



L-2012-225
10 CFR 52.3

May 21, 2012

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Re: Florida Power & Light Company
Proposed Turkey Point Units 6 and 7
Docket Nos. 52-040 and 52-041
Response to NRC Request for Additional Information Letter 120403
(RAI 6350 Rev. 1) Related to ESRP Section 5.8.1 – Etiological Agents

Reference:

NRC Letter to FPL dated April 4, 2012, Environmental Request for Additional Information Letter 120403 Related to ESRP Section 5.8.1, Etiological Agents, for the Combined License Application Review for Turkey Point Units 6 and 7

Florida Power & Light Company (FPL) provides, as an attachment to this letter, its response to the Nuclear Regulatory Commission's (NRC) Request for Additional Information (RAI) EIS 5.8.1-1 and EIS 5.8.1-2 provided in the referenced letter. The attachment identifies changes that will be made in a future revision of the Turkey Point Units 6 and 7 Combined License Application (if applicable).

If you have any questions, or need additional information, please contact me at 561-691-7490.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 21, 2012.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Maher', is written over a horizontal line.

William Maher
Senior Licensing Director – New Nuclear Projects

WDM/RFO

D097
NRD

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Attachment 1: FPL Response to NRC RAI No. EIS 5.8.1-1 (RAI 6350 Rev. 1)
Attachment 2: FPL Response to NRC RAI No. EIS 5.8.1-2 (RAI 6350 Rev. 1)

cc:

PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO
Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4

NRC RAI Letter 120403 Dated April 4, 2012

SRP Section: EIS 5.8.1 – Etiological Agents

Question from Environmental Projects Branch (RAP1)

NRC RAI Number: EIS 5.8.1-1 (RAI 6350 Rev. 1)

Provide the results of analyses of etiological agents in the water that will be used for cooling, including both the reclaimed water and the radial collector well water, for the proposed site using pilot study or similar data.

Full Text: The Florida Power and Light Company (FPL) response to the original RAI (FPL Response to U.S. Nuclear Regulatory Commission (NRC) RAI No. 5.8.1-3, RAI 5594, L-2011-158 Attachment 3, Letter #1103091, dated 4/25/11) notes that FPL has not conducted analyses of etiological agents in cooling water. FPL emphasizes that the additional treatment of the reclaimed water will reduce the presence of etiological agents. FPL, however, did not provide specifics on its planned treatment (e.g., the proposed reclaimed water treatment facility) or how that facility would be effective at treating etiological agents and to what levels. NRC notes that pilot treatment studies and/or analyses of other cooling water uses of the same source waters do exist (Miami-Dade Water and Sewer Department (MDWASD) pilot study referred to by FPL in "Site Certification Application; Plant and Associated Non-Transmission Facilities, 2nd Round Completeness Responses, Part B," July 2010, pdf p. 173) and the results are now available in the form of the Biscayne Bay Coastal Wetlands Rehydration Project (BBCWRP) Pilot Plant Closeout Report, September 2011. These studies could be used to provide an indication of the treatment train that FPL expects to implement with its associated constituent treatment targets, and thus an analysis of the etiological agents in the water that will be used for cooling.

FPL RESPONSE:

Reclaimed Water

At this time there is limited information available for etiological agents from Miami Dade County Water and Sewer Department's South District Wastewater Treatment Plant (SDWWTP) reflecting the conditions that will prevail after implementation of the high level disinfection (HLD) treatment regime. The SDWWTP has recently added enhanced treatment of the final treated effluent, but the system is currently under test conditions and will not be fully implemented until first quarter of 2013. SDWWTP's enhanced treatment includes additional filtration as well as additional disinfection (http://www.miamidade.gov/wasd/high_level_disinfection.asp). The enhanced treatment, filtration through sand and disinfection, is anticipated to reduce etiological agents from the treated water released to the pipelines to the FPL Reclaimed Water Treatment Facility (RWTF). Biological monitoring will be conducted in the future by SDWWTP. The applicable cooling tower water use criteria will be met via treatment at the SDWWTP or the FPL RWTF.

The conceptual design for additional or redundant treatment of reclaimed water supplied from SDWWTP for the RWTF will reduce the concentrations of nutrients, scale-forming compounds, and other constituents including etiological agents. As depicted in the 2009 RWTF conceptual design report (HDR 2009), the conceptual RWTF treatment system incorporates de-chlorination, nutrient removal, hardness removal (if necessary), pH adjustment, filtration and disinfection processes. FPL will continue to coordinate with SDWWTP to obtain pertinent information on the HLD system to inform the RWTF conceptual and final design.

FPL notes that the Biscayne Bay Coastal Wetlands Rehydration Project (BBCWRP) Pilot Plant Closeout Report does not contain information on etiological agents and thus has no relevance to informing RWTF design with respect to etiologic agents.

Radial Collector Well Water

The South Florida Water Management District's corporate environmental database 'DBHYDRO (Environmental Data)' stores water quality data for the South Florida region, including Biscayne Bay. Dade County Department of Environmental Resources Management's water quality program consists of monthly surface water monitoring. DBHYDRO was used to report the water quality data for various stations throughout Biscayne Bay in using the same monitoring station as used in ER Table 2.3-31. Based on DBHYDRO, there are no reported etiological agents available. Total Coliform was reported previously in the FPL Response to eRAI 5765 (FPL 2012). Where analyzed, the results were below detection limits.

This response is PLANT SPECIFIC.

References:

FPL, 2012. Response to NRC Request for Additional Information Letter 1112081 (eRAI 5765) Related to ESRP Section 4.2 – Water-Related Impacts. FPL letter number L-2012-101. ADAMS Accession No. ML12074A041.

HDR, 2009. Cooling Water Supply and Disposal Conceptual Design Report. Available at http://publicfiles.dep.state.fl.us/Siting/Outgoing/FPL_Turkey_Point/Units_6_7/Completeness/Plant_Associated_Facilities/1st_round_Completeness/FPL_Response_1st_Incompleteness/Attached%20Reports/HDR/Cooling%20Water_%20March-2009/Report_HDR_CoolingWater_ConceptualDesign.pdf. Accessed May 1, 2012.

South Florida Water Management District (SFWMD) 'DBHYDRO (Environmental Data)'. Available at <http://www.sfwmd.gov/portal/page/portal/xweb%20environmental%20monitoring/dbhydro%20application>. Accessed May 1, 2012.

ASSOCIATED COLA REVISIONS:

No COLA changes have been identified as a result of this response.

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ASSOCIATED ENCLOSURES:

None

NRC RAI Letter 120403 Dated April 4, 2012

SRP Section: EIS 5.8.1 – Etiological Agents

Question from Environmental Projects Branch (RAP1)

NRC RAI Number: EIS 5.8.1-2 (RAI 6350 Rev. 1)

Provide the correct citation for claims that microconstituents are not anticipated to be associated with any human health issues, or provide other evidence regarding whether and to what extent any human health impacts can be anticipated from the use of the reclaimed water.

Full Text: The FPL response to the original RAI (FPL Response to NRC RAI No. 5.8.1-3, RAI 5594, L-2011-158 Attachment 3, Letter #1103091, dated 4/25/11) provides qualitative statements to argue that etiologic and chemical agents in additionally treated reclaimed water will be safe for workers and the public. Regarding chemical agents, FPL states that "these microconstituents...are expected to be orders of magnitude less than concentrations that are needed for a therapeutic or pharmaceutical dose and, therefore, are not anticipated to be associated with any human health issues," citing FDEP, 2008 (Florida Department of Environmental Protection (FDEP), December 2008, Emerging Substances of Concern, Division of Environmental Assessment and Restoration, Tallahassee, Florida). This conclusion, however, could not be found in this reference nor is the use of the therapeutic or pharmaceutical dose the appropriate test for human health issues.

FPL RESPONSE:

In response to NRC RAI No. 5.8.1-3, RAI 5594, FPL, in letter L-2011-158 Attachment 3, dated 4/25/11 (FPL 2011), stated that "these microconstituents are expected to be orders of magnitude less than concentrations that are needed for a therapeutic or pharmaceutical dose and, therefore, are not anticipated to be associated with any human health issues", with a reference citing of Florida Department of Environmental Protection (FDEP), December 2008. The following published scientific literature citations are provided to further support the FPL statement:

1. Anderson, P.O. 2008. Technical Brief: Trace Organic Compounds and Implications for Wastewater Treatment. Water, Environment Research Foundation, Alexandria, VA. 114 p.
2. World Health Organization (WHO). 2011. Pharmaceuticals in Drinking Water. WHO/HSEIWSH/1105. 49 p.
3. Bruce, G.M., RC. Pleus and S.A. Snyder. 2010. Toxicological Relevance of Pharmaceuticals in Drinking Water. *Envir. Sci. Technol.* 44:5619-5626.
4. Snyder, S.A., RA. Trenholm, E.M. Snyder, G.M. Bruce and RC. Pleus and J.D.M. Hemming. 2008. Toxicological Relevance of EDCs and Pharmaceuticals in Drinking Water. 322 p.

5. Snyder, S.A., B.J. Vanderford, E.M. Snyder, G.M. Bruce and RC. Pleus. 2008. State of Knowledge of Endocrine Disruptors and Pharmaceuticals in Drinking Water. AAWA Research Foundation. 357p.

In response to the comment that “nor is the use of the therapeutic and pharmaceutical dose the appropriate test for human health issues,” these endpoints will be used in conjunction with threshold toxicity values for any adverse effects from oral, dermal and inhalation pathways related to human health, as stated previously by FPL (FPL, 2011).

This response is PLANT SPECIFIC.

References:

FPL, 2011. Response to NRC Request for Additional Information Letter 1103091 (eRAI 5594) Related to ESRP Section 5.3.4 – Non-Radiological Health. FPL letter L-2011-158 dated April 25, 2011. ADAMS Accession No. ML11117A236.

ASSOCIATED COLA REVISIONS:

No COLA changes have been identified as a result of this response.

ASSOCIATED ENCLOSURES:

None