FPL

L-2011-155
10 CFR 52.3

April 20, 2011

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 Environmental Request for Additional Information Letter 1103071 (RAI 5498) Environmental Standard Review Plan
Section 5.7 – Meteorology and Air Quality Impacts

Reference:

1. NRC Letter to FPL dated March 7, 2011, Environmental Request for Additional Information Letter 1103071 Related to ESRP Section 5.7, Meteorological and Air Quality Impacts, 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) Environmental Request for Additional Information (RAI) 5.7-1, 5.7-2, 5.7-3 and 5.7-4 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).

The enclosed optical storage media (OSM) is not intended to comply with the recommendations for electronic submission in NRC Guidance Document, Guidance for Electronic Submissions to the NRC.

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 April 20, 2011.

Sincerely,

William Maher
Senior Licensing Director – New Nuclear Projects

D097
NRO

Florida Power & Light Company
700 Universe Boulevard, Juno Beach, FL 33408

WDM/RFO

Attachment 1: FPL Response to NRC RAI No. 5.7-1 (RAI 5498)
Attachment 2: FPL Response to NRC RAI No. 5.7-2 (RAI 5498)
Attachment 3: FPL Response to NRC RAI No. 5.7-3 (RAI 5498)
Attachment 4: FPL Response to NRC RAI No. 5.7-4 (RAI 5498)

Enclosure: NRC RAI 05.07-2 (RAI 5498) AERMOD/CALPUFF Input/Output Files - April 2011 (1 OSM)

cc (w/o enclosure):
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 No. 1103071 Dated March 07, 2011

SRP Section: EIS 05.07 – Meteorological and Air Quality Impacts

Question from Siting and Accident Consequence Branch

NRC RAI Number: EIS 05.07-1 (RAI 5498)

Provide the AERMET input file used in developing the upper-air profile file (Mia0105.pfl) and surface hourly met file (Mia0105.sfc).

Provide quantitative information on the intermediate step used in developing the final meteorological files as used in AERMOD (Mia0105.pfl and Mia0105.sfc). This intermediate step is performed by running the AERMET program with specified options, and using as input the surface files created in Attachment A to FPL's November 1, 2010, letter (the "early letter") and the Miami hourly surface and upper air data as provided in Attachment B to the same letter. Provide the AERMET input file used in developing the upper-air profile file (Mia0105.pfl) and surface hourly met file (Mia0105.sfc) or identify the origin of this data if provided by a third party.

FPL RESPONSE:

The process followed, including intermediate steps and input/output files, used in developing the profile and surface meteorological files (MIA0105N.PFL and MIA0105N.SFC) required by AERMOD is provided in the following paragraphs.

The AERMET model computer program execution involves three stages. In the Stage 1 model execution, the five-year (2001-2005) combined Miami upper-air and surface data, which were provided by Florida Department of Environmental Protection (FDEP) (MIAMIUPD1.TXT, MIA0105R.OUT), were used as the input files. The Stage 1 output files (MIAMI01.UQA, MIAMI01.SQA) were then used as input files in Stage 2. The Stage 2 execution run merges the upper-air (MIAMI01.UQA) and surface (MIAMI01.SQA) files to form a single file (MIAMI01.MRG), where 01 stands for Year 2001. The Stage 2 AERMET execution runs were performed for the five years of meteorological data (2001-2005).

This merged file from Stage 2 model execution is then used as an input file for Stage 3 model execution. Part of the AERMET Stage 3 input file is also generated by the AERSURFACE (Ver. 08009, EPA 2008) run. AERSURFACE is developed by the U.S. EPA to generate site specific albedo, Bowen ratio and surface roughness for input to the AERMET run. Land cover raw data (FLORIDA_NLCD_ERD032000.TIF) used for AERSURFACE were downloaded from the USGS website (http://edcftp.cr.usgs.gov/pub/data/landcover/states) for the entire State of Florida.

The input information used in the AERSURFACE run is provided in the table below.

Input Information	Data
Land Cover input file opened	FLORIDA_NLCD_ERD032000.TIF
AERMET-formatted output file opened	FL_AERS_AVG.OUT;FL_AERS_DRY.OUT; FL_AERS_WET.OUT
Type of Coordinates Entered	LATLON
Latitude (decimal degrees)	25.490000
Longitude (decimal degrees)	-80.385000
Datum	NAD83
Study Radius for surface roughness (km)	1.0
Is surface roughness varied by sector?	Y
Number of Sectors	12
Sector beginning directions	0 30 60 90 120 150 180 210 240 270 300 330
Temporal resolution (ANNUAL, MONTHLY, SEASONAL)	MONTHLY
Continuous snow cover for at least one month?	N
Reassign months to seasons?	Y
Late autumn after frost and harvest, or winter with no snow	12 1 2
Transitional spring (partial green coverage, short annuals)	3 4 5
Midsummer with lush vegetation	6 7 8 9
Autumn with unharvested cropland	10 11
Is site located at an airport?	Y
Is site considered an arid region?	N
Characterization of surface moisture at site	Average; Dry; Wet

The soil moisture was classified based on precipitation data obtained from Local Climatological Data for Miami (NCDC 2006) as wet, dry or average based on a ranking method described in Page 6 of the AERSURFACE User's Guide. The AERSURFACE model execution generated monthly and sector dependent land cover parameters (albedo, Bowen ratio and surface roughness), as presented in the output files (FL_AERS_AVG.OUT, FL_AERS_DRY.OUT, FL_AERS_WET.OUT). This output file was subsequently used as part of the input data in AERMET Stage 3 model execution run. The Stage 3 model execution run generated two output files, one with boundary layer parameters (i.e., MIAMI01.SFC), and the other with profile data (i.e., MIAMI01.PFL). The model was executed five times for each year of meteorological data.

The five sets of the AERMET Stage 3 output files (MIAMI0*.SFC and MIAMI0*.PFL) were then appended to form 5-year composite files for boundary layer parameters (MIA0105N.SFC) and for profile data (MIA0105N.PFL). These two composite files were used as the meteorological input files for the AERMOD runs.

This response is PLANT SPECIFIC.

References:

EPA 2004. User's Guide for the AERMOD Meteorological Processor (AERMET), EPA-454/B-03-002, U.S. Environmental Protection Agency, 2004.

EPA 2008. AERSURFACE User's Guide, EPA-454/B-08-001, U.S. EPA, 2008.

National Climatic Data Center (NCDC) 2005 Local Climatological Data, Annual Summary with Comparative Data for Miami, Florida, 2006.

U.S. Geological Survey (USGS), National Land Cover Database, downloaded florida.nlcd.tiff from: http://edcftp.cr.usgs.gov/pub/data/landcover/states,

ASSOCIATED COLA REVISIONS:

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

ASSOCIATED ENCLOSURES:

The AERMET data files, including input and output files, have been included on the OSM submitted in response to EIS 05.07-2.

NRC RAI Letter No. 1103071 dated March 07, 2011

SRP Section: EIS 05.07 – Meteorological and Air Quality Impacts

Question from Siting and Accident Consequence Branch

NRC RAI Number: EIS 05.07-2 (RAI 5498)

Provide an explanation as to why one cooling tower particle size distribution is different from that of the other five towers. Also provide information that documents and supports the particle size distribution used in this analysis using the TDS of 50,000 ppm.

Clarify the information provided in Attachment J to the letter dated November 1, 2010, which provides the input files used by FPL in the modeling for salt deposition.

A total of six cooling towers are modeled (3 for each unit). For unit TP7W01 the particle diameter size distribution is different from the other 5 units.

PARTDIAM TP7W01 10 15 20 25 35 65 170

As opposed to the other cooling towers having a particle size distribution of

PARTDIAM TP7E01 10 50 70 90 150 350 600

Provide an explanation as to why this one cooling tower is different from the other five towers. Also provide information that documents and supports the particle size distribution used in this analysis using the TDS of 50,000 ppm.

FPL RESPONSE:

The particle diameter size distribution listed for cooling tower "TP7W01" was incorrect. The particle diameter size distribution is identical for all six cooling towers. This particle diameter size distribution for saltwater, given at a concentration of 50,000 ppm, when the radial collector wells are used for the circulating water system (CWS) cooling towers, was based on Table 1 of Reisman and Frisbie (2001),

In order to more accurately represent the physical model of CWS cooling towers emission, the modeling approach has been revised. Previously, the conceptual model considered salt as particulates that were directly emitted from the cooling towers. The particle diameter size distribution, mass fraction of this distribution, and density for the salt particulates reflected this approach. The salt particulate emission rate for this approach was 3.431 grams/second (g/sec), based a total dissolved solids (TDS) concentration of 50,000 parts per million (ppm). The revised approach considered the cooling tower emission as saltwater droplets, which is considered more indicative of the actual physical emission content. The emission rate, particle diameter size distribution, mass fraction of this distribution, and density were revised to reflect this revised modeling approach in the AERMOD model, as discussed below.

Since the model considered saltwater droplets instead of salt, as originally performed, the following particle size distribution for saltwater droplets, from Table 1 of Reisman and Frisbie (2001), was used:

Droplet Diameter (μm)	40	50	60	70	90	110	130	150	210	350	600
Mass Fraction	0.00514	0.01296	0.03886	0.15646	0.28464	0.20697	0.11514	0.05989	0.04456	0.04543	0.02989

The relevant section of the AERMOD input files (annual and all seasons) has been revised as follows (using tower TP7W01 as an example for all 6 towers) to reflect the use of saltwater droplets as the cooling tower emission:

```
PARTDIAM TP7W01     40   50   60   70   90   110   130   150   210   350   600
MASSFRAX TP7W01 0.0051 0.013 0.039 0.156 0.285 0.207 0.115 0.06 0.045 0.045 0.03
PARTDENS TP7W01   1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05
```

The emission rate has been modified to 69.58 g/s, which is the total saltwater droplet emission from each tower that considers the CWS flow rate and design drift of the cooling towers. The final deposition is determined by multiplying the saltwater droplet deposition by 0.05 to reflect the 50,000 ppm TDS representing the salt concentration in the cooling water vapor. All other AERMOD modeling input was unchanged.

The revised modeling approach resulted in a slightly larger salt deposition plume, as depicted on Figure 5.3-1. However, the salt deposition area of greater than 10 kg/ha/mo (the level that could cause leaf damage in many species) would generally be confined to the plant property and is little changed from the original modeling approach. In addition, impacts to the crocodile areas (Figure 5.3-2) are also little changed from the original modeling approach. It is important to note that the AERMOD modeling assumed the radial collector wells are in operation full-time, resulting in a continuous TDS concentration of 50,000 ppm in the saltwater droplet emission. The radial collector wells are the back-up CWS water source that will be used intermittently when the primary source – reclaimed water – is not available. Therefore, the annual salt deposition plume, based on the assumption of continual radial collector wells operation, is likely much larger than what would be expected from reclaimed water use in the CWS.

Finally, it should be noted that the revised approach is also considered more conservative based on the use of saltwater droplets versus salt particulates. Since the AERMOD model lacks the capability to model the evaporative process on the salt water droplets, the plume is less dispersed resulting in higher concentrations of salt deposition.

The revised input and output data files as a result of this RAI, in electronic format, are included on the enclosed OSM.

This response is PLANT SPECIFIC.

References:

2001. Joel Reisman and Gordon Frisbie, Calculating Realistic PM_{10} Emissions from Cooling Towers. Environmental Progress, 21: 127-130. doi. 10.1002/ep670210216

ASSOCIATED COLA REVISIONS:

FSAR Section 2.3.2.2.3 will be revised in a future COLA revision to reflect the RAI response, as follows:

The AERMOD model was used to predict salt deposition from the operation of the Units 6 & 7 cooling towers. The simulation was modeled based on the cooling tower operational parameters and the 2001 through 2005 Miami meteorological data for upper air and surface data. Salt deposition up to **105** ~~900~~ kg/ha per month is predicted ~~at~~ **near** the makeup water reservoir.

Beyond the makeup water reservoir, the deposition rates are predicted to decrease rapidly. The monthly salt deposition into the industrial wastewater facility ranges from **1**~~10~~ to **70** ~~80~~ kg/ha/month. Salt deposition of **more than 10** ~~20~~ kg/ha per month is generally confined to the plant property, with the exception of areas adjacent to the southeastern portion of the site.

ER Section 5.3.3.2.2, third paragraph, will be revised in a future COLA revision to reflect the RAI response, as follows:

These monthly deposition rates are a conservative representation of depositional rates calculated for the four seasons (e.g. northeast-southwest bearing of depositional plume). ~~Significant~~ **Maximum** salt deposition is predicted ~~at~~ **near** the makeup water reservoir (up to **105** ~~900~~ kg/ha/mo).

ER Section 5.3.3.2.2, fourth paragraph, will be revised in a future COLA revision to reflect the RAI response, as follows:

Beyond the makeup water reservoir, the deposition rates are predicted to decrease rapidly. The monthly salt deposition in the cooling canals of the industrial wastewater facility ranges from **1**~~10~~ to **70** ~~80~~ kg/ha/month. **This depositional rate is considered both conservative and bounding since evaporation of the solution drift has not**

been considered and it has been assumed that the saltwater is from the radial collector wells, which are assumed to operate on a full time basis. The radial collector wells are a backup water source, reclaimed water is the primary source, and operation of these wells is anticipated to be on an intermittent, as needed basis. Salt deposition of **greater than** 10 kg/ha/mo would generally be confined to the plant property. [remainder of paragraph remains unchanged].

ER Section 5.3.3.2.2, fifth paragraph, will be revised in a future COLA revision to reflect the RAI response, as follows:

The maximum predicted salt deposition rate to the industrial wastewater facility in the vicinity of the cooling towers ranges from **1**4~~0~~ to **70**~~80~~ kg/ha/month (annual basis; see Figure 5.3-1). This annualized salt deposition range of **1**4~~0~~ to **70**~~80~~ kg/ha/month was normalized to salinity based on the annual site rainfall (approximately 58 inches annually). The resulting salinity range was calculated to be approximately **0.0008**~~0.03~~ to 0.06 parts per thousand (ppt).

....As is depicted in Figure 5.3-2, the majority of juvenile crocodile refugia are south of the area ~~of maximum~~ **where the majority of** salt deposition **occurs (i.e., areas greater than 10 kg/ha/month)**.

ER Section 5.11.5, fourth paragraph, will be revised in a future COLA revision to reflect the RAI response, as follows:

Operation of the Units 6 & 7 cooling towers would result in plumes, salt deposition, and noise that would have a SMALL impact to atmospheric conditions. The plumes would remain primarily on the Turkey Point plant property. The shadowing and precipitation associated with the plumes would take place primarily onsite (Subsection 5.3.3.1). Modeling predicts ~~significant~~ **maximum** salt deposits (~~900~~ **105** kg/ha/month) **near** ~~at~~ the makeup water reservoir of the Units 6 & 7 plant area and salt deposition of greater than 10 kg/ha/month would generally be confined to the Turkey Point plant property and the industrial wastewater facility, with the exception of the southeastern perimeter of the plant property. [remainder of paragraph remains unchanged].

Revised ER Figures 5.3-1 and 5.3-2 will be included in a future COLA revision to reflect the RAI response:

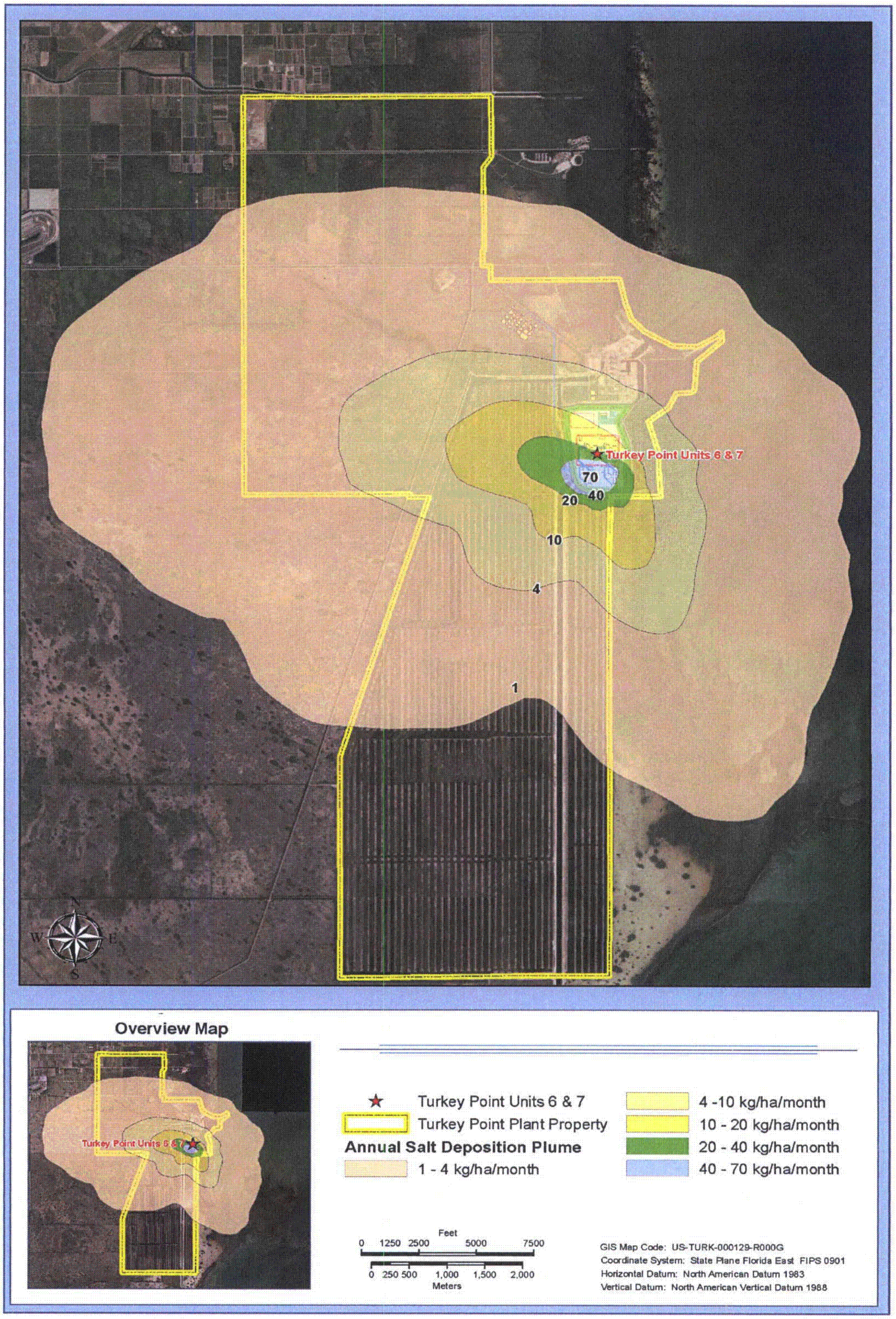

Figure 5.3-1 Predicted Monthly Salt Deposition

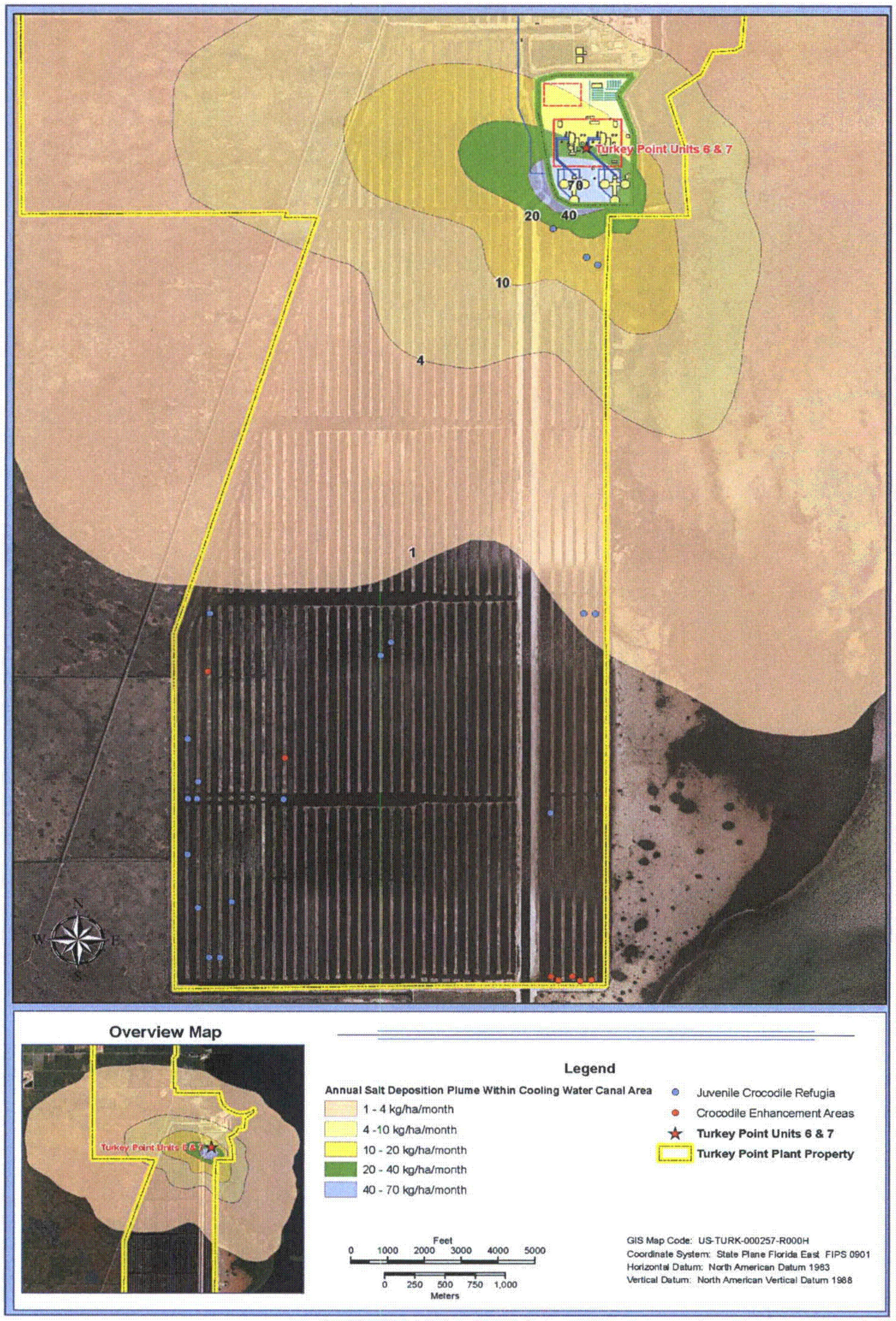

Figure 5.3-2 Crocodile Areas in Relation to Salt Deposition Plume

ASSOCIATED ENCLOSURES:

A brief summary of the files contained in the enclosed OSM (Parts A through L) are presented below.

ATTACHMENT A

AERSURFACE is used to generate site specific surface roughness length, albedo, and Bowen ratio for input to AERMET.

AERSURFACE

AERSURFACE.DAT (Output)
aersurface.exe(Executable)
albedo_bowen_domain.txt (Output)
florida_NLCD_erd032000.tif (Input)
FL_Aers_Avg.log (Output)
FL_Aers_Avg.out (Output)
FL_Aers_Dry.log (Output)
FL_Aers_Dry.out (Output)
FL_Aers_Wet.log (Output)
FL_Aers_Wet.out (Output)
roughness_domainD.txt (Output)

AERMET

aermet.exe (Executable)
MIA0105n.PFL (Final AERMET profile file, input from appended 5 years of data)
MIA0105n.SFC (Final AERMET surface file, input from appended 5 years of data)
MIA0105R.OUT (Input surface file from FDEP)
miamiupd1.txt (Input upper air file from FDEP)

Three stages of the AERMET input and output files are presented in the following table.

Stage 1	
Input	**Output**
MIAMI0*.IN1	MIAMI0*.RP1
MIAMIUPD1.TXT	MIAMI0*.MG1
MIA0105R.OUT	MIAMI0*.SAX
	MIAMI0*.SQA
	MIAMI0*.UQA
Stage 2	
Input	**Output**
MIAMI0*.IN2	MIAMI0*.RP2
MIAMI0*.UQA	MIAMI0*.MG2
MIAMI0*.SQA	MIAMI0*.MRG
Stage 3	
Input	**Output**
MIAMI0*.IN3	MIAMI0*.RP3
MIAMI0*.MRG	MIAMI0*.MG3
MIAMI0*.SQA	MIAMI0*.SFC
	MIAMI0*.PFL

Note: * ranges from 1 (2001) to 5 (2005).

ATTACHMENT B

MIXHTS is used to generate twice-daily mixing height data for Miami. Dates artificially set to 81-85 to simulate 2001-2005 met period (program cannot run input data dated post 1998).

Miami Mixing Run

MIA0105.DAT (Input)
MIA0105.FSL (Input)
MIA0105.INP (Input)
MIA0105.MIX (Output)
MIXHTS.EXE (Executable)
MIXHTS.LOG (Output)

MET Data from FDEP

FW Emailing MIAUASFC1.zit.msg (Documentation)
MIA0105R.OUT (Input surface file from FDEP)
miamiupd1.txt (Input upper air file from FDEP)

ATTACHMENT C

PCRAMMET is used to generate ISC-ready Miami surface hourly met data.

Met Data PCRAMMET

PCRAMMET.EXE (Executable)
MIA0105.MIX (Input)
MIA0105R.OUT (Input)
INPUT.inp (Input)
mia0105.met (Output)
PCRAM.LOG (Log File)

PCRAMMET Manual

pcramtd.pdf

ATTACHMENT D

BPIPPRM is used to generate AERMOD required building downwash parameters.

BPIPTP.INP (Input)
bpip_TP.out (Output)
Bpip_TP.sum (Output)
Bpipprm.exe (Executable)
TP.BAT (Turkey Point BPIP Batch file)

ATTACHMENT E

CTEMISS is a cooling tower emission processor used to generate a CALPUFF-ready variable emission file in which the exit temperature and water vapor emission rate change hourly, and the exit velocity changes monthly. This is to allow seasonal changes to the configuration of the plume abated towers, while tracking hourly changes in ambient temperature and relative humidity.

CTEMISS.EXE (Executable)
TPFOGEMISS.INP (Input)
MIA0105.met (Input)
TPFOGEMISS.LST (Output)
TPFOGEMISS.PT2 (Output)

ATTACHMENT F
CALPUFF input and output files, used to calculate fogging and moisture plume.

TP Model Execution – PLUME MODE

RUNCALFOG.BAT (Batch file)
calpuffog.exe (Executable)
TPFOGEMISS.PT2 (Input)
MIA0105.met (Input)
TPFOGPM.INP (Input)
tpfogpm.lst (Output)
fog.dat (Output)

TP Model Execution – RECEPTOR MODE

RUNCALFOG1.bat (Batch file)
calpuffog.exe (Executable)
TPFOGEMISS.PT2 (Input)
MIA0105.met (Input)
TPFOGRM.INP (Input)
tpfogrm.lst (Output)
fog.dat (Output)

ATTACHMENT G
Postprocessor POSTPM is used to post process CALPUFFOG output file when executed in the plume mode and determines visible plume lengths and heights.

MIA0105.cd4 (Input)
POSTPM.EXE (Executable)
POSTPM.INP (Input)
fog.dat (Input)
POSTPM.LST (Output)

ATTACHMENT H
Postprocessor SUMPOST inputs the list (lst) output from POSTPM and generates statistical summary tables of plume length and plume height bins for selected ranges.

All hours

SUMPOST.EXE (Executable)
POSTPM.LST (Input)
sumpost.inp (Input)
sumpost.lst (Output)

Daylight Only

sumpost.exe (Executable)
POSTPM.LST (Input)

SUMPOST_Day.inp (Input)
SUMPOST_Day.lst (Output)

ATTACHMENT I
Postprocessor POSTRM is used to post process CALPUFFOG output file when executed in the receptor mode and determines the potential fogging and icing frequencies for specific input receptors.

MIA0105.cd4 (Input)
POSTRM2.EXE (Executable)
postrm.inp (Input)
fog.dat (Input)
postrm.lst (Output)
postrm.rh (Output)
foghrs.met (Output)

ATTACHMENT J
AERMOD is used to generate seasonal and annual salt depositions.

ANNUAL
AERMOD.exe (Executable)
Annual.bat (Batch File)
aermod_ann.inp (Input)
FULLGRID.ROU (Input)
MIA0105n.SFC (Input)
MIA0105n.PFL (Input)
aermod_annual.out (Output)
ANNUALDEP.PLT (Output)

SEASONAL

AERMOD.exe (Executable)
Seasons.bat (Batch File)
AERMOD_SPR.INP (Input)
AERMOD_Sum.INP (Input)
AERMOD_aut.INP (Input)
AERMOD_WIN.INP (Input)
FULLGRID.ROU (Input)
MIA0105n.SFC (Input)
MIA0105n.PFL (Input)
aermod_spr.out (Output)
aermod_sum.out (Output)
aermod_aut.out (Output)
aermod_win.out (Output)
SPRINGDEP.PLT (Output)
SUMMERDEP.PLT (Output)
AUTUMNDEP.PLT (Output)
WINTERDEP.PLT (Output)

ATTACHMENT K

This attachment contains the CALPUFF summaries in a spreadsheet.

CALPUFF SUMMARY.XLS

ATTACHMENT L

This attachment contains the AERMOD summaries in a spreadsheet.

Aermod_Summary_030811.XLS

NRC RAI Letter No. 1103071 Dated March 07, 2011

SRP Section: EIS 05.07 – Meteorological and Air Quality Impacts

Question from Siting and Accident Consequence Branch

NRC RAI Number: EIS 05.07-3 (RAI 5498)

Clarify the information provided in Attachment J to the letter dated November 1, 2010, which provides the input files used by FPL in the modeling for salt deposition.

The particulate matter emission rates for each cooling tower unit are reported as 3.431 g/s or a total of 74.11 kg/hr and appear to be based on TDS of 50,000 ppm as reported in a table in Section 5.3 of the ER. Provide justification for the use of this number in the normal operations of the cooling tower makeup water.

FPL RESPONSE:

A total dissolved solids (TDS) concentration of 50,000 ppm was based on use of the radial collector wells, located beneath Biscayne Bay, as the source of make-up water for the circulating water system (CWS) cooling towers. This TDS concentration produces a bounding case for particle emission and deposition from the CWS cooling towers for normal operation since the radial collector wells are considered a "back-up" makeup water supply to the reclaimed water supply which is considered the primary source and has a much lower TDS concentration.

The TDS concentration of 50,000 ppm was based on time history salinity data (1979-2009) from a monitored location in Biscayne Bay located near the Turkey Point plant site (BB41 – data available at http://www.sfwmd.gov/portal/page/portal/PG_GRP_SFWMD_WQM/PG_SFWMD_WQM_site?p_site_name=BB41). The average salinity concentration at this location was about 34,000 ppm. This concentration was multiplied by 1.5 cycles of concentration at the CWS cooling towers, as discussed in ER Section 3.4.1.1, which results in a TDS concentration of approximately 50,000 ppm. It should be noted that based on the response to EIS 05.07-2, each cooling tower emission rate, which is now in terms of solution drift, is approximately 69.58 grams/second solution.

This response is PLANT SPECIFIC.

References:

http://www.sfwmd.gov/portal/page/portal/PG_GRP_SFWMD_WQM/PG_SFWMD_WQM_site?p_site_name=BB41 (Accessed on 4/3/2011)

ASSOCIATED COLA REVISIONS:

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

ASSOCIATED ENCLOSURES:

None

NRC RAI Letter No. 1103071 Dated March 07, 2011

SRP Section: EIS 05.07 – Meteorological and Air Quality Impacts

Question from Siting and Accident Consequence Branch

NRC RAI Number: EIS 05.07-4 (RAI 5498)

Clarify the information provided in Attachments F and J to the letter dated November 1, 2010, regarding the CALPUFF and AERMOD model inputs, respectively. In reviewing the location of the receptors it was observed that 19 receptor locations were excluded from the inner 4-km x 4-km receptor domain. Most of the 19 receptor locations were in close proximity to the cooling towers. The specific receptors are:

UTM-Easting	UTM- Northing	UTM-Easting	UTM- Northing
566800	2811700	567200	2811600
566800	2811800	567200	2811700
566900	2811700	567200	2811800
566900	2811800	567300	2811600
567000	2811600	567300	2811700
567000	2811700	567300	2811800
567000	2811800	567400	2811600
567100	2811600	567400	2811700
567100	2811700	567400	2811800
567100	2811800		

Of particular interest are the missing receptors at locations: UTM_E – 566900.00 and UTM_N – 2811700.00 and UTM_E – 567000.00 and UTM_N – 2811600.00 as these are located within 100-m of the location with the highest modeled salt deposition, UTM_E – 566900.00, UTM_N – 2811600.00 which totaled 0.784 kg/m^2/yr (or a rate of 652 kg/ha/mo). Provide an explanation as to why these 19 receptor locations were excluded from the analysis.

FPL RESPONSE:

The coordinates listed above correspond to the area within the makeup reservoir for the six cooling towers, which are approximately 566800 through 567400 UTM_E and 2811550 through 2811800 UTM_N. Due to the fact that no receptors are located at these locations (e.g. ecological, electrical), these coordinates were excluded from the receptor grid domain. A 20th receptor (566900 UTM_E and 2811600 UTM_N) was included in the receptor grid, but was not analyzed, due to the close proximity to the towers.

This response is PLANT SPECIFIC.

References:

None

ASSOCIATED COLA REVISIONS:

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

ASSOCIATED ENCLOSURES:

None