



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 26, 2018

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
Florida Power & Light Company
Mail Stop EX/JB
700 Universe Blvd
Juno Beach, FL 33408

SUBJECT: TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4 - PLAN FOR
THE OPERATING EXPERIENCE AUDIT REGARDING THE SUBSEQUENT
LICENSE RENEWAL APPLICATION REVIEW (EPID NO. L-2018-RNW-0002)

Dear Mr. Nazar:

By letter dated January 30, 2018 (Agencywide Documents Access and Management System Package Accession No. ML18037A812), as supplemented and revised, Florida Power & Light Company (FPL or the applicant) submitted an application for subsequent license renewal of Renewed Facility Operating License Nos. DPR-31 and DPR-41 for the Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point), respectively. FPL requested renewal of the Turkey Point operating licenses for an additional 20 years beyond the current renewed 60-year current license terms, which expire on July 19, 2032, for Unit 3 and April 10, 2033, for Unit 4.

The U.S. Nuclear Regulatory Commission staff plans to conduct this audit at the EXCEL Services Corporation offices in Rockville, Maryland, from May 7 – 18, 2018, in accordance with the enclosed operating experience audit plan and audit needs list. If you have any questions, please contact me by telephone at 301-415-3306 or by e-mail at Lois.James@nrc.gov.

Sincerely,

/RA/

Lois M. James, Senior Project Manager
License Renewal Project Branch
Division of Materials and License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-250 and 50-251

Enclosures:

1. Audit Plan
2. Audit Needs List

cc w/encl: Listserv

SUBJECT: TURKEY POINT NUCLEAR GENERATING UNIT NOS. 3 AND 4 - PLAN FOR THE OPERATING EXPERIENCE AUDIT REGARDING THE SUBSEQUENT LICENSE RENEWAL APPLICATION REVIEW (EPID NO. L-2018-RNW-0002)

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Yvonne.Edmonds@nrc.gov; NRR/DMLR
Lois.James@nrc.gov; NRR/DMLR
Bill.Rogers@nrc.gov; NRR/DMLR
William.Burton@nrc.gov; NRR/DMLR
Evelyn.Gettys@nrc.gov; NRR/DMLR
Eric.Oesterle@nrc.gov; NRR/DMLR
Benjamin.Beasley@nrc.gov; NRR/DMLR
George.Wilson@nrc.gov; NRR/DMLR
Joseph.Donoghue@nrc.gov; NRR/DMLR
Michael.Wentzel@nrc.gov; NRR/DORL

Sherwin.Turk@nrc.gov; OGC
Catherine.Kanatas@nrc.gov; OGC
Scott.Burnell@nrc.gov; HQ/OPA
Roger.Hannah@nrc.gov; RII/OPA
Joey.Ledford@nrc.gov; RII/OPA
Darrell.Adams@nrc.gov; OCA
David.Decker@nrc.gov; OCA
John.Pelchat@nrc.gov; RII/ORA
Randy.Musser@nrc.gov; RII/DRP
Lundy.Pressley@nrc.gov; RII/DRP
Dan.Orr@nrc.gov; RII/DRP
Rogerio.Reyes@nrc.gov; RII/DRP
Tara.Inverso@nrc.gov; OEDO
Edwin.Lea@nrc.gov; RII/ORA
Jeremy.Bowen@nrc.gov; OEDO
Paula.Cooper@nrc.gov; RII/DRS

Steve.Franzone@fpl.com;
William.Maher@fpl.com;

ADAMS Accession No.: ML18086A705

OFFICE	PM:MRPB:DMLR	LA:MRPB:DMLR	PM:MRPB:DMLR	BC:MRPB:DMLR
NAME	LJames	YEdmonds	BRogers	EOesterle
DATE	4/20/2018	4/20/2018	4/20/2018	4/23/2018
OFFICE	OGC (NLO)*	PM:MRPB:DMLR		
NAME	STurk	LJames		
DATE	4/21/2018	4/26/2018		

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Audit Plan

Operating Experience Review Audit Regarding the Turkey Point Nuclear Generating Unit Nos. 3 and 4 Subsequent License Renewal Application

May 7 - 18, 2018

**Division of Materials and License Renewal
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission**

Operating Experience Audit Regarding the Turkey Point Nuclear Generating Unit Nos. 3 and 4, Subsequent License Renewal Application Audit Plan

1. Background

By letters dated January 30, 2018, (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18037A812), February 9, 2018 (ADAMS Accession No. ML18044A653), February 16, 2018 (ADAMS Package Accession No. ML18053A123), March 1, 2018 (ADAMS Package Accession No. ML18072A224), and April 10, 2018 (ADAMS Accession Nos. ML18102A521 and ML18113A132), Florida Power & Light Company (FPL or the applicant) submitted an application for subsequent renewal of Operating Licenses Nos. DPR-31 and DPR-41 for the Turkey Point Nuclear Generating Units 3 and 4 (Turkey Point), respectively. FPL requested renewal of the Turkey Point operating licenses for an additional 20 years beyond the current renewed 60-year current license terms, which expire on July 19, 2032, for Unit 3 and April 10, 2033, for Unit 4. The staff of the U.S. Nuclear Regulatory Commission (NRC) performs an independent review of plant specific operating experience to identify examples of age related degradation, as documented in the applicant's corrective action program database.

2. Regulatory Audit Bases

License renewal requirements are specified in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants." Guidance is provided in NUREG-2192, Rev. 0, "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" (SRP-SLR), dated July 2017, and NUREG-2191, Rev. 0, "Generic Aging Lessons Learned for Subsequent License Renewal (GALL-SLR) Report," dated July 2017.

3. Regulatory Audit Scope

The scope of this subsequent license renewal regulatory audit of Turkey Point is the NRC staff's independent review of plant specific operating experience. The review is performed to identify pertinent examples of age related degradation, as documented in the applicant's corrective action program database. The results of the audit will be used to support the NRC staff's further review of aging management programs (AMPs), time limited aging analyses (TLAAs) and aging management review (AMR) items to provide a basis for the NRC staff's conclusions on the ability of the applicant's proposed AMRs, AMPs and TLAAs to manage the effects of aging in the period of extended operation.

The NRC staff will use risk insights to focus the breadth and depth of its review of plant specific operating experience. However, the NRC staff's review is not limited to risk significant systems and components because 10 CFR Part 54 is a deterministic rule. The NRC staff must conclude that there is reasonable assurance that activities will continue to be conducted in accordance with the current licensing basis and the effects of aging will be managed during the period of extended operation for all structures and components within the scope of 10 CFR Part 54.

4. Information and Other Material Necessary for the Regulatory Audit

As described in the Audit Needs List in Enclosure 2.

5. Team Assignments

Area of Review	Assigned Auditors (include, but not limited to)
Documentation of plant specific operating experience as described in the Turkey Point Nuclear Generating Unit Nos. 3 and 4 corrective action program database. Disciplines include mechanical, materials, structural, electrical and systems.	Allik, Brian Beaton, Robert Buford, Angela Chereskin, Alexander Cuadrado de Jesus, Samuel Fairbanks, Carolyn Fu, Bart Gardner, William Gavula, James Holston, William Huynh, Alan Iqbal, Naeem James, Lois Johnson, Andrew Jones, Steve Kalikian, Roger Lopez, Juan Nguyen, Duc Nold, David Prinaris, Andrew Render, Diane Rezai, Ali Rogers, Bill Sacko, Fanta Sadollah, Mohammad Sydnor, Christopher Thomas, George Tsao, John Wong, Albert Yee, On Yoder, Matthew

6. Logistics

The audit will be conducted on location at the EXCEL Services Corporation offices in Rockville, Maryland, from May 7 - 18, 2018. Entrance and exit briefings will be held at the beginning and end of this audit, respectively.

7. Special Requests

The NRC staff requests that FPL provide electronic access to Turkey Point information, as discussed in the Audit Needs List in Enclosure 2. The NRC staff requests a suitable facility for the audit team to caucus during the audit and to hold meetings between NRC staff and FPL personnel.

8. Deliverables

An audit report should be issued to FPL within 90 days from the end of the audit.

Operating Experience Audit Regarding the Turkey Point Nuclear Generating Unit Nos. 3 and 4, Subsequent License Renewal Application Audit Needs List

1. Corrective Action Program Database

The U.S. Nuclear Regulatory Commission (NRC) staff requests electronic access, using Florida Power & Light's (FPL's) equipment, to FPL's corrective action program (CAP) database to perform independent searches of the database.

2. License Renewal Portal

The staff requests electronic access, using FPL's equipment, to the license renewal portal.

3. Prepared Operating Experience Keyword Review Results

The NRC staff requests that 10 years of plant-specific CAP entries be compiled into an excel workbook, organized by keywords. The data entered would be all CAP entries (e.g., issue reports, condition reports) that cite one of the keywords in the table below. This spreadsheet will be used by the staff during the Operating Experience (OpE) Audit. The parameters for the database should be as follows.

- The CAP entries should be compiled with an individual datasheet for each term. Some CAP entries could appear in multiple datasheets due to the use of multiple search terms when the CAP entry was initiated.
- At a minimum, each entry should include the CAP entry number, date of initiation, and the title of the CAP entry or a brief summary. The efficiency of the staff's screening review is increased with more details in the excel spreadsheet. For example, a simple title might result in the CAP entry appearing to be an applicable age-related issue; however, when the full entry is reviewed, it may be noted that the degradation was not age related (e.g., damage during excavating buried pipe, damage to internal coatings as a result of scaffold installation).
- For efficiency, it would be helpful to the staff if the CAP entries include the plant system number. This is not required, but it can improve the efficiency of the staff's review process. Specifically, generic search terms such as "corros," "indication," "pit," etc., provide a large number of entries and the staff's search time can be significantly reduced if the plant system is identified.

The staff requests electronic access, using FPL equipment, to the results of the operating keyword list query of FPL's corrective action database. The results are expected to be in an excel workbook, organized by keywords.

LIST OF KEYWORDS FOR OPERATING EXPERIENCE AUDIT

89-13	EPR	NEUTRON FLUX DETECTOR
"AGE" ¹	EQ	NEUTRON-ABSORB
"AGED" ¹	EQ AUDIT	NICKEL-ALLOY
AGING	EQ INSPECTION	NOBLE
ALUMINUM	EQ REANALYSIS	NODUL
ARC	EQ SELF ASSESSMENT	OIL ANALYSIS
ARCING	EROSI	ORGANIC
BAC	ETHYLENE PROPYLENE RUBBER	OXIDATION
BIOFOUL	EXCAVAT	OXYGEN
BIOLOGICAL	EXCORE	PARTIAL DISCHARGE
BLISTER	FAC	PEEL
BLOCK	FAIL	PERFORAT
BOLT	FATIGUE	PIPING
BORAL	FEEDWATER NOZZLE	PIT
BORIC	FIRE BARRIER	POLYMER
BREAK	FLAK	POLYMER HV INSULATORS
BRITTLE	FLAW	PRELOAD
BRITTLE CABLE	FLOW ACCELERATED	PWSCC
BRITTLE INSULATION	FLOW ACCELERATED CORROSION	Q LIST
BRONZE	FLOW RESTRICT	QUALIFICATION
BRYOZOA	FLOW RESTRICTOR	RADIATION MONITORING
BURIED	FLOW-ACCELERATED	RECUR
BUS	FLOW-ASSIST	REDU
CABLE	FLUORIDE	RESIDUE
CABLE BURNED	FOUL	RETURN LINE NOZZLE
CABLE BUS	FRACTURE	RUPTURE
CABLE BUS – EXTERNAL SURFACE – CORROSION – PITTING	FUEL HANDLING BUILDING RADIATION MONITOR	RUST
CABLE BUS – REDUCED ELECTRICAL INSULATION	FUEL OIL	SCALE
CABLE CONTAMINATION	FUSE HOLDER	SCALING

¹ For terms enclosed in quotation marks, the intent is that when compiling the database, only CAP entries where the term is used independently are included. For example, for "age," CAP entries would not be included where "age" was used in package or signage.

LIST OF KEYWORDS FOR OPERATING EXPERIENCE AUDIT

CABLE DEGRADATION	GALVANIC	SCC
CABLE DISCOLORED	GROUT	SEDIMENT
CABLE INSULATION	HALON	SEEP
CABLE REPLACED	HANGER	SERVICE WATER
CABLE RESIDUE	HARDEN	SHELL
CABLE TESTING	HEAT EXCH	SILICONE RUBBER
CARBON DIOXIDE	HEAT SINK	SILT
CAST	HEAT TRANS	SIR
CAVITAT	HIGH RANGE CONTAINMENT AREA MONITOR	SPALL
CHECWORK	HIGH RANGE RADIATION MONITOR	SPRAY
CHLORIDE	HIGH VOLTAGE INSULATOR	SPRINKLER
CLAM	HIGH VOLTAGE INSULATOR – CRACKS – FOREIGN DEBRIS	STEEL
CLEVIS	HIGH VOLTAGE INSULATOR – MECHANICAL WEAR- CORROSION	STRESS
CLOG	HIGH VOLTAGE INSULATOR – REDUCED ELECTRICAL INSULATION	STRESS CORROSION CRACKING
CLOSURE STUD	HIGH VOLTAGE INSULATOR – SALT – DUST – COOLING TOWER PLUME – CONTAMINATION	STRUCTURAL SUPPORT
CMU	HOLE	STUCK
CO2	HOLIDAY	SUBMERGED CABLE
COAT	HWC	SULFATE
COMPONENT COOLING WATER RADIATION MONITOR	HYDROGEN WATER CHEMISTRY	SUMP
CONCRETE	IMPINGE	SUMP PUMP
CONDUCTIVITY	INDICATION	SWITCHYARD
CONNECTION	INFRARED INSPECTION	TAN DELTA
CONTAMINATED CABLE	INSTRUMENT AIR	TANK
COOLER	INSULATION	TERMINATION
COPPER	INSULATION RESISTANCE	THERMAL
CORONA CAMERA	INSULATOR	THERMOGRAPHY

LIST OF KEYWORDS FOR OPERATING EXPERIENCE AUDIT

CORRO	INTERG	THREAD
CORROS	INTERMITTENT	THROUGH WALL
CRACK	IRON	TRACKING
CRACKED CABLE	JACKET	TRANSGRA
CRANE	LEACH	TRANSIENT MONITORING
CREVICE	LEAK	TRANSMISSION CONDUCTOR – LOSS OF STRENGTH - CORROSION
CYCL	LINED	TRANSMISSION CONNECTORS – OXIDATION – LOSS OF PRELOAD
DAMAGE	LINING	TRANSMISSION LINE
DAMPER	LITHIUM	UNDERGROUND
DEALLOY	LOSS OF MATERIAL	VAULT
DEALUM	MAIN CONTROL ROOM RADIATION MONITO	VESSEL INTERNALS
DEGRAD	MANHOLE	VIBRATION
DEGRADED CABLE	MASONRY	VOLTAGE
DEGRAPH	MEB	WALL LOSS
DELAMIN	MEDIUM VOLTAGE CABLE	WALL THICK
DEPOSITS	METAL ENCLOSED BUS	WALL THIN
DETECTION	MIC	WASTAGE
DETERIORATED CABLE	MICROBIOLOGIC	WASTED
DEZINC	MIN WALL	WATER INTRUSION
DISSOLVED OXYGEN	MOLLUSK	WEAR
DRAINAGE	MOLY	WELD
DRIP	MORTAR	WORN
DROP	NEUTRON ABSORB	WRAP
DUG	NEUTRON FLUX	ZINC

It would be helpful to the staff to have one datasheet which incorporates all of the entries associated with the OpE key word terms. This datasheet would be used by staff to search for CAP entries that might not be associated with a specific OpE search term, but is of interest due to data reviewed by accessing the search terms.