement (EIS). If the staff decides to prepare an EIS the public will have an opportunity to participate in the EIS scoping process and comment on the draft EIS. The NRC will notify the public of the opportunity and means to provide comments by publishing a notice in the Federal Register. All comments will be considered and addressed by the NRC staff before making any final environmental conclusions and issuing a final EA and FONSI or EIS.

National Environmental Policy Act (NEPA) Review

Q21. Why didn't the NRC staff prepare an environmental impact statement (EIS) for the license renewal request?

A. The provisions in 10 CFR 51.20(b) identify actions for which an EIS must be prepared. A license renewal request for a fuel fabrication facility is not among the listed actions. Therefore, the NRC staff prepared an environmental assessment to determine whether the action was one that would significantly affect the quality of the human environment. The assessment identified no significant impact if the license renewal request was granted. Based on the assessment results, preparation of an EIS was not warranted and a Finding of No Significant Impact was published in the Federal Register on June 15, 2018 (83 FR 28014).

Q22. What was the NRC's conclusion about potential impacts to groundwater in its June 2018 EA?

A. In the EA, the NRC acknowledges pre-existing ground-water contamination onsite at Westinghouse above EPA's drinking water standards. However, because (1) the pre-existing ground-water contamination remains onsite, (2) there is no pathway for human consumption of the ground water, (3) there is ongoing monitoring as part of the State and NRC requirements, (4) there is a lack of contamination thus far of the deeper Black Mingo aquifer, (5) Westinghouse has committed to developing a corrective action plan if action levels are triggered, and (6) Westinghouse must maintain sufficient funds to decommission the site, the NRC determined that the potential impacts on ground-water quality as a result of continued operations at CFFF, while noticeable, are not expected to be significant if monitored properly.

Emergency Response

Q23. How will local residents be informed if a major event occurs at the Westinghouse Electric Company, LLC (Westinghouse) Columbia Fuel Fabrication Facility (CFFF)?

A. The CFFF Emergency Plan identifies the types of accidents that could occur at the facility. These include a range of events that are grouped into three categories including:

1. Local Response Event – this is an information only announcement at the facility with no anticipated response needed by or affect to employees outside the affected area;
2. Alert Emergency – this is an incident that has led or could lead to a release to the environment of radioactive or other hazardous material, but the release is not expected to require a response by an offsite response organization to protect persons offsite; and
3. Site Area Emergency – this is defined as an incident that has led or could lead to a significant release to the environment of radioactive or other hazardous material and that could require a response by an offsite organization to protect persons off site.

Events which could lead to a Site Area Emergency are rare and have not occurred at CFFF. This type of event could impact local residents who live near the site. The primary hazard would be from hazardous chemicals, including uranium, which could propagate offsite during the event. In case of this type of event, CFFF would notify local emergency responders (e.g., police and fire) in consultation with other local, state, and federal officials, as described in the emergency plan. If officials need to contact local residents, they may utilize various methods including direct contact, phone, and local media to inform them of protective actions such as, shelter in place or evacuation, depending on the type and severity of release.

The CFFF processes fresh, unirradiated nuclear fuel for shipment to commercial nuclear power reactors. As such, its operations cannot produce a major radiological explosion, as occurred at the Chernobyl, Ukraine, nuclear power plant on April 26, 1986, or the Fukushima, Japan, nuclear power plants that occurred in 2011. Fuel cycle facilities have sufficient enriched nuclear material on site to result in an inadvertent criticality, if configured under unplanned and abnormal conditions (e.g., the wrong geometry and moderator). This type of event could produce local radiological exposures to workers. A criticality event is a major hazard to nearby workers, but results in limited offsite exposures or contamination. For nuclear fuel cycle facilities, similar to CFFF, chemical and industrial events represent the dominant hazard.

Q24. How is the emergency plan used to protect members of the public?

A. The NRC's regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 70, "Domestic Licensing of Special Nuclear Material," Paragraph 70.22(i)(3) requires CFFF to have an NRC-approved emergency plan.

PURPOSE OF EMERGENCY PLAN:

The emergency plan describes the licensed activities, the facility, and the types of accidents that could occur. It provides information on the postulated accidents and the licensee's procedures for notifying and coordinating with offsite authorities. The plan provides the measures that might be necessary during an event, the equipment and facilities available to respond to an emergency, and how the licensee will maintain emergency preparedness capability. It also describes the records and reports that will be maintained and concludes with a section on recovery after an accident, including plans for restoring the facility to a safe condition.

The emergency plan reflects the preparations done to cope with an emergency and provides a response to three basic questions:

- WHAT is to be done (procedures);
- BY WHOM (response personnel); and
- WITH WHAT (equipment in designated locations).

The details of the actual response are contained in the emergency plan's implementing procedures, which are maintained onsite. The implementing procedures are the heart of the emergency response. They must be clear, precise, and easily understood. The NRC staff reviews the implementing procedures during the licensing process and during inspections, to ensure that the procedures are current and workable and that they conform to the descriptions in the emergency plan.

ONSITE PREPARATIONS:

The emergency plan describes the onsite emergency response organization for the facility for both routine and off-shift operations. It designates the position and responsibilities of the person (and alternates) who has the overall oversight for implementing and directing the emergency response. The plan specifies the organizational group or groups assigned to the functional areas of emergency activities including: facility system operations, fire control, personnel evacuation and accountability, search and rescue operations, first aid, communications, post-event assessment, etc.

OFFSITE COORDINATION:

The emergency plan contains the preplanned protective action recommendations the licensee needs to make to each appropriate offsite organization including local officials, the State, the NRC, etc. for each postulated accident. The recommendations specify the type of actions to be taken. The plan also identifies the offsite services to be performed, means of communication, and the type of agreements that are in place for medical treatment facilities, first aid personnel, fire fighters, law enforcement assistance, and ambulance services.

Additional NRC guidance regarding emergency plans is available in Regulatory Guide 3.6, Revision 1, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities," (Agencywide Documents Access and Management System [ADAMS] Accession Number ML103360487).

Status of the Licensee's Operational Performance

Q25. What is the status of the licensee's operational performance? How has it changed over time and compared to other similar fuel cycle licensees?

Since 2000 there have been 56 event notifications to the NRC from CFFF. Details of the six over the last 2 years are attached (including the scrubber event). None of these events are known to have resulted in actual radiological consequences to people near the site. For comparison, the two other commercial fuel manufacturing facilities in the United States made 36 and 68 event notifications apiece in the same time. The full list of events can be accessed on the NRC's public website at <https://www.nrc.gov/site-help/search.html?site=events&q=07001151&s=+#gsc.tab=0&gsc.q=07001151&gsc.page=1>.

Generally, civil penalties are only issued for escalated enforcement violations (i.e. Severity Level [SL] I, II, III violations) if required conditions are met. Severity Level IV (violations that

resulted in no or relatively inappreciable potential safety or security consequences) or non-cited violations (NCV) (minor violations that are not documented in inspection reports) generally do not receive a civil penalty. The majority of violations that the fuel facilities receive are SL IV or NCV.

A civil penalty in the amount of \$17,500 was issued to Westinghouse on November 3, 2010 for a SL III violation involving a spill of uranium bearing ammoniated waste water inside the plant on January 25, 2010. The notice of violation and proposed imposition of civil penalty are detailed in inspection report 2010-010 (ADAMS Accession Number ML103080055). This is the only civil penalty issued to CFFF. As a comparison, below is a list of the other fuel facilities which have incurred penalties:

- United States Enrichment Corporation (USEC) received one civil penalty in the amount of \$60,000.
- BWXT Nuclear Operations Group, Inc. received three civil penalties for a total for \$65,000.
- Global Nuclear Fuel – Americas (GNF-A) received one civil penalty in the amount of \$16,500.
- Nuclear Fuel Services, Inc. (NFS) received four civil penalties for a total amount of \$200,000.
- The public can find this information on the NRC public website at:
<https://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/fuel-cycle-fac/>

In some instances, the NRC refrains from issuance of a civil penalty due to commitments the licensee makes during Alternative Dispute Resolution (ADR) sessions. The goal of ADR is to ensure that the licensee takes appropriate action to correct the issue and protect employees, the environment, and the public. An ADR is offered, in most cases, when escalated enforcement (Severity Level I, II, or III) violations are identified at a facility. If a violation is processed using ADR and an agreement is reached, the actions agreed upon are documented in a Confirmatory Order, which results in an amendment to the facilities license and the agreed upon actions are required to be completed. Multiple fuel cycle facilities have completed ADR including CFFF, Framatome, USEC, and NFS which were not issued a civil penalty in lieu of the Confirmatory Order actions. The ADR agreement with CFFF occurred in August, 2017. This event involved the unexpected accumulation of uranium in a ventilation scrubber (S-1030 Scrubber) (ADAMS Accession Number ML17221A103).

The total number of violations at the Category III fuel cycle facilities since approximately 1995 is provided below:

- CFFF – 18 NCVs, 84 SL IVs, and 5 SL IIIs (no environmental violations were identified);
- GNF-A – 25 NCVs, 39 SL IVs, and 3 SL IIIs; and
- Framatome – 10 NCVs, 48 SL IVs, and 1 SL III.