

FEDERAL EXPRESS

200'd =13/91

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:

Required in Specific Condition No.	Report Title
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,

Elsa A. Bishop

Senior Environmental Coordinator Florida Power & Light Company

EAB:jm

Enclosure

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



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

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Enclosure

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FPL SANFORD PLANT WEEKLY ORIMULSION SUMMARY

WEEK ENDING 04/28/91 ORIMULSION 4.546

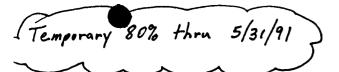
HEAT VALUE

#6 OIL 6341

HEAT VALUE

DAY	DATE	ORIMULSION	FULL POWER	#6 OIL
		BBLS BURNED	BURN DAYS	BBLS BURNED
MONDAY	04/22/91	17695	0.8	0
TUESDAY	04/23/91	16423	0.8	0
WEDNESDAY	04/24/91	204	0.0	9400
THURSDAY	04/25/91	0	0.0	10250
FRIDAY	04/26/91	0	0.0	4937
SATURDAY	04/27/91	0	0.0	6396
SUNDAY	04/28/91	0	0.0	7893
TOTALS	•	34322	1.6	38876

Unit operated on 100% oil to accomodate system electrical demand requirements



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

UNIT NO. JUEAPRES 1991 4 (80% Orimulsion)

				Six Minute Intervals > 80%									
Time	1	2	3	4	5	6	7	8	9	10			Last 24 Hours
12MN											12MN		
1AM											1AM		
2					 -						2		
3											3		
4						6281 ·					4		1
5		8402					92c2		82CT	89 Cz	5	4	5
6	90 cm	88cr	9200	•	98c2	8202	9302		9402	97.02	6	\Diamond	/3
7	9602	1000	100 tr	9802	8902	96c2	100+02	9502	98 CZ	9702	7	10	23
8	930		83 v				8100				8	3	20
9	930	8202		8012			•				9	M	29
10								12.			10.		
11'						83c2	8000				11	Z	31
12N									·		12N		
1P						-			8462		1P	1	32
2	850		9302	6289	C232						2	4	36
3									-		3		
4											4		
5 *											5		
6							GZ 86				6	/	37
7											7		
8											8		
9			-								9		
10								·		0-282	10	1	38
11	8.4/02	€>0×	83c2				cr81	9402		9742	11	6	44

MALFUNCTION

1 Monitor Out of Service

A MALFUNCTION

- 2 Burner Problem
- 3 Control Problem

4 Other

1 Start-Up 2 Shut-Down

t lab will provide reasons co

START-UP/SHUT-DOWN

C LOAD CHANGE/SOOT-BLOWING

- Rapid Load Change
- Soot-blowing
- Liming Boiler 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

Temporary 80% thru 5/31/91

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

UNIT NO. MON APR 2 2 1991 4 (80% Orimulsian)

SIX MINUTE INTERVALS												Six Minute Intervals > 80%			
Time	1	2	3	4	5	6	7	8	9	10		This Hour	Last 24 Hours 8		
12MN			c281	c 283	C294	C295	C295	c288	c298	c287	12MN	8	8		
1AM	0291	0238	e286		_						1AM	7	11		
2											2	·			
3	Sber	c287	6287	85cz	Su	C284	c282	82cz	880	281	3	10	21		
4					80 62						4		22		
5		<u> </u>									5				
6										CX8 2	. 6		23		
7				80.5 02	8102						7	2	25		
8				84c2		85 cz					8	2	2.7		
9		80,5cz					•				9	<u> </u>	28:		
10				<u></u>	<u></u>			86 CZ			10		29		
11							<u> </u>				11	·			
12N						ļ		<u> </u>		8202	12N		3.0		
1P	91cz	93 cz		82c2							1P	3	33.		
2											2				
3											3	•			
4											4				
5 -				ļ							5				
6			ļ								6				
7											7				
8								80c2	<u> </u>	80 c	- 8	Ŋ	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

- *1 Rapid Load Change Soot-blowing
- Liming Boiler 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.

C LOAD CHANGE/SOOT-BLOWING

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.

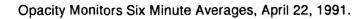
Document chart lab will provide reason codes

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

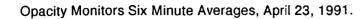
DATA COMPILED BY SPECTRUM SYSTEMS INC. PENSACOLA, FL

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.



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						<u></u>					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



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	1 1 8	100	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

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:

Optimizing the burner adjustments

Optomizing the air/fuel ratio versus unit loading

3) Mimimizing 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