

## Enclosure 2

### FY22 Summary of Independent Spent Fuel Storage Installation Inspection Findings

Type	Licensee/ CoC Holder	Description	Applicable Regulation	Category
SL IV - NCV	NAC International	NAC failed to obtain a CoC amendment for changes to ACI-318 requirements for the MAGNASTOR cask system that required a change to the specifications incorporated in the MAGNASTOR System CoC No. 1031 Amendments 0-6.	10 CFR 72.48 Changes, Tests, and Experiments	Design Changes
SL IV - NCV	NAC International	Petersen failed to ensure a final dimensional verification occurs after adjusting the MAGNASTOR fuel basket within fabrication procedures.	10 CFR 72.150 Instructions, Procedures, and Drawings	Procedural Adherence
SL IV - NCV	NAC International	Petersen failed to perform an adequate Magnetic particle testing (MT) inspection of a fuel tube seam weld.	10 CFR 72.158 Control of Special Processes	Testing
SL IV - NOV	ORANO- Transport Logistics International Inc.	Container Products Corporation (CPC) took inadequate corrective actions during the previous inspection to ensure that applicable suppliers on its QSL received a triennial audit as required by the CPC QAM Section QAP-1007, and that the QSL was maintained current with qualified vendors. Specifically, Airgas Performance Plus Division and Branham Corporation have not been audited in the past three years but remained on the QSL.	10 CFR 71.133 Corrective Action	Corrective Action
SL IV - NCV	TN Americas, LLC	10 CFR 72.48(c)(1)(ii)(B) - Change incorporated in the CoC. TN made changes in the spent fuel storage cask design as described in sections A.2.1.4 and A.2.4.2 of the NUHOMS EOS UFSAR (as updated) without meeting the requirements in the CoC. Specifically, ORANO modified the UFSAR requirements for the MX-LC without performing an evaluation for an accident drop as required by CoC Condition 5, "Heavy Loads Requirements" and TS 5.2.1 because the MX-LC failed to meet the "single failure proof" requirements in the ASME NOG-1 2015 standard.	10 CFR 72.48 Changes, Tests, and Experiments	Design Changes
SL IV - NCV	TN Americas, LLC	10 CFR 72.48(d)(1)(c)(2)(i) and (c)(2)(vi) TN revised UFSAR to remove the words "to prevent boiling" in the annulus and instead provided guidance on how to manage the TC/DSC annulus water level during loading and unloading. TN failed to provide a bases for the determination that the presence of boiling water in the DSC and TC annulus does not require a CoC amendment.	10 CFR 72.48 Changes, Tests, and Experiments	Design Changes

SL IV - NCV	TN Americas, LLC	TN failed to subject design changes, including field changes, to design control measures commensurate with those applied to the original design in that TN supported a field change for a general licensee and did not properly analyze for tornado wind pressures without considering all assumptions from the original design.	10 CFR 72.146 Design Control	Design Changes
SL IV - NOV	Croft	<p>Croft took inadequate corrective action from the NRC 2017 inspection of Croft and the NRC 2019 inspection of Croft fabricator Oxford Engineering Limited. Specifically, in 2017, Croft wrote Corrective Action Report (CAR) 136 to address that Croft Associates Procedure (CAP) 12-01, Issue S, Audit Procedure, failed to require a periodicity for internal audits as required by 10 CFR, Section 71.137, "Audits" to ensure all applicable quality assurance criteria are audited on a periodic basis. However, the actions taken by the CAR did not directly align with the issue and the issue was not corrected. In 2017, Croft wrote CAR 137 to address that CAP 05-17, Issue E, Conditions Adverse to Quality, and CAP 12-03, Issue M, QMS Corrective Action, did not provide guidance to determine the cause of Significant Conditions Adverse to Quality and the corrective action necessary to preclude repetition. However, the actions taken by the CAR did not directly align with the issue and the issue was not corrected.</p> <p>In 2017, Croft wrote CAR 137 to address that CAP 05-17, Issue E, Conditions Adverse to Quality, and CAP 12-03, Issue M, QMS Corrective Action, did not provide guidance to determine the cause of Significant Conditions Adverse to Quality and the corrective action necessary to preclude repetition. However, the actions taken by the CAR did not directly align with the issue and the issue was not corrected.</p> <p>In 2019, Croft wrote CAR 147 to address that CAP 06-08, Approved Supplier, Step 2.2.1 required that a Quality Category A supplier shall have a current assessment and approval to an appropriate quality system standard. Croft assessed Oxford Engineering Limited to qualify them to encompass the additional requirements of 10 CFR Part 71, but Oxford Engineering's internal auditor did not meet those requirements, nor did Oxford Engineering have a quality procedure or process in place for qualifying internal auditors. However, the actions taken by the CAR did not directly align with the issue and the issue was not corrected.</p> <p>In addition, during the 2022 inspection, several Croft</p>	10 CFR 71.133 Corrective Action	Corrective Action

		internal audits were sampled, and it was determined that no CARs had been written when findings had been identified as a result of the audits. CAP 12-01, Audit Procedure, Section 2.3 states that when carrying out an internal audit, nonconformances must be recorded on the CAR database.		
SL IV - NCV	Croft	Inadequate procedures. CAP- 02-02, Project Quality Plan; CAP-02-04, Project Specifications; and CAP-02-05, Project Plan; are no longer current with what Croft is actually doing to fill out Croft form QF 376, Project Quality Plan. The form QF 376 had been revised, but procedures CAP 02-02, CAP 02-04, and CAP 02-05, in which procedural guidance was to be provided on how to fill out QF 376, were no longer current with what Croft was actually doing to fill out form QF 376.	10 CFR 71.111 Instructions, Procedures, and Drawings	Procedural Adequacy
SL IV - NCV	Xcel Energy/ TN Americas	SeAH Besteel Corpration's (SBC) corrective action procedure failed to provide sufficient guidance to perform root cause analysis for significant conditions adverse to quality to determine the corrective action necessary to preclude repetition.	10 CFR 72.150 Instructions, Procedures, and Drawings	Procedural Adequacy
SL IV - NCV	NAC International	Hitachi Zosen failed to perform an adequate audit of a suppliers QA program to ensure it meets all applicable requirements of 10 CFR Part 72, Subpart G.	10 CFR 72.154 Control of purchased material, equipment, and services	Procurement
Enforcement Discretion	Limerick Generating Station	The inspectors identified a violation of 10 CFR 72.48 associated with tornado hazard protection. 10 CFR 72.48(c)(2)(ii) requires, in part, that a general licensee shall request that the certificate holder obtain a CoC amendment pursuant to 10 CFR 72.244, prior to implementing a proposed change, if the change would result in more than a minimal increase in the likelihood of occurrence of a malfunction of a system, structure, or component (SSC) important to safety (ITS) previously evaluated in the FSAR. This requirement includes the configuration where the HI-STORM FW overpack is lifted by the hydraulic lifting gantry (HLG) as part of ISFSI operations. The HLG is an ITS component used in cask handling operations and is not designed to be operated in wind speeds exceeding 35 mph. The introduction of the ITS HLG met the criterion that resulted in "more than minimal increase" in the likelihood of occurrence of a malfunction of an SSC ITS previously evaluated in the FSAR. The general design criteria require ITS structures used in ISFSI operations to be designed to withstand the effects of tornado missiles and winds.	10 CFR 72.48 Changes, Tests, and Experiments	Tornado Hazards
VLSSIR	Joseph M. Farley Nuclear Plant	<b>Cask Transfer Operations Outside of the Fuel Handling Building</b> The inspectors identified that at the Farley Nuclear Plant, the licensee performs cask transfer operations outside of the fuel handling building. Following this operation, a mating device from the HI-STORM is removed, leaving the MPC within the HI-STORM exposed to natural phenomena and after a short duration the HI-STORM lid is placed onto the HI-STORM.	10 CFR 72.122 (b) Overall Requirements  10 CFR 72.212(b) Conditions of CoC	Tornado Hazards

Enforcement Discretion	Dresden Nuclear Power Station	<p><b>Tornado Hazards Protection at Independent Spent Fuel Storage Installations</b></p> <p>Upon issuance of U.S. NRC Enforcement Guidance Memorandum (EGM) 22-001 (ML22087A496), dated April 15, 2022, the licensee performed an assessment of all outdoor dry cask storage activities that are not explicitly analyzed for tornado hazards in the cask licensing basis. One configuration was identified by the licensee when a loaded Holtec HI-STORM 100 storage overpack is brought out of the reactor building without a lid installed. This configuration is not explicitly analyzed in the HI-STORM 100 FSAR. Tornado hazards are evaluated in the Holtec HI-STORM Final Safety Analysis Report (FSAR) section 3.4.8, "Tornado Wind and Missile Impact," and section 11.2.6.2, "Tornado Analysis." These sections of the FSAR do not include an analysis for tornado hazards with the storage overpack lid removed. Similarly, the licensee did not have an evaluation demonstrating the reactor site parameters enveloped the cask design basis for tornado missiles specifically for the configuration where a loaded storage overpack was outdoors with the lid off.</p>	10 CFR 72.212(b) Conditions of CoC	Tornado Hazards
Enforcement Discretion	H.B. Robinson Steam Electric Plant	<p><b>Tornado Hazards Protection at Independent Spent Fuel Storage Installations</b></p> <p>Upon issuance of U.S. NRC Enforcement Guidance Memorandum 22-001 (ML22087A496), dated April 15, 2022, the licensee performed an assessment of all outdoor dry cask storage activities that are not explicitly analyzed for tornado hazards in the cask licensing basis. Several configurations were identified by the licensee including when a loaded Dry Shielded Canister (DSC) with the shield plug is transferred out of the Spent Fuel Pool to the Cask Handling Facility and when the transfer cask lid is removed to insert the DSC into the Horizontal Storage Module (HSM). These configurations are not explicitly analyzed in the Standardized NUHOMS 72-1004 FSAR. Additionally, the licensee did not have an evaluation demonstrating the reactor site parameters enveloped the cask design basis for tornado missiles.</p>	10 CFR 72.212(b) Conditions of CoC	Tornado Hazards
Enforcement Discretion	South Texas Project	<p><b>Tornado Hazards Protection at Independent Spent Fuel Storage Installations</b></p> <p>Upon issuance of U.S. NRC Enforcement Guidance Memorandum (EGM) 22-001 (ML22087A496), dated April 15, 2022, the licensee performed an assessment of all outdoor dry cask storage activities that were not explicitly analyzed for tornado hazards in the system's FSAR. Two configurations were identified by the licensee where transport activities did not have a related tornado wind and hazard analysis consistent with the cask's design basis requirements. These situations occurred during outside operations when the HI-STORM FW overpack was on the low-profile transporter with the HI-STORM FW overpack lid bolts not engaged and when the Vertical Cask Transporter carried the overpack using the HI-STORM FW lifting brackets.</p>	10 CFR 72.212(b) Conditions of CoC	Tornado Hazards

Enforcement Discretion	Surry Power Station Dominion Energy	<b>Tornado Hazards Protection at Independent Spent Fuel Storage Installations</b> Upon issuance of U.S. NRC Enforcement Guidance Memorandum (EGM) 22-001 (ML22087A496), dated April 15, 2022, the licensee performed an assessment of all outdoor dry cask storage activities that are not explicitly analyzed for tornado hazards in the cask licensing basis. Several configurations were identified by the licensee including when the transfer cask lid is removed to insert the Dry Shielded Canister (DSC) into the Horizontal Storage Module (HSM) and prior to the HSM lid being reinstalled. These configurations are not explicitly analyzed in the Standardized NUHOMS 72-1004 Final Safety Analysis Report (FSAR). Additionally, the licensee did not have an evaluation demonstrating the reactor site parameters enveloped the cask design basis for tornado missiles.	10 CFR 72.212(b) Conditions of CoC	Tornado Hazards
SL IV NCV	Indian Point	Failure to follow procedures that are relied upon to ensure that combustible material surrounding a loaded HI-STORM is less than the maximum evaluated.	10 CFR 72.150 Instructions, Procedures, and Drawings	Procedural Adherence
SL IV NCV	Calvert Cliffs Nuclear Power Plant	Did not notify the NRC using instructions in 10 CFR 72.4 at least 90 days before first storage of spent fuel under their general license. 72.212(b)(1).	10 CFR 72.212 Conditions of CoC	General License Conditions
SL IV NCV	Duane Arnold	Failure to conform to the terms, conditions, and specifications of Certificate of Compliance (CoC) 1004, Amendment 17, Revision 0, Appendix B, condition 4.3.3, which required monitoring for hydrogen during welding of the inner top cover plate. 72.212(b)(3).	10 CFR 72.212 Conditions of CoC	General License Conditions
NCV GREEN (SL IV)	Browns Ferry Nuclear Plant	Failure to perform a 10 CFR 50.59 evaluation in accordance with site procedures. The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to follow the requirements of site procedure NPG-SPP-09.4, "10 CFR 50.59 Evaluations of Changes, Tests, and Experiments." Specifically, site personnel made changes to procedure 0-TI-561, "Underground Piping and Tanks Integrity Program," a procedure described in the UFSAR, without performing a 10 CFR 50.59 evaluation as required by site procedures.	10 CFR 50 Appendix B	Procedural Adherence
NCV GREEN (SL IV)	Joseph M. Farley Nuclear Plant	Failure to incorporate acceptance criteria for the spent fuel bridge crane. The inspectors identified a Green finding and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions. Specifically, the licensee failed to incorporate acceptance criteria for the Spent Fuel Bridge Crane lower runway and upper railway into FNP-0-MP-30.3, "Spent Fuel Cask Crane Periodic Mechanical Check," to ensure it can respond to design basis events.	10 CFR 50 Appendix B	Procedural Adequacy

NCV GREEN (SL IV)	North Anna Power Station	Failure to translate the licensing basis into instructions for fuel handling activities. The inspectors identified a Green, non-cited violation of Title 10, Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that the design basis was correctly translated into procedures and instructions. Specifically, the inspectors identified that the licensee failed to translate the maximum cask lift elevation and the locking of the trunnion axis into site procedures.	10 CFR 50 Appendix B	Procedural Adequacy
NCV GREEN (SL IV)	Sequoyah Nuclear Plant	Inadequate design control for ISFSI operations. The team identified three examples of a Green, non-cited violation of Title 10, Code of Federal Regulations Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that the design basis was correctly translated into procedures and instructions. Specifically, the inspectors identified that the licensee failed to develop appropriate acceptance criteria associated with the ISFSI haul path and the railway access hatch hoisting system and failed to verify the adequacy of the Auxiliary Building Crane testing program.	10 CFR 50 Appendix B	Procedural Adequacy
SL IV - NCV	Surry Power Station Dominion Energy	The team identified a Severity Level IV non-cited violation (NCV) of 10 CFR 72.48(d)(1), "Changes, Tests, and Experiments," because the licensee did not perform an adequate written evaluation which provided the bases for the determination that the change, test, or experiment does not require a license or Certificate of Compliance (CoC) amendment pursuant to paragraph (c)(2) of this section. Specifically, the licensee did not provide the bases for the determination that the presence of boiling water in the Dry Shielded Canister (DSC) and Transfer Cask (TC) annulus does not require a CoC amendment.	10 CFR 72.48 Changes, Tests, and Experiments	Design Changes
SL IV - NCV	Surry Power Station Dominion Energy	The inspectors identified a Severity Level IV, non-cited violation of 10 CFR Part 72.162, "Test Control," for the licensee's failure to perform testing in accordance with written test procedures incorporating design basis requirements and acceptance limits. Specifically, design basis flow rates for the EOS Forced Air Cooling units (FAC) were not incorporated into testing procedures or other instructions to test the system on an ongoing basis. As a result, unacceptable degradation of the FAC would not have been identified.	10 CFR 72.162 Test Control	Testing

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