



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

August 23, 2018

Mr. Bryan C. Hanson
Senior Vice President, Exelon Generation Company, LLC
President and Chief Nuclear Officer, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT – NRC TEMPORARY
INSTRUCTION 2515/191, INSPECTION OF THE IMPLEMENTATION OF
MITIGATION STRATEGIES AND SPENT FUEL POOL INSTRUMENTATION
ORDERS AND EMERGENCY PREPAREDNESS
COMMUNICATION/STAFFING/MULTI-UNIT DOSE ASSESSMENT PLANS
REPORT 05000333/2018010

Dear Mr. Hanson:

On July 27, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the James A. Fitzpatrick Nuclear Power Plant and the team discussed the preliminary results of this inspection with Mr. T. Peter, Plant Manager, and other members of your staff. An exit meeting was conducted with Mr. A. Sterio, Engineering Director, via telephone on August 17, 2018, to discuss the final results of the inspection. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any findings or violations of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and the NRC's Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR), Part 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Marc S. Ferdas, Chief
Technical Support and Assessment Branch
Division of Reactor Projects

Docket Number: 50-333
License Number: DPR-59

Enclosure:
Inspection Report 05000333/2018010

cc w/encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION
Inspection Report

Docket Number: 50-333

License Number: DPR-59

Report Number: 05000333/2018010

Enterprise Identifier: I-2018-010-0067

Licensee: Exelon Generation Company, LLC

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, NY

Inspection Dates: July 23 to 27, 2018

Inspectors: D. Silk, Senior Operations Engineer (Team Leader)
T. Dunn, Operations Inspector
G. Stock, James A. Fitzpatrick Senior Resident Inspector (Acting)
B. Sienel, Nine Mile Point Resident Inspector

Approved By: Marc S. Ferdas, Chief
Technical Support and Assessment Branch
Division of Reactor Projects

Enclosure

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Exelon's performance at James A. Fitzpatrick Nuclear Power Plant by conducting Temporary Instruction (TI) 2515/191, "Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans," in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. No findings or more-than-minor violations were identified.

INSPECTION SCOPES

This inspection was conducted using the appropriate portions of the TI in effect at the beginning of the inspection unless otherwise noted. Currently approved TIs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Documents reviewed by inspectors are listed in the documents reviewed section of this report. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

OTHER ACTIVITIES—TEMPORARY INSTRUCTION, INFREQUENT AND ABNORMAL

TI 2515/191 – Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans

The inspectors verified plans for complying with NRC Orders EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (ADAMS Accession No. ML12056A045) and EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," (ADAMS Accession No. ML12054A679) are in place and are being implemented by the licensee. Additionally, the inspection verified implementation of staffing and communications information provided in response to the March 12, 2012, request for information letter (ADAMS Accession No. ML12053A340) and dose assessment information provided per COMSECY-13-0010, "Schedule and Plans for Tier 2 Order on Emergency Preparedness for Japan Lessons Learned," dated March 27, 2013 (ADAMS Accession No. ML12339A262).

- (1) Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the Diverse and Flexible Coping Strategies (FLEX) as described in the plant specific submittals and the associated safety evaluation (ADAMS Accession No. ML17342A006) and determined that the licensee is in compliance with NRC Order EA-12-049. The inspectors verified that the licensee satisfactorily:
 - a. Developed and issued FLEX Support Guidelines (FSGs) to implement the FLEX strategies for postulated external events;
 - b. Integrated their FSGs into their existing plant procedures such that entry into and departure from the FSGs were clear when using existing plant procedures;
 - c. Protected FLEX equipment from site-specific hazards;
 - d. Developed and implemented adequate testing and maintenance of FLEX equipment to ensure their availability and capability;
 - e. Trained its staff to assure personnel proficiency in the mitigation of beyond-design basis events; and
 - f. Developed the means to ensure the necessary off-site FLEX equipment would be available from off-site locations.

- (2) Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the FLEX strategy as described in the plant specific submittals and the associated safety evaluation and determined that the licensee is in compliance with NRC Order EA-12-051. The inspectors verified that the licensee satisfactorily:
- a. Installed the spent fuel pool (SFP) instrumentation sensors, cabling, and power supplies to provide physical and electrical separation as described in the plant specific submittals and safety evaluation;
 - b. Installed the SFP instrumentation display in the location, environmental conditions, and accessibility as described in the plant specific submittals;
 - c. Trained its staff to assure personnel proficiency with the maintenance, testing, and use of the SFP instrumentation; and
 - d. Developed and issued procedures for maintenance, testing, and use of the reliable SFP instrumentation.
- (3) The inspectors verified that the licensee satisfactorily implemented enhancements pertaining to Near-Term Task Force Recommendation 9.3 response to a large scale natural emergency event that results in an extended loss of all alternating current (AC) power to all site units and impedes access to the site. The inspectors verified the following:
- a. The licensee satisfactorily implemented required staffing changes to support an extended loss of AC power (ELAP) scenario;
 - b. Emergency preparedness communications equipment and facilities are sufficient for dealing with an ELAP scenario; and
 - c. The licensee implemented dose assessment capabilities (including releases from SFPs) using the licensee's site-specific dose assessment software and approach.

The inspectors verified that non-compliances with requirements and standards identified during the inspection were entered into the licensee's corrective action program as appropriate.

This TI is considered closed.

EXIT MEETINGS AND DEBRIEFS

The inspectors verified no proprietary information was retained or documented in this report.

On July 27, 2018, the team presented the preliminary FLEX inspection results to Mr. T. Peter, Plant Manager, and other members of the licensee staff. An exit meeting was conducted with Mr. A. Sterio, Engineering Director, via telephone on August 17, 2018, to discuss the final results of the inspection.

DOCUMENTS REVIEWED

Issue Reports initiated in response to inspection

4157135	4158348	4158365	4158424
4158752	4158965	4159089	4159311
4159315	4159318	4159363	4159373
4159456	4159500		

Calculations

JAF-CALC-16-00019, Rocking and Sliding Evaluation of Equipment Inside FLEX Equipment Storage Buildings, Revision 0

Miscellaneous

James A. Fitzpatrick Nuclear Power Plant –Safety Evaluation Regarding Implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA 12 049 and EA-12-051), dated December 18, 2017

Report of Full Compliance with March 12, 2012, Commission Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, JAFP-17-008 dated August 29, 2017

EC-9000052728, FUKUSHIMA – Spent Fuel Pool Level Instrumentation

EC 52736, Attachment 6.027, NSRC Pump Deployment Location

JAF-RPT-15-00004, James A. FitzPatrick Flooding Hazard Re-Evaluation Report

JAF-RPT-17-00018, 2017 Focused Evaluation for External Flooding at James A. FitzPatrick Nuclear Power Plant

JAF-RPT-17-00033, JAMES A. FITZPATRICK NUCLEAR POWER PLANT FLEX Validation Report, dated 2017-06-29

JAF-RPT-17-00047, Seismic MSA Path 4 Seismic Evaluation Report for James A. FitzPatrick

Procedures

FSG-ELAP, Extended Loss of AC Power (ELAP), Revision 3

FSG-001, Initial Assessment and FLEX Equipment Staging, Revision 3

FSG-002, ELAP DC Bus Load Shed and Management, Revision 2

FSG-003, Alternate Reactor Vessel Cooling, Revision 5

FSG-004, Alternate Containment Cooling, Revision 1

FSG-005, Alternate Spent Fuel Pool Makeup and Cooling, Revision 3

FSG-006, Loss of Vital Instrumentation or Control Power, Revision 1

FSG-007, Long Term Reactor Vessel Cooling, Revision 1

FSG-008, Transition from FLEX Equipment, Revision 0

FSG-100, Emergency Response to an Extended Loss of AC Site Power (ELAP), Revision 2

FSG-101, Beyond Design Basis External Events EP Communications, Revision 2

AOP-49, Station Blackout, Revision 23

CC-JF-118, Site Implementation of Diverse and Flexible Coping Strategies (FLEX), Revision 3

CC-JF-118-101, Beyond Design Basis Administrative Controls, Revision 1

CC-JF-118-1001, SAFER Response Plan for James A. Fitzpatrick Nuclear Station, Revision 1

ESP-99.001, FLEX Equipment Inventory and Inspection, Revision 0

CC-JF-118-1002, Congested Area Plan for James A. Fitzpatrick Nuclear Station, Revision 1

SAP-3, Emergency Communications Testing, Revision 93A

James A. Fitzpatrick Nuclear Power Plant TSGs, Revision 0