



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

February 1, 2017

Mr. Thomas Saporito, Senior Consultant
Saprodani Associates

Dear Mr. Saporito:

This letter is in reference to the petition you submitted on March 23, 2016, under Title 10 of the *Code of Federal Regulations* (10 CFR), Section 2.206, "Requests for action under this subpart." Your petition, along with the supplements you submitted by electronic mail (e-mail), the transcripts from the teleconferences held on May 10, and December 1, 2016; and other correspondence related to the petition, are in the Agencywide Documents Access and Management System (ADAMS) at package Accession No. ML16084A326.

In your petition, you requested that the U.S. Nuclear Regulatory Commission (NRC) take enforcement action against Florida Power & Light Company (the licensee) regarding the discharge of radioactive isotopes and other contaminants into the surrounding environment at Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point). Specifically, you requested the NRC to issue a confirmatory order requiring the licensee to take Turkey Point to a cold shutdown mode of operation until the licensee completes: (1) an independent assessment to fully understand and correct the potential and/or realized threat to the public and the environment, including how climate change will affect the cooling canal system (CCS) assuming that a predicted sea level rise of 1 to 3 feet would inundate the CCS allowing contaminants to flow freely beyond the CCS boundaries (2) a comprehensive evaluation related to the operation of Turkey Point, (3) measures to correct any deficiencies, (4) an updated and approved final safety analysis report, and (5) a response to every point or concern raised in the Dr. Chin report provided in Attachment 2 of your petition. The bases for your request were reports from the Miami Dade County Division of Environmental Resources Management and Dr. David Chin of the University of Miami and other supplements to your petition.

The NRC established a Petition Review Board (PRB) to review your petition. The PRB was comprised of representatives from the following organizations within the NRC: Division of License Renewal in the Office of Nuclear Reactor Regulation (NRR); Division of Operating Reactor Licensing, NRR; Division of Policy and Rulemaking, NRR; Division of Risk Assessment, NRR; Region II Office; and the Office of the General Counsel. The PRB met internally on April 7, 2016, to determine if the NRC needed to take any immediate enforcement action. The PRB decided that immediate action to require the licensee to place Turkey Point in a cold shutdown mode of operation was not needed because the levels of tritium and other radioisotopes identified in your petition's attachments would not endanger the health and safety of the public and no other safety concern was identified.

On May 10, 2016, the PRB held a teleconference with you to discuss your petition. The PRB considered that discussion in its deliberations regarding your request for enforcement action. The PRB met internally on June 9, and June 30, 2016, to discuss your petition, as supplemented, with respect to the criteria for review and rejection described in NRC's

Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions" (ADAMS Accession No. ML041770328). On August 9, 2016, the Petition Manager informed you of the PRB's recommendation that portions of your petition did not meet the MD 8.11 criteria for review, and other portions of your petition met the criteria for rejection. The PRB offered you a second opportunity to address the PRB, which you accepted. You also requested a 90-day delay before the second teleconference in order to process a Freedom of Information Act request, which the PRB granted.

On December 1, 2016, the PRB held a second teleconference for you to discuss your petition. During that teleconference, you requested that the NRC take immediate action to shut down the Turkey Point plants because of your assertions that the CCS cannot remove residual heat after a design basis accident, the CCS should be lined in order to retain tritium, an investigation needs to determine why the CCS temperature rose after the extended power uprate, and a plant shutdown would not cause electric power grid unreliability. The PRB met internally on December 1, 2016, and decided that immediate action to require the licensee to shut down Turkey Point was not needed because there was no immediate safety issue based on the information provided, the tritium levels would not endanger the health and safety of the public, and the NRC previously dispositioned your concerns in Director's Decision 15-10 (ADAMS Accession No. ML15237A181).

Subsequently, the PRB determined that portions of your request did not meet the MD 8.11 criteria for review because those concerns were not sufficiently supported or were outside of the NRC's regulatory authority. The PRB also determined that other portions of your request met the MD 8.11 criteria for rejection because the issues raised have already been the subject of staff review and evaluation and are resolved. In the Enclosure to this letter, the NRC explains why it did not accept the petition for further review in the 2.206 process.

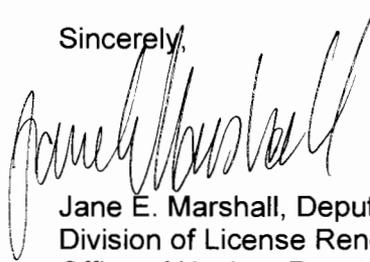
During the teleconferences with you and the PRB on May 10, and December 1, 2016, and in various email correspondence with the petition manager, you alleged staff wrongdoing. The staff provided your allegations to the Office of the Inspector General. These allegations of staff wrongdoing are in the transcripts of the teleconferences and the email correspondence.

T. Saporito

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I appreciate you bringing these matters to the attention of the NRC.

Sincerely,

A handwritten signature in black ink, appearing to read "Jane E. Marshall". The signature is written in a cursive, flowing style.

Jane E. Marshall, Deputy Director
Division of License Renewal
Office of Nuclear Reactor Regulation

Enclosure:
Disposition of Petition

cc: Florida Power & Light Company

Listserv

ENCLOSURE

Disposition of Petition

Disposition of Petition

Concerns about Radiological Isotopes and Other Contaminants

In the petition dated March 23, 2016, as supplemented, the petitioner requested that the U.S. Nuclear Regulatory Commission (NRC) issue a confirmatory order requiring the licensee (i.e., Florida Power & Light Company (FPL)) to take the Turkey Point nuclear reactors to a cold shutdown mode of operation because of the plant's discharge of radioactive isotopes and other contaminants into the surrounding environment. The petitioner requested the NRC take escalated enforcement action against the licensee until the licensee completes:

- (1) an independent assessment to fully understand and correct the potential and/or realized threat to the public and the environment, and how climate change will affect the cooling canal system (CCS) assuming that a predicted sea level rise of 1 to 3 feet would inundate the CCS allowing contaminants to flow freely beyond the CCS boundaries,
- (2) a comprehensive evaluation related to the operation of Turkey Point,
- (3) measures to correct any deficiencies,
- (4) an approved Updated Final Safety Analysis Report (UFSAR), and
- (5) a response to every point or concern raised in the Dr. Chin report provided in Attachment 2 of the 2.206 petition.

NRC's regulations in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 20, Section 20.1101, "Radiation protection programs," Section 20.1301, "Dose limits for individual members of the public," and in 10 CFR 50.36a, "Technical specifications [TSs] on effluents from nuclear power reactors," require nuclear power plant licensees to keep releases of radioactive materials and doses to members of the public as low as is reasonably achievable. Licensees are required to perform radioactive effluent monitoring and perform dose calculations and submit annual reports on radiological effluents and environmental monitoring results to the NRC. The NRC inspects these reports and makes them publicly available on the NRC web site. NRC technical experts inspect the licensee's effluent and environmental monitoring programs and evaluations of potential doses to members of the public. In addition, any spills or leaks are reviewed immediately by resident inspectors who are stationed at the plant full-time. The resident inspectors also remain cognizant of tritium levels.

The generic issue of tritium discharges or leaks via groundwater pathways has received extensive staff review and evaluation. This groundwater issue has been reviewed by two different NRC task forces in 2006 and 2010, the Advisory Committee on Reactor Safeguards, the Commission, and the U.S. General Accountability Office. The overall conclusions were that NRC regulations are adequate to protect public health and safety from tritium leaks, and that there was a negligible impact on public radiation doses.

Regarding Turkey Point, the licensee is permitted to release liquid radioactive effluents (including tritium) to the CCS consistent with regulatory limits and in a manner that is as low as is reasonably achievable. Although the CCS does not receive or discharge water to Biscayne Bay directly, the CCS is hydrologically connected to surrounding waters via migration of groundwater. Based on inspections and the staff's review of the petition attachments and the licensee's 2015 radiological effluent and environmental monitoring reports, the staff determined that the radioactive effluent discharges and measurements of radioactivity in the environment have been within regulatory limits and are as low as is reasonably achievable. Specifically, the attachments to the petition show that sample results taken adjacent to the CCS within Biscayne

Bay have tritium levels near background levels and well below the U.S. Environmental Protection Agency's safe drinking water standard for tritium (20,000 picocuries per liter). Additionally, the staff continues to monitor the licensee's actions to mitigate the seepage of tritium into Biscayne Bay.

Therefore, the petitioner's requests and concerns regarding tritium are rejected under NRC Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions,"¹ Rejection Criterion (b), because the staff has previously reviewed the issue of tritium migrating from a licensee's facility both generically and at Turkey Point, and the petitioner has not presented any significant new information that affects these analyses.

The petitioner's request that the licensee address sea level rise due to climate change is a bare assertion that was not supported by sufficient factual information. The petitioner did not provide sufficient evidence that sea level rise would have a safety-related impact through the licensed periods of operation for Units 3 and 4 (i.e., through 2032 and 2033, respectively). Therefore, the petitioner's request does not meet MD 8.11 Review Criterion (a)(ii). Additionally, the NRC has regulatory oversight mechanisms, such as future staff inspections or requests for information (e.g., with a 10 CFR 50.54(f) letter), to account for changes in projected flood levels if necessary. The staff continues to monitor evolving advances in external hazards science, including climate change, and will update regulatory guidance and take other regulatory actions, as needed.

The petitioner raised concerns that the Turkey Point CCS was not operating as described in the UFSAR because it was not a closed system and that it was "leaking" to the environment. The petitioner also asserted that the CCS should be lined to prevent tritium migration. The staff interpreted the petitioner's statements about the CCS "leaking" as meaning that there is groundwater interaction resulting in the migration of tritium. Chapter 2 of the Turkey Point UFSAR describes tritium and other radiological discharges and tritium migration from groundwater flow. Previous NRC environmental reviews also explain what is meant by a closed system and that the CCS water interacts with groundwater. The environmental impact statement for license renewal and the environmental assessment for the extended power uprate (EPU) discuss how the CCS does not discharge directly to fresh or marine surface waters but exchanges with, and is recharged by, groundwater, including the Biscayne Aquifer. The migration of radionuclides is also described in publicly available Annual Radiological Environmental Operating Reports. The NRC's Reactor Oversight Process inspections verify that license basis documentation, such as the UFSAR, is updated accordingly and is consistent with any new design features warranting documentation in the UFSAR. The petitioner has not presented and the NRC has not identified any significant deficiencies regarding the UFSAR's description of the ultimate heat sink (UHS) and tritium migration. Therefore, the petitioner's requests and concerns regarding the UFSAR are rejected under MD 8.11 Rejection Criteria (a) and (b), because the staff has reviewed the licensee's characterization of the CCS in its UFSAR, and the petitioner has not presented information that shows the licensee failed to revise its UFSAR.

Regarding the petitioner's concerns about migration of non-radiological contaminants or substances (e.g., salt, ammonia, chlorophyll, chlorine, and phosphorous) out of the CCS and

¹ ADAMS Accession No. ML041770328.

past the interceptor ditch, the NRC does not regulate these substances. Consequently, the petitioner's requests and concerns regarding non-radiological contaminants are rejected under MD 8.11 Review Criterion (a)(i) because they do request an enforcement-related action within the NRC's regulatory authority.

Regarding the petitioner's request that the licensee respond to every point or concern raised in the Dr. Chin report provided in Attachment 2 of the 2.206 petition, the concerns raised have already been the subject of previous NRC review for which a resolution has been achieved. As discussed in the Atomic Safety and Licensing Board (ASLB) order denying the City of Miami's Motion to Reopen and Petition to Intervene (LBP-16-06) in the hearing for the 2014 license amendments to the Turkey Point UHS temperature limit Technical Specifications, the concerns and underpinnings presented in the Chin Report regarding saltwater intrusion, freshwater withdrawals, and algae concentrations in the CCS were already subject to thorough review in the hearing via witness testimony and evidentiary filings.² On May 31, 2016, the Board issued its Initial Decision regarding its findings, LBP-16-08.³ LBP-16-08 was appealed to the Commission and the appeal was denied in CLI-16-18.⁴ Additionally, the Chin Report's conclusions regarding the effects of the EPU on the CCS have already been the subject of staff review in Director's Decision 15-10. The petitioner's reference to the Chin Report has not raised any new significant information that requires additional consideration by NRC staff. As such, the petitioner's request is rejected under MD 8.11 Rejection Criterion (b) because the concerns raised have already been the subject of NRC review for which a resolution has been achieved.

In summary, the staff reviewed the information included as attachments in the petition and determined that the levels of radioactivity and dose rates reported in these studies are within NRC regulatory limits and are as low as is reasonably achievable. The staff did not accept this concern for further review under the 10 CFR 2.206 process because the petitioner raised issues that were not adequately supported or that have already been the subject of staff review at Turkey Point and on a generic basis for which a resolution has been achieved, or requested actions that are not within the NRC's regulatory authority.

Disposition of Other Concerns

The petitioner raised concerns that did not appear to be directly related to the discharge of radioactive isotopes; however, the staff addresses these concerns as follows in order to be responsive to the petitioner.

CCS Design Features and Temperature

Regarding the petitioner's concern that the CCS design is inadequate because it is influenced by weather-related factors, previous NRC environmental reviews address how the CCS is influenced by weather (e.g., drought and dry seasons).⁵ In addition, the licensee has been

² ADAMS Accession No. ML16137A510.

³ ADAMS Accession No. ML16152A585.

⁴ ADAMS Accession No. ML16350A069.

⁵ Final Environmental Statement (ADAMS Accession No. ML092030310); Supplement 5 to the Generic Environmental Impact Statement for License Renewal of Nuclear Plants (ADAMS Accession No. ML020280119);

taking actions to reduce salinity of the CCS, which has also reduced the temperature of the CCS. The CCS temperatures have not resulted in the loss of the UHS capability. If CCS temperatures exceed the limit in the TSs, then the plants are required to be shut down. No new information was provided by the petitioner that was not previously considered in previous NRC reviews. Therefore, the staff did not accept this concern for further review per MD 8.11 Rejection Criteria (a) and (b).

During the teleconference on May 10, 2016, the petitioner quoted a newspaper article expressing concern that FPL has not been able to keep the temperature in the CCS at an acceptable level. These concerns have previously been the subject of NRC Review. During the summer of 2014 up to the time when the exigent amendments were issued, the NRC granted enforcement discretion when the temperature exceeded the previous TSs limit of 100 degrees Fahrenheit (°F), and temperatures remained within the enforcement discretion criteria. Since issuance of the amendments on August 8, 2014, the UHS temperature remained within the NRC-approved TS limit of 104 °F. Additionally, if the TS temperature limit is exceeded, the TSs require the licensee to initiate a plant shutdown. The petitioner did not provide any factual support that the licensee has violated the revised TS requirements, nor any significant new information that the NRC has not previously considered. Therefore, the staff did not accept this concern for further review per MD 8.11 Rejection Criteria (a) and (b).

During the teleconference on December 1, 2016, the petitioner raised concerns about the plants' heat loading to the CCS after the EPU and electric power grid stability if the units shut down. The NRC previously dispositioned these concerns in Director's Decision 15-10.⁶

Aging Management Program for CCS

Regarding the petitioner's concern that the CCS and interceptor ditch require aging management programs per license renewal requirements (which would require the aging management programs to be discussed in the UFSAR), the issue raised has previously been the subject of staff review and evaluation, and resolved for the facility in NUREG-1759, "Safety Evaluation Report Related to the License Renewal of Turkey Point Nuclear Plant, Units 3 and 4," dated April 2002. As stated in NUREG-1759, aging management programs are not required for either the interceptor ditch or the CCS. Therefore, the staff did not accept this concern for further review per MD 8.11 Rejection Criterion (b). The staff notes that as a corrective action for the temperature and algae issues that occurred in 2014, the licensee implemented a monitoring program for the overall health of the CCS and to determine its impact on the UHS temperature. The staff continues to monitor the licensee's corrective actions for addressing the CCS conditions.

10 CFR Part 2, Subpart L Proceeding

On October 14, 2014, the Citizens Allied for Safe Energy (CASE) filed a petition to intervene and a request for a hearing.⁷ On May 31, 2016, the Atomic Safety and Licensing Board (ASLB) issued its initial decision on the admitted contention.⁸ On June 27, 2016, CASE filed a petition

⁶ ADAMS Accession No. ML15237A181.

⁷ ADAMS Package Accession No. ML14290A509.

⁸ ADAMS Accession No. ML16152A585.

to the Commission to review the ASLB's decision. By Memorandum and Order CLI-16-18 dated December 15, 2016,⁹ the Commission denied CASE's request. The petitioner raised concerns about the subject and conduct of the proceeding. MD 8.11 states that if there is a proceeding available through which the 10 CFR 2.206 petitioner's concerns could be addressed, the staff will not treat the request under 10 CFR 2.206. Therefore, the staff did not accept these concerns for further review per MD 8.11 Rejection Criterion (b).

Other Concerns

Regarding the petitioner's assertion that the licensee provided inaccurate information in its 2010 EPU application with respect to its impact on water usage, endangered species, and expected temperature increases, these issues have already been the subject of NRC review for which a resolution has been achieved. The staff determined that the information in the licensee's application was accurate and, as discussed in its 2015 response to the petitioner's previous petition, the occurrence in 2014 of the combined low rainfall and algae bloom event was not reasonably within the licensee's ability to foresee and prevent. Therefore, the staff did not accept this concern for further review per MD 8.11 Rejection Criterion (b).

Regarding the petitioner's general concerns about the embrittled reactor vessels, emergency evacuation times, and unregulated well pumping, the petitioner did not provide some element of support beyond the bare assertion. Therefore, the staff did not consider these assertions to meet the MD 8.11 Review Criterion (a)(ii). Moreover, the petitioner's bare assertions meet MD 8.11 Rejection Criterion (a). Accordingly, the NRC staff will not accept these assertions for review. The staff assumed the petitioner's concern about the "reactors leaking pollutants" referred to the radiological isotopes and non-radiological contaminants migrating out of the CCS, which the staff previously addressed.

Although these requests did not meet the criteria of MD 8.11 for further review in the 10 CFR 2.206 process, the staff appreciates hearing the concerns.

⁹ ADAMS Accession No. ML16350A069.

PETITION UNDER 10 CFR 2.206 SEEKING ENFORCEMENT ACTION AGAINST TURKEY POINT NUCLEAR PLANT, UNITS 3 AND 4 DATED FEBRUARY 2, 2017

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RidsNrrDlrRerb	RidsNrrDraArccb		

DirADAMS Accession Nos.:

ML16084A326 (Package)

ML16084A324 (Incoming Petition)

ML16363A388 (Closure Letter)

*via e-mail

OFFICE	NRR/DORL/LPL2-2/PM	NRR/DORL/LPL2-2/LA	NRR/DPR/PGCB/PM*	RII/DRP/BC*
NAME	AKlett	BClayton	MBanic	LSuggs (LPresley for)
DATE	1/5/17	1/4/17	1/3/17	1/3/17
OFFICE	NRR/DLR/RASB/BC*	NRR/DLR/RERB/BC (A)*	NRR/DRA/ARCB/BC	OGC (NLO)
NAME	BWittick	JRikhoff	UShoop (RPedersen for)	MRing
DATE	1/10/17	1/4/17	1/6/17	1/19/17
OFFICE	NRR/DORL/LP2-2/BC	NRR/DORL/D	NRR/DLR/DD	
NAME	BBeasley	ABoland	JMarshall	
DATE	1/24/17	1/31/17	2/1/17	

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