

MIAMI-DADE COUNTY, through its  
DEPARTMENT OF REGULATORY AND  
ECONOMIC RESOURCES, DIVISION OF  
ENVIRONMENTAL RESOURCES  
MANAGEMENT,

CONSENT AGREEMENT

Complainant,

v.

FLORIDA POWER & LIGHT COMPANY,

Respondent.

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This Consent Agreement, entered into by and between the Complainant, MIAMI-DADE COUNTY, through its DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES, DIVISION OF ENVIRONMENTAL RESOURCES MANAGEMENT ("DERM"), and the Respondent FLORIDA POWER & LIGHT COMPANY ("FPL"), pursuant to Section 24-7(15)(c) of the Code of Miami-Dade County, shall serve to redress alleged violations of Chapter 24 of the Code of Miami-Dade County located near, surrounding, or in the vicinity of the Cooling Canal System located at Turkey Point on FPL's property, as further described herein, in Miami-Dade County, Florida.

DERM and FPL enter into the following Consent Agreement:

**FINDINGS OF FACT**

1. DERM is a division of Miami-Dade County, a political subdivision of the State of Florida, which is empowered to control and prohibit pollution and protect the environment within Miami-Dade County pursuant to Article VIII, Section 6 of the Florida Constitution, the Miami-Dade County Home Rule Charter and Section 403.182 of the Florida Statutes.
2. Florida Power & Light Company ("FPL") is the owner and operator of the Turkey Point Power Plant, and FPL is the owner and operator of approximately a 5,900-acre network of unlined canals (the "Cooling Canal System" or "CCS") on the FPL property described in the map in Exhibit A (the "Property").

3. In 1971, FPL signed a Consent Decree with the U.S. Department of Justice that required the construction, after permitting, of a closed-loop cooling configuration, with no discharge to surface waters.
4. The Florida Department of Pollution Control (later to become the Florida Department of Environmental Protection), in 1971, issued Construction Permit No. IC-1286 for the CCS. In 1972, Dade County issued Zoning Use Permit No. W-49833 for the excavation of the proposed Alternate Cooling Water Return Canal. FPL represents that in 1973, the construction of the CCS was completed; and the CCS was closed from the surface waters of both Biscayne Bay and Card Sound, becoming a closed-loop system.
5. An approximate 18 foot deep interceptor ditch located along the west side of the CCS was designed and constructed to create a hydraulic barrier to keep water in the CCS from migrating inland or westward.
6. In 1972, FPL entered into an agreement with the Central and Southern Florida Flood Control District (later to become the South Florida Water Management District or "District") addressing the operations and impacts of the CCS. The agreement has been updated several times, with the most recent version being the Fifth Supplemental Agreement between the District and FPL entered into on October 16, 2009 ("Fifth Supplemental Agreement") which included an extensive monitoring program for the CCS, entitled the Turkey Point Plant Groundwater, Surface Water and Ecological Monitoring Plan ("2009 Monitoring Plan"), incorporated as Exhibit A of the Fifth Supplemental Agreement.
7. In a letter dated April 16, 2013, the District notified FPL of their determination that saline water from the CCS has moved westward of the L-31E Canal in excess of those amounts that would have occurred without the existence of the CCS, and pursuant to the provisions of the Fifth Supplemental Agreement, initiated consultation with FPL for the mitigation, abatement or remediation of the saline water movement.
8. DERM issued a Notice of Violation dated October 2, 2015 (the "NOV") to FPL, alleging violations of Chapter 24 of the Code of Miami-Dade County, for alleged violations of County water quality standards and criteria in groundwater attributable to FPL's actions, and specifically for groundwaters outside the boundaries of FPL's Cooling Canal System and beyond the boundaries of the Property.

9. The phrase "hypersaline water" as used herein is defined as water that exceeds 19,000 mg/L chlorides.
10. DERM maintains there is hypersaline water attributable to FPL's actions in the groundwaters outside the boundaries of the Property, which exceeds County water quality standards and criteria. FPL acknowledges the presence of hypersaline water in certain areas outside the boundaries of the Property. For waters that do not reach the level of hypersalinity, DERM and FPL do not agree on the applicable "background" standards for chlorides.
11. In 2013 and 2014, FPL experienced water quality issues within the CCS, including increases in temperature and salinity, and FPL sought approvals from various regulatory agencies for actions to improve the water quality within the CCS.
12. DEP issued an Administrative Order, No. 14-0741, on December 23, 2014, requiring FPL to, among other things, reduce and maintain the annual average salinity of the CCS at a practical salinity of 34, and that Administrative Order is currently the subject of an Administrative Hearing.
13. Both DERM and FPL agree and acknowledge that it would be beneficial to improve the water quality within the Cooling Canal System itself, and FPL has already undertaken some efforts to improve the CCS water quality.
14. This Consent Agreement requires FPL to take action to address the County's alleged violations of County water quality standards and criteria in groundwaters outside the CCS as described in the NOV. As part of these actions, this Consent Agreement also requires FPL to take into account its efforts to improve CCS water quality and the potential and actual impacts of such actions on water resources outside the CCS, to not cause or contribute to (i) the exacerbation of alleged violations of County water quality standards or criteria or (ii) future violations of County water quality standards or criteria in the groundwaters or surface waters outside the CCS.
15. FPL hereby agrees to the terms of this Consent Agreement without admitting the allegations made by the above-mentioned NOV.



16. In an effort to expeditiously resolve this matter and to ensure compliance with Chapter 24 of the Code of Miami-Dade County, and to avoid time consuming and costly litigation, the parties hereto agree to the following, and it is ORDERED:

**REQUIREMENTS**

17. FPL shall undertake the following activities to specifically address water quality impacts associated with the CCS, as alleged in the NOV. The objective of this Consent Agreement will be for FPL to demonstrate a statistically valid reduction in the salt mass and volumetric extent of hypersaline water (as represented by chloride concentrations above 19,000 mg/L) in groundwater west and north of FPL's property without creating adverse environmental impacts. A further objective of this Consent Agreement is to reduce the rate of, and, as an ultimate goal, arrest migration of hypersaline groundwater. Recognizing other factors beyond FPL's control may influence movement of groundwater in the surficial aquifer, FPL shall reasonably take into account such factors when developing and implementing remedial actions to minimize the timeframe for achieving compliance with this Consent Agreement.

a. Abatement.

- i. DERM acknowledges that FPL is planning to undertake the following:
1. pursue permitting, construction and operation of up to six Upper Floridan Aquifer System wells in accordance with the Site Certification Modification that is the subject of DOAH Case No. 15-1559EPP.
  2. continue the use of the existing marine wells (SW-1, SW-2, and PW-1) as a short term resource to lower and maintain salinities. FPL shall work to avoid the use of the marine wells, except under extraordinary circumstances.
  3. continue operation of the authorized L-31E canal pumps as a short term resource only, in accordance with the terms and conditions of the applicable approvals. FPL acknowledges that the use of water from the L-31E canal is intended only as a short term resource to lower CCS salinity. FPL anticipates the need for this resource for the next two years to reduce salinity as it transitions into the long term resources that are intended to maintain the lower salinity in the CCS. FPL acknowledges that additional regulatory

approvals will be required for continuation of this activity beyond the expiration of the existing approvals.

- ii. FPL shall evaluate alternative water sources to offset the CCS water deficit and reduce chloride concentration in the CCS, and as a means of abating the westward movement of CCS groundwater. FPL will consider the practicality and appropriateness of using reclaimed wastewater from the Miami-Dade County South District Waste Water Treatment Plant as an alternative water source. FPL will provide DERM a summary of its Alternative Water Supply plan within 180 days of executing the Consent Agreement. FPL recognizes the importance and potential for reuse water, and FPL will make good faith efforts to implement the use of reuse water where practicable.
  - iii. FPL shall also conduct a review of the Interceptor Ditch operations to determine if current design and/or operations can be practicably modified to improve its function recognizing the current status of the CCS and surrounding wetlands. FPL will provide a summary of its Interceptor Ditch Review within 180 days of executing the Consent Agreement.
  - iv. The alternative water sources and any modifications to Interceptor Ditch design or operation shall be authorized through the appropriate regulatory processes and shall be demonstrated to not create adverse impacts to surface waters, groundwater, wetland or other environmental resources consistent with the Fifth Supplemental Agreement.
- b. Remediation. FPL shall develop and implement the following actions to intercept, capture, contain, and retract hypersaline groundwater (groundwater with a chloride concentration of greater than 19,000 mg/L) to the Property boundary to achieve the objectives of this Consent Agreement.
- i. Phase 1. FPL shall design, permit, and construct a Biscayne Aquifer Recovery Well System (RWS) based on the results of a variable density dependent groundwater model which shall be sufficient to support the design of the RWS to intercept, capture, and contain the hypersaline plume; support authorization through the appropriate regulatory processes; and demonstrate that it will not create adverse



impacts to groundwater, wetland (hydroperiod or water-stage), or other environmental resources. Final operation and design will be informed by an Aquifer Performance Test (APT). FPL shall provide its design and supporting information for the Recovery Well System and associated monitoring wells for DERM review and approval within 180 days of executing the Consent Agreement. FPL shall proceed with implementation within one year of executing the Consent Agreement, subject to regulatory timelines not in FPL's control. The initial design will be based on up to 12 MGD disposal capacity recognizing existing on-site capability. Efficacy of this design constraint will be reviewed in Phases 2, 3, and 4.

- ii. Phase 2. FPL shall operate the RWS in accordance with all local, state, and federal regulatory requirements, collect data as required by the monitoring program, and employ the data to inform and reduce the uncertainty of the groundwater model. Status and efficacy of the system operation in meeting the objectives of this Consent Agreement and results of continued groundwater model refinement will be provided in the annual reports required in Paragraph 17d.
- iii. Phase 3. After five years, FPL shall evaluate the effectiveness of the RWS in achieving the goal to intercept, capture, contain, and ultimately retract the hypersaline groundwater plume. This evaluation shall include estimated milestones and be based on the results of the monitoring data and refined groundwater/surfacewater model, which will be submitted to DERM. If the analysis indicates that the RWS is not anticipated to achieve the goal to intercept, capture, contain, and ultimately retract the hypersaline groundwater plume, FPL shall make recommendations for modifications to the project components and/or designs to ensure the ability of the system to achieve the objectives of the Consent Agreement. The evaluation and any proposed revisions shall be submitted to DERM for review and approval.
- iv. Phase 4. After ten years, FPL shall review the results of the activities and progress to achieve the objectives of this Consent Agreement, and this evaluation shall be submitted to DERM. If monitoring demonstrates that the activities are not achieving the objectives of this Consent Agreement, FPL shall revise the project components and/or designs to ensure the ability of the system to achieve the objectives of this

Consent Agreement. The proposed revisions shall be submitted to DERM for review and approval.

c. Regional Hydrologic Improvement Projects. In addition, FPL agrees to undertake the following:

- i. Raise control elevations in the Everglades Mitigation Bank. Within 30 days of the effective date of this Consent Agreement, FPL shall raise the control elevations of the FPL Everglades Mitigation Bank (“EMB”) culvert weirs to no lower than 0.2 feet lower than the 2.4 foot trigger of the S-20 structure and shall maintain this elevation. After the first year of operation, FPL shall evaluate the change in control elevation, in regards to improvements in salinity, water quality, and lift in the area, and if FPL determines that the change in control elevations is not effective, or that FPL is negatively impacted in receiving mitigation credits as a result of this action, FPL will consult with DERM and propose potential alternatives.
- ii. Fill portions of the Model Lands North Canal within the Everglades Mitigation Bank. Within 30 days of the effective date of the Consent Agreement, FPL shall seek all necessary regulatory approvals to place excavated fill from the adjoining roadway into the Model Lands North Canal within FPL’s Everglades Mitigation Bank. Upon issuance of such regulatory approvals, FPL shall, starting on the east end, fill the Model Lands North Canal. This Consent Agreement only requires FPL to fill to the extent the fill is available from the adjoining roadway permitted to be degraded.
- iii. If the District determines that flowage easements are needed from FPL in order to increase the operational stages of the S-20 water control structure as planned and approved by CERP, FPL agrees to provide such flowage easements for FPL owned land within the Everglades Mitigation Bank, in favor of the District within six months of the determination.
- iv. FPL acknowledges the benefit of hydrologic restoration projects contemplated by the Comprehensive Everglades Restoration Project (“CERP”), as well as other government entities, adjacent and to the west of the CCS in controlling movement of hypersaline and saline waters in the Biscayne Aquifer. FPL commits to working with

local, state and federal agencies to facilitate implementation of these projects to promote improved hydrologic conditions.

- d. Monitoring and Reporting. FPL shall conduct monitoring to evaluate the progress made in achieving the objectives of this Consent Agreement. This includes actions that result from satisfying the abatement, remediation and hydrologic improvement components of this Consent Agreement. FPL shall initiate the monitoring and reporting requirements identified below within 30 days of executing the Consent Agreement. The monitoring shall include the following:
- i. FPL shall facilitate DERM access to all data from continuous electronically monitored stations.
  - ii. FPL shall continue to provide monthly and quarterly reports substantially consistent with those required in M-D Class I permit CLI-2014-0312, beyond the expiration of the permit.
  - iii. FPL shall employ Continuous Surface Electromagnetic Mapping (CSEM) methods to assess the location and orientation of the hypersaline plume west and north of the CCS.
  - iv. FPL shall add three groundwater monitoring clusters (shallow, mid and deep) to monitor groundwater conditions in the model lands basin. The well clusters shall be similar in design and function to existing groundwater monitoring wells in the region as part of the CCS monitoring program, and shall be geographically located in consultation with DERM.
  - v. FPL shall submit annual reports providing an evaluation of progress in achieving the objectives of this Consent Agreement, status of implementing projects identified above, and the results of monitoring to determine the impacts of these activities. Recommendations for refinements to the activities will be included in the annual report. This may include deletions of monitoring that is demonstrated to no longer be needed, or additional monitoring that is warranted based on observations.



SAFETY PRECAUTIONS

18. FPL shall maintain the subject property during the pendency of this Consent Agreement in a manner which shall not pose a hazard or threat to the public at large or the environment and shall not cause a nuisance or sanitary nuisance as set forth in Chapter 24 of the Code of Miami-Dade County, Florida.

VIOLATION OF REQUIREMENTS

19. This Consent Agreement constitutes a lawful order of the DERM Director and is enforceable in a civil court of competent jurisdiction. Violation of any requirement of this Consent Agreement may result in enforcement action by DERM. Each violation of any of the terms and conditions of this Consent Agreement by FPL shall constitute a separate offense.

SETTLEMENT COSTS

20. FPL hereby certifies that it has the financial ability to comply with the terms and conditions herein and to comply with the payment of settlement costs specified in this Agreement.
21. DERM has determined that due to the administrative costs incurred by DERM for this matter, a settlement of \$30,000.00 is appropriate. FPL shall, within sixty (60) days of the effective date of this Consent Agreement, submit to DERM a check in the amount of \$30,000.00 for full settlement payment. The payment shall be made payable to Miami-Dade County and sent to the Division of Environmental Resources Management, c/o Barbara Brown, 701 NW 1<sup>st</sup> Court, 6<sup>th</sup> Floor, Miami, FL 33136-3912.
22. In the event that FPL fails to submit, modify, implement, obtain, provide, operate and/or complete those items listed in paragraph 17 herein, FPL shall pay DERM a civil penalty of one hundred dollars (\$100.00) per day for each day of non-compliance and FPL may be subject to enforcement action in a court of competent jurisdiction for such failure pursuant to those provisions set forth in Chapter 24 of the Code of Miami-Dade County. Any such payments shall be made by FPL to DERM within ten days of receipt of written notification and shall be sent to the Division of Environmental Resources Management, 701 NW 1<sup>st</sup> Court, 6<sup>th</sup> Floor, Miami, FL 33136-3912.

## GENERAL PROVISIONS

23. FPL shall allow any duly authorized representative of DERM, with reasonable notification, to enter and inspect the CCS, Floridan wells, extraction wells, or any other relevant facilities, at any reasonable time for the purpose of ascertaining the state of compliance with the terms and conditions of this Consent Agreement. DERM shall comply with the plant safety and security precautions. FPL shall provide and maintain a point of contact at the Turkey Point Power Plant to assist DERM in accessing the facilities to be inspected.
  
24. On a quarterly basis (January, April, July, and October), DERM may collect surface and/or groundwater samples at the discretion of DERM at various monitoring locations in accordance with monitoring referenced in Paragraph 17 above.
  
25. FPL and DERM agree to cooperate and use best efforts moving forward related to this Consent Agreement.
  
26. Disputes related to or arising out of this Consent Agreement shall be construed consistent with the laws of the State of Florida and the United States, as applicable, and shall be filed in the state or federal courts of the State of Florida, as appropriate. Proceedings shall take place exclusively in the Circuit Court for Miami-Dade County, Florida or the United States District Court for the Southern District of Florida.
  
27. In consideration of the complete and timely performance by FPL of the obligations contained in this Consent Agreement, DERM waives its rights to seek judicial imposition of damages or civil penalties for the matters alleged in Notice of Violation and Consent Agreement.
  
28. Where FPL cannot meet timetables or conditions due to circumstances beyond FPL's control, FPL shall provide written documentation to DERM which shall substantiate that the cause(s) for delay or non-compliance was not reasonably in FPL's control. DERM shall make a determination of the reasonableness of the delay for the purpose of continued enforcement pursuant to paragraph 22 of this Consent Agreement.
  
29. DERM expressly reserves the right to initiate appropriate legal action to prevent or prohibit future violations of applicable laws, regulations, and ordinances or the rules promulgated thereunder.

30. Entry of this Consent Agreement does not relieve FPL of the responsibility to comply with applicable federal, state or local laws, regulations, and ordinances.
31. FPL acknowledges that this Consent Agreement is within the jurisdiction of Miami-Dade County. Nothing in this Consent Agreement is intended to expand, nor shall this Consent Agreement be construed to expand, the regulatory authority or jurisdiction of Miami-Dade County.
32. This Consent Agreement shall neither be evidence of a prior violation of this Chapter nor shall it be deemed to impose any limitation upon any investigation or action by DERM in the enforcement of Chapter 24 of the Code of Miami-Dade County.
33. This Consent Agreement shall become effective upon the date of execution by the DERM Director, or the Director's designee.

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October 6, 2015

Date



Eric E. Silagy  
President & CEO  
Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, FL 33408  
Respondent

Before me, the undersigned authority, personally appeared Eric Silagy, who after being duly sworn, deposes and says that they have read and agreed to the foregoing.

Subscribe and sworn to before me this 6<sup>th</sup> day of October, 2015 by

Eric Silagy (name of affiant).



Personally known  or Produced Identification \_\_\_\_\_.  
(Check one)

Type of Identification Produced: \_\_\_\_\_.



LISA GROVE  
MY COMMISSION # FF 154741  
EXPIRES: December 14, 2016  
Bonded Thru Budget Notary Service

Lisa Grove  
Notary Public Signature

Lisa Grove  
Notary Public Printed Name

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DO NOT WRITE BELOW THIS LINE – GOVERNMENT USE ONLY

OCT 7, 2015  
Date

[Signature]  
Lee N. Hefty, DERM Director  
Miami-Dade County

[Signature]  
Witness

Barbara Brown  
Witness



**Exhibit A**  
**FPL Turkey Point Property Boundary**  
**for Purposes of Consent Agreement (~9000 acres)**

