



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

FEDERAL EXPRESS

March 27, 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 - March 18-24, 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 March 18-24, 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

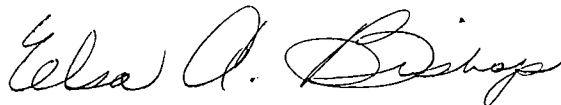
Sanford Plant, Unit No. 4
Orimulsion Test Burn
Weekly Compliance Reports
Page 2

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.

Please note that as you were previously informed, Sanford Unit 4 was taken off line on March 13, 1991 and returned to service on March 23, 1991.

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.)



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

FEDERAL EXPRESS

March 27, 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 - March 18-24, 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 March 18-24, 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
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(Order Condition No. 18)	Opacity Research Status Report

Sanford Plant, Unit No. 4
Orimulsion Test Burn
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Sincerely,



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

EAB:jm

Enclosure

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

FPL SANFORD PLANT
WEEKLY ORIMULSION SUMMARY

WEEK ENDING 03/24/91

ORIMULSION
HEAT VALUE 4.461 MMBTU/BBL

#6 OIL
HEAT VALUE 6.322 MMBTU/BBL

DAY	DATE	ORIMULSION BURNED BBLs	FULL POWER BURN DAYS	#6 OIL BURNED BBLs
MONDAY	03/18/91	0	0.0000	0
TUESDAY	03/19/91	0	0.0000	0
WEDNESDAY	03/20/91	0	0.0000	0
THURSDAY	03/21/91	0	0.0000	0
FRIDAY	03/22/91	0	0.0000	0
SATURDAY	03/23/91	262	0.0122	0
SUNDAY	03/24/91	10299	0.4788	0
TOTALS		10561	0.4910	0

TEMPORARY 80% thru May 31, 1991

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

UNIT NO. 4 (DEMISSION) DATE MAR 18 1991

Time	SIX MINUTE INTERVALS > 80%										SIX MINUTE INTERVALS > 80%	
	1	2	3	4	5	6	7	8	9	10	THIS HOUR	LAST 24 HRS
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P											1P	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	

<p>A MALFUNCTION</p> <p>MALFUNCTION</p> <ul style="list-style-type: none"> * 1 Monitor Out of Service * 2 Burner Problem * 3 Control Problem * 4 Other 	<p>B START-UP/SHUT-DOWN</p> <ul style="list-style-type: none"> 1 Start-Up 2 Shut-Down 	<p>C LOAD CHANGE/SOOT-BLOWING</p> <ul style="list-style-type: none"> *1 Rapid Load Change 2 Soot-blowing 3 Liming Boiler 4 Cleaning Air Pre-heater <p>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.</p>	<p>INSTRUCTIONS</p> <p>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.</p> <p>Use the comment column where additional explanation is appropriate.</p>
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*Need cause + corrective action

TEMPORARY 80% thru 5-31-91

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

UNIT NO. 4	DATE TUE MAR 19 1991
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Time	SIX MINUTE INTERVALS										SIX MINUTE INTERVALS > 80%	
	1	2	3	4	5	6	7	8	9	10	THIS HOUR	LAST 24 HRS
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P											1P	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	

<p>A MALFUNCTION</p> <p>MALFUNCTION</p> <ul style="list-style-type: none"> • 1 Monitor Out of Service • 2 Burner Problem • 3 Control Problem • 4 Other 	<p>B START-UP/SHUT-DOWN</p> <ul style="list-style-type: none"> 1 Start-Up 2 Shut-Down 	<p>C LOAD CHANGE/SOOT-BLOWING</p> <ul style="list-style-type: none"> *1 Rapid Load Change 2 Soot-blowing 3 Liming Boiler 4 Cleaning Air Pre-heater <p>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.</p>	<p>INSTRUCTIONS</p> <p>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.</p> <p>Use the comment column where additional explanation is appropriate.</p>
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*Need cause + corrective action

Temporarily 80% thru 5/31/91

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

UNIT NO. WED MAR 20 1991
 4 (80% Orimulsion)

SIX MINUTE INTERVALS											Six Minute Intervals > 80%	
Time	1	2	3	4	5	6	7	8	9	10	This Hour	Last 24 Hours
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P											1P	
2								15			2	1
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
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

Temporary 80% thru 5/31/91

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

UNIT NO. **THUM** RATE **AR 21 1991**
4 (80% Orimulsion)

SIX MINUTE INTERVALS											Six Minute Intervals > 80%	
Time	1	2	3	4	5	6	7	8	9	10	This Hour	Last 24 Hours
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P											1P	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
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

Temperature 80% thru 5/31/91

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

FRI MAR 22 1991
 UNIT NO. DATE
 FRI MAR 22 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											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P											1P	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
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

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Document chart 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. 5A3 DATE MAR 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											4		
5											5		
6											6		
7											7		
8											8		
9											9		
10											10		
11											11		
12N											12N		
1P											1P		
2											2		
3											3		
4											4		
5											5		
6											6		
7											7		
8											8		
9											9		
10		B-198	B-198	B-198	B-198			B-198	B-198	B-198	10	11 7	7
11	B-198	B-198	B-198	B-198	B-198	93B1	89B1	B-184	80B1		11	11 9	16

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
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 Use the comment column where additional explanation is appropriate.

Document chart, 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. **SUN** MAR 24 1991
 4 (80% Opacity)

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											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
11											11	
12N											12N	
1P				0.284	92	81	0.2	89	0.2		1P	4
2									85	0.2	2	1
3		82	0.2								3	1
4											4	
5											5	
6											6	
7											7	
8											8	
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
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 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
MARCH 18-24, 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 Monitor Six Minute Averages, March 18, 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 AVERAGE
12: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
1: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
2: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
3: A.M.	1	1	1		1	1	1	1	1	1	1.00
4: A.M.	1	1	1	1	1	1	1.5	1.5	1.5	1.5	1.20
5: A.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
6: A.M.	1.5	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.50
7: A.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
8: A.M.	1.5	2	2	2	2	2	2	2.5	2.5	2.5	2.10
9: A.M.	2.5	2	2	2	2	2	2	2	2	2	2.05
10: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
11: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
12: NOON	2	2	2	2	2	2	2	2	2	2	2.00
1: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
2: P.M.	2	2	2	2		2	2	2	2	2	2.00
3: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
4: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
5: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
6: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
7: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
8: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
9: P.M.	2	2	2	2		2	2	2	2	2	2.00
10: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
11: P.M.	1	1	1	1	1	1	1	1	1	1	1.00

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

Opacity Monitor Six Minute Averages, March 19, 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 AVERAGE
12: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
1: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
2: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
3: A.M.	1	1	1	1	1	1		1	1	1	1.00
4: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
5: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
6: A.M.	1	1	1	1		1	1	1	1	1	1.00
7: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
8: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
9: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
10: A.M.	1	1	1	1	1	1	1.4	1.5	1.5	1.5	1.19
11: A.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
12: NOON	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
1: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
2: P.M.	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.50
3: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
4: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
5: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
6: P.M.	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1	1	1.36
7: P.M.	1	1	1	1	1	1	1	1	1	1	1.00
8: P.M.	1	1	1	1	1	1	1	1	1	1	1.00
9: P.M.	1	1	1	1	1	1	1	1	1	1	1.00
10: P.M.	1	1	1	1		1	1	1	1	1	1.00
11: P.M.	1	1	1	1	1	1	1	1	1	1	1.00

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

Opacity Monitors Six Minute Averages, March 20, 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 AVERAGE
12: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
1: A.M.		1	1	1	1	1	1	1	1	1	1.00
2: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
3: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
4: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
5: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
6: A.M.	1	1	1	1		1	1	1	1	1	1.00
7: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
8: A.M.	1.5	1.5	1.5	1.5	2	2	2	2	2	2	1.80
9: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
10: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
11: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
12: NOON	2	2	2	2	2	2	2	2	2	2	2.00
1: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
2: P.M.	2	2	2	2		2	2	2	2	2	2.00
3: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
4: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
5: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
6: P.M.	2	1.8	1.6	1.6	1.6	1.4	1.4	1.4	1.4	1.4	1.56
7: P.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
8: P.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
9: P.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
10: P.M.	1.4	1.4	1.4	1.4		1	1	1	1	1	1.18
11: P.M.	1	1	1	1	1	1	1	1	1	1	1.00

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

Opacity Monitors Six Minute Averages, March 21, 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 AVERAGE
12: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
1: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
2: A.M.	1	1	1	1	1		1	1	1	1	1.00
3: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
4: A.M.	1	1		1	1	1	1	1	1	1	1.00
5: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
6: A.M.	1	1	1	1		1	1	1	1	1	1.00
7: A.M.	1	1	1	1	1	1	1	1.4	1.4	1.4	1.12
8: A.M.	1.4	1.6	1.8	1.8	2	2	2	2	2	2	1.86
9: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
10: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
11: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
12: NOON	2	2	2	2	2	2	2	2	2	2	2.00
1: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
2: P.M.	2	2	2	2		2	2	2	2	2	2.00
3: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
4: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
5: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
6: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
7: P.M.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.60
8: P.M.	1.6	1.6	1.6	1.6	1.6	1.6	2	2	2	2	1.76
9: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
10: P.M.	1.8	1.8	1.8	1.8		1.4	1.4	1.4	1.4	1.4	1.58
11: P.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40

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

Opacity Monitors Six Minute Averages, March 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 AVERAGE
12: A.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
1: A.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
2: A.M.	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.20
3: A.M.	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.2	1.2	1.35
4: A.M.	1	1	1	1	1	1.2	1.2	1.2	1.2	1.2	1.10
5: A.M.	1.2	1.2	1.2	1.2	1.2	1.2		1	1	1	1.13
6: A.M.	1	1	1	1		1	1	1	1	1	1.00
7: A.M.	1	1	1	1	1	1	1.2	1.4	1.6	1.8	1.20
8: A.M.	1.8	1.9	2	2	2	2	2	2	2	2	1.97
9: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
10: A.M.	2	2									2.00
11: A.M.			2	2	2	2	2	2	2	2	2.00
12: NOON	2	2	2	2	2	2	2	2	2	2	2.00
1: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
2: P.M.	2	2	2							0	1.50
3: P.M.	0	2	2	2	2	2	2	2	2	2	1.80
4: P.M.	2	2	2	2	2	2	2	2	1.8	1.5	1.93
5: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
6: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.2	1.45
7: P.M.	1	1	1	1	1	1	1	1	1	1	1.00
8: P.M.	1	1	1	1.8	1.8	1.6	1.4	1.4	1.2	1.2	1.34
9: P.M.	1.2	1.2	1	1	1	1	1	1	1	1	1.04
10: P.M.	1	1	1	1		1	1	1.2	1.2	1.2	1.07
11: P.M.	1.2	1.4	1.6	1.8	1.9	2	2	2	2	2	1.79

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

Opacity Monitors Six Minute Averages, March 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.	2	2	2	2	2	2	2	2	2	2	2.00
1: A.M.	2	2	2	2	1.8	1.8	1.8	1.8	1.8	1.8	1.88
2: A.M.	1.8	1.8	1.8	1.8	1.8	2	2	2	2	2	1.90
3: A.M.	2	2	2		1.5	1.5	1.5	1.5	1.5	1.5	1.67
4: A.M.	1.5	1.5	1.5	1.5	1.5	1.7	1.7	1.7	1.7	1.7	1.60
5: A.M.	2	2	2	2	2	2	2	1.8	1.7	1.7	1.92
6: A.M.	1.5	1.5	0.5	0.5	1	1		0		1	0.88
7: A.M.	1	1	1	1	1	1	1	1	1	1	1.00
8: A.M.	1	1	1	1	1	1.2	1.5	1.8	2	2	1.35
9: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
10: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
11: A.M.	2	2	2	2	2	2	2	2	2	2	2.00
12: NOON	2	2	2	2	2	2	2	2	2	2	2.00
1: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
2: P.M.	2	2	2	2	2	2		1	1.5	1.5	1.78
3: P.M.	1.5	2.2	1.5	1.8	1.8	2	2	2	2	2	1.88
4: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
5: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
6: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
7: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
8: P.M.	2	2	2	2	2	2	2	2	2	2	2.00
9: P.M.	1.8	1.7	1.6	1.5	1.2	1.2	1.2	1.2	1.2	1.2	1.38
10: P.M.	10	98	98	98	98		78	98	98	98	86.00
11: P.M.	98	98	98	98	97	93	89	84	80	69	90.40

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

Opacity Monitors Six Minute Averages, March 24, 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.	60	55	49.5	44	41	38	37	35.5	35	44	43.90
1: A.M.	74	59	67	66.5	49	37	32	29		26	48.83
2: A.M.	26.1	49.5	46	42	40.5	40	35		39	37	39.46
3: A.M.	35	40	53	52.5	52.8	51.5	43	40.5	40.5	39.5	44.83
4: A.M.	36	36	36	35	34	33	32.5	32	31	31	33.65
5: A.M.	32	33.2	35	35.2	36	36.1	36.5	37.5	37	37	35.55
6: A.M.	60.8	45.5	43	40	37		26	34	37	35	39.81
7: A.M.	35.5	38.5	35	26.5	23	22	22.5	22.8	22.8	23	27.16
8: A.M.	23.6	23	22.1	21.9	22.5	24.8	24.2	24.1	24.5	26.5	23.72
9: A.M.	28	29	30	30.8	28	29	35	34	34	36	31.38
10: A.M.	33	28	29	30.2	27	23.4	28	41.2	47.2	46	33.30
11: A.M.	44	42	41.5	40.2	40.2	36	34	33	34	48	39.29
12: NOON	58	62	56.5	52	58	60	63.5	73	65.1	65	61.31
1: P.M.	67.6	70	74	84	92	80	89	73.2	71.2	68.5	76.95
2: P.M.	68.4	66	70	66	71		66	84.5	71.6	68	70.17
3: P.M.	71.2	81.5	72	68	69.8	78.5	79.5	77	67	63	72.75
4: P.M.	76	76	76	64.5	63	63	63	63	65	68.2	67.77
5: P.M.	70.8	68.5	63.5	61	60.8	60.2	62	62	64	65	63.78
6: P.M.	64	71	67	63	61.8	72	70	69	63	67	66.78
7: P.M.	60	60	62	65.9	66.4	65.2	62	61	62.4	65	62.99
8: P.M.	62	64.5	62.4	60.5	59	58.5	58	57.8	57.8	58	59.85
9: P.M.	58	60	59	61.7	64	65.2	66	64	62.4	63.2	62.35
10: P.M.	70	59	58.8		46	57.9	58	70	68.5	66	61.58
11: P.M.	60	60	59.8	59.8	60	60	59.4	59.4	59	59	59.64

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



Inter-Office Correspondence


To: M. A. Smith, PhD. Date: 3/27/91
From: M. P. Halpin, P. E. Department: Sanford Plant
Subject: WEEKLY OPACITY MINIMIZATION
 EFFORTS

During the previous week (3-18 thru 3-24-91), Unit 4 was inoperable due to boiler problems, thus there were no visible emissions.

Our efforts were directed at determining the cause of the boiler problems and rectifying those. Fortunately, the unit was returned to service on 3-24 and we now may again focus our efforts on opacity reduction.

We still are reviewing the chemical properties of each of the fuel shipments and attempting to determine which variable is responsible for the differences observed in opacity.

We expect to be able to report on preliminary findings within the next week or so.



M. P. Halpin, Operating Superintendent
Sanford Plant

MPH/ah

cc: File-Orimulsion