

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT

TURKEY POINT UNITS 3 & 4

DOCKET NOS. 50-250, 251

DADE COUNTY, FLORIDA

1-1-83 TO 6-30-83

PREPARED AUGUST 1983

SUPPLEMENTED NOVEMBER 1983

8504110560 830630  
PDR ADOCK 05000250  
R PDR

IE25 1/1



TABLE 1

## ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DUCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
<b>1.1 AIR</b>													
1. Particulates	pCi/m <sup>3</sup>	Gross B	8	208	208	.016 (208/208)	.005-.030	T56: Princeton Substation (8 miles - NNW)	.016 (26/26)	.010-.024	.016 (26/26)	.010-.029	
2. Radiiodine	pCi/m <sup>3</sup>	<sup>131</sup> I	8	208	208	ND	NA	NA	NA	NA	ND	NA	
<b>1.2 DIRECT RADIATION</b>													
1. TLD	uRem/hr	Exposure Rate	11	131 <sup>3)</sup>	66	4.7 (66/66)	2.3-6.6	T64: Natoma Substation (22 miles - N)	5.9 (6/6)	5.1-6.6	5.9 (6/6)	5.1-6.6	
<b>1.3 PRECIPITATION</b>													
1. Rainwater	pCi/l	Gross B-DS	4	24	24	2.7 (9/24)	1.3-4.9	T52: Florida City Substation (7 miles - W)	4.9 (1/6)	NA	2.6 (2/6)	1.5-3.6	
	"	Gross B-UDS			24	4.0 (2/24)	2.0-5.9	T57: Dolan's Farm (4 miles - NW)	5.9 (1/6)	NA	2.0 (1/6)	NA	
	"	Tritium			24	270 (1/24)	NA	T72: Boy Scout Camp (Onsite - SW)	270 (1/6)	NA	ND	NA	
	"	γ emitting <sup>4)</sup> isotopes			24	ND	NA	NA	NA	NA	ND	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DOCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
<b>2.1 SURFACE WATERS</b>													
<b>1. Estuarine (Surface Water)</b>	pCi/l	Tritium	10	20	20	520 (1/20)	NA	T81: Card Sound (6 miles - S)	520 (1/2)	NA	NA	NA	
	"	<sup>89</sup> Sr			20	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			20	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			20	ND	NA	NA	NA	NA	NA	NA	
<b>2. Closed Cooling Canal (Surface Water)</b>	pCi/l	Tritium	2	12	12	5100 (12/12)	3900-7000	T84: Closed Cooling Canal (Onsite- SW)	5200 (6/6)	4000-7000	NA	NA	
	"	<sup>89</sup> Sr			12	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			12	1.3 (1/12)	NA	T84: Closed Cooling Canal (Onsite - SW)	1.3 (1/6)	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			12	ND	NA	NA	NA	NA	NA	NA	

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## ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM SUMMARY

NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DUCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
3. Fresh Water Drainage Canals (Surface Water)	pCi/l	Tritium	2	12	12	390 (5/12)	210-600	T75 - Florida City Canal (2 miles - WNW)	390 (5/6)	210-600	NA	NA	
	"	Gross B-DS			12	166.9 (11/12)	3.8-370	T75: Florida City Canal (2 miles - WNW)	300 (6/6)	200-370	NA	NA	
	"	Gross B-UDS			12	ND	NA	NA	NA	NA	NA	NA	
2.2 WELLS													
1. Potable Well Water (Drinking Water)	pCi/l	Tritium	3	6	6	ND	NA	NA	NA	NA	NA	NA	
	"	Gross B-DS			6	6.5 (6/6)	4.2-10.9	T57: Dolan's Farm (4 miles - NW)	8.8 (2/2)	6.6-10.9	NA	NA	
	"	Gross B-UDS			6	1.5 (1/6)	NA	T57: Dolan's Farm (4 miles - NW)	1.5 (1/2)	NA	NA	NA	
2. Ground Water Wells (Ground Water)	pCi/l	Tritium	6	12	12	480 (4/12)	220-890	T88-Groundwater Well E-14 (5 Miles - S)	890 (1/2)	NA	NA	NA	
	"	<sup>89</sup> Sr			12	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			12	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			12	ND	NA	NA	NA	NA	NA	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4BUCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>(2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
3.0. <u>BOTTOM SEDIMENTS</u>													
1. Closed Cooling Canal (Sediment)	pCi/kg	<sup>89</sup> Sr	2	4	4	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			4	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			4								
	"	1. <sup>60</sup> Co				338 (4/4)	226-480	T84-Closed Cooling Canal (Onsite - SW)	370 (2/2)	260-480	NA	NA	
	"	2. <sup>58</sup> Co				60 (1/4)	NA	T84: Closed Cooling Canal (Onsite - SW)	60 (1/2)	NA	NA	NA	
	"	3. <sup>144</sup> Ce				220 (1/4)	NA	T85: Closed Cooling Canal (Onsite - SW)	220 (1/2)	NA	NA	NA	
	"	4. <sup>137</sup> Cs				51 (1/4)	NA	T84: Closed Cooling Canal (Onsite - SW)	51 (1/2)	NA	NA	NA	
	"	5. Others				ND	NA	NA	NA	NA	NA	NA	
2. Estuarine (Sediment)	pCi/kg	<sup>89</sup> Sr	7	7	7	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			7	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			7	ND	NA	NA	NA	NA	NA	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DOCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
4.0 <u>AQUATIC BIOTA</u>													
1. Crustacea (Blue Crab)	pCi/kg	<sup>89</sup> Sr	6	6	6	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			6	42 (2/6)	NA	T94:Pumpkin Key (8 miles - SSE)	62 (1/1)	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			6	ND	NA	NA	NA	NA	NA	NA	
2. Fish, Carnivore (Mixed Species)	pCi/kg	<sup>89</sup> Sr	7	8	6	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			6	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			8								
	"	1. <sup>134</sup> Cs				77 (1/8)	NA	T84 - Closed Cooling Canal (Onsite - SW)	77 (1/2)	NA	NA	NA	
	"	2. <sup>137</sup> Cs				240 (2/8)	150- 320	T84:Closed Cooling Canal (Onsite - SW)	240 (2/2)	150- 320	NA	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DOCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
3. Fish, Herbivore (Mullet)	pCi/kg	<sup>89</sup> Sr	6	6	6	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			6	ND	NA	NA	NA	NA	NA	NA	
	"	Y emitting <sup>4)</sup> isotopes			6	ND	NA	NA	NA	NA	NA	NA	
4. Turtle Grass (Turtle Grass)	pCi/kg	<sup>89</sup> Sr	6	6	6	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			6	ND	NA	NA	NA	NA	NA	NA	
	"	Y emitting <sup>4)</sup> isotopes			6								
	"	1. <sup>137</sup> Cs				250 (1/6)	NA	T81: Card Sound (6 miles - S)	250 (1/1)	NA	NA	NA	
	"	2. Others				ND	NA	NA	NA	NA	NA	NA	
5. Sponges (Sponge)	pCi/kg	Y emitting <sup>4)</sup> isotopes	6	6	6	ND	NA	NA	NA	NA	NA	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DOCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDAREPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
5.0 <u>TERRESTRIAL</u>													
1. Small Animal (Raccoon)	pCi/kg	<sup>89</sup> Sr	1	1	1	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			1	ND	NA	NA	NA	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			1	ND	NA	NA	NA	NA	NA	NA	
2. Food Crops (Malanga, Potatoes)	pCi/kg	<sup>89</sup> Sr	3	3	3	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			3	21 (1/3)	NA	T52: Florida City Substation (7 miles-W)	21 (1/1)	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			3								
	"	1. <sup>137</sup> Cs				88 (1/3)	NA	T52: Florida City Substation (7 miles-W)	88 (1/1)	NA	NA	NA	
	"	2. Others				ND	NA	NA	NA	NA	NA	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4DUCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDA

REPORTING PERIOD

JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
3. Milk (Goat Milk)	pCi/l	<sup>89</sup> Sr	1	1	1	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>90</sup> Sr			1	1.4 (1/1)	NA	T99: Family Tree Farm (11 miles - NW)	1.4 (1/1)	NA	NA	NA	
	"	γ emitting <sup>4)</sup> isotopes			1	ND	NA	NA	NA	NA	NA	NA	
	"	1. <sup>131</sup> I			1	ND	NA	NA	NA	NA	NA	NA	
4. Vegetation (Mangrove leaves)	pCi/kg	2. Others	7	7	1	ND	NA	NA	NA	NA	NA	NA	
	"	<sup>89</sup> Sr			7	ND	NA	NA	NA	NA	ND	NA	
	"	<sup>90</sup> Sr			7	7.4 (1/7)	NA	T58: Entrance Road (Onsite - NW)	7.4 (1/1)	NA	ND	NA	
	"	γ emitting <sup>4)</sup> isotopes			7	ND	NA	NA	NA	NA	ND	NA	

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NAME OF FACILITY TURKEY POINT PLANT UNITS 3 & 4 DCKET NO. 50-250, 251LOCATION OF FACILITY DADE COUNTY FLORIDA REPORTING PERIOD JANUARY 1, 1983 - JUNE 30, 1983

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Medium or Pathway Sampled	Unit	Analysis for	Number of			All Indicator Locations		Location with Highest Mean			Control <sup>2)</sup> Location		No. of Nonroutine Reported Measurements
			Sites	Samples	Analyses	Mean <sup>1)</sup>	Range <sup>1)</sup>	Sample Location Distance & Direction	Mean <sup>1)</sup>	Range <sup>1)</sup>	Mean <sup>1)</sup>	Range <sup>1)</sup>	
5. Soil (Soil)	pCi/kg	<sup>89</sup> Sr	7	7	7	ND	NA	NA	NA	NA	ND	NA	
	"	<sup>90</sup> Sr			7	ND	NA	NA	NA	NA	ND	NA	
	"	γ emitting <sup>4)</sup> isotopes			7								
	"	1. <sup>144</sup> Ce				350 (2/7)	200- 500	T56: Princeton Substation (8 miles - NNW)	500 (1/1)	NA	ND	NA	
	"	2. <sup>137</sup> Cs				180 (5/7)	42- 260	T56: Princeton Substation (8 miles - NNW)	260 (1/1)	NA	ND	NA	
	"	3. Others				ND	NA	NA	NA	NA	ND	NA	

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## TABLE 1

## NOTES

- 1) Mean and Range values based upon data with detectable results only.  
( / ) Indicates the number of analyses with detectable results compared to the number of analyses performed.
- 2) Control location - T64, Florida Power & Light Company - Natoma Substation (22 Miles - N).
- 3) Missing Data

- a. Direct Radiation

The TLD results from location T64 (control location) on 2/9/83 are based upon the results from one dosimeter. An abnormally high result was obtained on one of the two dosimeters recovered from this location. No explanation could be found for the high reading. The results from the second dosimeter were normal and were used to represent the reading at this location for February 1983.

- 4) Excluding Potassium - 40 ( $^{40}\text{K}$ ), Radon - 226 ( $^{226}\text{Ra}$ ) and Thorium - 232 ( $^{232}\text{Th}$ ) which are naturally occurring radioisotopes commonly found in many environmental specimens.

\* Key to sample locations is provided in Turkey Point Units 3 & 4 Technical Specifications.





November 18, 1983  
L-83-563

Mr. James P. O'Reilly  
Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
101 Marietta Street, Suite 2900  
Atlanta, Georgia 30303

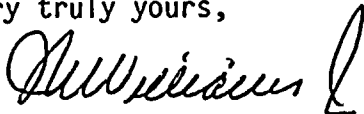
Dear Mr. O'Reilly:

Re: Turkey Point Units 3 & 4  
Docket Nos. 50-250 & 50-251  
Radiological Environmental  
Monitoring Report Supplement

The attached supplement to the Radiological Environmental Monitoring Report for Turkey Point Units 3 and 4, for the period January 1, 1983 to June 30, 1983, is submitted pursuant to Section 6.9 of the Turkey Point Plant Technical Specifications. This supplement incorporates results of analyses which were not available to be included in the original report. Revisions are indicated by a vertical bar drawn in the right margin.

These results do not alter any of the conclusions provided in our report to the Commission, L-83-464, dated August 29, 1983.

Very truly yours,



J. W. Williams, Jr.  
Vice President  
Nuclear Energy

JWW/JEM/mvt

Attachment

cc: Harold F. Reis, Esquire

*IE2511*

PEOPLE...SERVING PEOPLE

