Phone/Conference Call Record

Project/Plant: Turkey Point Units 6 & 7

Date/time: September 21, 2010

Time: 10:00 PDT

Attendees:

NRC Team

Andy Kugler	Environmental Project Manager
Mohammad Haque	Hydrologist

PNNL Team

Bob Bryce	Team Lead for Environmental Review
Rochelle Labiosa	Hydrologist
Paul Thorne	Hydrologist
Lance Vail	Hydrologist

South Florida Water Management District (SFWMD)

Peter Kwiatkowski
Jim Harmon
Simon Sunderland

Call title/subject: Turkey Point Alternatives – Water Supply
Purpose of call: SFWMD meeting with NRC to discuss water quality and quantity issues in regards to the alternative site locations (Martin, Glades, Okeechobee, and St. Lucie counties) for the Turkey Point proposed Units.

Call notes:

Andy Kugler provided an overview of our review process for the alternative sites.
Peter Kwiatkowski said they have documents on their website that could be used to provide the information.

Agenda:

1) What are the pressures/concerns regarding the upper Floridan as an industrial water source at the scale of the plant needs (100 cfs), specifically at the alternative site locations for Turkey Point (Glades, Martin, Okeechobee, and St. Lucie counties)?

Applicant first indicated they would use surface water as the water source and more recently have indicated that they would use groundwater. Paul Thorne said FPL had indicated in the ER

that they would withdraw from a zone they referred to as the "Middle Floridan" about 1,700 feet deep – it is brackish and very productive.

SFWMD – That amount of water requested (100 cfs or 65 mgd) is a substantial amount of water compared to other users. Whether they could withdraw that amount of water depends on how far wells are spaced apart and which aquifer is being used. There are other, primarily agricultural, users of the water in the Upper Floridan aquifer. It would be a possibility to obtain a permit to withdraw water from the Middle Floridan, but there would need to be some modeling done to show no impact on current users. In the vicinity of the Martin site, the aquifer is used for agricultural use and withdrawal of this amount of water would likely impact the agricultural users. The other thing that could happen is that saltwater would upcone from below and impact the water quality for the other users. Because of the large rate, it would likely affect other users.

Existing models used by SFWMD are not yet peer-reviewed, but include the EAST COAST FLORIDAN MODEL – density-dependent using SEAWAT – which includes agricultural and urban users primarily. The burden is actually on a permit applicant to demonstrate a lack of impacts to existing users and the environment.

Surface water – Glades, Okeechobee, Martin – SFWMD's Lake Okeechobee Regional Water Availability Rule has capped future new withdrawals from Lake Okeechobee to those of the current permittees, unless they relinquish their water rights in the future as stated in Section 3.2.1G of SFWMD's Basis of Review (BOR). SFWMD staff mentioned that this is because the Army Corps is keeping the Lake level lower than they did previously because of the Herbert Hoover dike safety issues. There is no concern about withdrawing from the Boulder Zone in this area. We would need to talk to FDEP (Joe May, FDEP-West Palm Beach office) because they are the folks that permit Underground Injection Control (UIC) wells, which inject secondary-treated effluent from wastewater treatment plants and membrane concentrate into these UIC wells. Andy asked if they were aware of anyone who withdraws from the Boulder Zone and they said they were not.

Paul asked for a list of agricultural water users. SFWMD staff indicated Donna Rickabus of their office could provide that information. We would need to identify the county we wanted the information from and the water source we were interested in.

Martin and St Lucie Counties are restricted from using pumps in Floridan wells so FPL would have to rely on artesian flow. This restriction may not apply to saline aquifers (Lower Floridan or Boulder zone) (Sea water >19,000 ppm Cl—definition is in section 3.2 of the regs [Basis of Review (BOR)]). Section 3.2.1D of the BOR pertains to Floridan pumping limitations.

It would be unlikely that they would be allowed to have water from the Kissimmee River (see more info below)

2) What is the likelihood of permitting for such a use of the Floridan? What strata/aquifer would be most likely to be permitted? Is the Boulder Zone a possibility?

No problem from SFWMD for taking water from the Boulder Zone. Use of Boulder Zone water is not regulated by SFWMD because of the high salinity (>19 ppt Cl is not within their purview). Permitting is only on the construction side for the well (FDEP).

3) FPL's West County natural gas plant is currently permitted to use Floridan water (13 mgd) as a cooling water source. It will be switching to reclaimed water in 2011 with Unit 3 online

(20 mgd required for cooling). What happens to that permit after they switch – do they keep rights to using the Floridan water for the period of time allocated in the permit, regardless of usage?

Short answer is that the permit would be terminated but SFWMD staff said they would expect that the groundwater source would be kept by FPL as a backup source. FPL would be given a 30 day allocation that would be similar to their current permit but the annual allocation would go way down. They would not be able to transfer the water to another facility nearby.

4) Are Lake Okeechobee or Kissimmee River viable sources of water (100 cfs) for the plant during all/some times of year? Are there examples of other industrial users that have been recently permitted? Do permits have stipulations during drought periods?

Would not be a flat no – but the hurdles would be so high to identify when the water could be taken with no impact that it would be very difficult to permit. It would be very difficult to get any permitting even during high flow times of year. If it were allowed, it would be for a seasonal withdrawal. The SFWMD uses "operational agreements" to allow excess water use during the wet season on a year-by-year basis depending on water availability. Caloosahatchee River does not have enough water to maintain a viable estuary. Lake Okeechobee is also backup water supply for several South Florida counties (e.g. Broward, Miami-Dade). Peter stated that it is really inconceivable that a 24-7 operation would be allowed on Kissimmee River or Lake Okeechobee given the current demands and the need to set aside water for ecosystem restoration purposes. The City of Okeechobee has to go through a variance process to get 1 mgd out of the lake.

5) Please provide projections for water use for the alternative site locations (Martin, Glades, Okeechobee counties) over the life of the plant (2060), if available. What factors are considered in the projections (population, land use, climate change, etc.)?

Look at Upper East Coast Water Supply plan – Most recent plan is on the website. They are updating the plan but it will not be available in the near term. Glades may be in a different plan and Okeechobee would be in Kissimmee basin plan. Cynthia Gefvert – in charge of the updates to the water supply plans. Good resource to find out timing for updates to the plans. The updates are in process right now. Last one covered up to 2025 (supposed to be completed every 5 years).