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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251  
 AUTH. NAME AUTHOR AFFILIATION  
 UHRIG, R.E. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 BEEBE, M.R. Office of Management and Program Analysis

SUBJECT: Forwards marked-up draft effluent & waste disposal  
 semiannual rept for 1978. Suggested changes & comments appear  
 on draft.

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FLORIDA POWER & LIGHT COMPANY

October 23, 1980

L-80-352

Office of Management and Program Analysis  
Attention: Mr. M.R. Beebe  
Licensee Operations Evaluation Branch  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Beebe:

Re: Turkey Point Units 3 & 4  
Docket Nos. 50-250 & 50-251  
Summary of Effluents

We have reviewed the draft copy of the Turkey Point data enclosed with an October 8, 1980 letter from Mr. R.A. Hartfield, Chief, Licensee Operations Evaluation Branch. Our comments and suggested changes appear on the attached copy of the draft report.

Very truly yours,

Robert E. Uhrig  
Vice President  
Advanced Systems & Technology

REU/MAS/md

Attachment

cc: J.P. O'Reilly, Region II  
Harold F. Reis, Esquire

4007  
S. /  
ADD:  
M BEEBE C E

8011070319

R



INSTALLATION TURKEY POINT

LOCATION 10 MI E FLORIDA CITY

EFFLUENT AND WASTE DISPOSAL SEMI-ANNUAL REPORT FOR YEAR 1978  
SUPPLEMENTAL INFORMATION

UNIT NUMBER 3	LICENSEE FLORIDA POWER & LIGHT
TYPE PWR	LICENSED POWER (MWT) 2200.0
DOCKET NO. 50-250	INITIAL CRITICALITY 10/20/72
COOLING WATER SOURCE BISCAYNE BAY *	
UNIT NUMBER 4	LICENSEE FLORIDA POWER & LIGHT
TYPE PWR	LICENSED POWER (MWT) 2200.0
DOCKET NO. 50-251	INITIAL CRITICALITY 06/11/73
COOLING WATER SOURCE BISCAYNE BAY *	

MAXIMUM PERMISSIBLE CONCENTRATIONS (MICROCURI/ML) *NIR*

MEASUREMENTS AND APPROXIMATIONS OF TOTAL RADIOACTIVITY

FISSION AND ACTIVATION GASES  
GAMMA SPECTRUM ANALYSIS

IODINES  
ABSORPTION OF HALOGEN RADIONUCLIDES ON A CHARCOAL FILTER AND SUBSEQUENT GAMMA-SPECTRUM ANALYSIS.

PARTICULATES  
REMOVAL OF PARTICULATE MATERIAL BY FILTRATION AND SUBSEQUENT GAMMA-SPECTRUM ANALYSIS.  
SR-89-90 DETERMINATION, GROSS ALPHA ANALYSIS AND GROSS BETA-GAMMA ANALYSIS.

LIQUID EFFLUENTS  
ALIQUOTS OF REPRESENTATIVE PRE-RELEASE SAMPLES WERE EITHER ISOTOPICALLY ANALYZED FOR GAMMA-EMITTING ISOTOPES ON A MULTICHANNEL ANALYZER OR EVAPORATED AND ANALYZED FOR GROSS BETA-GAMMA ACTIVITY IN A 2 PI GAS FLOW PROPORTIONAL COUNTER. THE EFFICIENCY OF THE GAS FLOW PROPORTIONAL COUNTER IS ADJUSTED SO THAT THE ACTIVITY DETERMINED BY GROSS BETA-GAMMA ANALYSIS APPROXIMATES THE ISOTOPIC ACTIVITIES DETERMINED BY GAMMA SPECTRUM ANALYSIS AND SELECTED BETA DETERMINATIONS, EXCLUSIVE OF TRITIUM AND DISSOLVED GASES.  
THE ABOVE PROCEDURE WAS FOLLOWED FOR ALL RELEASES FROM THE WASTE DISPOSAL SYSTEM AND FOR SECONDARY SYSTEM PATCH RELEASES. FREQUENT PERIODIC SAMPLING AND ANALYSIS WERE USED TO CONSERVATIVELY ESTIMATE THE QUANTITY OF RADIOACTIVITY RELEASED VIA THE STEAM GENERATOR BLOWDOWN SYSTEM.

\*FPL COMMENT: THE COOLING WATER SOURCE IS NOT BISCAYNE BAY.  
IT IS A CLOSED COOLING CANAL SYSTEM.

N/A=NOT APPLICABLE  
N/D=NOT DETECTED  
N/R=NOT REPORTED

INSTALLATION TURKEY POINT

LOCATION 10 MI E FLORIDA CITY

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT FOR YEAR 1978  
SUPPLEMENTAL INFORMATION

## AVERAGE ENERGY (MEV/DISINTEGRATION)

	BETA		GAMMA	
	QUARTER	QUARTER	QUARTER	QUARTER
	1	2	1	2
	N/R	N/R	N/R	N/R
HATCH RELEASES				
A. LIQUID			QUARTER	QUARTER
			1	2

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASE (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
6. AVERAGE STREAM FLOW DURING PERIODS OF RELEASE OF EFFLUENT INTO A FLOWING STREAM (LTS/MIN)-

N/R

## B. GASEOUS

1. NUMBER OF HATCH RELEASES-
2. TOTAL TIME PERIOD FOR HATCH RELEASES (MIN)-
3. MAXIMUM TIME PERIOD FOR A HATCH RELEASE (MIN)-
4. AVERAGE TIME PERIOD FOR HATCH RELEASES (MIN)-
5. MINIMUM PERIOD FOR A HATCH RELEASE (MIN)-

N/R

## ABNORMAL RELEASES

## A. LIQUID

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

N/R

## B. GASEOUS

1. NUMBER OF RELEASES
2. TOTAL ACTIVITY RELEASED (CURIES)

N/R

FPL COMMENT: LIQUID AND GASEOUS RELEASE DATA FOR 1978 WAS REPORTED SEMIANNUALLY IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS. THE FORMAT HOWEVER, WAS NOT THE SAME AS SHOWN ABOVE. THE "N/R" (NOT REPORTED) NOTATIONS SHOULD BE REPLACED WITH DATA EXTRACTED FROM THE FPL REPORTS.

N/A=NOT APPLICABLE  
N/D=NOT DETECTED  
N/R=NOT REPORTED

ALSO, THERE IS NO INFORMATION FOR QUARTERS 3 & 4 IN THIS REPORT.



INSTALLATION=TURKEY POINT

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 197A

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
<b>A. FISSION AND ACTIVATION GASES</b>				
1. TOTAL RELEASE	CI	4.33E 03	5.82E 03	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	5.53E 02	7.37E 02	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%	4.60E 00	6.20E 00	
<b>B. IODINES</b>				
1. TOTAL IODINE-131	CI	2.68E-01	7.52E-02	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	3.47E-02	9.59E-03	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%			
<b>C. PARTICULATES</b>				
1. PARTICULATES WITH HALF-LIVES > 8 DAYS	CI	4.99E-02	1.05E-03	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	6.63E-03	1.34E-04	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%			
4. GROSS ALPHA RADIOACTIVITY	CI	3.18E-07	8.20E-09	
<b>D. TRITIUM</b>				
1. TOTAL RELEASE	CI	2.15E 00	5.60E-01	
2. AVERAGE RELEASE RATE FOR PERIOD	UCI/SEC	2.89E-01	7.10E-02	
3. PERCENT OF TECHNICAL SPECIFICATION LIMIT	%			

FPL COMMENT: NO INFORMATION FOR  
QUARTERS 3 & 4.

N/A=NOT APPLICABLE  
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INSTALLATION=TURKEY POINT

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

GAS EFFLUENTS ELEVATED RELEASE

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER 1	QUARTER 2	QUARTER, 1	QUARTER 2
FISSION GASES					
AR-41	CI	9.66E 00	<del>1.09E-01</del>	2.31E-01	
KR-85	CI	1.61E 00	5.73E-01		
KR-85M	CI	4.83E 00	9.80E-01		
KR-87	CI	5.04E 00	<3.00E-06*		
KR-88	CI	5.86E 00	5.97E-01		
XE-131M	CI	6.18E 00	2.66E 00		
XE-133	CI	4.23E 03	5.76E 03		
XE-133M	CI	6.62E 00	8.33E 00		
XE-135	CI	3.28E 01	2.07E 01		
XE-135M	CI	9.46E 00	1.74E-01		
XE-138	CI	5.66E 00	<1.10E-05*		
IODINES					
IR-82	CI	9.60E-04	1.30E-03		
I-131	CI	<del>1.09E-00</del>	7.52E-02	2.68E-01	
I-133	CI	7.50E-02	2.35E-02		
I-135	CI	2.05E-02	7.60E-03		
PARTICULATES					
AG-110M	CI	1.50E-04	<9.10E-03*	<9.1E-14	
BA-140	CI	3.60E-05	3.20E-05		
CE-141	CI	6.20E-05	<4.80E-14*		
CE-144	CI	3.50E-05	<2.10E-13*		
CO-57	CI	8.11E-05	<3.00E-14*		
CO-58	CI	3.28E-02	5.44E-04		
CO-60	CI	9.10E-03	2.48E-04		
CR-51	CI	4.12E-03	<4.80E-03*	<4.8E-13	
CS-134	CI	5.60E-05	4.92E-02	4.92E-05	
CS-136	CI	1.79E-05	<6.10E-14*		
CS-137	CI	1.10E-04	9.37E-05		
FE-59	CI	3.40E-04	<5.60E-14*	<1.5E-13	
I-131	CI	1.53E-04	2.75E-05		
LA-140	CI	2.00E-05	2.99E-08*	2.99E-05	
MN-54	CI	9.16E-04	1.57E-05		
NB-95	CI	7.70E-04	<8.30E-14*		
RU-103	CI	1.50E-04	<7.10E-14*		
SB-124	CI	4.20E-04	<8.90E-14*		
SB-125	CI	1.30E-04	<1.90E-13*		
SR-89	CI	2.47E-05	4.87E-06		
SH-90	CI	1.13E-06	<1.40E-09*	1.4E-07	
ZR-95	CI	3.71E-04	<1.20E-13*		

FPL COMMENT: NO INFORMATION

FOR QUARTERS 3&4

\* represents maximum sensitivity in uCi/cc.  
 N/A=NOT APPLICABLE  
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INSTALLATION=TURKEY POINT

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

LIQUID EFFLUENTS

NUCLIDES RELEASED	UNIT	CONTINUOUS MODE		BATCH MODE	
		QUARTER	QUARTER	QUARTER	QUARTER
		1	2	1	2
AG-110M	CI	1.69E-03	5.46E-04		
BA-140	CI	7.95E-04	<del>4.10E-09</del>	4.1E-07	
CO-58	CI	4.00E-02	7.97E-03		
CO-60	CI	2.40E-02	<del>1.83E-02</del>	1.67E-02	
CR-51	CI	4.40E-03	1.03E-03		
CS-134	CI	5.36E-02	1.77E-04		
CS-136	CI	3.13E-03			
CS-137	CI	9.78E-02	1.09E-03		
CS-138	CI	1.36E-01			
FE-59	CI	2.78E-04			
F-18	CI	4.64E-01			
I-131	CI	5.95E-01	1.07E-02		
I-132	CI	<del>1.87E-01</del>		1.89E-01	
I-133	CI	5.82E-01			
I-134	CI	7.69E-02			
I-135	CI	2.85E-01			
LA-140	CI	<2.10E-08*	<1.60E-08*		
HN-54	CI	4.96E-03	8.32E-04		
NA-24	CI	1.37E-01			
NB-95	CI	1.31E-03	4.40E-04		
RU-103	CI	7.10E-05			
SB-124	CI	5.30E-03	1.21E-03		
SB-125	CI	5.35E-03	<del>2.54E-03</del>	2.31E-03	
SR-89	CI	6.25E-03	1.80E-04		
SR-90	CI	<3.10E-09*	<del>2.50E-03</del>	2.50E-05	
UNIDENTIFIED	CI	5.93E-02	4.31E-02		
ZR-95	CI	9.80E-04			

FPL COMMENT: No INFORMATION FOR  
QUARTERS 3 & 4.

\* represents maximum sensitivity in uCi/cc

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## INSTALLATION=TURKEY POINT

## EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978

## LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

	UNIT	QUARTER 1	QUARTER 2	EST. TOTAL ERROR, %
<b>A. FISSION AND ACTIVATION PRODUCTS</b>				
1. TOTAL RELEASE (NOT INCLUDING TRITIUM, GASES, ALPHA)	CI	2.78E 00	8.63E-02	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/HL	6.30E-09	6.80E-10	
3. PERCENT OF APPLICABLE LIMIT	%	5.55E 01	1.73E 00	
<b>B. TRITIUM</b>				
1. TOTAL RELEASE	CI	1.92E 02	3.62E 02	
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/HL	8.80E-07	2.97E-06	
3. PERCENT OF APPLICABLE LIMIT	%			
<b>C. DISSOLVED AND ENTRAINED GASES</b>				
1. TOTAL RELEASE	CI	<del>5.03E-01</del>	<del>7.03E-00</del>	5.03E-02    7.03E-01
2. AVERAGE DILUTED CONCENTRATION DURING PERIOD	UCI/HL	.140E-10	5.50E-09	
3. PERCENT OF APPLICABLE LIMIT	%			
<b>D. GROSS ALPHA RADIOACTIVITY</b>				
1. TOTAL RELEASE	CI	<del>1.49E-01</del>	<del>2.20E-08</del> *	1.49E-05
<b>E. VOLUME OF WASTE RELEASED (PRIOR TO DILUTION)</b>				
	LITERS	2.14E 07	5.36E 06	
<b>F. VOLUME OF DILUTION WATER USED DURING PERIOD</b>				
	LITERS	<del>2.88E-10</del>	1.28E 11	3.38E 11

FPL COMMENT: NO INFORMATION FOR  
QUARTERS 3 & 4.

\* represents maximum sensitivity in uci/cc

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INSTALLATION: TURKEY POINT

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT 1978  
(JANUARY-JUNE)

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS - N/R

A. SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL (NOT IRRADIATED FUEL)			
1. TYPE OF WASTE	UNIT	6-MONTH PERIOD	EST. TOTAL ERROR, %
A. SPENT RESINS, FILTER SLUDGES, EVAPORATOR	M3		
BOTTOMS, ETC.	CI		
R. DRY COMPRESSIBLE WASTE, CONTAMINATED	M3		
EQUIPMENT, ETC.	CI		
C. IRRADIATED COMPONENTS, CONTROL	M3		
RODS, ETC.	CI		
D. OTHER (DESCRIBE)	M3		
	CI		

FPL COMMENT: SOLID WASTE DATA FOR 1978 WAS REPORTED SEMIANNUALLY IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS.

ALSO, THERE IS NO INFORMATION FOR THE JULY-DECEMBER PERIOD.

N/A=NOT APPLICABLE  
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