Florida De, .rtment of Environmental Protection

TO:	Marc Harris NPDES Power Plant Permitting Supervisor/Tallahassee
THROUGH:	Linda Brien () Water Facilities Administrator/DEP Southeast District
FROM:	Tim Powell Wastewater Permitting Supervisor/DEP Southeast District
DATE:	November 16, 2009
SUBJECT:	FPL Turkey Point NPDES Permit Renewal (FL0001562)

Marc,

Memorandum

We have reviewed the subject permit renewal package, received October 22, 2009, and offer the following comments.

- The applicant should submit a proposal for a ground water monitoring plan. The plan could include wells that are part of the updated SFWMD Monitoring Plan in the agreement that was approved last month by the SFWMD Board. The plan should include monitoring of ground waters both east and west of the Cooling Canal System (CCS). Any wells that are used to monitor ground water movement to Biscayne Bay should be monitored for appropriate surface water standards (Class III Marine). The proposal should identify the G-II/G-III ground water boundary, and include compliance wells at the boundary.
- 2. Per FAC Rule 62-520.520(8), existing cooling ponds are exempt from secondary standards for G-II ground water so long as the cooling pond waters are monitored pursuant to Department permit to ensure that the pond does not impair the designated use of contiguous ground waters and surface waters. Review of water quality data collected by the SFWMD in Feb-Mar 2009 indicates not only exceedences of the secondary standards, but also for at least one primary standard sodium. The following wells listed below indicate sodium levels above the standard (160 mg/L). Please see the attached map for well locations. It's important to note that the L-3 and L-5 wells exhibit higher salinities than sea water, in line with the CCS salinities.

a	Well ID	Sodium (mg/L)
	BBCW-4	2,730
5	BBCW-5	3,560
	FKS-4	2,850
	G-21	1,640
	G-28	6,750
	L-3	17,200
	L-5	15,600

Compliance with our Ground Water rules depends on where the boundary between G-II and G-III waters lies. Review of documents from the early 1980's indicate the boundary at the time lay just west of the CCS interceptor ditch. The applicant should discuss this data and how they can demonstrate compliance with appropriate ground water criteria.

FPL Turkey Point NPDES Per Renewal (FL0001562)
Page 2

3. It is inaccurate to describe the CCS as a "closed-loop" system, since we now know there is a plume of hypersaline water moving west from the CCS. It is also likely that the CCS is impacting surface waters to the west, or possibly Biscayne Bay to the east. Therefore, a complete analysis of CCS waters should be completed as provided in Section V of the ground water discharge application (Form 2CG), and Section VII of the surface water discharge application (Form 2CS). We recommend at least three sampling events from various representative locations within the CCs. We suggest at least three locations: one of effluent (cooling water) exiting the plant condensers; one at cooling water intake; and one point approximately midway between the intake and effluent points. Some of the data collected in the SFWMD study in Feb-Mar 2009 could be used.

