

JAFP-20-0080

December 11, 2020

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

James A. FitzPatrick Nuclear Power Plant  
Renewed Facility Operating License No. DPR-59  
NRC Docket No. 50-333

Subject: Application to Revise Surveillance Requirement (SR) 3.5.1.6

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (Exelon) is requesting approval for proposed changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant.

The proposed change revises the James A. FitzPatrick Nuclear Power Plant (JAF) TS Limiting Condition for Operation (LCO) 3.5.1, "ECCS – Operating," Surveillance Requirement (SR) 3.5.1.6. The proposed change revises the Frequency of SR 3.5.1.6 from "Once each startup prior to exceeding 25% RTP," as modified by a Note stating, "Not required to be performed if performed within the previous 31 days" to 24 months.

This submittal is consistent with a similar approved change for Fermi 2, license amendment 133, dated May 25, 1999 (ML020720643), and with Technical Specification Task Force (TSTF) Improved Standard Technical Specifications Change Traveler (TSTF 457-T) Rev 0. Exelon proposes no variations or deviations from the TSTF with the exception of requesting a 24-month frequency instead of 18 months due to the JAF being on a 24-month fuel cycle.

Exelon has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92, "Issuance of amendments."

The proposed changes have been reviewed by the JAF Plant Operations Review Committee in accordance with the requirements of the Exelon Quality Assurance Program.

Approval of the proposed amendments is requested by December 11, 2021. Once approved, the amendments shall be implemented within 90 days.

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In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the State of New York of this application for license amendment by transmitting a copy of this letter and its attachments to the designated State Official.

If you have any questions or require additional information, please contact Enrique Villar at (610) 765-5736.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 11<sup>th</sup> day of December 2020.

Respectfully,



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David T. Gudger  
Senior Manager, Licensing  
Exelon Generation Company, LLC

Attachments: 1. Evaluation of Proposed Change  
2. Markup of Technical Specifications Page  
3. Markup of Technical Specifications Bases Page (For Information Only)

cc: Regional Administrator – NRC Region I w/ attachments  
NRC Senior Resident Inspector – JAF “  
NRC Project Manager, NRR – JAF “  
A. L. Peterson, NYSEDA “

## **ATTACHMENT 1**

### **James A. FitzPatrick Nuclear Power Plant Renewed Facility Operating License No. DPR-59 NRC Docket No. 50-333**

#### **Evaluation of Proposed Changes**

**Subject: License Amendment Request to Revise SR 3.5.1.6 Involving Recirculation Pump Discharge Valves**

- 1.0 SUMMARY DESCRIPTION
- 2.0 DETAILED DESCRIPTION
- 3.0 TECHNICAL EVALUATION
- 4.0 REGULATORY EVALUATION
  - 4.1 Applicable Regulatory Requirements/Criteria
  - 4.2 Precedence
  - 4.3 No Significant Hazards Consideration
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- 5.0 ENVIRONMENTAL CONSIDERATION
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## 1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," Exelon Generation Company, LLC (Exelon), proposes a change to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License No. DPR-59 for James A. FitzPatrick Nuclear Power Plant (JAF).

The proposed change revises the JAF Surveillance Requirement (SR) 3.5.1.6. The proposed change revises the Frequency of SR 3.5.1.6 from "Once each startup prior to exceeding 25% RTP," to 24 months, and deletes the associated SR Note that states, "Not required to be performed if performed within the previous 31 days."

## 2.0 DETAILED DESCRIPTION

JAF TS SR 3.5.1.6 requires that each recirculation pump discharge valve shall be OPERABLE by cycling the valves through one complete cycle of full travel during each startup prior to exceeding 25% of rated thermal power (RTP). The SR is modified by a note that indicates that the surveillance is only required if it has not been performed within the previous 31 days.

This frequency is inconsistent with that required by the IST program, and there is no specific reason to test these valves at a different frequency. JAF operates on a 24-month refueling cycle. With the current TS, if the plant operates in Mode 1 for the entire operating cycle, the period between performances of this SR would be approximately 24 months. However, if the plant enters Mode 3 (hot shutdown), during the operating cycle, the TS would require that SR 3.5.1.6 be performed if it had not been performed within the previous 31 days.

The proposed change optimizes the frequency of testing of the recirculation pump discharged valves and brings JAF TS into alignment with the ASME OM Code. The proposed change to JAF SR 3.5.1.6 is also necessary to conform the TS to the IST program requirements, since these valves are already included in the IST.

The marked-up TS pages that reflect the proposed change are provided in Attachment 2. Attachment 3 provides the marked-up TS Bases pages for information only.

## 3.0 TECHNICAL EVALUATION

### Background:

The Reactor Recirculation System (RRS) provides coolant flow through the core. Adjustment of the core coolant flow rate changes reactor power output, thus providing a means of following plant load demand without adjusting control rod position. The RRS is designed to provide a slow coastdown of flow so that fuel thermal limits cannot be exceeded as a result of RRS malfunctions.

The RRS consists of two recirculation loops external to the reactor vessel which provide the piping path for the driving flow of water to the reactor vessel jet pumps. Each external loop contains one variable speed, motor driven recirculation pump and two motor operated gate valves which are provided to facilitate pump maintenance. Each pump discharge line contains a venturi type flow element which provides a coolant flow input signal for the Reactor Protection System. The recirculation loops are a part of the Reactor Coolant Pressure Boundary and are located totally inside the primary containment structure.

The power generation and safety design bases are listed below in general terms. A more detailed description can be found in the JAF Final Safety Analysis Report (FSAR) Section 4.3

The RRS:

- Provides sufficient flow to remove heat from the fuel over the entire load range, although not all reactor operating state-points permitted by the power - flow operating map may be achievable at all times during an operating cycle.
- Is designed to minimize maintenance situations that would require core disassembly and fuel removal.
- Is so designed that adequate fuel barrier thermal margin is ensured following recirculation pump malfunctions.
- Is designed that a failure of piping integrity does not compromise the ability of the reactor vessel internals to provide a re-floodable volume.
- Is designed to maintain pressure integrity during adverse combinations of loadings and forces resulting from operation during abnormal and accident conditions.

These valves are periodically tested under the motor-operated valve testing program established in accordance with Generic Letter 96-05, Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves, dated September 18, 1996.

Testing and Maintenance History of the JAF Recirculation Discharge Valves:

There are two recirculation pump discharge valves provided for JAF. The valve designations are 02MOV-053A, 02MOV-53B. An investigation of the historical test performance of these valves was performed and shown in the table below:

## Attachment 1

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Date	Surveillance	02-2MOV-53A	02-2MOV-53B	Comments
2/3/2020	ST-27C	N/A	Sat (29.6 Sec)	B Side Only
10/02/2018	ST-27A	Sat		A Side Only. PMT Work Order: 4761996
9/10/2018	ST-27A	Sat (28.62 Sec)	Sat (28.04 Sec)	Work Order: 04652226
2/4/2017	ST-27A	Sat (28.7 Sec)	Sat (28.0 Sec)	Work Orders: 52606938; 52606942; 52607299; 426645
7/2/2016	ST-27A	Sat (28.56 Sec)	Sat (27.91 Sec)	Work Order: 52674458
1/27/2016	ST-27A	Sat (28.6 Sec)	Sat (28.0 Sec)	Work Order: 52475410
1/25/2016	ST-27A	Sat (28.76)	Sat (27.86 Sec)	Work Order: 52475410
9/13/2014	ST-27A	Sat (28.6 Sec)	Sat (28.1 Sec)	Work Orders: 52377634; 52288865; 52401178; 52468130; 52468130; 52469011; 52471549; 52288863; 52466867
6/2/2014	ST-27C	Sat (26.0 Sec)	Sat (28.8 sec)	Work Order: 52475412
3/5/2013	ST-27A	Sat (28.7 Sec)	Sat (28.5 Sec)	Work Order: 334561
3/5/2013	ST-27C	Sat (28.57 Sec)	Sat (28.60 Sec)	Work Order: 52452423
11/6/2012	ST-27C	Sat (29.03 (Sec)	N/A	Work Order: 52288890 A Only.
11/5/2012	ST-27C	N/A	Sat (28.87 Sec)	WO 52288890 ST aborted because the operators could not verify the generator field breaker open. B Side Only. Credit for the SR was taken IAW AP-19.01.
9/23/2012	ST-27A	N/A	Sat (28.62 Sec)	B Side Only. Work Orders: 52287959; 290630
9/22/2012	ST-27A	Sat (28.6 Sec)	N/A	A Side Only. Work Order: 52287959
10/7/2010	ST-27A	Sat (28.63 Sec)	Sat (24.34)	Work Orders: 51690512; 51690825; 51688897; 51689212; 51689195

As indicated in the table above these valves have satisfactory testing results for the last 10 years.

## 4.0 REGULATORY EVALUATION

### 4.1 Applicable Regulatory Requirements/Criteria

The following regulatory requirements have been considered:

- Title 10 of the Code of Federal Regulations (10 CFR), Section 50.36, "Technical specifications," in which the Commission established its regulatory requirements related to the contents of the TS. 10 CFR 50.36(c) requires that the TS include, among other things, items in the following categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.
- 10 CFR 50.55a(f) *Inservice testing requirements*. Systems and components of boiling and pressurized water-cooled nuclear power reactors must meet the requirements of the ASME Boiler and Pressure Vessel Code (BPV Code) and the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code).
- 10 CFR 50.65(a)(1) states that each holder of a license to operate a nuclear power plant...shall monitor the performance or condition of structures, systems, or components...in a manner sufficient to provide reasonable assurance that these structures, systems, and components...are capable of fulfilling their intended functions.

### 4.2 Precedence

A similar change has been approved for Fermi 2, license amendment 133, dated May 25, 1999 (ML020720643).

### 4.3 No Significant Hazards Consideration

Exelon Generation Company, LLC (Exelon), proposes a change to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License Nos. DPR-59 for the James A. FitzPatrick Nuclear Power Plant.

Exelon has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

#### 1. **Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?**

Response: No.

The proposed change extends the Frequency for cycling the recirculation pump discharge valves from "Once each startup prior to exceeding 25% RTP," as modified

by a Note stating, "Not required to be performed if performed within the last 31 days" to a fixed Frequency of 24 months. Testing of the recirculation pump discharge valves is not an initiator to any accident previously evaluated. As the recirculation pump discharge valves are still required to be OPERABLE, the ability to mitigate any accident previously evaluation is not affected. The proposed changes do not adversely affect accident the design assumptions, conditions, or configuration of the facility. The proposed changes do not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function.

Therefore, it is concluded that this change does not significantly increase the probability of an accident previously evaluated.

**2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?**

Response: No.

The proposed change extends the Frequency for cycling the recirculation pump discharge valves from "Once each startup prior to exceeding 25% RTP," as modified by a Note stating, "Not required to be performed if performed within the last 31 days" to a fixed Frequency of 24 months. This revision will not impact the accident analysis. The changes will not alter the methods of operation of the recirculation pump discharge valves. No new or different accidents result. The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a significant change in the methods governing normal plant operation. The changes do not alter assumptions made in the safety analysis.

Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

**3. Does the proposed change involve a significant reduction in a margin of safety?**

Response: No.

The proposed change extends the Frequency for cycling the recirculation pump discharge valves from "Once each startup prior to exceeding 25% RTP," as modified by a Note stating, "Not required to be performed if performed within the last 31 days" to a fixed Frequency of 24 months. The proposed change does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by this change. The proposed change will not result in plant operation in a configuration outside the design basis. The frequency of testing the recirculation pump discharge valves will be consistent with the frequency of testing other valves in the Emergency Core Cooling System.

Therefore, this change does not involve a significant reduction in a margin of safety.



Based on the above, Exelon concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

#### 4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

### 5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

### 6.0 REFERENCES

1. Letter from Detroit Edison (Fermi Station) to the U.S. NRC subject " Proposed Technical Specification Change (License Amendment) to Modify the Recirculation Pump Discharge Valve Surveillance Requirement," dated March 23, 1999.
2. Letter from the U.S. NRC to Detroit Edison (Fermi Station) subject "Fermi 2 - Issuance of Amendment re: Recirculation Pump Discharge Valve Surveillance Requirement (TAC NO. MA5118), dated May 25, 1999 (ML020720643).

**ATTACHMENT 2**

**Markup of Technical Specifications Pages**

**License Amendment Request to Revise SR 3.5.1.6 Involving Recirculation Pump Discharge Valves**

**James A. FitzPatrick Nuclear Power Plant  
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**Unit 1 TS Pages**

**3.5.1-5**

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY																																								
<p>SR 3.5.1.6</p> <p><del>NOTE</del>  <del>Not required to be performed if performed within the previous 31 days.</del></p> <p>.....</p> <p>Verify each recirculation pump discharge valve cycles through one complete cycle of full travel or is de-energized in the closed position.</p>	<p>24 months</p> <p>Once each startup prior to exceeding 25% RTP</p>																																								
<p>SR 3.5.1.7</p> <p>Verify the following ECCS pumps develop the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure.</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td></td> <td style="text-align: center;">NO.</td> <td style="text-align: center;">SYSTEM HEAD</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">OF</td> <td style="text-align: center;">CORRESPONDING</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">PUMPS</td> <td style="text-align: center;">TO A REACTOR</td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">PRESSURE</td> </tr> <tr> <td style="text-align: center;"><u>SYSTEM</u></td> <td style="text-align: center;"><u>FLOW RATE</u></td> <td></td> <td style="text-align: center;"><u>ABOVE PRIMARY</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;"><u>CONTAINMENT</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;"><u>PRESSURE OF</u></td> </tr> <tr> <td>Core</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Spray</td> <td>≥ 4265 gpm</td> <td style="text-align: center;">1</td> <td>≥ 113 psi</td> </tr> <tr> <td>LPCI</td> <td>≥ 7700 gpm</td> <td style="text-align: center;">1</td> <td>≥ 20 psi</td> </tr> </table>			NO.	SYSTEM HEAD			OF	CORRESPONDING			PUMPS	TO A REACTOR				PRESSURE	<u>SYSTEM</u>	<u>FLOW RATE</u>		<u>ABOVE PRIMARY</u>				<u>CONTAINMENT</u>				<u>PRESSURE OF</u>	Core				Spray	≥ 4265 gpm	1	≥ 113 psi	LPCI	≥ 7700 gpm	1	≥ 20 psi	<p>In accordance with the Inservice Testing Program</p>
		NO.	SYSTEM HEAD																																						
		OF	CORRESPONDING																																						
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			PRESSURE																																						
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			<u>CONTAINMENT</u>																																						
			<u>PRESSURE OF</u>																																						
Core																																									
Spray	≥ 4265 gpm	1	≥ 113 psi																																						
LPCI	≥ 7700 gpm	1	≥ 20 psi																																						
<p>SR 3.5.1.8</p> <p><del>NOTE</del>  <del>Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test.</del></p> <p>.....</p> <p>Verify, with reactor pressure ≤ 1040 psig and ≥ 970 psig, the HPCI pump can develop a flow rate ≥ 3400 gpm against a system head corresponding to reactor pressure.</p>	<p>In accordance with the Inservice Testing Program</p>																																								

(continued)

**ATTACHMENT 3**

**Markup of Technical Specifications Bases Pages**

**FOR INFORMATION ONLY**

**License Amendment Request to Revise SR 3.5.1.6 Involving Recirculation Pump Discharge Valves**

**James A. FitzPatrick Nuclear Power Plant  
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**Unit 1 TS Bases Pages**

**B 3.5.1-13**

## BASES

SURVEILLANCE  
REQUIREMENTSSR 3.5.1.5 (continued)

demonstrates that the AC electrical power is available to ensure proper operation of the associated LPCI injection and heat exchanger bypass valves and the recirculation pump discharge valve. Each inverter must be OPERABLE for the associated LPCI subsystem to be OPERABLE. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.5.1.6

Cycling the recirculation pump discharge valves through one complete cycle of full travel demonstrates that the valves are mechanically OPERABLE and will close when required. Upon initiation of an automatic LPCI subsystem injection signal, these valves are required to close to ensure full LPCI subsystem flow injection in the reactor via the recirculation jet pumps. De-energizing the valve in the closed position will also ensure the proper flow path for the LPCI subsystem. Acceptable methods of de-energizing the valve include de-energizing breaker control power, racking out the breaker or removing the breaker.

INSERT 1

The specified Frequency ~~is once during reactor startup before THERMAL POWER is > 25% RTP. However, this SR is modified by a Note that states the Surveillance is only required to be performed if the last performance was more than 31 days ago. Verification during reactor startup prior to reaching > 25% RTP is an exception to the normal Inservice Testing Program generic valve cycling Frequency of 92 days, but is considered acceptable due to the demonstrated reliability of these valves. If the valve is inoperable and in the open position, the associated LPCI subsystem must be declared inoperable.~~

SR 3.5.1.7, SR 3.5.1.8, and SR 3.5.1.9

The performance requirements of the low pressure ECCS pumps are determined through application of the 10 CFR 50, Appendix K criteria (Ref. 8). This periodic Surveillance is performed (in accordance with

(continued)

**License Amendment Request to Revise SR 3.5.1.6 Involving Recirculation Pump Discharge Valves**

**James A. FitzPatrick Nuclear Power Plant  
Renewed Facility Operating License No. DPR-59  
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**Unit 1 TS Bases Insert**

**INSERT 1**

of 24 months is based on the need to perform the Surveillance under the condition that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the SR when performed at the 24-month Frequency, which is based on the refueling cycle. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.