UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

January 20, 2021

Mr. Don Moul
Executive Vice President,
Nuclear Division and Chief Nuclear Officer
Florida Power & Light Company
NextEra Energy Seabrook,
LLC Mail Stop: EX/JB
700 Universe Blvd
Juno Beach, FL 33408

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INFORMATION REQUEST TO SUPPORT TRIENNIAL BASELINE DESIGN-BASIS CAPABILITY OF POWER-OPERATED VALVES INSPECTION; INSPECTION REPORT 05000443/2021013

Dear Mr. Moul:

The purpose of this letter is to notify you that the U.S. Nuclear Regulatory Commission (NRC) Region I staff will conduct a team inspection at Seabrook Nuclear Power Plant, LLC. Kevin Mangan, a Senior Reactor Inspector from the NRC's Region I Office, will lead the inspection team. The inspection will be conducted in accordance with Inspection Procedure 71111.21N.02, "Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements," dated July 26, 2019 (ADAMS Accession No. ML19067A240).

The inspection will assess the reliability, functional capability, and design bases of risk-important power-operated valves (POVs) as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a, and Appendix A and B requirements. The inspectors will select a sample of POVs based on risk insights, safety significance, and operating margin.

During a telephone conversation on 01/12/2021, with Mr. Joshua Greene, Nuclear Engineer Senior - Licensing, we confirmed arrangements for information gathering and the two-week onsite inspection the weeks of March 1st and March 15th. Depending on site access conditions these activities may be conducted onsite or remotely.

The purpose of the information gathering visit is to meet with members of your staff and to become familiar with your programs and procedures intended to ensure compliance with 10 CFR 50.55a for POVs. The lead inspector will discuss aspects of the programs including any specific applicable regulatory commitments made by your facility and your use of NRC Regulatory Guides or industry standards. Dave Werkheiser, a Region I Senior Risk Analyst, will support Kevin Mangan during the information-gathering visit to review probabilistic risk assessment data and identify the final POV samples to be examined during the inspection.

Experience with previous design basis team inspections of similar depth and length has shown this type of inspection is resource intensive, both for NRC inspectors and licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both parties, we have enclosed a request for information needed for the inspection.

It is important that all of these documents are up-to-date and complete in order to minimize the number of additional documents requested during the preparation and onsite portions of the inspection. Insofar as possible, this information should be provided electronically to the lead inspector at the NRC Region I Office by February 7, 2021. Additional documents may be requested during the information gathering visit and/or during team preparation week (the week prior to the first onsite inspection week). The inspectors will minimize your administrative burden by specifically identifying only those documents required for the inspection.

If there are any questions about the inspection or the material requested in the enclosure, please contact the lead inspector at 610-337-5234 or via e-mail at kevin.mangan@nrc.gov.

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, Control Number 3150-0011. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget Control Number.

This letter and its enclosure will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding.”

Sincerely,

X /RA/

Signed by: Melvin K. Gray

Mel Gray, Chief
Engineering Branch 1
Division of Reactor Safety

Docket No. 05000443
License No. NPF-86

Enclosure:
Document Request for Design Bases
Assurance Inspection

cc: Distribution via ListServ ®

SUBJECT: SEABROOK STATION, UNIT NO. 1 – INFORMATION REQUEST TO SUPPORT TRIENNIAL BASELINE DESIGN-BASIS CAPABILITY OF POWER-OPERATED VALVES INSPECTION; INSPECTION REPORT 05000443/2020013 DATED JANUARY 20, 2021

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DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION

Inspection Report:	05000443/2021013
Onsite Inspection Dates:	March 1 through March 5, 2021; and March 15 through March 19, 2021
Inspection Procedure:	Inspection Procedure 71111.21N.02, Design-Basis Capability of Power-Operated Valves Under 10 CFR 50.55a Requirements
Lead Inspector:	Kevin Mangan, Senior Reactor Inspector 610-337-5234 Kevin.Mangan@nrc.gov

I. Information Gathering Visit

During this visit, we plan to obtain sufficient insights to finalize power-operated valve (POV) samples for this inspection. We would like to meet with POV specialists to discuss the upcoming inspection and our sample selection process. The primary valve types to be reviewed for this inspection include motor-operated valves (MOVs) and air-operated valves (AOVs); and additional valve types include hydraulic-operated valves (HOVs), solenoid-operated valves (SOVs), and pyrotechnic-actuated (squib) valves. During this visit, the lead inspector will: (a) discuss the scope of the planned inspection; (b) identify additional information needed to review in preparation for the inspection; (c) ensure that the information to be reviewed is available at the beginning of the inspection; and (d) verify that logistical issues will be identified and addressed prior to the team's arrival. Depending on the local COVID environment and potential travel restrictions, this visit may be either onsite or performed remotely through a series of video calls. If performed onsite, please reserve a room during the site visit with a telephone, wireless internet access, and a licensee computer with access to procedures, corrective action program documents, and a printer.

II. Information Requested for Selection of Power-Operated Valves

The following information is requested by February 10, 2020, to facilitate inspection preparation. Feel free to contact the lead inspector if you have any questions regarding this information request. Please provide the information electronically in "pdf" files, Excel, or other searchable formats, preferably on some portable electronic media (e.g., CD-ROM, DVD). The files should contain descriptive names and be indexed and hyperlinked to facilitate ease of use. Information in "lists" should contain enough information to be easily understood by someone who has knowledge of light water reactor technology and POVs.

DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION

A. General Information

1. A word-searchable Update Final Safety Analysis Report. If not available in a single file per unit, please ensure a collective table of contents is provided.

2. Site (and corporate if applicable) procedures associated with implementation of the MOV program required by 10 CFR 50.55a(b)(3)(ii) and/or ASME OM Code Mandatory Appendix III; and site (corporate) procedure for AOV program.

3. Site response(s) to NRC Generic Letter (GL) 95-07, Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves.

4. Site evaluation of NRC Information Notice 2012-14, MOV Inoperable due to Stem-Disc Separation.

5. List of corrective action documents related to the MOV and AOV programs since 9/2015 (include document No., title/short description, date).

6. List of corrective action documents related to each of the POVs listed below since 9/2015 (include document No., title/short description, date).

7. List of significant modifications, repairs, or replacement of safety related POVs completed since 9/2015, including date completed (include document No., title, date completed).

8. Any self-assessments or quality assurance type assessments of the MOV/AOV programs (performed since 9/2015).

9. Most recent POV (e.g., MOV, AOV, SOV) program health report, if available.

10. List and electronic copy of all Emergency Operating Procedures.

11. List of Abnormal Operating Procedures.

12. Identify the edition of the ASME Operation and Maintenance of Nuclear Power Plants (OM Code) that is the Code of Record for the current 10-year Inservice Test Program interval, as well as any standards to which the station has committed with respect to POV capability and testing.

13. For each of the following MOVs, provide the information listed in the table below:

ACC-MOV-V3, Acc Loop 1 Injection
CCW-MOV-V1095, CC Water Discharge to Train B Booster HX
EFW-MOV-FV4224A, SG-B Inlet MOV
HPI-MOV-V111, HPI MDP P-6B Disch MOV
HPI-MOV-V114, HPI Common CLD Leg Disch
HPI-MOV-V8, HPI Train B Sump Recirculation
HPI-MOV-V89, SI Minflow
LPI-MOV-V26, Suction MOV RCS-87

DOCUMENT REQUEST FOR DESIGN BASES ASSURANCE INSPECTION

PPR-MOV-V124, PORV 456b Block Valve
SWS-MOV-V2, SWS P41A Discharge
SWS-MOV-V20, Service Water Train Discharge
SWS-MOV-V4, Sec Comp Cooling Isolation
CCW-MOV-V272, CC Water Outlet MOV V272 from RHR Heat Exchanger
EFW-MOV-V156, Start-Up Pump Discharge MOV V156 to EFW Header
CVC-MOV-112D, CVC Suction MOV from RWST
CVC-MOV-112C, CVC Pump Suction MOV from VCT
CVC-MOV-V139, CVC Discharge MOV SI-V-139
HPI-MOV-V36, LPI/CVC HPI Train B Disch MOV RH-V-36
HPI-MOV-V47, HPI MDP RWST Suction
SWS-MOV-V25, Service Water Cwt Discharge
EFW-MOV-V163, Start-Up Feedwater Pump Discharge
FW-V-347

Item	Parameter/Information*
1	MOV Identification
2	Safety Function
3	Valve manufacturer, type, and size
4	Actuator manufacturer, type, and size
5	Motor manufacturer, type (AC/DC), and size
6	Valve ASME Class
7	Risk Significance
8	Control Switch Trip (CST) Application (Close/Open)
9	Design-Basis Differential Pressure (DBDP) and Flow (Close/Open)
10	Rising-Stem Valve: Assumed Valve Factor (VF)
11	Quarter-Turn Valve: Assumed bearing torque coefficient
12	Assumed Stem Friction Coefficient (SFC)
13	Assumed Load Sensitive Behavior (LSB) (%)
14	% Uncertainties (e.g., diagnostic equipment, CST repeatability, etc.)
15	Calculated Required Thrust/Torque (Close/Open)
16	Least Available Output (e.g., actuator, CST, rating, spring pack, weak link)
17	Test Conditions (e.g., fluid differential pressure (DP), system pressure, flow, and temperature; ambient temperature; and motor voltage) (Close/Open)
18	Thrust and torque required to overcome dynamic conditions (Close/Open)
19	Rising-Stem Valve: Measured VF (Close/Open)
20	Rising-Stem Valve: Available VF (Close/Open)
21	Measured SFC (Close/Open)
22	Measured LSB (%)
23	Quarter-Turn Valve: Measured bearing torque coefficient (Close/Open)
24	Determined % Margin (Close/Open)
25	*Basis for Design-Basis Capability:*
25.a	Dynamic test performed at design-basis DP/flow conditions
25.b	Extrapolation of dynamic test data
25.c	Justification from normal operation at or above design-basis conditions
25.d	Industry dynamic test methodology (such as EPRI MOV PPM)
25.e	Grouped with similar valves dynamically tested at plant
25.f	Grouped with similar valves dynamically tested at other plants

25.g	Valve qualification testing (such as ASME QME-1-2007)
25.h	Other (such as large calculated margin)
**Specify Not Applicable (NA) as appropriate*	

14. For each of the following AOVs, provide the information listed in the table below.

SWS-AOV-V16, DGN A SWS MOV
LPI-AOV-FCV618, LPI TRAIN A HTX BYPASS
LPI-AOV-HCV607, LPI Train B Discharge
1-MS-V-395, SG Steam Supply
MSS-ARV-PV3001, SG A ARV for Secondary Side Cooldown
1-CC-TV-2171-1

Item	Parameter/Information*
1	AOV Identification
2	Safety Function
3	Fail safe position (open/close)
4	Valve manufacturer, type, and size
5	Actuator manufacturer, type, and size
6	Valve ASME Class
7	Risk Significance
8	Design-Basis Differential Pressure (DBDP) and Flow (Close/Open)
9	Rising-Stem Valve: Assumed Valve Factor (VF)
10	Quarter-Turn Valve: Assumed bearing torque coefficient
11	% Uncertainties (e.g., diagnostic equipment, CST repeatability, etc.)
12	Calculated Required Thrust/Torque (Close/Open)
13	Minimum allowable air pressure (Beginning/End Stroke)
14	Maximum allowable air pressure (Beginning/End Stroke)
15	Minimum allowable spring preload (Beginning/End Stroke)
16	Maximum allowable spring preload (Beginning/End Stroke)
17	Least Available Actuator Output (e.g., actuator capability, actuator limit, valve weak link limitation)
18	Test Conditions (e.g., fluid differential pressure (DP), system pressure, flow, and temperature; and ambient temperature) (Close/Open)
19	Thrust and torque required to overcome dynamic conditions (Close/Open)
20	Rising-Stem Valve: Measured VF (Close/Open)
21	Quarter-Turn Valve: Measured bearing torque coefficient (Close/Open)
22	Determined Margin (%) (Least margin for air stroke operation, spring stroke operation, maximum spring load, and structural capability)
23	*Basis for Design-Basis Capability:*
24.a	Dynamic test performed at design-basis DP/flow conditions
24.b	Extrapolation of dynamic test data
24.c	Justification from normal operation at or above design-basis conditions
24.d	Industry dynamic test methodology
24.e	Grouped with similar valves dynamically tested at plant
24.f	Grouped with similar valves dynamically tested at other plants
24.g	Valve qualification testing (such as ASME QME-1-2007)

24.h	Other (such as large calculated margin)
**Specify Not Applicable (NA) as appropriate*	

15. For each of the following miscellaneous POVs, provide the information listed in the table below.

    PPR-PRV-456B, PORV

Item	Parameter/Information*
1	Safety Function
2	Fail safe position (open/close/as-is)
3	Valve manufacturer, type, and size
4	Actuator manufacturer, type, and size
5	Valve ASME Class
6	Risk significance
7	Design-basis differential pressure and flow (close/open)
8	Minimum required Voltage at the POV
9	Available voltage at the POV
10	Environmental Qualification harsh environment (Y/N)
11	Normally energized (Y/N)
12	Time in service
**Specify Not Applicable (NA) as appropriate*	