

# Enclosure 1

## Independent Spent Fuel Storage Installations Operating Experience Report FY2022

### 1. Introduction

The objective of the U.S. Nuclear Regulatory Commission (NRC) Independent Spent Fuel Storage Installations (ISFSIs) Operating Experience (OpE) report is to provide an analysis that identifies trends in operational data and to make recommendations to improve our regulatory programs.

By systematically reviewing operational data and assessing its significance, the NRC is focused on providing insights that can inform future inspections and licensing reviews, provide timely and effective communication to stakeholders, and apply the lessons learned to regulatory decisions and programs.

The scope of this assessment is focused on fiscal year (FY) 2022 and includes data from FY2021 for trending purposes.

### 2. Data Assessment

#### *Reported Events*

Events relating to the storage of spent fuel are reported in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 72.75 "Reporting Requirements for Specific Events and Conditions." In addition, spent fuel events are also reported under 10 CFR Part 72.242(d) "Recordkeeping and Reports," which requires that each certificate holder shall submit a written report to the NRC within 30 days of discovery of a design or fabrication deficiency, for any spent fuel storage cask which has been delivered to a licensee, when the design or fabrication deficiency affects the ability of structures, systems, and components important to safety to perform their intended safety function.

There were no ISFSI events reported, and no Part 72.75 and 72.242(d) reports issued during FY2022.

#### *Part 21 Reports*

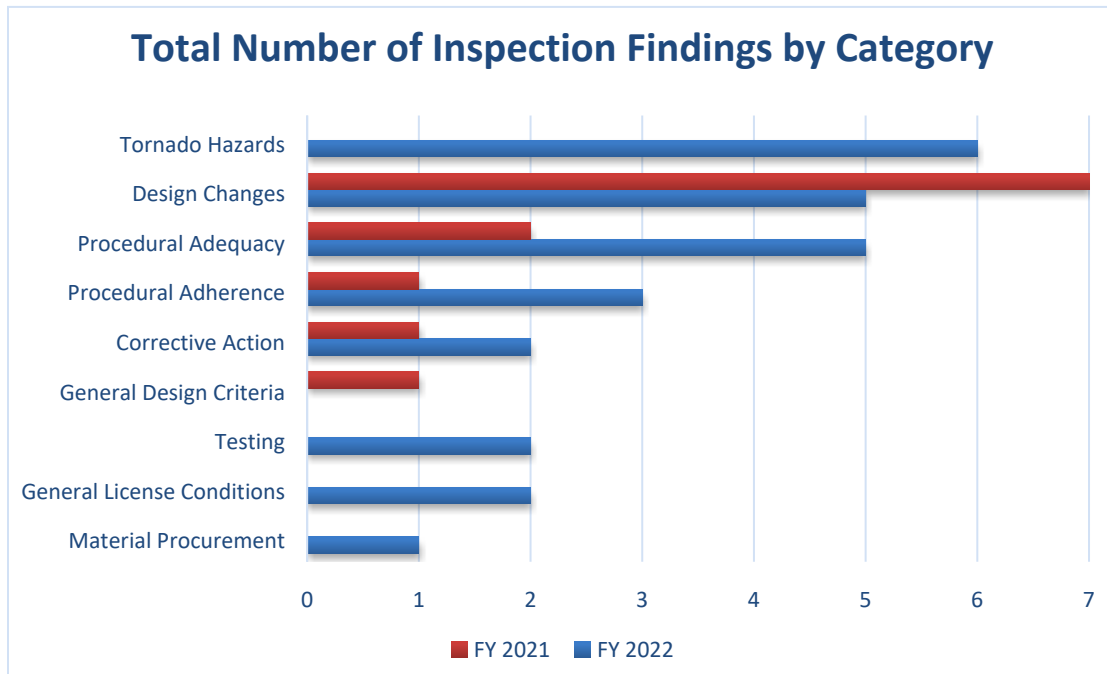
10 CFR Part 21 reports received during FY2022, including those related to Counterfeit, Fraudulent, and Suspect Items, were reviewed. No Part 21 reports pertained to the Independent Spent Fuel Storage Installations.

#### *Inspection Findings*

During FY2022, a total of 56 inspections were performed. Of those inspections, 10 were inspections of Certificate of Compliance (CoC) Holders and 46 were licensee inspections. A total of 26 inspection findings were discovered. There were 20 Severity Level IV violations including 18 NCVs and 2 Notice of Violations (NOVs). There were also six violations where enforcement discretion was used. Minor violations and negative observations that came up

during these inspections were not included in this report. In addition, there were no escalated enforcement actions issued during FY2022. **Enclosure 2** provides a summary table of the inspection findings for FY2022 presented in this report.

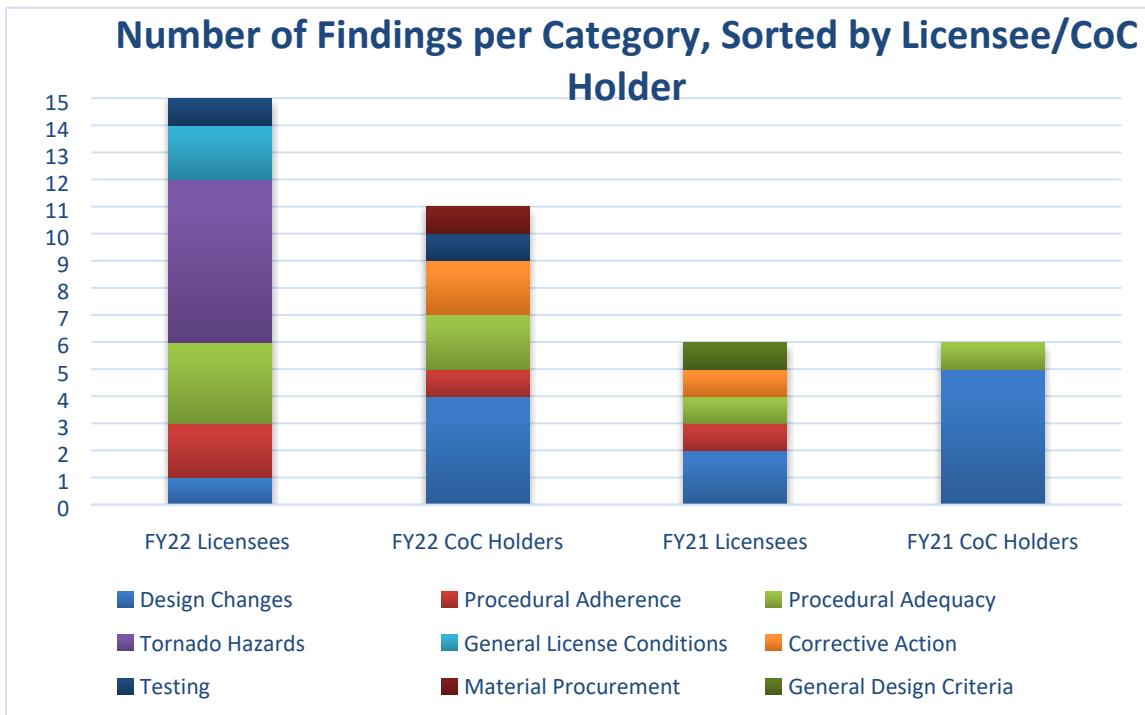
Inspection findings were categorized by generic violation areas, as seen in **Figure 1**. These categories were developed by identifying similar kinds of violations across multiple sites and facilities. Some of these include violations of different regulatory requirements but are all categorized under one area. For future assessments, there may be more violation categories added to address findings that may not be as common. **Figure 2** illustrates the number of inspection findings in each violation area sorted by type of entity.



**Figure 1—Total Number of Inspection Findings Categorized by Violation Area**

Under “Tornado Hazards,” there were six findings among licensees in FY2022. During an inspection at Farley, an unresolved item (URI) was opened regarding cask transfer operations and the exposure of the cask to natural phenomena such as tornadoes. The issue was later resolved through the Very Low Safety Significance Issue Resolution Process (VLSSIR.) The other five licensees were found to not have complied with their design or licensing bases for protection against environmental conditions and natural phenomena during ISFSI handling operations as required by 10 CFR Part 72. The applicable regulations for these violations include 10 CFR 72.122(b), “Protection against environmental conditions and natural phenomena,” 10 CFR 72.212, “Conditions of general license issued under 10 CFR 72.210,” and 10 CFR 72.48, “Changes, tests and experiments.” However, rather than taking enforcement action on these violations, enforcement discretion was exercised, following Enforcement Guidance Memorandum (EGM) 22-001, “Enforcement Discretion for Noncompliance of Tornado Hazards Protection Requirements at Independent Spent Fuel Storage Installations.”

For FY2022, under “Design Changes,” there was a total of five violations, with four violations issued to CoC Holders and one to a licensee, as seen in **Figure 1** and **Figure 2**. Of those, there were four 72.48,” Changes, Tests, and Experiments,” violations and one 72.146, “Design Control,” violation. Three of the 72.48 violations were issued to CoC Holders, and one 72.48 violation was issued to a licensee. The single 72.146 violation was issued to a CoC Holder. The number of violations under Design Changes has decreased by 2, since FY2021. It should be noted that in FY2021, of those seven Design Change violations, six were 72.48 violations.



**Figure 2–Number of Findings per Category, Sorted by Licensee/CoC Holder**

Under “Procedural Adequacy,” three of the five violations in FY2022 were committed by licensees. All three were violations of Part 50 Appendix B, Criterion III, “Design Control,” affecting ISFSI operations. Each sharing a similar issue that involves a failure to assure that certain aspects of the design bases were correctly translated into procedures and instructions. The other two violations were committed by CoC Holders, both instances violating the requirements of 71.111 and 72.150, “Instructions, Procedures, and Drawings.” The number of violations under Procedural Adequacy has increased by two, since FY2021.

Under “Procedural Adherence,” there was a total of three violations in FY2022. Two were 72.150 violations, one of them involving a CoC Holder and the other involving a licensee. The third violation was of Part 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” issued to a licensee. The number of violations under Procedural Adherence has increased by 1, since FY2021.

Under “Corrective Action,” there were 2 NOV’s issued to CoC Holders in FY2022. Both violating the requirements of 71.133, “Corrective Action.” This number was an increase since FY2021 by just one violation.

The violation area, “General License Conditions,” categorizes the only two 72.212, “Conditions of a General License,” violations that were issued to licensees. There were no violations under this area in FY2021.

Under “General Design Criteria,” there were no violations in FY2022.

There was only one violation under “Material Procurement.” Specifically, it was a violation of 72.154, “Control of purchase material, equipment, and services,” issued to a CoC Holder in FY2022.

Under “Testing,” there were only two violations, one involving 72.158, “Control of Special Processes,” issued to a CoC Holder, and the other one involving 72.162, “Test Control,” issued to a licensee, both during FY2022.

#### *Orders and Confirmatory Actions*

No confirmatory action letters or orders were issued during FY2022.

### **3. Trending and Review**

#### *FY2021 vs. FY2022 Violations Regarding Design Changes*

The data presented in this report was reviewed for whether any observations or trends may warrant a change in the regulations or the current regulatory processes. There were more inspections performed and more inspection findings discovered in FY2022 than in FY2021. As mentioned previously, six 72.48 violations were issued in FY2021, and four 72.48 violations were issued in FY2022. Although there were less 72.48 violations and more inspections in FY2022 than in FY2021, in both cases, 72.48 violations were the most frequently issued violation. Regarding the occurrence of 72.48 violations themselves, there does not seem to be a clear trend. Although the number of 72.48 violations decreased by two from FY2021 to FY2022, licensees and CoC Holders are routinely inspected, and some of their facilities are also inspected on an as-needed basis, so the amount and type of inspections during a fiscal year can differ from other years. This could influence the potential discovery of 72.48 violations each year, so this small decrease of 72.48 violations does not necessarily mean that licensees and CoC Holders are improving when it comes to 72.48 screenings and evaluations.

Considering that CoC Holders and licensees perform hundreds of 72.48 screenings per year, the relatively small number of 72.48 violations identified during both FY2021 and FY2022 does not raise any significant concerns at this time. In addition, the actual design changes that violate the regulatory requirements were specific to a cask design and all violations were issued as Severity Level IV violations with low safety significance, and there were no repeated violations by the same licensee or CoC Holder. Therefore, there should be no action that the agency must take to address the occurrence of 72.48 violations at this time.

#### *Tornado Hazards During ISFSI Handling Operations*

In FY2022, there were five inspection findings involving tornado hazard protection requirements at ISFSIs. This includes one at Limerick, Dresden, Robinson, South Texas, and Surry. All were resolved by exercising enforcement discretion as per EGM 22-001. In addition, there was one unresolved issue at Farley that was assessed through the VLSSIR process. The increase of inspection findings in this category validates the staff recent efforts to address this issue generically through the issuance of the EGM 22-001 and review of industry guidance to assess the use of administrative controls during ISFSI handling operations to meet Part 72.122 requirements. Additionally, several licensing actions have been submitted to the NRC to resolve this issue to meet the needs of specific dry storage system designs. The staff is currently reviewing industry guidance and expects to issue a regulatory guide prior to the expiration of EGM 22-001 in April 2024. Since only approximately 1/3 of ISFSIs have been inspected since the issuance of EGM, it is expected that in the upcoming FY additional sites could be subject to enforcement discretion. This issue has received adequate visibility within the inspection program, and inspectors are aware of the EGM and resources available to them in dispositioning violations. Given the staff actions to address this issue generically, there should be no other action that the NRC should take to address this trend of tornado hazard findings. Following issuance of the regulatory guide, DFM staff should provide training on the regulatory guide to regional staff to ensure consistent understanding and inspection of the implementation of the regulatory guide.

#### *Repetitive Inadequate Corrective Actions*

There were two instances of NOVs issued to CoC Holders for FY2022, both violations being cited due to repetition. Specifically, the CoC Holders received 71.133 violations for taking inadequate corrective actions for issues that were discovered from previous NRC inspections. During the next scheduled inspections for these CoC Holders, inspectors should follow the appropriate inspection procedures and develop an inspection plan, as usual, to ensure that the licensees have completely addressed any of their previous issues by then. During the FY23 Operating Experience Report, the number of corrective action violations should continue to be assessed to determine if a trend exists or whether this issue is isolated to these CoC Holders.

#### *Potential COVID-19 Impacts*

During FY2021, many inspections performed by NRC staff were either partially or in a very few instances fully remote. During FY2022, inspections returned to normal onsite inspections. The staff compared both the type and number of violations identified in FY2021 and FY2022 to look for any trends based upon the physical location of NRC staff performing violations.

The staff identified that during FY2021 there were less procedure adequacy, procedure adherence, and testing violations. These violations are difficult to identify remotely and are normally identified by direct observation of in field activities. Conversely, in FY2021 there were more design control violations. These violations are usually identified through a thorough engineering document review process that do not require in field observations.

While the explanations above may provide an explanation of the type and number of violations identified, care should be exercised to draw a specific conclusion based upon the small dataset both in violations issued and years assessed. Accordingly, the staff are not recommending any changes to the inspection program and are recommending continued onsite inspection.

#### **4. Generic Issues**

Data was screened for generic issues. As mentioned in the trend review of tornado hazard findings and given the staff actions to address this issue generically, there are no additional actions that the NRC should take to address the increasing trend of tornado hazard findings. No additional generic issues were identified during FY2022.

#### **5. Conclusions**

Based on the analysis above, the review group concludes that:

1. The increase of tornado hazard findings validated staff actions to address this issue generically. The actions NRC has taken to date to address the increase of tornado hazard findings will provide a generic solution to this issue and no additional action was identified.
2. There were no additional identifiable trends that could warrant a change in the regulations or the current regulatory processes regarding the inspection of CoC Holders and licensees, based on the limited analysis and comparison of inspection findings during FY2022 and FY2021.

#### **6. Recommendations**

The OpE review group recommends the following action:

1. The data is presented in this report should be used as a baseline for future Spent Fuel Storage and Transportation (SFST) Operating Experience Reports. The scope of future assessments should include tracking and trending of operational data over a period of three fiscal years, to align the review of the operating data to the triennial period of the ISFSI inspection program.
2. Once regulatory guidance on the use of administrative controls is issued, NRC staff must provide training to inspectors for the implementation of this guidance and inspection activities.

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