FPL

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

FEDERAL EXPRESS

April 17, 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
Monthly Compliance Reports - March, 1991

Dear Mr. Alexander:

As required by the specific conditions of the Department's permit authorizing the Orimulsion Test Burn, enclosed please find the compliance reports for the month of March, 1991 as follows:

Required in Specific Condition No.	Report Title
8.e) iii.	Fuel Analysis-As Fired for Sanford Units 3, 4, & 5 (previously submitted on 4/9/91-See copy of transmittal attached to report)
8.e) vi.	Frequency of Excess Emissions
8.e) vi.	SO_2 Excess Emissions
8.e) i. & 8.e) ii.	Fuel Usage for Sanford Units 3, 4, & 5/Orimulsion Full-power Burn Days
8.e) v.	Daily Opacity Logs
8.e) iv.	Summary - NO_x & CO CEM Hourly Averages
8.e) v.	Summary - Opacity CEM 6-min. Averages

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

FPL

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

FEDERAL EXPRESS

April 17, 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
Monthly Compliance Reports - March, 1991

Dear Mr. Alexander:

As required by the specific conditions of the Department's permit authorizing the Orimulsion Test Burn, enclosed please find the compliance reports for the month of March, 1991 as follows:

Required in Specific Condition No.	Report Title
8.e) iii.	Fuel Analysis-As Fired for Sanford Units 3, 4, & 5 (previously submitted on 4/9/91-See copy of transmittal attached to report)
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P.O. Box 078768, West Palm Beach, FL 33407-0768
5500 Village Blvd.

FPL

April 9, 1991

Mr. A. Alexander, Deputy Assistant Secretary
State of Florida Department of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

RE: **SO_2 Emissions**
Analyses of Fuel Fired - Orimulsion
March, 1991 Sanford Power Plant, Unit No. 4

Dear Mr. Alexander:

As required by Specific Condition 7(e) of the DER Permit for the Orimulsion Test Burn at Sanford Unit No. 4, enclosed is the analysis of Orimulsion Fuel Fired for the March, 1991 sampling period.

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

FPL

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

April 9, 1991

Mr. A. Alexander, Deputy Assistant Secretary
State of Florida Department of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

RE: SO_2 Emissions
Analyses of Fuel Fired - Orimulsion
March, 1991 Sanford Power Plant, Unit No. 4

Dear Mr. Alexander:

As required by Specific Condition 7(e) of the DER Permit for the Orimulsion Test Burn at Sanford Unit No. 4, enclosed is the analysis of Orimulsion Fuel Fired for the March, 1991 sampling period.

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

FLORIDA POWER & LIGHT COMPANY
POWER RESOURCES CENTRAL LABORATORY

STATE OF FLORIDA LABORATORY CERTIFICATION NUMBERS
DRINKING WATER CERTIFICATION NUMBER: E86075
ENVIRONMENTAL CHEMISTRY CERTIFICATION NUMBER: E86076

SANFORD #4 (CRINGLESON) PLANT
ANALYSES OF FUEL OIL FIRED
MARCH 1991

DATE SAMPLE RECEIVED AT LABORATORY	03-19-91		
API GRAVITY	9.4	ASH, % BY WEIGHT	0.15
DENSITY, g/CM3	1.0026		
DENSITY, LB/GAL	8.375	PARTICULATE EQUIVALENT, LB/MBTU	0.12
DENSITY, LB/BBL	351.759	VANADIUM IN OIL AS V2O5, PPM	281
DENSITY, TONS/BBL	0.1759	VANADIUM IN OIL AS V, PPM	256
HEAT OF COMBUSTION, BTU/LB	18709	VISCOSITY @ SHEAR RATE OF 139.1(1/S)	407
HEAT OF COMBUSTION, MBTU/BBL	6571	@ 30.5 C, CPS	
HEAT OF COMBUSTION, BTU/GAL	156441	ASPHALTENES, % BY WEIGHT	6.7
HEAT OF COMBUSTION, MBTU/TON	25413	MAGNESIUM IN OIL AS MG, PPM	310
HEAT OF COMBUSTION, MEGAJOULES/KG	29.54	SODIUM IN OIL AS NA, PPM	30
WATER, % BY VOLUME	30	NICKEL IN OIL AS NI, PPM	68
SEDIMENT, % BY WEIGHT	0.23	IRON IN OIL AS FE, PPM	11
SULFUR, % BY WEIGHT	2.8		
SULFUR DIOXIDE EQUIVALENT, LB/MBTU	4.4		

COPIES TO: J. W. DICKEY -PRS/EDO
M. GROSSWALD -PRS/EDO
J. STANTON-PRS/EDO
PLANT MANAGER - PSN
PSN RESULTS DEPT.
D. W. KNUTSON - PRS/EDO
K. WASHINGTON - PRS/EDO
W. WAYLETT- PRS/EDO
BOB RICHTER - PSN/PLT
ROGER MEESER - PRS/EDO
BILL PARKES - FR/GO
R. LIPPMAN - FR/GO
E. CALLANDER - FR/GO
F.N. ALLEN - JEN/NP
M. TAYLOR - PCU/PLT
E. BISHOP - JEN/NP

ANALYZED BY : Y. Harrison / J. Uzica

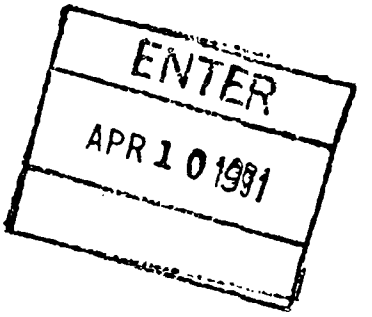
CERTIFIED BY : K. M. O'Connell

DATE: 03-28-91

91-PSN-6

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

FPL



April 9, 1991

Mr. A. Alexander, Deputy Assistant Secretary
State of Florida
Department of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

RE: SO_2 Emissions
Analyses of Fuel Oil Fired
March, 1991 - Sanford Power Plant

Dear Mr. Alexander:

As required by the DER Air Operating Permits for the units at the above facilities, enclosed are the analyses of Fuel Oil Fired at Sanford Units 3 and 5 for the March, 1991 sampling period.

Due to the current Orimulsion Test Burn on Sanford Unit No. 4, no oil was fired in that unit during the March, 1991 sampling period. Please note that, as agreed to by FPL and as reflected in the Modified Order dated February 28, 1991 authorizing the Test Burn in Unit No. 4, Sanford Unit No. 5 was not operated at all during the March, 1991 sampling period whenever Orimulsion was being burned in Sanford Unit No. 4.

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: Cindy Phillips - DER/Tall

bcc: R. N. Allen - JEN/NP
M. Grosswald - PRG/EDO
M. Harrinton - GVS/NED
R. F. Messer - PRS/EDO
R. Ruhlman - PSN

FLORIDA POWER & LIGHT COMPANY
POWER RESOURCES CENTRAL LABORATORY

STATE OF FLORIDA LABORATORY CERTIFICATION NUMBERS
DRINKING WATER CERTIFICATION NUMBER: 56275
ENVIRONMENTAL CHEMISTRY CERTIFICATION NUMBER: E86078

SANFORD #3 PLANT
ANALYSES OF FUEL OIL USED
MARCH 1991

DATE SAMPLE RECEIVED AT LABORATORY	03-19-91
API GRAVITY	10.8
DENSITY, LB/GAL	8.281
DENSITY, LB/BBL	347.802
HEAT OF COMBUSTION, BTU/LB	18321
HEAT OF COMBUSTION, BTU/GAL	151715
HEAT OF COMBUSTION, MBTU/BBL	6372
WATER, % BY VOLUME	0.20
SEDIMENT, % BY WEIGHT	0.04
SULFUR, % BY WEIGHT	1.0
SULFUR DIOXIDE EQUIVALENT, LB/MBTU	1.09
ASH, % BY WEIGHT	0.04
PARTICULATE EQUIVALENT, LB/MBTU	0.02
VANADIUM IN ASH AS V2O5, % BY WEIGHT	10
VANADIUM IN OIL AS V2O5, PPM	36
VANADIUM IN OIL AS V, PPM	20
VISCOSITY, SSF @ 122F	92
ASPHALTENES, % BY WEIGHT	2.9

RECEIVED
APR 01 1991
ENV. PERMITTING

COPIES TO: PSN PLANT MGR.
R N ALLEN - JEN/EDG
PLANT RESULTS DEPT
K WASHINGTON - PRS/EDO

ANALYZED BY: L. Harrison / J. Uzica

CERTIFIED BY: K. McDonnell

FLORIDA POWER & LIGHT COMPANY

POWER RESOURCES CENTRAL LABORATORY

MIAMI, FLORIDA

SANFORD #5 PLANT
ANALYSES OF FUEL OIL FIRED
MARCH 1991

DATE SAMPLE RECEIVED AT LABORATORY	03-20-91
API GRAVITY	10.8
DENSITY, LB/GAL	8.281
DENSITY, LB/BBL	347.802
HEAT OF COMBUSTION, BTU/LB	18187
HEAT OF COMBUSTION, BTU/GAL	150607
HEAT OF COMBUSTION, MBTU/BBL	6325
WATER, % BY VOLUME	1.0
SEDIMENT, % BY WEIGHT	0.07
SULFUR, % BY WEIGHT	0.97
SULFUR DIOXIDE EQUIVALENT, LB/MBTU	1.07
ASH, % BY WEIGHT	0.05
PARTICULATE EQUIVALENT, LB/MBTU	0.03
VANADIUM IN ASH AS V2O5, % BY WEIGHT	5
VANADIUM IN OIL AS V2O5, PPM	27
VANADIUM IN OIL AS V, PPM	15
VISCOSITY, SSF @ 122F	67
ASPHALTENES, % BY WEIGHT	2.4

RECEIVED

APR 0 1 1991

ENV. PERMITTING

COPIES TO: PSN PLANT MGR.
R N ALLEN - JEN/EDO
PLANT RESULTS DEPT
K WASHINGTON - PRS/EDO

ANALYZED BY: T. Hanson / J. Uzica

CERTIFIED BY: K. M. O'Donnell

SANFORD PLANT UNIT 4 ORIMULSION
EXCESS OPACITY RECORDS LOG
SIX MINUTE INTERVALS ABOVE 80%

MONTH MARCH YEAR 1991

	EXCESS EMISSIONS					* OTHER - NOT ACCEPTABLE TO D.E.R.		
	START UP	SHUT DOWN	RAPID LOAD CHANGE	SOOT BLOWING	MALFUNCTION	* OTHER	TOTAL HOURS > 80 %	TOTAL HOURS ON ORIMULSION
1				32			3:12	21:22
2	12						1:12	OFFLINE 24 Hrs.
3				4			:24	OFFLINE 24 Hrs.
4				8			:48	24:00
5				6			:36	24:00
6				6			:36	24:00
7				2			:12	24:00
8				7			:42	24:00
9				4			:24	24:00
10				9			:54	24:00
11				9			:54	24:00
12				14			1:24	24:00
13				9			:54	21:39
14								OFFLINE 24 HRS
15								OFFLINE 24 HRS
16								OFFLINE 24 HRS
17								OFFLINE 24 HRS
18								OFFLINE 24 HRS
19								OFFLINE 24 Hrs
20								OFFLINE 24 HRS
21								OFFLINE 24 Hrs
22								OFFLINE 24 Hrs
23	16						1:36	OFFLINE 24 HRS
24				6			:36	13:34
25				10			1:00	24:00
26				8			:48	24:00
27				17			1:42	24:00
28				17			1:42	24:00
29				37		/	3:42	24:00
30				48			4:48	24:00
31				40			4:00	24:00

FPL

Inter-Office Correspondence

To: M. A. Smith, Ph.D. - Mgr. FPL Environmental Affairs
Date: April 18, 1991
From: R. T. Ruhlman
Department: Sanford Plant

Subject: SANFORD UNIT 4 ORIMULSION PROJECT
MONTHLY SULFUR DIOXIDE
EXCESS EMISSION REPORT

During the month of March, 1991, sulfur dioxide emission did not exceed the 4.3 pounds per million BTU input allowed based on the continuous emission monitors.

R. T. Ruhlman
Plant Manager
Sanford Plant

RTR:eh

cc: PSN C-29.1

FLORIDA POWER & LIGHT CO.
SANFORD PLANT
MONTHLY ORIMULSION AIR EMISSIONS REPORT

MONTH OF March 1991

NUMBER OF FULL POWER BURN DAYS	14.8
NUMBER OF BARRELS OF ORIMULSION BURNED	320958
NUMBER OF DAYS ORIMULSION BURNED	22
ORIMULSION AS-FIRED MMBTU/BARREL	4.471
NUMBER OF BARRELS OF OIL BURNED	0
NUMBER OF DAYS OIL BURNED	0
OIL AS-FIRED MMBTU/BARREL	6.322

MARCH 1991

FLORIDA POWER & LIGHT
ORIMULSION TEST PROJECT
SANFORD PLANT

HEAT VALUE
4.471

	UNIT 3		UNIT 4				UNIT 5	
DATE	#3 MCF GAS	#3 BBL OIL	#4 BBL OIL	#4 MCF GAS	#4 ORIMULSION BBL	#4 FULL POWER BURN DAYS	#5 BBL OIL	#5 MCF GAS
03/01/91	340	0	0	0	14902	0.7	0	0
03/02/91	357	0	0	0	144	0.0	0	0
03/03/91	49	0	0	0	861	0.0	0	0
03/04/91	7438	0	0	0	16050	0.7	0	0
03/05/91	2931	0	0	0	18167	0.8	0	0
03/06/91	295	0	0	0	18639	0.9	0	0
03/07/91	257	0	0	0	20159	0.9	0	0
03/08/91	13334	0	0	0	18950	0.9	0	0
03/09/91	232	0	0	0	18768	0.9	0	0
03/10/91	0	0	0	0	18257	0.8	0	0
03/11/91	7610	0	0	0	17130	0.8	0	0
03/12/91	5978	0	0	0	17870	0.8	0	0
* 03/13/91	5201	0	0	0	14618	0.7	173	0
03/14/91	8918	0	0	0	0	0.0	5500	0
03/15/91	12849	0	0	0	0	0.0	1599	0
03/16/91	17478	0	0	0	0	0.0	0	0
03/17/91	16836	0	0	0	0	0.0	29	0
03/18/91	14177	0	0	0	0	0.0	4998	0
03/19/91	15511	0	0	0	0	0.0	2002	0
03/20/91	11017	0	0	0	0	0.0	0	0
03/21/91	4967	0	0	0	0	0.0	1505	0
03/22/91	10922	0	0	0	0	0.0	4005	0
** 03/23/91	13513	0	0	0	262	0.0	4036	0
03/24/91	259	0	0	0	10299	0.5	0	0
03/25/91	6618	0	0	0	18808	0.9	0	0
03/26/91	4690	0	0	0	19483	0.9	0	0
03/27/91	16085	0	0	0	16763	0.8	0	0
03/28/91	22951	0	0	0	17388	0.8	0	0
03/29/91	23446	0	0	0	16192	0.7	0	0
03/30/91	12682	0	0	0	15401	0.7	0	0
03/31/91	7596	0	0	0	11847	0.5	0	0
TOTALS	264537	0	0	0	320958	14.8	23847	0

* ORIMULSION FIRE OUT #4 UNIT AT 21:40, OIL FIRES IN #5 UNIT 22:05.

** OIL FIRE OUT #5 UNIT AT 21:18, ORIMULSION FIRE IN #4 UNIT AT 21:50.

S - 3h - 58 2+2 43..
N . 1L - 55

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (Orimulsion)	1 MAR 1 1991

SIX MINUTES INTERVALS GREATER THAN 80% — 780%

	1	2	3	4	5	6	7	8	9	10		This Hour	Last 24 Hours
MN						87 C-2	90 C-2			88 C-2	12MN	3	3
AM	82 C-2	81 C-2						82 C-2		88 C-2	1AM	4	7
				82 C-2				91 C-4	90 C-4	93 C-4	2	4	11
	92 C-4		88 C-4								3	2	13
			83 C-4			82 C-4					4	2	15
											5		
											6		
	81 C-2		80 C2								7	2	17
					92-C2	92-C2					8	2	19
	82-C2										9	1	20
											10		
											11		
N											12N		
P											1P		
											2		
											3		
											4		
											5		
											6		
										C-2 89	7	1	21
	C-2 91	C-2 86	C-2 89	C-2 86	C-2 84	C-2 89	C-2 90	C-2 89	C-2 88		8	9	30
	C-2 89					B-2 82					9	2	32
											10		
											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

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

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (Orimulsion)	MAR 0 2 1991

SIX MINUTE INTERVALS GREATER THAN 80 %

	1	2	3	4	5	6	7	8	9	10		This Hour	Last 24 Hours
MN											12MN		
AM											1AM		
											2		
											3		
											4		
											5		
											6		
											7		
											8		
		-									9		
											10		
											11		
N											12N		
						-					1P		
											2		
		•							-		3		
											4		
						•					5		
											6		
											7		
											8		
								B-1 91	B-1 92	B-1 92	9	3	3
	B-1 92	B-1 92	B-1 92	B-1 92	B-1 92	B-1 92	B-1 92	B-1 90	B-1 84		10	9	12
											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

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Use the comment column where additional

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (Orimulsion)	JUN MAR 0 3 1991

SIX MINUTE INTERVALS Greater Than 80%

ne	1	2	3	4	5	6	7	8	9	10		This Hour	Last 24 Hours
MN											12MN		
AM											1AM		
											2		
											3		
	83 C-2	82 C-2				89 C-2	83 C-2				4	4	4
											5		
											6		
											7		
											8		
											9		
											10		
											11		
N											12N		
P											1P		
											2		
											3		
											4		
											5		
											6		
											7		
											8		
											9		
											10		
											11		

A MALFUNCTION

MALFUNCTION

- 1 Monitor Out of Service
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- 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
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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

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

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (Orimulsion) MON	MAR 0 4 1991

SIX MINUTE INTERVALS Greater Than 80%

Hr	1	2	3	4	5	6	7	8	9	10
MN										
AM										
			85 C-2	81 C-2						
						81 C-2				82 C-2
		82 C-2	81 C-2	85 C-2	85 C-2					

Six Minute Intervals > 80%

	This Hour	Last 24 Hours
12MN		
1AM		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12N		
1P		
2		
3		
4		
5		
6		
7	2	2
8		
9	2	4
10	4	8
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

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

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

UNIT NO.	DATE
4 (Orimulsion) TH	E MAR 0 5 1991

SIX MINUTE INTERVALS Greater Than 80%

ıe	1	2	3	4	5	6	7	8	9	10
MN										
AM	81C-2	81C-2								
		-								
N										
P										
		•								
	81C-2									
										83C-2
		88C-2			85C-2					

Six Minute Intervals >80%

	This Hour	Last 24 Hours
12MN		
1AM	2	2
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12N		
1P		
2		
3		
4		
5		
6		
7		
8	1	3
9	1	4
10	2	6
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

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.

Temporary 80% thru 5/31/91

WED MAR 6 1991

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
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								C-281		C-281	2	2	2
3						C-281				C-285	3	2	4
4	C-281		C-82								4	〃 2	6
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

Document chart lab will provide reason codes

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

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Orimulsion)	THU MAR 0 7 199

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							C-2 [81]				8	1	1
9	-										9		
10											10		
11											11		
12N											12N		
1P											1P		
2											2		
3							-				3		
4											4		
5											5		
6											6		
7											7		
8						C-282					8	1	2
9											9		
10											10		
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

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INSTRUCTIONS

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Use the comment column where additional explanation is appropriate

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

FRI MAR 0 8 1991

UNIT NO.	DATE
4 (80% Orimulsion)	

Time	SIX MINUTE INTERVALS 1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12N										
1P										
2										
3										
4										
5										
6										
7		80 c-2								
8									80 c-2	84 c-2
9	84 c-2	86 c-2	81 c-2	86 c-2						
10										
11										

Six Minute Intervals > 80%

	This Hour	Last 24 Hours
12MN		
1AM		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12N		
1P		
2		
3		
4		
5		
6		
7	1	1
8	2	3
9	4	7
10		
11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

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INSTRUCTIONS

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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. 8 A T DATE MAR 0 9 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			c281				c283		c287		7	3	3
8				c284							8	1	4
9											9		
10											10		
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru 5/31/91

SUN MAR [redacted] 1991

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Orimulsion)	

Time	SIX MINUTE INTERVALS 1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8	C-2 82	C-2 83	C-2 83	C-2 81						
9										
10										
11										
12N										
1P										
2										
3										
4						83 C-2	83 C-2			81 C-2
5	C-2 84	83 C-2								
6										
7										
8										
9										
10										
11										

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

MUN MAR 1991

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
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			C-2 81								10	1	1
11											11		
12N											12N		
1P											1P		
2											2		
3										81 C-2	3	1	2
4	82 C-2					82 C-2		82 C-2	82 C-2		4	4	6
5		80 C-2			86 C-2	82 C-2					5	3	9
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
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Document chart lab will provide reason codes

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Orimulsion)	MAR 1 2 1991

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				C-781	82 C-2						9	2	2
10											10		
11											11		
12N											12N		
1P											1P		
2											2		
3											3		
4									95 C-2	81 C-2	4	2	4
5	81 C-2							81 C-2	92 C-2	89 C-2	5	4	8
6	82 C-2		84 C-2				88 C-2		92 C-0		6	4	12
7	85 C-2	88 C-2									7	2	14
8											8		
9											9		
10											10		
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

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

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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.

Temporary 80% thru 5/31/91

WED MAR 1 3 1991

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
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									8OC-2		7	1	
8											8		
9						-					9		
10											10		
11											11		
12N											12N		
1P		-									1P		
2											2		
3					-						3		
4											4		
5					84C4	88-C4	84-C4				5	3	4
6										82C2	6	1	5
7					93-C2						7	1	6
8		80-C2								86-C2	8	2	8
9	88C2										9	1	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

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Document chart lab will provide reason codes

INSTRUCTIONS

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Use the comment column where additional

Temporary 80% thru 5/31/91

SANFORD PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (or [illegible])	3-14-91

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

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

TEMPORARY 80% thru 5/31/91

SANFORD PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (ORIMULSION)	3-15-91

	SIX MINUTE INTERVALS > 80%										SIX MINUTE INTERVALS > 80%		
Time	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		
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
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INSTRUCTIONS

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru 5/31/91

SANFORD PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (ORIMULSION)	3-16-91

Time	SIX MINUTE INTERVALS > 80% 1	2	3	4	5	6	7	8	9	10	SIX MINUTE INTERVALS > 80% 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	
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
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INSTRUCTIONS

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. MON 4 (80% Orimulsion)

MAR 1 7 1991

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING

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INSTRUCTIONS

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Use the comment column where additional explanation is appropriate.

Temporary 80% thru May 31, 1991

SANFORD PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (ORIMULSION)	MAR 18 1991

	SIX MINUTE INTERVALS > 80%										SIX MINUTE INTERVALS >80%		
Time	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		

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
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INSTRUCTIONS

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Use the comment column where additional explanation is appropriate.

*Need cause + corrective action

PSN PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4	TUE MAR 19 1991

	SIX MINUTE INTERVALS										COMMENTS	
Time	1	2	3	4	5	6	7	8	9	10		
12MN											12MN	
1AM											1AM	
2											2	
3											3	
4											4	
5											5	
6											6	
7											7	
8											8	
9											9	
10											10	
											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
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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.

Temporary 80% thru 5/31/91

Sanford 4 PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

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

SIX MINUTE INTERVALS										
Time	1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12N										
1P										
2								15		
3										
4										
5										
6										
7										
8										
9										
10										
11										

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

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

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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Temporary 80% thru 5/31/91

Sanford 4 PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. 4 (80% Orimulsion) | DATE THU MAR 21 1991

SIX MINUTE INTERVALS										
Time	1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12N										
1P										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										

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

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING

*1 Rapid Load Change
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3 Liming Boiler
4 Cleaning Air Pre-heater

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INSTRUCTIONS

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Use the comment column where additional

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

FRI MAR 2 2 1991

UNIT NO.: 4 (80% Orimulsion)

DATE: FRI MAR 2 2 1991

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING

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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Orimulsion) EAF	MAR 2 3 1991

SIX MINUTE INTERVALS

Time	1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12N										
1P										
2										
3										
4										
5										
6										
7										
8										
9										
10		B-1 98	B-1 98	B-1 98	B-1 98			B-1 98	B-1 98	B-198 ✓
11	B-1 98	B-1 98	B-1 98	B-1 98	B-1 98	93B1	89B1	B-1 84	80B1	

Six Minute Intervals > 80%

	This Hour	Last 24 Hours
12MN		
1AM		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12N		
1P		
2		
3		
4		
5		
6		
7		
8		
9		
10	IIII 11 7	7
11	IIII 9	16

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

C LOAD CHANGE/SOOT-BLOWING

*1 Rapid Load Change
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3 Liming Boiler
4 Cleaning Air Pre-heater

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INSTRUCTIONS

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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. SUN 4 (80% Orimulsion) DATE MAR 2 4 1991

SIX MINUTE INTERVALS										
Time	1	2	3	4	5	6	7	8	9	10
12MN										
1AM										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12N										
1P				C-284	92 C-2	81 C-2	89 C-2			
2								85 C-2		
3		82 C-2								
4										
5										
6										
7										
8										
9										
10										
11										

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

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

B START-UP/SHUT-DOWN

1 Start-Up
2 Shut-Down

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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. MON 4 (80% Orimulsion) DATE MAR 25 1991

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					C2 84		C2 81				10	2	2
11											11		
12N											12N		
1P											1P		
2											2		
3											3		
4											4		
5											5		
6											6		
7	C-2 C-4 88	C-2 C-4 87	C-2 C-4 84	C-2 C-4 81			C-2 C-4 80		C-2 C-4 86		7	6	8
8											8		
9						C-2 C-4 84	C-2 C-4 82				9	2	10
10											10		
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

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

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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Orimulsion)	MAR 26 1991

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			85 C-2	84 C-2	82 C-2	87 C-2	92 C-2	81 C-2	C-280		8	7	7
9		83 C-4									9	1	8
10											10		
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

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

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Use the comment column where additional explanation is appropriate

Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. 4 (80% Orimulsion) DATE WED MAR 27 1991

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									81 C-2	81 C-2	3	2	2
4	81 C-2		C-2 81	85 C-2	83 C-2						4	4	6
5											5		
6											6		
7	C-2 85	91 C-2			81 C-2						7	3	9
8											8		
9											9		
10											10		
11											11		
12N											12N		
1P											1P		
2											2		
3											3		
4	C-2 C-4 80										4	1	10
5						C-2 C-4 86					5	1	11
6							C-2 C-4 81			82 C-2 C-4	6	2	13
7	C-2 C-4 86	C-2 C-4 84	O2 C-4 81		C-2 C-4 82						7	4	17
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

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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. THU MAR 28 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								C2 85			5	1	1
6							C2 89				6	1	2
7											7		
8											8		
9											9		
10											10		
11											11		
12N											12N		
1P											1P		
2										C-2 81	2	1	3
3											3		
4											4		
5										C2 98	5	1	4
6	C2 80	C2 94		82 C-2	88 C-2						6	4	8
7											7		
8							C2-81	C2-93			8	2	10
9					82 C2	86 C2	82 C2	81 C2	86 C2		9	5	15
10				84 C-2							10	1	16
11					80 C2						11	1	17

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

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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. FR 4 (80% Orimulsion)

DATE MAR 2 9 1991

SIX MINUTE INTERVALS

Time	1	2	3	4	5	6	7	8	9	10
12MN										
1AM							83 C2		81 C-2	84 C2
2	85 C2	80 C2	83 C2	89 C2	91 C2		85 C2			
3										
4										
5										81 C2
6	89 C2	87 C2	82 C2	81 C2	81 C2			84 C2	82 C2	
7										
8										
9										
10							89 C2	83 C2		
11										
12N										
1P										
2										
3						C-2 C-4 82	C-2 C-4 83	C-2 C-4 80		
4										
5										
6			C-2 C-4 92		C-2 C-4 89					
7								C-2 C-4 81		
8				C-2 C-4 85			C2 C4 82	C-2 C-4 81		
9		C-2 C-4 81								
10								C-2 C-4 86	C-2 C-4 88	C-2 C-4 82
11	C-2 C-4 82	C-2 C-4 87	C-2 C-4 86	C2-86	C2 84					

Six Minute Intervals > 80%

	This Hour	Last 24 Hours
12MN		
1AM	3	3
2	6	9
3		
4		
5	1	10
6	7	17
7		
8		
9		
10	2	19
11		
12N		
1P		
2		
3	3	22
4		
5		
6	2	24
7	1	25
8	3	28
9	1	29
10	3	32
11	5	37

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
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Use the comment column where additional explanation is appropriate.

Document chart lab will provide reason codes

Document chart lab will provide reason codes

operating at greater than 10% of rated capacity, excluding startup and shutdown.

explanation is appropriate.

Tempor 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO. 4 (80% Orimulsion) | DATE MAR 30 1991 SAT

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										C283	2	1	1
3			C282		C284	C282					3	3	3
4											4		
5											5		
6											6		
7			C281			C282	C283	C283	C282		7	5	8
8											8		
9											9		
10					C288	C284					10	2	10
11											11		
12N				C281	C285						12N	2	12
1P											1P		
2											2		
3											3-		
4				C282	C280					C287	4	3	15
5						C2-100	C400	C100	C100	C100	5	5	20
6	C490	C100	100C4	92C4	100C4	100C4		85C4	92C4	82-4	6	9	29
7		83C4		81C4	-	81C4	91C4	93C4	100C4	90C4	7	7	36
8	C280				87C2	86C2		80C2	80C2		8	5	41
9					84C2	89C2	86C2	80C2			9	4	45
10						80C2	83C2	87C2			10	3	42
11											11		

A MALFUNCTION

MALFUNCTION

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

Document chart lab will provide reason codes

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
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Temporary 80% thru 5/31/91

Sanford PLANT

DAILY OPACITY EMISSIONS REPORT

Form 4954 (Non-Stocked) Rev. 2/84

UNIT NO.	DATE
4 (80% Opacity)	MAR 3 1 1991

SIX MINUTE INTERVALS											Six Minute Intervals > 80%		
Time	1	2	3	4	5	6	7	8	9	10		This Hour	Last 24 Hours
12MN									90C2	92C2	12MN	2	2
1AM	91C2	97C2	82C2				81C2				1AM	4	6
2											2		
3											3		
4				81C2		83C2	83C2	83C2	81C2	82C2	4	6	11
5	82C2	82C2	81C2			82C2	82C2				5	5	16
6				81C2			81C2		81C2		6	3	19
7	85C2	80C2	81C2	82C2				86C2	88C2	87C2	7	7	25
8											8		
9										-	9		
10										80C2	10	1	
11					81C2						11	1	26
12N											12N		
1P											1P		
2											2		
3				-							3		
4											4		
5			C281	C282			C288	C286	C287	C289	5	6	32
6											6		
7											7		
8											8		
9											9		
10	C281	C281	C281	C281							10	4	35
11	C282										11	1	

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
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Use the comment column where additional explanation is appropriate

Document chart lab will provide reason codes

SECTION 2
NOX #/MMBTU HOURLY AVERAGES

The following data was compiled from data obtained by the data acquisition system provided with the Continuous Emissions Monitoring equipment supplied by Spectrum Systems Inc.. The DAS is a certified data collection system. The data was collected starting with the initial orimulsion test burn. The fuel factor used for calculations was 9190.

NOX IN POUNDS PER MILLION BTU, FP&L, SANFORD PLANT, UNIT 4. MONTH OF MARCH,1991.

HR BEGIN	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
HR END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
DAY OF MONTH																									DAILY AVERAGE
1	0.68	0.66	0.65	0.63	0.64	0.67	0.70	0.65	0.53	0.46	0.39	0.55	0.55	0.50	0.62	0.53	0.57	0.65	0.67	0.68	0.69	0.27	-0.07	-0.07	0.53
2	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	0.07	0.41	0.53	-0.02
3	0.54	0.53	0.40	0.52	0.44	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.07	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	0.04
4	0.28	0.41	0.40	0.42	0.44	0.58	0.44	0.42	0.46	0.41	0.40	0.41	0.44	0.44	0.47	0.56	0.59	0.56	0.55	0.59	0.55	0.48	0.64	0.58	0.48
5	0.58	0.57	0.56	0.58	0.59	0.57	0.42	0.52	0.53	0.57	0.58	0.59	0.58	0.52	0.57	0.55	0.61	0.62	0.61	0.69	0.69	0.64	0.58	0.55	0.58
6	0.50	0.48	0.48	0.52	0.52	0.53	0.57	0.67	0.62	0.63	0.66	0.64	0.57	0.58	0.65	0.63	0.64	0.65	0.66	0.68	0.67	0.65	0.64	0.66	0.60
7	0.66	0.62	0.64	0.70	0.65	0.64	0.70	0.71	0.70	0.69	0.69	0.67	0.67	0.74	0.74	0.66	0.66	0.67	0.66	0.68	0.63	0.61	0.65	0.65	0.67
8	0.64	0.73	0.68	0.61	0.62	0.66	0.76	0.76	0.77	0.77	0.76	0.75	0.74	0.73	0.74	0.76	0.76	0.76	0.76	0.76	0.76	0.78	0.68	0.65	0.72
9	0.74	0.74	0.75	0.61	0.61	0.64	0.75	0.73	0.74	0.63	0.75	0.58	0.72	0.46	0.50	0.84	0.83	0.71	0.72	0.77	0.71	0.72	0.73	0.74	0.70
10	0.74	0.75	0.63	0.63	0.62	0.72	0.81	0.84	0.83	0.84	0.85	0.84	0.84	0.89	0.84	0.81	0.71	0.71	0.65	0.62	0.62	0.60	0.61	0.64	0.73
11	0.85	0.79	0.85	0.89	0.73	0.65	0.79	0.83	0.71	0.62	0.71	0.65	0.64	0.61	0.61	0.60	0.54	0.61	0.63	0.64	0.64	0.63	0.65	0.58	0.69
12	0.57	0.56	0.56	0.56	0.56	0.56	0.63	0.56	0.52	0.59	0.49	0.61	0.71	0.72	0.70	0.64	0.63	0.65	0.57	0.57	0.56	0.53	0.63	0.58	0.59
13	0.58	0.58	0.57	0.58	0.58	0.63	0.61	0.60	0.56	0.54	0.48	0.47	0.51	0.59	0.58	0.57	0.58	0.51	0.66	0.65	0.67	0.54	-0.08	-0.08	0.52
14	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
15	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.07	-0.07	-0.07	-0.07	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
16	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
17	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
18	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
19	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08				-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
20	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
21	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
22	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
23	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08		-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	0.19	0.52	-0.04
24	0.61	0.06	0.64	0.43	0.51	0.41	0.44	0.56	0.38	0.55	0.58	0.59	0.60	0.60	0.56	0.52	0.35	0.36	0.39	0.46	0.54	0.50	0.45	0.42	0.48
25	0.57	0.62	0.54	0.48	0.52	0.49	0.48	0.40	0.66	0.77	0.82	0.82	0.77	0.50	0.54	0.52	0.50	0.49	0.51	0.58	0.63	0.73	0.62	0.66	0.59
26	0.62	0.53	0.51	0.61	0.64	0.58	0.65	0.65	0.67	0.71	0.73	0.74	0.74	0.76	0.75	0.74	0.72	0.71	0.69	0.70	0.70	0.70	0.63	0.50	0.66
27	0.55	0.55	0.55	0.57	0.60	0.60	0.67	0.63	0.66	0.65	0.67	0.70	0.69	0.70	0.71	0.73	0.67	0.67	0.64	0.65	0.68	0.74	0.72	0.68	0.65
28	0.68	0.68	0.68	0.68	0.67	0.66	0.63	0.52	0.60	0.64	0.62	0.62	0.64	0.64	0.61	0.61	0.57	0.57	0.61	0.59	0.54	0.58	0.53	0.48	0.61
29	0.59	0.60	0.60	0.58	0.58	0.58	0.56	0.46	0.43	0.43	0.58	0.66	0.68												0.56
30																0.63	0.62	0.65	0.72	0.76	0.72	0.53	0.49	0.56	0.63
31	0.63	0.65	0.66	0.66	0.66	0.65	0.64	0.64	0.65	0.65	0.65	0.65	0.65												0.65

BLACKENED SQUARES INDICATE INVALID OR INSUFFICIENT DATA (e.g. STARTUP, SHUTDOWN, INSTRUMENT OUT OF SERVICE) WAS OBTAINED TO CALCULATE AN HOURLY AVERAGE.

SECTION 3
CO PPM HOURLY AVERAGES

The following data was compiled from data obtained by the data acquisition system provided with the Continuous Emissions Monitoring equipment supplied by Spectrum Systems Inc.. The DAS is a certified data collection system. The data was collected starting with the initial orimulsion test burn.

CO IN PARTS PER MILLION, FP&L, SANFORD PLANT, UNIT 4. MONTH OF MARCH, 1991.

HR BEGIN	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
HR END	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
DAY OF MONTH																									DAILY AVERAGE
1	46	-1	0	0	0	-1	407	772	29	0	0	728	731	394	821	855	920	697	528	439	0	46	-1	-1	309
2	0	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	104	325	220	26
3	87	48	67	62	66	20	16	10	5	3	3	2	1	0	0	0	-1	-1	0	0	0	-1	0	0	16
4	121	78	20	1	-1	-1	706	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002	1001	999	1002	93	-1	668
5	-1	-1	-1	-1	-1	390	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002	995	889	852	380	309	484	27	-2	597
6	-2	-2	-2	-2	-2	-2	503	778	1002	1002	815	780	1002	735	383	525	452	377	320	238	280	379	379	451	433
7	437	530	507	-2	-2	-2	140	60	72	126	157	234	315	407	507	580	623	529	571	476	803	944	614	633	386
8	703	277	-2	-2	-2	-2	84	36	29	20	26	45	64	103	86	20	16	15	10	10	6	1	244	518	98
9	110	194	87	-1	-1	-2	-1	-1	-1	-1	13	481	315	973	670	-1	2	372	412	120	294	292	283	218	201
10	267	1	-1	-1	-1	-1	21	7	11	13	11	13	13	2	-2	-1	36	280	743	1002	978	1002	1002	864	261
11	-1	-1	-1	-1	329	769	563	64	106	362	71	-1	-2	-2	-1	-1	-1	50	125	92	97	76	-1	-1	112
12	-1	-1	-1	-1	-1	-1	121	885	998	788	981	612	39	42	98	192	192	154	724	334	560	781	-1	-1	312
13	-2	-1	-1	-1	-1	-1	422	302	194	706	964	1002	1002	1002	1002	1002	1002	1002	616	448	-1	53	0	-1	446
14	-1	-1	-1	0	0	-1	-1	0	-1	-1	0	-1	-1	-1	-1	0	-1	-1	-1	-1	0	0	-1	0	-1
15	-1	-1	-1	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	0	0	-1	0	0	0	0	-1	0	-1
16	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	0	0	0	0	-1	0	0	0	-1	0	0
17	-1	-1	-1	0	-1	0	0	0	0	0	-1	0	0	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1
18	0	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0	-1	0	-1	-1	-1	-1
19	0	-1	0	-1	-1	0	-1	-1	-1	-1	-1				0	0	-1	0	-1	0	-1	-1	0	0	-1
20	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	0	-1	-1	-1	0
22	-1	0	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	0	0	0	0	-1	-1	0	-1	-1	-1	-1	-1
23	-1	-1	-1	-1	-1	0	-1	1	0	0	-1	-1	-1	0		-1	-1	-1	-1	0	0	9	313	529	36
24	183	31	68	197	105	188	111	80	94	105	40	31	4	19	94	422	879	1002	901	475	65	196	424	753	269
25	54	10	57	348	197	381	449	942	211	17	3	0	122	955	990	1002	1002	1002	987	827	465	-1	-2	-2	417
26	-1	-1	6	2	-2	27	54	153	52	10	11	6	9	6	8	20	29	56	83	37	16	4	68	44	29
27	-2	-2	-1	-2	-2	-2	-2	319	122	135	147	52	82	139	113	109	274	207	340	172	96	1	-1	-2	96
28	-2	-1	-2	-1	-2	-1	85	869	464	257	376	465	428	517	786	810	984	966	606	708	714	42	-2	0	378
29	-1	-2	-2	-2	-1	1	549	949	1002	1002	456	103	53	86	102	77	94	81	994	906	596	17	-1	-1	294
30	-1	-2	-2	-1	-2	-1	-1	-1	-1	-1	-1	483	910	0	817	490	731	570	328	89	44	-1	-2	-2	185
31	-2	-2	-1	-1	-1	-1	-2	-2	-2	-2	-2	-1	-2	-1	-2	-1	-2	-1	-1	-1	-1	-1	-1	-1	-1

BLACKENED SQUARES INDICATE INVALID OR INSUFFICIENT DATA (e.g. STARTUP, SHUTDOWN, INSTRUMENT OUT OF SERVICE) WAS OBTAINED TO CALCULATE AN HOURLY AVERAGE.

CONTINUOUS EMISSIONS MONITORING REPORT
FLORIDA POWER AND LIGHT
SANFORD PLANT
UNIT FOUR
ORIMULSION TEST BURN PROJECT
MONTH OF MARCH, 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 1, 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.	57	56.5	56.5	54	74	87	90	80		88	71.44
1: A.M.	82	81	66	62	71.5	62	50.5	82	72	88	71.70
2: A.M.	62	72.5	68.6	82	75.8	75.9	79.6	91	90	93	79.04
3: A.M.	90.2		88	69.5	73	66.5	73.5	66	64	59	72.19
4: A.M.	70.6	65	83.8	79	79.2	82	72.2	73	68	68	74.08
5: A.M.	62	64	64	73	67	64	63	64	65	74	66.00
6: A.M.	75	74.8	75.5	68	71	70	76	70	74	72	72.63
7: A.M.	81	72	80	65	72	78	64	58	68	60	69.80
8: A.M.	63	61	71	65.5	91.8	91.8	76	58		72	72.23
9: A.M.	82	78	63	58	58	58	63	62	62	62	64.60
10: A.M.	61	71	60.5	60.5	61.5	60	60	60	61	66	62.15
11: A.M.	71.5	69	64	49	51	51.8	51	50.8	50	50	55.81
12: NOON	51	50	50	50.1	49.5	49.5	49.5	49.5	49.5	49.5	49.81
1: P.M.	49	49	49	48.5	48.2	48	48	48	46.5	46	48.02
2: P.M.	46	45.2	45	45	51	56	56	55	54	54	50.72
3: P.M.	58	54.5	56	56	54	54	53	53.5	57.5	66	56.25
4: P.M.	62	53	56	56	53	53	53	54		52.6	54.73
5: P.M.	53	53	54	54	54	54	54	54	54	54	53.80
6: P.M.	54	54	54	54.5	54.5	54.2	54.2	54.2	54.6	54.6	54.28
7: P.M.	54.2	54.2	54.2	54.2	54.2	54.2	54.2	54.5	64	86.5	58.44
8: P.M.	90	85	88	86	83.2	89	90	89.5	87	79	86.67
9: P.M.	88.5	56.5	54	38	42.5	82	59	55	52.5	52.5	58.05
10: P.M.	53	46	29.5	29.8	21	15	11.5	9.8	16	18.4	25.00
11: P.M.	12	10	8.5	7.8	7	6	5	5	5	5	7.13

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

Opacity Monitor Six Minute Averages, March 2, 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.	4	4	4	4	3	3	2.5	3		2	3.28
1: A.M.	1	0	0	0	0	0	0	0	0	0	0.10
2: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
3: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
4: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
5: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
6: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
7: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
8: A.M.	0	0	0	0	0	0	0		0	0	0.00
9: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
10: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
11: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
12: NOON	0	0	0	0	0	0	0	0	0	0	0.00
1: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
2: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
3: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
4: P.M.	0	0	0	0	0	0	0		0	0	0.00
5: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
6: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
7: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
8: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
9: P.M.	0	0	0	0	30	6	7	91	92	92	31.80
10: P.M.	92	92	92	92	92	92	92	90	92	92	91.80
11: P.M.	66	69	58.5	54	48	40	35.5	32	30	30	46.30

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

Opacity Monitor Six Minute Averages, March 3, 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.	28	27	26	25	25	26	26	28		37	27.56
1: A.M.	37	27.5	31	26	52.5	46	56.5	48	45	38	40.75
2: A.M.	34	43	36	22	48	36	61	44	35	33	39.20
3: A.M.	54	48	74	45	23	37	73	69.5	70	67	56.05
4: A.M.	83.5	81.5	78	66.5	74.5	89	83	78.5	78	28	74.05
5: A.M.	6	2	1	0	0	0	0	0	0	0	0.90
6: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
7: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
8: A.M.	0	0	0	0	0	0	0		0	0	0.00
9: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
10: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
11: A.M.	0	0	0	0	0	0	0	0	0	0	0.00
12: NOON	0	0	0	0	0	0	0	0	0	0	0.00
1: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
2: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
3: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
4: P.M.	0	0	0	0	0	0	0		0	0	0.00
5: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
6: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
7: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
8: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
9: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
10: P.M.	0	0	0	0	0	0	0	0	0	0	0.00
11: P.M.	0	0	0	0	0	0	0	0	0	0	0.00

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

Opacity Monitor Six Minute Averages, March 4, 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.	3	20	45.5	61	76	72	59	36		33	45.06
1: A.M.	32	30.2	29.8	29	28	30	30.2	29.5	29.5	31.5	29.97
2: A.M.	35	37	34	33	36	42	52	53	46	42	41.00
3: A.M.	46	51	54	61	68	65.6	57	60	62.5	63	58.81
4: A.M.	63	63	68	67	66	65	66	64	64	68	65.40
5: A.M.	74	66	63	62	64.6	64.8	68	64	60.3	58.3	64.50
6: A.M.	63	64	66	67	71	69	74	64	55	53	64.60
7: A.M.	52	52	52	52	52	52.5	52	52.4	53.5	53.8	52.42
8: A.M.	54	56	56	53	51	51	52	53		53	53.22
9: A.M.	53	53	54	55	55.5	56	56.5	56	55.8	55.5	55.03
10: A.M.	55	54	53.5	52.5	53	53	53.4	53.6	53.8	54	53.58
11: A.M.	53	52.5	52	52	51.2	51.2	50.5	50.5	49	48.5	51.04
12: NOON	49	49	49	49	49	49	49	49	49	49	49.00
1: P.M.	49	49	49	49	49	49	49	49	49	49	49.00
2: P.M.	48.6	48.5	49	49	49	50	50	50	50.2	50.5	49.48
3: P.M.	51	51	48	48	51	52	51	52	51.5	51.5	50.70
4: P.M.	51.5	51.5	51	51	50.5	50.5	50.5	52		50.2	50.97
5: P.M.	50.2	50	50	50	51.4	51	51	51	51	51	50.66
6: P.M.	51	51	51	51.5	51.5	51	51.2	51.5	51.5	52	51.32
7: P.M.	51	51	51	85	81	73	76.5	76.5	77.5	78	70.05
8: P.M.	72	65	60	56	69.5	65	66	67	58	54	63.25
9: P.M.	62	64	53	56.5	76	80.5	74.5	76	79	82	70.35
10: P.M.	77	82	81	85	85	64	52	51	54	52.6	68.36
11: P.M.	51	50	49.4	51	49	50	50	52	56.2	64	52.26

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

Opacity Monitor Six Minute Averages, March 5, 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.	72	79	98.5	72	68	68	68	71	68.5		73.89
1: A.M.	81.5	81.5	78	66.5	55	54	55	63.5	74	73	68.20
2: A.M.	72.5	64.5	55.4	56	55.8	60	60.5	65	64	61	61.47
3: A.M.	60	62.6	67	63.5	65.5	62.5	62	57	56.2	56.2	61.25
4: A.M.	58	58.1	59	60	58	56	56	56	57	57.2	57.53
5: A.M.	58	60	62	63	62	63.8	64	60.5	63	64.2	62.05
6: A.M.	59.5	62	60.6	64	63.5	61	60	63	59.4	61	61.40
7: A.M.	55	51.8	52	54.5	56	54	54	49	49	50	52.53
8: A.M.	49.8	49.5	49.5	49	49	49	49	48.5	48		49.03
9: A.M.	48	47.8	47.8	47.8	47.4	47.4	47.4	47	47	46	47.36
10: A.M.	46	46	46	46	46	49	52	53	51	49.5	48.45
11: A.M.	49.5	55	54.5	54	53.5	50	48	46	46	45.5	50.20
12: NOON	45	45	44.8	44.6	44.4	44.2	44	44	44	44	44.40
1: P.M.	44	44	44	44	44	44	44	44.2	45	46.8	44.40
2: P.M.	47	51.5	48	48	48	50	48.5	48.5	48.5	49	48.70
3: P.M.	49	49	52	49.2	49	49	48	48	48	48	48.92
4: P.M.	48.2	48	47	47	48	48	48	48	49		47.91
5: P.M.	48.8	48.8	49	49.2	50	50	50.6	49	48	48.2	49.16
6: P.M.	48	48	47.5	47.5	47.5	48	48	48	52	54	48.85
7: P.M.	58	68	76	78	76	72	72	57	67	67.2	69.12
8: P.M.	82	78	72.6	64	57	55	62	57	68	59	65.46
9: P.M.	54	53	72.4	67	67	77.5	76	76	74	82	69.89
10: P.M.	76	88	70	78	85	74.2	56.5	56.2	55.5	53	69.24
11: P.M.	51	50	51	53	54	56	56	52	53	54	53.00

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

Opacity Monitor Six Minute Averages, March 6, 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.	56	56	56.2	57	57.5	58	57	57	58		56.97
1: A.M.	58.5	59.8	60	59	59	58	60	62	61	61	59.83
2: A.M.	64	71	76	79	74	68	70	81.5	78	80	74.15
3: A.M.	79.2	74	78	74.4	76	81	79	71	71	85	76.86
4: A.M.	80.5	80	82	71	68.6	72	76	76	73	70	74.91
5: A.M.	68	68	67.5	67.5	68	70	70	73	77	71.5	70.05
6: A.M.	73	71	69	66.6	66	68	64.5	62.5	62.5	60	66.31
7: A.M.	58	56	56	56	56.5	56	56	58.5	62	61	57.60
8: A.M.	58	57	56	60	58	62	58	56	53		57.56
9: A.M.	51	51	53	58	58	55	52	53	52	52	53.50
10: A.M.	52	52	52.5	58	60	56	56	55	55	55	55.15
11: A.M.	58	58	57	57	55.5	54	53.5	53.5	53.5	54	55.40
12: NOON	56	55	60	64	55	50	56	60	62	62	58.00
1: P.M.	66	65	66	70	78	77	71	72	66	61	69.20
2: P.M.	63.5	60.5	58.5	56	55	57	58	60	61	59	58.85
3: P.M.	55	53	53	53	53	53	53	53	57	61	54.40
4: P.M.	60	62	64	62.5	62	60	67.5	61	65.5		62.72
5: P.M.	57	54.5	54	54	54	54	54	54	54	54	54.35
6: P.M.	55.8	58	63	62	64	63	63	63	69	66	62.68
7: P.M.	66	68	57	56	56	56	63	72	74	68	63.60
8: P.M.	73	69.5	60	67	63	78	63.5	60	61.5	66	66.15
9: P.M.	70.5	73.5	66	70	60	54	60	75.5	67	67	66.35
10: P.M.	75.5	74	74	74	71.5	71.5	72	71	70	68	72.15
11: P.M.	63.5	64	60.5	55	53	53	52.5	52.5	52.2	52	55.82

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

Opacity Monitor Six Minute Averages, March 7, 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.	52	52	52	52	52	53	57	60.5	65		55.06
1: A.M.	62	58	58	64	65	56	56	59	58	58	59.40
2: A.M.	58	57	54	47	46	56	59	59.5	68	61	56.55
3: A.M.	66	68	64	58.5	72	57	66	52	67	54	62.45
4: A.M.	49	49	51	50	54	51	51	50	52	53	51.00
5: A.M.	62.5	60	58	60	59.5	68	64	63	66	56	61.70
6: A.M.	56	56.5	59	58	58	58	58.5	58	58	57	57.70
7: A.M.	57	57	57	57	57	57	57.5	58	59	63	57.95
8: A.M.	67	65.5	66	70.5	73.5	76	82	77		75	72.50
9: A.M.		72	68	70	69	62	60	68	64	64.5	66.39
10: A.M.	66	66	62	59.5	58	56.2	56.5	70	62	62	61.82
11: A.M.	65	61	58.5	58.5	63	66	62	65	60	58	61.70
12: NOON	56	58	57.5	61	66	68	65.5	60.5	62.5	58	61.30
1: P.M.	56	56.5	56	55	54.5	68	58	55	53	55	56.70
2: P.M.	54	53	54	52	53	56	58	57	60	54	55.10
3: P.M.	55	56	61	60	62	63	61	60	54	54	58.60
4: P.M.	57	64	66	64.5	59.5		47	52.5	52	51	57.06
5: P.M.		55	57	57	59.5	54	55.5	55.5	61	56.5	56.78
6: P.M.	56.5	54.5	54	54	59	61.5	62.5	60	59.5	59.5	58.10
7: P.M.	59	57	63	62	58	61	77	70	65	72.5	64.45
8: P.M.	62	64	74	74	61	82	68	66	79	66.5	69.65
9: P.M.	66.5	68	60.5	65	64	61	56	59	56	58	61.40
10: P.M.	64	67	66	63	60	60	54	53.5	54	54	59.55
11: P.M.	54	54	54	55	56.5	59	62.5	63	61	61	58.00

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

Opacity Monitor Six Minute Averages, March 8, 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	60	58		60	63	63	60	60		60.50
1: A.M.	62	63.5	58	58	66	61	68	70	73	68	64.75
2: A.M.	66	51	62	66	58	44	47	50	56	56	55.60
3: A.M.	54	55	56	56.5	61	70.5	74	70	73.5	70	64.05
4: A.M.	62	59.5	58.5	57	55	55.6	55.7	55.7	55.7	55.7	57.04
5: A.M.	55.7	56	56	56	56	58	54	56	59	55	56.17
6: A.M.	57	58	60		38	59.5	59	59	58.5	58	56.33
7: A.M.	58	58	58	58	60	60	63.5	60.5	61	59	59.60
8: A.M.	59	58	62	64.5	69	72	71	68.5		78.5	66.94
9: A.M.	73	66	70.5	66	63	60	61	60	64	66.5	65.00
10: A.M.	66	64.5	62	61	62	79	66	70	66.5	59.5	65.65
11: A.M.	61	66	66	64	62	60	64	68	62.5	68	64.15
12: NOON	64.2	64	62	63	70	67.5	69	70	63	61.5	65.42
1: P.M.	58.5	58	58	58	57	57.8	57.5	57	57	60	57.88
2: P.M.	62	65	68	70	67.5	67	67.5	67.5	62	68	66.45
3: P.M.	64	62	59	59.5	58	60	63	64	63	62	61.45
4: P.M.	60.5	60	63	62	57.5	59	59	58		57	59.56
5: P.M.	57	58	58	57.5	58	60	61	61	64	67	60.15
6: P.M.	64	58	57.5	57.5	57.5	57.5	59	59	58	58	58.60
7: P.M.	64	80	64	60	64	68	70	68	67.5	70	67.55
8: P.M.	60.5	58	61	64	62	74	73	67	80	84.5	68.40
9: P.M.	86	80	86	76	75	73	68	63	66	70	74.30
10: P.M.	70	66	62	63	66	62	65.5	65.5	65	66	65.10
11: P.M.	70	67	70	70.2	71.5	65	67	62	62	59	66.37

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

Opacity Monitor Six Minute Averages, March 9, 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.	65.5	62	63	66.5	72	69	64	57		56	63.89
1: A.M.	57	57	63.5	60	56	56	62	60	60	64	59.55
2: A.M.	58.5	62	63	64	59	68.5	62	59	60	46	60.20
3: A.M.	46.5	48	50.5	60	68	70	66	66	63	58	59.60
4: A.M.	68	78	67	73	68	64	64	64	57	54	65.70
5: A.M.	54.5	54.5	63	64.5	70	66	63	66	67	53	62.15
6: A.M.	53	51.5	56	66	59		62	56	52.5	52.5	56.50
7: A.M.	54	56	54	54	54	54	54	55	55	55	54.50
8: A.M.	56	54	57	63.5	68	68.2	64	56	54		60.08
9: A.M.	50	50	52	52	52	53	53	52	54	55	52.30
10: A.M.	55.5	59	65	60	56	55	55	54.5	54.2	54.2	56.84
11: A.M.	54	53	61	68.5	70	69.5	64	60	61	70	63.10
12: NOON	78	73	78.5	78	75	72	63	59	64	66	70.65
1: P.M.	68	63	57	51	51	50	47.5	50	52	53	54.25
2: P.M.	52	52	44	49	56	58	64.5	64	62	63	56.45
3: P.M.	60	66	66	62	68	66	64	63	59	57	63.10
4: P.M.	56	55.5	55.8	55.8	57.5	63	72	71	68		61.62
5: P.M.	58	58.5	71.5	78.5	62	55	56	59	62	66	62.65
6: P.M.	69	63	70	65	62	72	64	58	60	75	65.80
7: P.M.	70	68	80	65	69	74	83	68	87	66	73.00
8: P.M.	70	62	83.5	71	65	73	71	71	70	64	70.05
9: P.M.	64	60	68	66	65	68	68.2	65	58	58	64.02
10: P.M.	58	63	60	57	57	63	62	62	70	66.5	61.85
11: P.M.	72.5	73	74	70	63	74	70	68	72	68.5	70.50

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

Opacity Monitor Six Minute Averages, March 10, 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.	69			62.5	59	58.5	58.5	62.5	62.5		61.79
1: A.M.	58	57.5	53.5	49.5	49.5	52	51	45	43	48	50.70
2: A.M.	53	56	64.5	68	77.6	76.5	71	66	72	67	67.16
3: A.M.	69.5	57.5	53	53.5	53.5	54	53.5	54	54	54	55.65
4: A.M.	56.5	59	60	57	54	54	54	55	55.5	57.2	56.22
5: A.M.	61	58	58.2	60.5	60	71	61	56	58	60	60.37
6: A.M.	65	62	59.8	60	63	72	78	73	61	60	65.38
7: A.M.	58.5	58.5	58	58	58	58	58	59	61	66	59.30
8: A.M.	82	83	83	81	69.5	69.5	80	74.5		74	77.39
9: A.M.	71	64	63	61	62	68	71	69	68	64	66.10
10: A.M.	66	66	66	58	58	60	59	61	64	66	62.40
11: A.M.	65.5	63	62	66	72	77	72	76	70	67	69.05
12: NOON	70	60	60.5	64	66	66	62	58	57	57	62.05
1: P.M.	59	60	61	63	58	59	66	69	65	61	62.10
2: P.M.	58	60.5	68	63	67	67	66	63	56	55	62.35
3: P.M.	58	60.5	66	74	66	54	53.5	53	51	59	59.50
4: P.M.	58.5	57	58	69.5	74	71	83	67		78	68.44
5: P.M.	80.5	84	82.5	77	76	79.5	67.5	60.5	62	62	73.15
6: P.M.	60.5	59.4	60	60	64	66	65	64	63	59	62.09
7: P.M.	56	56	56	59	60	56.5	55	63	66.5	69	59.70
8: P.M.	74	70	70	72	71	70	72	68	71.8	70	70.88
9: P.M.	66	63.5	58	60	63.5	62	60.5	63.5	64	66.5	62.75
10: P.M.	65.5	62	64.5	62	61.5	68	70	69	63	68.5	65.40
11: P.M.	75	72	75	70	63.5	68	62	61	66	72	68.45

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

Opacity Monitor Six Minute Averages, March 11, 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.	68	67	59.5	58	53	50	54	56		64	58.83
1: A.M.	63.5	63.5	58	55	55.2	60.8	59	60	63.2	59	59.72
2: A.M.	65	66	64	72	68.5	66	68.8	56	56	59	64.13
3: A.M.	65	70	71.5	68	62	62	71.8	72	69	69	68.03
4: A.M.	66	60	60	60	58	58	60	63.2	66		61.24
5: A.M.		43	77	68	61	60	59	60	66	72	62.89
6: A.M.	70	63.8	64	70.5	61.5	58.5	58.5	63.2	62	60.8	63.28
7: A.M.	60	60.2	60.2	58	55	56	56	59	68	57.5	58.99
8: A.M.	58	59.5	60	59	64.5	65	64	64.8	57.5	60	61.23
9: A.M.		60	64	60	57	57	59	63	68	64	61.33
10: A.M.	68	68	69	80.2	69	65	73	58	54	54	65.82
11: A.M.	50	49	47	52	50	53	52	48.2	49.5	57.5	50.82
12: NOON	52	49	50	56	58	60	63.5	62	65		57.28
1: P.M.	64	73	66.2	62.5	66	53	52	52	53	53	59.47
2: P.M.	54.2	53.4	53.5	53.4	54	58	61.8	62	58	55	56.33
3: P.M.	55	54	55	55	54	55	54.2	56.2	60	74	57.24
4: P.M.	81	82	78	75	70	79	81	78	82	82	78.80
5: P.M.		76.2	79	76	79	86	82	78	76.2	65	77.49
6: P.M.	65	64	64	64	63	64	64.5	70.5	72	78	66.90
7: P.M.	71.5	64	68	72	67.2	76	68	64	61.5	67	67.92
8: P.M.	65	65	67.5	60.6	63	70.5	76	73	69.2	74	68.38
9: P.M.	63	62.8	68	70	63	59	59	63.5	64	69	64.13
10: P.M.	72	69	69	65	58.5	56.5	56.5	57	60	62	62.55
11: P.M.	64	62	48			53.5	56	58	64.5	60.5	58.31

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

Opacity Monitor Six Minute Averages, March 12, 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.		65	66	73	68	66	69	56.5		53	64.56
1: A.M.	53	53	53	53	53	53	53	53	53	53	53.00
2: A.M.	53	53	55	61.5	67	70	68	63	58	67	61.55
3: A.M.		63	68	65	60	56	59	56	56	55	59.78
4: A.M.	55.2	55	55	54.5	54.5	56	57	56	54.5	55	55.27
5: A.M.	55	54.8	54	54	54	54.2	57.2	59.2	60.5	62.5	56.54
6: A.M.	64	66	66	67	67.5	67.5	67	67.2	67	61	66.02
7: A.M.	60	58	57	56	63	64	66	68	57	56	60.50
8: A.M.	60	62.5	72	74.2	70	71	71	65.6		68	68.26
9: A.M.	61	67.5	78	81	82	71	59	56	54.5	53.5	66.35
10: A.M.	53	52	51	52	52	51.5	51.5	51	50	52	51.60
11: A.M.	54	54	51	51.2	51	51	51	54	56.2	57	53.04
12: NOON	57.2	58	58	58.5	58.5	59	59	59	59	59	58.52
1: P.M.	59	59	59	59	60	59	59	59	59	66.5	59.85
2: P.M.	74	78									76.00
3: P.M.				58	58	58	58	58	58	58	58.00
4: P.M.	66.5	66	66.2	65.8	67.5	62	78	75.6	95	81	72.36
5: P.M.	81.5	79	72		72	64.6	69	80.5	92	89.5	77.79
6: P.M.	82	72	84	72	68.6	72.8	88	69	92	70	77.04
7: P.M.	85	88	74	65	66	73.8	69	62	61	60	70.38
8: P.M.	60	61.2	64	74	76.8	78	68.8	60	60.2	61.5	66.45
9: P.M.	64	78	79	74	67	60	62.5	64	74	62	68.45
10: P.M.	66	68	70.4	77		66.8	72	56	53.5	55	64.97
11: P.M.	58.5	62	74	74	69	71.5	70	64	63.5	61	66.75

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

Opacity Monitor Six Minute Averages, March 13, 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.	62	67.5	75	79.5	74.5	62	58.2	58	58	58	65.27
1: A.M.	58	57.2	54.6	57	63	59	55.5	58	64	60	58.63
2: A.M.	70	72	70	74.5	77	76	76.6	74.4	65	57	71.25
3: A.M.	70	70	70.6	75	71.2	68	61	67.2	76	66	69.50
4: A.M.	72.5	68	64	58	59	59.5	56	56	56	56	60.50
5: A.M.	58	58	57.5	59.5	59.8	59	60	61	60	61	59.38
6: A.M.		64	64	61.5	63		64.5	65	61.5	56	62.44
7: A.M.	57	64.6	63	65	70	67	69	70	75	80	68.06
8: A.M.	74	72	74	64	61	64	79	56	58	62	66.40
9: A.M.	62	62	60	60	60	58	58	58	57	57	59.20
10: A.M.	56	56	56	55.5	55.5	54.5	57.5	60	54	55	56.00
11: A.M.	53	54	54	52	52	52	52	59	64	62	55.40
12: NOON	60	67.5	66	66	70	65	67	67	57	56	64.15
1: P.M.	55.5	55	55	55	55	54	54	54	54	54	54.55
2: P.M.	54	54	54	54			53.5	53.2	53.2	53.2	53.64
3: P.M.	53.2	53.2	53	53	53	53	53	53	54	54	53.24
4: P.M.	54	54	54	54	54	54	54	54.1	54	53	53.91
5: P.M.	53	52	52	56	72	84	88	84	71	66	67.80
6: P.M.	76	78	71	76	72	64	62.5	78	77.8	81.4	73.67
7: P.M.	78	73	59.5	74	62	92.5	68	65.5	62	64	69.85
8: P.M.	61	80	66	54	52	66	76	71.5	72.4	86	68.49
9: P.M.	87	64	38.5	60	75.2	29	28.4	44.5	31	14	47.16
10: P.M.	17	10	8	17		39.5	21	18	16	16	18.06
11: P.M.	16	16.2	16	15	14	14	13	12	11	11	13.82

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

Opacity Monitor Six Minute Averages, March 14, 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.	11	10	10	10	9.5	10	8	0	0		7.61
1: A.M.	Unit	Off	Line								
2: A.M.	No	Fire	in	Boiler							
3: A.M.	Chart	Recorder									
4: A.M.	Turned	Off									
5: A.M.											
6: A.M.											
7: A.M.	Unit	Off	Line								
8: A.M.	No	Fire	in	Boiler							
9: A.M.	Chart	Recorder									
10: A.M.	Turned	Off									
11: A.M.											
12: NOON											
1: P.M.	Unit	Off	Line								
2: P.M.	No	Fire	in	Boiler							
3: P.M.	Chart	Recorder									
4: P.M.	Turned	Off									
5: P.M.											
6: P.M.											
7: P.M.	Unit	Off	Line								
8: P.M.	No	Fire	in	Boiler							
9: P.M.	Chart	Recorder									
10: P.M.	Turned	Off									
11: P.M.											

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

Opacity Monitor Six Minute Averages, March 15, 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.											
1: A.M.	Unit	Off	Line								
2: A.M.	No	Fire	in	Boiler							
3: A.M.	Chart	Recorder									
4: A.M.	Turned	Off									
5: A.M.											
6: A.M.											
7: A.M.	Unit	Off	Line								
8: A.M.	No	Fire	in	Boiler							
9: A.M.	Chart	Recorder									
10: A.M.	Turned	Off									
11: A.M.											
12: NOON											
1: P.M.	Unit	Off	Line								
2: P.M.	No	Fire	in	Boiler							
3: P.M.	Chart	Recorder									
4: P.M.	Turned	Off									
5: P.M.											
6: P.M.											
7: P.M.											
8: P.M.											
9: P.M.				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 Monitor Six Minute Averages, March 16, 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.	1	1	1	1	1	1	1.2	1.2	1.5	1.5	1.14
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.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
3: A.M.	1.5	1.5	1.5	0.5	0.5		0.2	0.4	0.4	1	0.83
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	1.2	2	2	1.6	1.6	1.34
9: A.M.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.60
10: A.M.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.60
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	1.7	2	2.8	2	2	2	1.85
2: P.M.	2	2	2	2		1.5	1.5	1.5	1.5	1.5	1.72
3: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
4: P.M.	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80
5: P.M.	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80
6: P.M.	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80
7: P.M.	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.70
8: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
9: P.M.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.50
10: P.M.	1.5	1.5	1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.50
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 Monitor Six Minute Averages, March 17, 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.	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.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
4: A.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
5: A.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
6: A.M.	1.4	1.4	1.4	1.4		1.4	1.4	1.4	1.4	1.4	1.40
7: A.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
8: A.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
9: A.M.	1.4	1.4	1.4	1.4	1.4	1.2	1.2	1.2	1.2	1.2	1.30
10: A.M.	1.2	1.2	1.2	1.3	1.4	1.4	1.6	1.7	1.8	1.9	1.47
11: A.M.	2	2	2	2	2	2	1.9	1.9	1.8	1.8	1.94
12: NOON	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.64
1: P.M.	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.40
2: P.M.	1.4	1.4	1.4	1.4	1.4		1.4	1.4	1.4	1.4	1.40
3: P.M.	1	1	1	1	1	1	1	1	1	1	1.00
4: P.M.	1	1	1	1	1	1	1.2	1.3	1.4	1.5	1.14
5: P.M.	2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.82
6: P.M.	1.8	1.8	1.8	2	2	2	2	2	2	2	1.94
7: P.M.	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.80
8: P.M.	1.8	1.8	1.8	1.8	2	2		0.8	1	1	1.56
9: P.M.	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.20
10: P.M.	1.2	1.2	1.2	1.2		1	1	1	1	1	1.09
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 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 OF DAY											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 OF DAY											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 OF DAY											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 OF DAY											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 OF DAY											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.

Opacity Monitors Six Minute Averages, March 25, 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.	62.2	64.5	66	66	65	66		62	60	58.5	63.36
1: A.M.	59.2	67	69.5	73.2	73	68.2	74	73	69.5	66	69.26
2: A.M.	65	59	65	71.2	75	72	66.4	60	60	59	65.26
3: A.M.	59	59	59	60	61	58	58	58	58	57.6	58.76
4: A.M.	57.4	57.2	57	57	57	57.2	57.2	57	57	57	57.10
5: A.M.	57	57	57	57	57	57	57	57	57	57	57.00
6: A.M.	57	57	57		45	56.5	56.5	57	57	57	55.56
7: A.M.	57	57	58	58	62	64	65.2	63.5	79	78	64.17
8: A.M.	64	58	58	65	63.2	70	65.2	63.5	61	60	62.79
9: A.M.	60	63.2	63.5	62	60.7	67.7	70	69	73	64.5	65.36
10: A.M.	77	76.5	64.5	65	84	65	81	71	73	61	71.80
11: A.M.	60.5	60.6	60.4	60	60	60	59.8	59.8	59.8	59	59.99
12: NOON	59	59	59	59	59	58	58	57	56	53	57.70
1: P.M.	52	48.5	49	48	48	49.5	51	49.6	49.5	49.5	49.46
2: P.M.	50	50.8	50		39.5	46.5	46		46	46	46.85
3: P.M.	46	46	46	46	46	45.8	45.8	46	46	46.2	45.98
4: P.M.	45	45.2	44.8	45	46	45	45	45	44.2	44.5	44.97
5: P.M.	44.5	44.5	44.2	44.2	44.2	44.5	44.2	45	44	44	44.33
6: P.M.	44	44	44	44	44	46	46	46	56	76	49.00
7: P.M.	87.5	86	83.5	81	69	74	80	69	86	72	78.80
8: P.M.	65	56	55	56	72	70	68.5	68	68	77	65.55
9: P.M.	63	68.5	79	77	72	84.5	82.5	74	70	48	71.85
10: P.M.	52.5	59	62		46	55.5	63.2	70	60	65	59.24
11: P.M.	60	60	54.5	54.5	54	58.4	59	60	59.6	60	58.00

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

Opacity Monitors Six Minute Averages, March 26, 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	67	61	65	72	71	67	73.5	72	70.5	67.90
1: A.M.	70	66	62	66	63	62.5	62	61	61.5		63.78
2: A.M.	47	68	68.5	68	66	66	65.5	64.5	64	63	64.05
3: A.M.	67	70	69.5	71	73	72	67	72	78	73	71.25
4: A.M.	74.5	67	62	64	60.5	59.5	59	61	65	65.5	63.80
5: A.M.	64.5	63	63.5	63	63	64	64.5	63.5	68	70	64.70
6: A.M.	69	69	69	71		56	66	70	68	64	66.89
7: A.M.	61	60.5	60.5	61	62	62	61	60	59	58.5	60.55
8: A.M.	57	58	60	59	59	59	59	59	59	59	58.80
9: A.M.	59.5	60	59	59	59	59	59	59	59	59	59.15
10: A.M.	59	59	59	60	59	59	59	59	59	59	59.10
11: A.M.	59	59	60	59	59	59	59	59	59	59	59.10
12: NOON	59	59	59	58.8	59.2	59	58.5	58.5	58.5	58.5	58.80
1: P.M.	58.5	58.5	58.5	59	58.5	58.5	58.5	58.5	58.5	59	58.60
2: P.M.	59	59	59	59		47	58	58	58	58.5	57.28
3: P.M.	58.5	59	58.5	58.3	58.5	58	58.5	58.5	58.5	58.5	58.48
4: P.M.	58.5	58.5	58.5	59	58.2	58.2	58	58	59	61	58.69
5: P.M.	59	59	59	58.5	58	58.2	58.2	58.2	58.5	60	58.66
6: P.M.	66.5	68	67	66	67	63	67	68.5	70.5	66	66.95
7: P.M.	61.5	60	60	64	69	61	60.5	69	72	78	65.50
8: P.M.	77.5	68.5	85	84	82	89	91.5	81.5	80	63	80.20
9: P.M.	62	83	78	74	72	62	62.5	63	61.5	62	68.00
10: P.M.	64	63.5	62		49.5	61	59	58	57	59	59.22
11: P.M.	61	61	58	61	63	73	62	60	62	62	62.30

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

Opacity Monitors Six Minute Averages, March 27, 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.	62	62	62	59	59	61	62	62	62	62	61.30
1: A.M.	62	62.5	63.5	63.5	63	63		60	63.5	63	62.67
2: A.M.	63	63	63.5	64	64	65	65	66	64	64	64.15
3: A.M.	66	72	64	63	70	74	79	76	81	81	72.60
4: A.M.	81	79	84	84	83	70	62	62	62	62	72.90
5: A.M.	62	62.5	63	63	62	62	63	63.5	68	66	63.50
6: A.M.	68.5	68.5	76		51	66	72	79	79	85	71.67
7: A.M.	91	73.5	70.5	81	76	72	67	66	64	64.5	72.55
8: A.M.	64.5	65	64.2	65	64.5	62	62	60.5	60.5	60	62.82
9: A.M.	60	60	60	60	60	60	59.5	58.5	58	58.5	59.45
10: A.M.											
11: A.M.								63	62	62	62.33
12: NOON	62	62	62	62	62	62	62.5	62	62	62	62.05
1: P.M.	61.5	61.5	61.5	62	61	61	60	61	63	62	61.45
2: P.M.	62	61.5	61	61	61	60.5	60.8	61	61	61	61.08
3: P.M.	61	61	62	61	61	61	61	61	61	71	62.10
4: P.M.	80	79.5	70	75.5	64	61	74	71	76.5	69.5	72.10
5: P.M.	76	65	62.5	78	68	86.5	71	65	63	61.5	69.65
6: P.M.	62	72.5	63	61	64.5	69	81	77	76	82	70.80
7: P.M.	86	84.5	81		81.5	69	62.5	64.5	64	64	73.00
8: P.M.	65	65	62	62	62	61	63	64	65	64.5	63.35
9: P.M.	63	62.2	62	62	64	64	60.5	68	66	70	64.17
10: P.M.	68.5	66	72	70	65	78	76	72	73	57	69.75
11: P.M.	55	56	56	55.5	55	54	53	54	54	54.5	54.70

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

Opacity Monitors Six Minute Averages, March 28, 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.	64.5	56	56	53.8	53.5	53	58	57.5		53	56.14
1: A.M.	62	69	67	65	72	72	69.5	76	74.5	73	70.00
2: A.M.	65	54.5	55	56		33	56	55	54.5	56	53.89
3: A.M.	56	57	56		55	54.5	56	59.5	56	56	56.22
4: A.M.	58.5	63	69	65	68	71.5	69	77	74	72	68.70
5: A.M.	73	58	56	58.5	58.5	61	68	84.5	72	63	65.25
6: A.M.	65.5	66	68	68.5	70	76	89	78	72.5	69	72.25
7: A.M.	65	62	62.5	62.5	57	54	60	58	56	56	59.30
8: A.M.	56	56	56	56.5	57	57.5	57.5	58.5	57.5	59.5	57.20
9: A.M.	60	60	60	60	60	60	60	60	59.5	59.4	59.89
10: A.M.	59	58.5	58	58	57.5	57.5	57.5	57.5	57.5	57.5	57.85
11: A.M.	57	57	56.5		56	56	55.5	55	55	55	55.89
12: NOON	56	57	56	56	56	56	55	56	56	56.5	56.05
1: P.M.	57	57	57	57	54.5	54	54	54	54	55	55.35
2: P.M.	53.5	53.5	53.5	52.5	52.5	52	51.5	51.5	59	81	56.05
3: P.M.	79	75	69	56	60	67	74	64	68.5	64	67.65
4: P.M.	64	72	75	77	64	57	55	52	62	63	64.10
5: P.M.	58	52	62	66.5	73	73	77	74	78	98	71.15
6: P.M.	80	94	69	82	88	75	62	62	65	65	74.20
7: P.M.	78.5	73.5	65		66	64	63.5	59.5	56	55	64.56
8: P.M.	54	66	77	61	60	70	81.2	92.5	64	63	68.87
9: P.M.	69.5	70	74	64	82	86	81	80.5	86	74	76.70
10: P.M.	66.5	66	78	84	73.5	70.5	69	70	70.5	69	71.70
11: P.M.	69	70.5	71	74	80	78	79	70	66.5	66	72.40

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

Opacity Monitors Six Minute Averages, March 29, 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.	66		57.5	66	66	66	66	66	65	66	64.94
1: A.M.	66	71	66	65	71	76	83	78.5	81	84	74.15
2: A.M.	84.5	80	83	88.5	91.5	74	85	72	66	66	79.05
3: A.M.	66	67	67.5		69.5	69	70	68.5	68	68	68.17
4: A.M.	67	67.2	67.2	67.2	66	66.5	66.5	68	68	69	67.26
5: A.M.	68	68	67.5	67.5	70	77	79	73	75.5	81	72.65
6: A.M.	89.5	87	82	81.5	81	79	74	84	82	78.5	81.85
7: A.M.	77	65	66	68	74.2	72	69	72	67	67	69.72
8: A.M.	66	67	67	62	63.5	66	63	67.5	64	62.5	64.85
9: A.M.	62.5	62.5	64	63	65	63	68	62	65	70	64.50
10: A.M.	67	66	72.5	75	73	72.5	83.5	83	78	77	74.75
11: A.M.	66.2	70	74		73.5	71	66.2	66	66	66	68.77
12: NOON	66	66	66	66	66	66	66.5	66	66	66	66.05
1: P.M.	65.5	65.5	65.5	65.6	66	65	65	65	66	66	65.51
2: P.M.	68	74	73	73	68	68	69	71.5	76	73	71.35
3: P.M.	74	76.5	78	76	76	81.5	83	80	76	68.5	76.95
4: P.M.	72	70	67	67	66.5	67	66	66	66	66	67.35
5: P.M.	66	66	66	66	66	65	67	65	67.5	70	66.45
6: P.M.	62	63	92	69	89.5	71	72	71	67	68	72.45
7: P.M.	78	77	71		62	61	77	69	81	69	71.67
8: P.M.	76	75	76	85	71	68	82	81	70.2	79	76.32
9: P.M.	71	81	70	68	65	64	66	69	66	68	68.80
10: P.M.	73.5	65.5	64	71.5	75	78.5	78	86	88	82	76.20
11: P.M.	81.5	87	85	86	84	70	64		64	66	76.39

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

Opacity Monitors Six Minute Averages, March 30, 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.	65	68	68	68	64.5	64.5	64	64	64	63	65.30
1: A.M.	65.5	64	66	65	65	64	63	63	68	67	65.05
2: A.M.	70	66	63	65	72	78	68	72	79	82.5	71.55
3: A.M.	79	78	82		83	82	71	64	66.5	65	74.50
4: A.M.	65	64.6	66	66	66	66	65	66	66	66	65.66
5: A.M.	65	64	64	64.5	65	69.5	71	71	68	66	66.80
6: A.M.	65	65.5	68.5	68.5	70	66	65	69	73	77	68.75
7: A.M.	74	78	81	79	79	82	83	83	82.5	72	79.35
8: A.M.	68	66.5	65.5	66	66	66	66	66.5	66	66	66.25
9: A.M.	66	67	65	64.5	65.5	65	66.5	66	66	65	65.65
10: A.M.	66	69	72	74	88	84	77	69.5	69.5	66.5	73.55
11: A.M.	66.5	67	67		69.5	69	82	69	71	72	70.33
12: NOON	71	70	70.5	81	84.5	74.5	66.5	63.5	64	63.5	70.90
1: P.M.	64	64	64	64	64	64	64	64	64	64	64.00
2: P.M.	64	63	64	63	63	63	63	63	63	63	63.20
3: P.M.	63	63	63	63	63	62.5	62	62	62	62	62.55
4: P.M.	62	70	71	82.5	69	80	69	74	71	87	73.55
5: P.M.	78	70	63	60	58.5	99.5	100	100	100	100	82.90
6: P.M.	92	100	100	100	100	100		87	92	82	94.78
7: P.M.	72	83	81.5		81	91	93	93	100	90	87.17
8: P.M.	80	70	69	74	87	86	79	80	80	76	78.10
9: P.M.	70	70.5	75	75	84	89	86	80.5	72	72	77.40
10: P.M.	73	76	72.5	72	77	80	83	87	78	73	77.15
11: P.M.	73	74	73.5	73.5	73	69.5	68	68	66.5	66	70.50

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

Opacity Monitors Six Minute Averages, March 31, 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.	66	66	66	70		73	79	79.5	90	92	75.72
1: A.M.	91	97	82	71	70	79	80.2	74	79.8	74	79.80
2: A.M.	72	66	66	66	70	76	76	70	67	66	69.50
3: A.M.	65	64	64		63	63	65	65	68	64	64.56
4: A.M.	63	65.5	70.2	80.5	79.5	83	82	83	81	82	76.97
5: A.M.	82.5	82.5	82	76	74	82	82	78.5	71	77	78.75
6: A.M.	77	74	74	80.5	79	78	81	75	81	78.5	77.80
7: A.M.	85	80	80	82	78	77.5	79	86	88	87	82.25
8: A.M.	79	69	69	69	69	69	69.5	69	69	69	70.05
9: A.M.	72	75	78	76	74	71	73	77	73	75	74.40
10: A.M.	73	72.5	70	70	70	69	69	70	72.5	80	71.60
11: A.M.	72	76	76		81	79	78	73	66	66	74.11
12: NOON	68	69	74	72	71	72	70	68	67.5	67	69.85
1: P.M.	68	72.4	76	76	74.5	67.5	66	65.5	66.5	65.5	69.79
2: P.M.	66	65	66.5	68.5	72.5	73	70.5	68	64.5	65	67.95
3: P.M.	65	67	69.5	75	69	74	69	68	65	68	68.95
4: P.M.	68	70	74	66.5	66.5	74	77.5	77	66	66	70.55
5: P.M.	72.5	70	80.5	82	77	79.5	88	86	87	89	81.15
6: P.M.	78	72.5	72.5	78	75	76	75.5	73.5	71	70	74.20
7: P.M.	70	69	68		67.5	68.5	68	69	70	73	69.22
8: P.M.	76	76	74	71	69	68	68	68	70	72	71.20
9: P.M.	68	68	71.5	73.5	77	74	77	77.5	78	79	74.35
10: P.M.	81	80.5	81.5	81	72	69	69	70	72	75	75.10
11: P.M.	82	75.5	78	76		71.6	71.5	71.5	72.5	76	74.96

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