



P.O. Box 078768, West Palm Beach, FL 33407-0768
5500 Village Blvd.

FEDERAL EXPRESS

Rec'd 5/3/91
ew

May 2, 1991

Ms. Cindy Phillips
State of Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: **Sanford Plant, Unit No. 4**
Orimulsion Test Burn
Weekly Compliance Reports - April 22-28, 1991

Dear Ms. Phillips:

As required by the specific conditions of the Department's permit and Order authorizing the Orimulsion Test Burn, enclosed please find the compliance reports for the week of April 22-28, 1991 as follows:

<u>Required in Specific Condition No.</u>	<u>Report Title</u>
8h & 8i (Order Condition No. 15)	Burn Schedule/Fuel Usage/Full Power Burn Days
8j (Order Condition No. 15)	Daily Opacity Logs
8j (Order Condition No. 15)	Summary - Opacity CEM 6-min. Averages
(Order Condition No. 18)	Opacity Research Status Report

Sanford Plant, Unit No. 4
Orimulsion Test Burn
Weekly Compliance Reports
Page 2

For your convenience, we have compiled all the above reports into one booklet. This format will be repeated for each reporting cycle throughout the Orimulsion Test Burn.

If you have any questions, please call me at (407) 697-6926.

Sincerely,

A handwritten signature in cursive script that reads "Elsa A. Bishop".

Elsa A. Bishop
Senior Environmental Coordinator
Florida Power & Light Company

EAB:jm

Enclosure

cc: Mr. A. Alexander - DER/Orlando (w/o encl.)



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FEDERAL EXPRESS

May 2, 1991

Mr. A. Alexander, Deputy Assistant Secretary
State of Florida Department of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32802

RE: Sanford Plant, Unit No. 4
Orimulsion Test Burn
Weekly Compliance Reports - April 22-28, 1991

Dear Mr. Alexander:

As required by the specific conditions of the Department's permit and Order authorizing the Orimulsion Test Burn, enclosed please find the compliance reports for the week of April 22-28, 1991 as follows:

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If you have any questions, please call me at (407) 697-6926.

Sincerely,

A handwritten signature in cursive script that reads "Elsa A. Bishop". The signature is written in black ink and is positioned above the typed name and title.

Elsa A. Bishop
Senior Environmental Coordinator
Florida Power & Light Company

EAB:jm

Enclosure

cc: Cindy Phillips - DER/Tall (w/o encl.)

Temporary 80% thru 5/31/91

Sanford PLANT
DAILY OPACITY EMISSIONS REPORT
 Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. **JUEAP** DATE **APR 23 1991**
 4 (80% Orimulsion)

Time	SIX MINUTE INTERVALS										Six Minute Intervals > 80%	
	1	2	3	4	5	6	7	8	9	10	This Hour	Last 24 Hours
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4						0281					4	1
5		8402					9202		8202	8902	5	4
6	9002	8802	9202		9802	8202	9302		9402	9202	6	8
7	9602	10002	100+02	9802	8902	9602	100+02	9502	9802	9702	7	10
8	9302		8302				8102				8	3
9	9302	8202		8002							9	3
10											10	
11						8302	8002				11	2
12N											12N	
1P									8402		1P	1
2	8502		9302	0289	0282						2	4
3											3	
4											4	
5											5	
6							0286				6	1
7											7	
8											8	
9											9	
10										0282	10	1
11	8402	8302	8302				0281	9402		9702	11	6

A MALFUNCTION
 MALFUNCTION
 * 1 Monitor Out of Service
 * 2 Burner Problem
 * 3 Control Problem
 * 4 Other

B START-UP/SHUT-DOWN
 1 Start-Up
 2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING
 *1 Rapid Load Change
 *2 Soot-blowing
 *3 Liming Boiler
 *4 Cleaning Air Pre-heater
 A rapid load change is defined as a change that occurs at the rate of 0.5% per minute or more and exceeds 10% of the units rated capacity and occurs when the unit is operating at greater than 10% of rated

INSTRUCTIONS
 Fill in the opacity and reason code or codes in the appropriate box whenever the opacity exceeds 20% for any 6 minute period on the recorder. Example: 50A3 indicates an opacity reading of 50% attributed to control problems.
 Use the comment column where additional explanation is appropriate.

Document lab will provide reason codes

Temporary 80% thru 5/31/91

Sanford PLANT
DAILY OPACITY EMISSIONS REPORT
 Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. _____ DATE **MON APR 22 1991**
 4 (80% Orimulsin)

SIX MINUTE INTERVALS											Six Minute Intervals > 80%		
Time	1	2	3	4	5	6	7	8	9	10	This Hour	Last 24 Hours	
12MN			c281	c283	c294	c295	c295	c288	c298	c287	12MN	8	8
1AM	c291	c285	c286								1AM	3	11
2											2		
3	86c2	c287	c287	85c2	88c2	c284	c282	82c2	88c2	c281	3	10	21
4					80c2						4	1	22
5											5		
6										c282	6	1	23
7				80.5c2	81c2						7	2	25
8				84c2		85c2					8	2	27
9		80.5c2									9	1	28
10								86c2			10	1	29
11											11		
12N										82c2	12N	1	30
1P	97c2	93c2		82c2							1P	3	33
2											2		
3											3		
4											4		
5											5		
6											6		
7											7		
8								80c2		80c2	8	2	35
9											9		
10											10		
11											11		

A MALFUNCTION
 MALFUNCTION
 * 1 Monitor Out of Service
 * 2 Burner Problem
 * 3 Control Problem
 * 4 Other

B START-UP/SHUT-DOWN
 1 Start-Up
 2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING
 *1 Rapid Load Change
 2 Soot-blowing
 3 Liming Boiler
 4 Cleaning Air Pre-heater
 A rapid load change is defined as a change that occurs at the rate of 0.5% per minute or more and exceeds 10% of the units rated capacity and occurs when the unit is operating at greater than 10% of rated capacity, excluding startup and shutdown.

INSTRUCTIONS
 Fill in the opacity and reason code or codes in the appropriate box whenever the opacity exceeds 20% for any 6 minute period on the recorder. Example: 50A3 indicates an opacity reading of 50% attributed to control problems.
 Use the comment column where additional explanation is appropriate.

Document chart lab will provide reason codes

**CONTINUOUS EMISSIONS MONITORING REPORT
FLORIDA POWER AND LIGHT
SANFORD PLANT
UNIT FOUR
OPACITY MONITOR
ORIMULSION TEST BURN PROJECT
APRIL 22-28, 1991**

**DATA COMPILED BY
SPECTRUM SYSTEMS INC.
PENSACOLA, FL**

SECTION 1
SIX MINUTE OPACITY AVERAGES

The following data was compiled from a copy of the original strip chart recordings provided to Spectrum Systems Inc. by Florida Power and Light for unit four at the Sanford Plant. Hourly averages were obtained by taking the sum of the valid six minute averages and dividing by the number of valid averages. This gives a real average based on known good minutes. The squares on the data table that are blacked in are the six minute averages that were deemed invalid due to calibrations happening, or any reason causing the integrated output from the opacity monitor to go to zero while the unit is on-line.

Opacity Monitors Six Minute Averages, April 22, 1991.

SIX MINUTE PERIOD	:00--:06	:06--:12	:12--:18	:18--:24	:24--:30	:30--:36	:36--:42	:42--:48	:48--:54	:54--:60	
HOUR OF DAY											HOUR AVERAGE
12: A.M.	70	76	81	83	94	95	95	88	98	87	86.70
1: A.M.	91	88	86	76	79	78	74	75	75	74	79.60
2: A.M.	74	75	75	76	76	77	74			74	75.13
3: A.M.	86	87	87	88	88	84	82	82	88	81	85.30
4: A.M.	78	74			80	74	74	74	74	74	75.25
5: A.M.	74	74	74	74	74	74	74	74	74	74	74.00
6: A.M.	74	74	74	74	74	74	73	76	78	82	75.30
7: A.M.	76	79	79	80	81	78	80	79	78	79	78.90
8: A.M.	71	68	68	84	73	85	74	70	70	73	73.60
9: A.M.	72	80	73	66	66	70	72	70	69	72	71.00
10: A.M.	74	67	76	69	65	76	75	86	78	72	73.80
11: A.M.	68	68	73	71	71	69	65	66	70	76	69.70
12: NOON	70	67			75	70	78	68	64	62	69.25
1: P.M.	97	93	74	82	78	78	72	65	65	65	76.90
2: P.M.	65	64	64	64	64	64	64	64	64	64	64.10
3: P.M.	64	64	63	63	63	63	63	63	63	63	63.20
4: P.M.	63	63	63	62	62	63	64	62	62	62	62.60
5: P.M.	62	62	62	62	62	62	62	62	62	63	62.10
6: P.M.	62	61	61	61	61	62	61	61	61	61	61.20
7: P.M.	61	61	68	74	64	65	76	64	66	66	66.50
8: P.M.	70				64	66	69	80	76	80	72.14
9: P.M.	70	77	78	67	71	69	75	67	67	69	71.00
10: P.M.	71	72	72	72	72	72	72	72	72	72	71.90
11: P.M.	72	72	72	73	74	74	74	74	74	74	73.30

Blackened squares indicate invalid or no data obtained for that time period.

Opacity Monitors Six Minute Averages, April 23, 1991.

SIX MINUTE PERIOD	:00-:06	:06-:12	:12-:18	:18-:24	:24-:30	:30-:36	:36-:42	:42-:48	:48-:54	:54-:60	
HOUR OF DAY											HOUR AVERAGE
12: A.M.	71	69	70	71	71	72	74	71	70	70	70.90
1: A.M.	69	69	69	69	69			70	69	69	69.13
2: A.M.	69	69	70	70	70	69	69	70	69	72	69.70
3: A.M.	72	72	73	72	70	70	71	71	71	72	71.40
4: A.M.	72	72			77	81	76	77	76	78	76.13
5: A.M.	78	84	74	72	73	73	92	79	82	89	79.60
6: A.M.	90	88	92	79	98	82	93	76	94	92	88.40
7: A.M.	96	100	100	98	89	96	100	95	98	97	96.90
8: A.M.	93	78	82	79	79	79	81	78	77	76	80.20
9: A.M.	93	82	76	80	76	78	74	70	71	70	77.00
10: A.M.	73	71	73	72	69	66	68	70	78	73	71.30
11: A.M.	72	75	78	76	76	83	80	78	75	68	76.10
12: NOON	72	70			70	70	72	75	67	66	70.25
1: P.M.	64	64	64	64	65	70	73	68	84	72	68.80
2: P.M.	85	79	93	89	82			74	78	72	81.50
3: P.M.	73	69	64	64	70	72	72	69	64	64	68.10
4: P.M.	74	74	74	74	79	76	73	73	74	69	74.00
5: P.M.	66	64	68	69	70	70	73	72	68	64	68.40
6: P.M.	63	63	72	75	72	64	64	86	74	78	71.10
7: P.M.	70	70	70	69	70	72	71	70	66	62	69.00
8: P.M.	64	68			67	68	71	74	72	72	69.50
9: P.M.	78	70	72	68	72	70	66	64	65	66	69.10
10: P.M.	70	74	76	74	75	75	76	72	77	82	75.10
11: P.M.	84	83	83	77	78	79	81	94	63	97	81.90

Blackened squares indicate invalid or no data obtained for that time period.



Inter-Office Correspondence


To: M.A. Smith JEN/EDO Date: 5/1/91
From: M.P. Halpin Department: PSN/PLT
Subject: **ORIMULSION AIR PERMIT**

This is the ninth of a series of reports detailing our efforts to minimize opacity while combusting orimulsion on Sanford Plant Unit No. 4.

As previously reported, we have focused on three areas for opacity minimization:

- 1) Optimizing the burner adjustments
- 2) Optimizing the air/fuel ratio versus unit loading
- 3) Minimizing the magnesium/vanadium ratio component of the fuel itself

As a result of these efforts, we believe we now may be able to operate with opacities at or near 60% when unit loading is at or near full output. Since we have been operating on #6 fuel oil since last week, we have not had an opportunity to measure our success, but expect to be in a position within the next several days to do so and should therefore be able to report on this as early as next week.



M.P. Halpin
Ops. Supt.

MPH/t