H.D. KING ELECTRIC GENERATING PLANT
311 North Indian River Drive (34950)
Post Office Box 1298 (34954)
Fort Pierce, Florida
(407) 464-5792

RECEIVED
MAY 20 1991
Division of Air
Resources Management

May 16, 1991

Florida Department of Environmental Regulation
2600 Blair Stone Road, Rm 338
Tallahassee, FL 32399-2400

Attn: Preston Lewis

SUBJECT: EMERGENCY ORDER FOR BURNING FUEL OIL IN UNITS 6, 7, and 8

REFERENCE AIR PERMITS: UNIT 6 - AO-56-113534
UNIT 7 - AO-56-112679
UNIT 8 - AO-56-112678
UNIT 9 - AO-56-175955

Dear Mr. Lewis:

In mid-April the Orlando Director of Systems Operations was contacted and he agreed that Orlando could furnish FPUA 35 megawatts of firm power on a round-the-clock, monthly contract. FP&L Manager of Interchange Dispatch was immediately contacted and we were informed that FP&L could not wheel this or any other firm energy to Fort Pierce due to continuing problems with the FP&L transmission system. The Lake Worth Utilities Superintendent of Systems Operation was then contacted to determine if they had any excess capacity. He stated that they had fuel problems--no firm gas. He did have 15 megawatts of oil-fired generation available, but could not sell it on firm basis.

Tampa Electric was then contacted; however, FP&L's Director of Systems Operation again advised that due to systems condition and security, they could not wheel firm power. FP&L did agree they would make every effort possible to sell us Schedule X power when they had it available. We have been living with this day-to-day, hour-to-hour, purchasing since no other options are available.

On May 15 the FP&L Assistant Manager of Interchange Dispatch was again contacted and he advised us they did not, at that time, have the transmission capacity to wheel any power from any location to Fort Pierce.

FORT PIERCE UTILITIES AUTHORITY

We believe we have made a sincere and determined effort to purchase power on a firm basis. However, the transmission system in South Florida is stretched to the limits; and FP&L simply will not commit to any additional firm transmission agreement. Again, we respectfully request a quick disposition of this emergency relief order so that we can either prepare our customers for impending rolling blackouts, or be allowed to burn oil as necessary to meet our customers' load requirements.

Sincerely,

Harry Lamb, Supt.
Power Resources

HL/s

cc: Harry Schindehette
Thomas Richards
Steve Treece
Tony Vincik
Jack Miller, Black & Veatch
Alan Roth, Spiegel & McDiarmid
Shuler Massey, Vero Beach Power Plant
Peter C. Cunningham, Hopping Boyd Green & Sams

RECEIVED
DEC 14 1990
Dept. of Environmental Reg.
West Palm Beach

ATTACHMENT
BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION
FORT PIERCE UTILITIES AUTHORITY - UNIT 6

INTRODUCTION

Fort Pierce Utilities Authority (FPUA) is currently renewing the air permits for H. D. King Units 6, 7, and 8. As part of this renewal process, the Florida Department of Environmental Regulations (FDER) has requested a sulfur dioxide (SO_2) and particulate Best Available Control Technology (BACT) determination be provided for Unit 6. Their request is pursuant to Florida Administrative Code (FAC) 17.2.600(6).

Unit 6 is a Babcock & Wilcox boiler with a maximum heat input of about 219 MBtu/h. This unit is currently on cold standby. It would be used for peaking purposes if power supply shortages develop and would fire natural gas as the primary fuel. Unit 6's operating permit allows the use of No. 6 fuel oil during temporary curtailment of the natural gas supply or emergency situations; if notification is given to the FDER within 24 hours.

Historically, Unit 6 has been operated infrequently and has not fired oil for the past several years. FPUA wants to retain the unit's operating flexibility for oil firing. Therefore, this BACT determination is being submitted as part of the permit renewal.

All of the supporting BACT calculations are included in the appendix of this attachment. Note that the fuel oil heat content and density assumptions are based on data contained in EPA's document entitled "Compilation of Air Pollutant Emission Factors (AP-42)".

BACT DETERMINATION

Unit 6 will typically fire natural gas which will result in minimal SO_2 and particulate emissions. Therefore, this BACT determination considers the impact of firing fuel oil. Sulfur dioxide is the primary pollutant of concern since the sulfur in the fuel is converted to SO_2 and released to the atmosphere. The extent of air quality impact will be dependent on the source characteristics, sulfur content of the fuel, and meteorological conditions.

Particulate emissions and the resulting air quality impacts are typically minimal for oil firing. Therefore, particulate emissions will not be addressed further in this BACT determination.

Fuel Considerations

This BACT compares the fuel cost associated with varying the sulfur content of the fuel. Currently, the FAC states that the SO_2 emission limit for sources similar to Unit 6 are to be established by a BACT determination. In comparison, FPUA has two larger units that have the capability to fire No. 6 fuel oil: Units 7 and 8. The FAC has designated SO_2 emission rates for these units of 2.75 and 0.8 lb SO_2/MBtu of heat input, respectively. This limit is equivalent to a No. 6 fuel oil with sulfur contents of about 2.6 and 0.76 percent, respectively. Both of these fuels are currently stored at the H. D. King facility.

There is a considerable difference in the current price of these fuels. The higher sulfur fuel oil can be purchased for $26.95 per barrel compared to $35.35 per barrel for the lower sulfur fuel. These costs result in a differential of $8.40 per barrel or 20 cents per gallon.

Sulfur Dioxide Emissions

Unit 6 has a rated heat input of about 219 MBtu per hour. This translates into a fuel burn rate of about 1,460 gallons per hour of No. 6 fuel oil (150,000 Btu/gal). Firing the higher sulfur fuel in Unit 6 will result in an SO_2 emission rate of about 602 lb/h. The SO_2 emission rate will be reduced to about 175 lb/h of SO_2 for the lower sulfur fuel. This is a potential SO_2 reduction of approximately 427 lb/h.

The cost of this SO_2 reduction is an increase of $292 per hour of oil firing. The associated incremental cost is about 68 cents per pound of SO_2 removed ($1,368 per ton). This incremental cost is less than EPA's guideline of $2,000 per ton.

BACT CONCLUSION

Utilizing a 0.76 percent sulfur No. 6 fuel oil for Unit 6 will result in an incremental cost of about $1,368 per ton removed. While this is an increase in fuel cost, it is not considered to be excessive in comparison to EPA's guideline of $2,000 per ton. Therefore, firing natural gas as the primary fuel and No. 6 fuel oil with 0.76 percent sulfur during natural gas supply interruptions or emergency situations are considered to represent BACT for Unit 6.

BLACK & VEATCH ENGINEERS ARCHITECTS

Owner: Fort Pierce Utilities Authority — Prepared by: D. Nelson
From: H.D. King — Date: 12/11 19 92
Project No: 16589.002 — Checked by: DK Murphy
Title: Supporting Calculations for Unit 6 BACT Analysis — Date: 12/11/92
Page: 1 of 2

DO NOT WRITE IN THIS SPACE

No 6 Fuel 0.1 Characteristics

Density = 7.88 lb/gal (AP-42)

Heat Content = 150,000 Btu/gal (AP-42)

Fuel Burn Rate

Unit 6 = $(219\ \text{MBtu/h})\left(10^6\ \text{Btu/MBtu}\right)\left(\frac{\text{gal}}{150{,}000\ \text{Btu}}\right) = \boxed{1460\ \text{gal/h}}$

SO_2 Emission Limits

Unit 6 SO_2 emission limit set by BACT [FAC 17.2.600(6)]

Unit 7 SO_2 emission limit is 2.75 lb SO_2/MBtu

Unit 8 SO_2 emission limit is 0.8 lb SO_2/MBtu

Equivalent Sulfur Content for No. 6 fuel 0.1

- 2.75 lb SO_2/MBtu

$$\text{Percent S} = \frac{\text{lb S}}{\text{lb oil}} = 2.75\ \frac{\text{lb SO}_2}{\text{MBtu}} \times 150{,}000\ \frac{\text{Btu}}{\text{gal}} \times \frac{\text{MBtu}}{10^6\ \text{Btu}} \times \frac{\text{gal}}{7.88\ \text{lb oil}} \times \frac{1\ \text{lb S}}{2\ \text{lb SO}_2} \times 100$$

$$\boxed{\text{Percent S} \approx 2.6}$$

- 0.8 lb SO_2/MBtu

$$\text{Percent S} = \frac{\text{lb S}}{\text{lb oil}} = 0.8\ \frac{\text{lb SO}_2}{\text{MBtu}} \times 150{,}000\ \frac{\text{Btu}}{\text{gal}} \times \frac{\text{MBtu}}{10^6\ \text{Btu}} \times \frac{\text{gal}}{7.88\ \text{lb oil}} \times \frac{1\ \text{lb S}}{2\ \text{lb SO}_2} \times 100$$

Percent S = 0.76

BLACK & VEATCH ENGINEERS ARCHITECTS

Owner: Fort Pierce Utilities — Prepared by: D Nelson
From: H.D. King — Date: 12/15 19 92
Project No: 16589.002 — Checked by: DKM
Title: Supporting Calculations for BACT Analysis — Date: 12/15/92
Page: 2 of 2

DO NOT WRITE IN THIS SPACE

Unit 6 SO_2 Emissions for the two fuels

219 MBtu/h × 2.75 lb SO_2/MBtu = **602.5 lb SO_2/h**

219 MBtu/h × 0.8 lb SO_2/MBtu = **175.2 lb SO_2/h**

Approx. Difference = **427 lb SO_2/h**

Differential Fuel Cost

0.76 percent sulfur No 6 Fuel 0.1 $93.35 Barrel

2.6 percent sulfur No. 6 Fuel 0.1 $24.95 Barrel

$8.40 Barrel

$$\left(\$8.40/\text{Barrel}\right)\left(\frac{\text{Barrel}}{42\ \text{gal}}\right) = \boxed{\$0.20/\text{gal}}$$

Operating Cost Differential

$$\left(1460\ \text{gal/h}\right)\left(\$0.20/\text{gal}\right) = \boxed{\$292\ \text{per hour of 0.1 fuel}}$$

Incremental Cost

$$\left(\frac{\$292/\text{hour}}{427\ \text{lb SO}_2\ \text{Removed/h}}\right) = \boxed{0.68\ \text{¢/lb SO}_2\ \text{Removed}}$$

$1368/ton SO_2 Removed

FAX TRANSMITTAL LETTER

DATE: MAY 14, 1991 MODULE 2051

TO:
NAME: PRESTON LEWIS

AGENCY: FDER-BAR

FAX TELEPHONE NUMBER: 904-922-6979

NUMBER OF PAGES (INCLUDING THIS PAGE) 3

FROM: STEPHANIE S. BROOKS

AGENCY: FDER-SED

TRANSMITTAL ON A HITACHI HIFAX #35, NUMBER 407/433-2660

IF ANY OF THESE PAGES ARE NOT CLEARLY RECEIVED, PLEASE CALL 407/433-2650

SENDERS NAME: S. BROOKS

PRESTON, This was sent late Dec or early Jan by my notes. Had't heard about a BACT Determination for this. Thought it might have gotten lost. I need to know by next week at the latest. (Figure BACT for all small boilers is the same - natural gas or No. 2 fuel oil and am writing the permit that way.)

COMMENTS:

H.D. KING ELECTRIC GENERATING PLANT
331 North Indian River Drive (34950)
Post Office Box 1295 (34954)
Fort Pierce, Florida
(407) 464-5792

FACSIMILE TRANSMITTAL

DATE: 5-16-91

TO: Preston Lewis
Florida Department of Environmental Regulation FAX NUMBER: 904/922-6979

FROM: H. Lamb, Supt./Power Resources FAX NUMBER: (407) 489-5362

PAGES TRANSMITTED: 3 (Includes cover page)

IF ALL PAGES ARE NOT RECEIVED, PLEASE TELEPHONE (407) 464-4333.

H.D. KING ELECTRIC GENERATING PLANT

311 North Indian River Drive (34950)
Post Office Box 1298 (34954)
Fort Pierce, Florida
(407) 464-5792

May 16, 1991

Florida Department of Environmental Regulation
2600 Blair Stone Road, Rm 338
Tallahassee, FL 32399-2400

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UNIT 7 - AO-56-112679
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Sincerely,

Harry Lamb, Supt.
Power Resources

cc: Harry Schindehette
Thomas Richards
Steve Treece
Tony Vincik
Jack Miller, Black & Veatch
Alan Roth, Spiegel & McDiarmid
Shuler Massey, Vero Beach Power Plant
Peter C. Cunningham, Hopping Boyd Green & Sams

H.D. KING ELECTRIC GENERATING PLANT

311 North Indian River Drive (34950)
Post Office Box 1298 (34954)
Fort Pierce, Florida
(407) 464-5792

May 9, 1991

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2600 Blair Stone Road, Rm 338
Tallahassee, FL 32399-2400

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05/09/91 13:19 ☎ FPUA DISPATCH ☑001

ACTIVITY REPORT

TRANSMISSION OK

TRANSACTION #	2764
CONNECTION TEL	19049226979
CONNECTION ID	G3
START TIME	05/09 13:13
USAGE TIME	06' 12
PAGES	9

If you have any questions, please call me or the following at telephone number (407) 464-5600: Harry Schindehette, Thomas Richards or Steve Day, Black & Veatch, at (913) 339-2880.

Sincerely,

Harry Lamb, Supt.
Power Resources

HL:m

Attachments

cc: Harry Schindehette
Thomas Richards
Steve Treece
Tony Vincik
Jack Miller, Blk & Veatch
Alan Roth, Spiegel & McDiarmid

FLORIDA GAS TRANSMISSION COMPANY
ESTIMATE OF SALES SERVICE

MONTH May 2

CUSTOMER Ft. Pierce - Generating

DIVISION/LOCATION St. Lucie Co. PREPARED BY Tony Vincik

TELEPHONE# 407 - 464 - 4333 TELECOPY# 407 - 489 - 5362

DAY	TYPE (1) DF (INDICATE TYPE OF SERVICE ABOVE)	PD		TOTAL
1	8521	7000		15521
2		7000		15521
3		7000		15521
4		6000		14521
5		6000		14521
6		7000		15521
7		7000		15521
8		7000		15521
9		7000		15521
10		7000		15521
11		6000		14521
12		6000		14521
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24		7000		15521
25		6000		14521
26		6000		14521
27		7000		15521
28		7000		15521
29		7000		15521
30		7000		15521
31	8521	7000		15521
TOTAL	264,151	209,000		473,151

(1) TYPE OF SERVICE: GENERAL SERVICE (G); SMALL GENERAL SERVICE (SGS); RESALE PREFERRED (I); DIRECT FIRM (DF); PREFERRED DIRECT (PD)

SEND TO: FLORIDA GAS TRANSMISSION COMPANY
GAS MANAGEMENT DEPARTMENT
P.O. BOX 1188 HOUSTON TX 77251-1188
TELECOPY# 713-853-6756

ATTACHMENT 1

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES

AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 05 / 02 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7000	13760

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service,

Comments: _____

The above stated scheduled volume(s) have been determined in accordance with Section 9B of the General Terms and Conditions of FGT's FERC Gas Tariff.

If you have any questions please contact your FGT Marketing representative:

John Long	(407) 875-5843
Bill Manuel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES

AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 05 / 03 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7,000	7209

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service

Comments:

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ATTACHMENT 3

AP119.FOR

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 5/4/91
5/5/91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	6,000	1,108
I	~~3,200~~	~~591~~

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PTS = Preferred Transportation Service

Comments:

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NOTIFICATION OF SCHEDULED PREFERRED SALES AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 5 / 6 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7,000	1,103
I	~~7,200~~	~~1,135~~

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PTS = Preferred Transportation Service

Comments:

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Bill Manuel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

FLORIDA GAS TRANSMISSION COMPANY
CAPACITY GAS ALLOCATION REQUEST

CUSTOMER:

Fort Pierce Utilities Authority
ATTN: F. A. Brock
P. O. Box 1298
Fort Pierce, Fl 34954

DATE: May 6, 1991

FROM: 100% **TO:** -0-%

CATEGORY OF GAS SERVICE: 3

PRIORITY OF GAS SERVICE: 8

REQUEST MADE: 8:50 AM CDT **DATE:** 5/06/91

EFFECTIVE: 10:00 AM EDT **DATE:** 5/06/91

REQUEST GIVEN TO: Steve Treece

REQUEST MADE BY: Dale Harden

REMARKS: Curtailment is due to customers taking more than their scheduled volumes.

* Previous faxed copy was in error on request and effective *
* date. *

FLORIDA GAS TRANSMISSION COMPANY
GAS CONTROL DEPARTMENT, RM 4237
P.O. BOX 1188
HOUSTON, TX 77251

ATTACHMENT 6

Post-it™ brand fax transmittal memo 7671 | # of pages ▸

To TONY	From DALE
Co. F.P.U.A.	Co. F.G.T.
Dept.	Phone #
Fax # 407 489 5382	Fax #

Florida Department of Environmental Regulation
Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406 • 407-964-9668
Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary
Scott Benyon, Deputy Assistant Secretary

FAX TRANSMITTAL LETTER

DATE: 5-9-91 Module #_____

TO:

NAME: Preston Lewis

AGENCY: DER

FAX TELEPHONE NUMBER: 904-922-6979

NUMBER OF PAGES (INCLUDING THIS PAGE) 2

FROM: S. Brooks

AGENCY: DER

TRANSMITTAL ON A HITACHI HITAX #35, NUMBER: 407/433 2666

IF ANY OF THE PAGES ARE NOT CLEARLY RECEIVED, PLEASE CALL 407/433-2650

SENDERS NAME: S Brooks

COMMENTS:

H.D. KING ELECTRIC GENERATING PLANT
[illegible] Indian River Drive 34981
Post Office Box [illegible]
Fort Pierce, Florida
407 464-8781

FACSIMILE TRANSMITTAL

DATE: May 9, 1991

TO: Preston Lewis, Florida Dept. of Environmental Regulation, Room 336 FAX NUMBER: (904) 922-6979

FROM: Harry Lamb, Supt., Power Resources FAX NUMBER: 407 [illegible]

PAGES TRANSMITTED: 9 (Includes cover page)

IF ALL PAGES ARE NOT RECEIVED, PLEASE TELEPHONE [illegible].

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H.D. KING ELECTRIC GENERATING PLANT

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2600 Blair Stone Road, Rm 338
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Power Resources

HL:m

Attachments

cc: Harry Schindehette
Thomas Richards
Steve Treece
Tony Vincik
Jack Miller, Blk & Veatch
Alan Roth, Spiegel & McDiarmid

FLORIDA GAS TRANSMISSION COMPANY
ESTIMATE OF SALES SERVICE

MONTH May 2

CUSTOMER Ft. Pierce - Generating

DIVISION/LOCATION St. Lucie Co. PREPARED BY Tony Vinik

TELEPHONE# 407 - 464 - 4333 TELECOPY# 407 - 489 - 5362

TYPE (1)	DF	PD		TOTAL
	(INDICATE TYPE OF SERVICE ABOVE)			
DAY				
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P.O. BOX 1188 HOUSTON TX 77251-1188
TELECOPY# 713-853-6756

ATTACHMENT 1

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES

AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 05 / 02 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7000	13700

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service

Comments:

The above stated scheduled volume(s) have been determined in accordance with Section 9B of the General Terms and Conditions of FGT's FERC Gas Tariff.

If you have any questions please contact your FGT Marketing representative:

John Long	(407) 875-5843
Bill Mantel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 05 / 03 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7,000	7209

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service

Comments:

The above stated scheduled volume(s) have been determined in accordance with Section 9B of the General Terms and Conditions of FGT's FERC Gas Tariff.

If you have any questions please contact your FGT Marketing representative:

John Long	(407) 875-5843
Bill Manuel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

ATTACHMENT 3

AP119.FOR

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 5/4/91
5/5/91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	6,000	1,108
I	~~3,200~~	~~591~~

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service

Comments:

The above stated scheduled volume(s) have been determined in accordance with Section 9B of the General Terms and Conditions of FGT's FERC Gas Tariff.

If you have any questions please contact your FGT Marketing representative:

John Long	(407) 875-5843
Bill Manuel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

FLORIDA GAS TRANSMISSION COMPANY

NOTIFICATION OF SCHEDULED PREFERRED SALES

AND PREFERRED TRANSPORTATION SERVICE

CUSTOMER: Ft. Pierce Utilities Authority (Generating)

ATTN: Tony Vincik

TELECOPY: 407-489-5362

TELEPHONE: 407-464-4333

Effective Date: 5 / 6 / 91

TYPE OF SERVICE *	CUSTOMER ESTIMATE/ NOMINATION MMBtu/D	SERVICE SCHEDULED BY FGT MMBtu/D
PD	7,000	1,103
I	~~7,200~~	~~1,135~~

*PD = Preferred Direct; I = Resale Preferred;
PTS = Preferred Transportation Service

Comments:

The above stated scheduled volume(s) have been determined in accordance with Section 9B of the General Terms and Conditions of FGT's FERC Gas Tariff.

If you have any questions please contact your FGT Marketing representative:

John Long	(407) 875-5843
Bill Manuel	(407) 875-5841
Dan Swanson	(407) 875-5839
David Terlip	(407) 875-5854

FLORIDA GAS TRANSMISSION COMPANY
CAPACITY GAS ALLOCATION REQUEST

CUSTOMER: **DATE:** May 6, 1991

Fort Pierce Utilities Authority
ATTN: F. A. Brock
P. O. Box 1298
Fort Pierce, Fl 34954

RECEIVED

POWER PLANT

FROM: 100% **TO:** -0-%

CATEGORY OF GAS SERVICE: 3

PRIORITY OF GAS SERVICE: 8

REQUEST MADE: 8:50 AM CDT **DATE:** 5/06/91

EFFECTIVE: 10:00 AM EDT **DATE:** 5/06/91

REQUEST GIVEN TO: Steve Treece

REQUEST MADE BY: Dale Harden

REMARKS: Curtailment is due to customers taking more than their scheduled volumes.

* Previous faxed copy was in error on request and effective *
* date. *

FLORIDA GAS TRANSMISSION COMPANY
GAS CONTROL DEPARTMENT, RM 4237
P.O. BOX 1188
HOUSTON, TX 77251

ATTACHMENT 6

Post-it™ brand fax transmittal memo 7671 | # of pages ▸

To TONY	From DALE
Co. F.P.U.A.	Co. FGT
Dept.	Phone #
Fax # 407 489 5362	Fax #

WATER GAS
ELECTRIC SEWER

FORT PIERCE UTILITIES AUTHORITY

206 S. SIXTH STREET * P.O. BOX 3191 * FORT PIERCE, FLORIDA 34948 * PHONE (407) 464-5600

THURSDAY, MAY 2, 1991

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
2600 BLAIRSTONE ROAD
TALLAHASSEE, FLORIDA 32399

ATTENTION: MR. STEVE SMALLWOOD

SUBJECT: EMERGENCY ORDER FOR BURNING FUEL OIL IN UNITS 6, 7 AND 8

REFERENCE AIR PERMITS:
UNIT 6 - AO-56-113534
UNIT 7 - AO-56-112679
UNIT 8 - AO-56-112678
UNIT 9 - AO-56-175955

GENTLEMEN:

PURSUANT TO DISCUSSIONS WITH MR. GARY SMALLRIDGE OF THE DER, WE HAVE PREPARED AND ARE SUBMITTING HEREWITH A PETITION REQUESTING PERMISSION TO BURN FUEL OIL IN UNITS 6, 7 AND 8 UNDER EMERGENCY CONDITIONS.

PROVISIONS OF THE UNIT 9 PERMIT IN EFFECT PRECLUDE BURNING OF OIL IN UNITS 6, 7 AND 8 UNDER ANY CIRCUMSTANCES. SINCE THE STATE'S ELECTRIC POWER SUPPLY AND DELIVERY SYSTEMS, AND THE NATURAL GAS DELIVERY SYSTEMS HAVE CHANGED SUBSTANTIALLY SINCE UNIT 9 WAS INITIALLY PERMITTED, WE ARE IN THE PROCESS OF REVISING OUR PERMIT FOR UNIT 9 PRECISELY SO THAT ALL CONSTRAINTS TO THE OPERATION OF UNIT 6, 7 AND 8, CONTAINED IN THE UNIT 9 PERMIT, WILL BE REMOVED. FPUA IS VULNERABLE TO A NATURAL GAS CURTAILMENT THAT WOULD PRECLUDE GENERATING POWER WITH NATURAL GAS, THE PRIMARY FUEL. IF PURCHASE POWER IS UNAVAILABLE DURING A NATURAL GAS SUPPLY INTERRUPTION, WITHOUT THE ABILITY TO BURN OIL AS AN EMERGENCY BACKUP, FPUA WILL BE FORCED TO CURTAIL ITS ELECTRIC CUSTOMERS.

THE ATTACHED PETITION FOR EMERGENCY ORDER SETS FORTH THE FACTS REGARDING THIS SITUATION, AND REQUESTS ISSUANCE OF AN EMERGENCY ORDER FOR USE OF FUEL OIL UNDER EMERGENCY CONDITIONS.

WE HAVE BEEN TRYING TO RESOLVE THIS SITUATION SINCE LATE AUGUST 1990. WE HAVE REQUESTED AND RECEIVED AN EMERGENCY ORDER TO BURN OIL IN UNITS 6, 7 AND 8 DURING THE WINTER COLD PERIOD (EMERGENCY ORDER VALID FEBRUARY 15, 1991 THROUGH

FORT PIERCE UTILITIES AUTHORITY

FDER
TALLAHASSEE, FLORIDA

THURSDAY, MAY 2, 1991

FEBRUARY 18, 1991). A PROPOSED PSD PERMIT WAS ISSUED BY YOUR STAFF ON APRIL 15, 1991, BUT WILL NOT BE VALID UNTIL AFTER ALL ADMINISTRATIVE PROVISIONS HAVE BEEN COMPLETED. SINCE THIS PERMIT MAY GO TO ADMINISTRATIVE HEARING, IT IS POSSIBLE THAT THE PERMIT WILL NOT BE FINALIZED FOR SEVERAL MONTHS.

IN THE MEANTIME, WE RECEIVED NOTIFICATION FROM FLORIDA GAS TRANSMISSION THAT ALL OUR INTERRUPTIBLE GAS HAS BEEN TERMINATED EFFECTIVE MAY 1, 1991 UNTIL FURTHER NOTICE. THE DEMANDS FROM FIRM NATURAL GAS SUPPLY CUSTOMERS HAVE INCREASED WITH THE HOT WEATHER. FPUA IS AGAIN FACED WITH EITHER OBTAINING AN EMERGENCY ORDER FROM THE DER OR INITIATING POWER BLACKOUTS.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL ME AT (407) 464-5600 OR STEVE DAY, BLACK & VEATCH, AT (913) 339-2880.

SINCERELY,

HARRY M. SCHINDEHETTE, P.E.
DIRECTOR OF UTILITIES

HMS:JM
ENCLOSURE

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

IN RE: FORT PIERCE UTILITIES AUTHORITY)

ISSUANCE OF AN EMERGENCY ORDER)
TO PERMIT BURNING OF OIL IN)
H. D. KING UNITS 6, 7 AND 8 UNDER)
EMERGENCY CONDITIONS)
)

PETITION FOR EMERGENCY ORDER TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

(A) NAME OF PETITIONER: FORT PIERCE UTILITIES AUTHORITY

(B) ADDRESS OF PETITIONER: 206 SOUTH SIXTH STREET
POST OFFICE BOX 3191
FORT PIERCE, FLORIDA 34948-3191

(C) STATUTORY PROVISION UNDER WHICH EMERGENCY ORDER IS SOUGHT:

SUBSECTION 120.59(3), FLORIDA STATUTES (F.S.)

(D) THE PRECISE FACTUAL CIRCUMSTANCES GIVING RISE TO THE PETITION:

THE FORT PIERCE UTILITIES AUTHORITY (FPUA) PRESENTLY OPERATES THE H. D. KING GENERATING STATION COMPRISING THREE STEAM-ELECTRIC UNITS (UNITS 6, 7 AND 8), ONE COMBINED CYCLE UNIT (UNIT 9 COMBUSTION TURBINE GENERATOR AND HEAT RECOVERY STEAM GENERATOR [HRSG] IN COMBINED CYCLE WITH UNIT 5 STEAM-ELECTRIC UNIT) AND TWO DIESEL ELECTRIC UNITS.

THE PERMIT FOR UNIT 9, PERMIT/CERTIFICATION NUMBER AO-56-175955, CONTAINS PROVISIONS THAT IMPOSE OPERATIONAL CONSTRAINTS ON UNITS 6, 7 AND 8. THOSE CONSTRAINTS APPLY TO HOURS OF OPERATION OF THE UNITS AS WELL AS EMISSIONS (BOTH THE HOURLY RATE AND MAXIMUM ANNUAL TOTAL). IN EFFECT, THE EMISSIONS CONSTRAINTS NOW PRECLUDE THE BURNING OF FUEL OIL IN UNITS 6, 7

AND 8 UNDER ANY CIRCUMSTANCES, WHEREAS, PRIOR TO THE UNIT 9 PROVISIONS, THOSE UNITS WERE PERMITTED TO BURN FUEL OIL UNDER THE CIRCUMSTANCES OF AN EMERGENCY OR A TEMPORARY NATURAL GAS CURTAILMENT. THE PERMIT NUMBERS FOR UNITS 6, 7 AND 8 ARE AO-56-32954, AO-56-32948, AND AO-56-41413, RESPECTIVELY.

ONGOING TRENDS IN THE STATE'S ELECTRIC POWER SUPPLY AND DELIVERY SYSTEM, AS WELL AS THE NATURAL GAS DELIVERY SYSTEM, HAVE SUBSTANTIALLY CHANGED THE OPERATIONAL REQUIREMENTS FOR UNITS 6, 7 AND 8 SINCE UNIT 9 WAS INITIALLY PERMITTED. AS A RESULT, FPUA IS CURRENTLY IN THE PROCESS OF REVISING THE PERMIT FOR UNIT 9 SO AS TO REMOVE ANY CONSTRAINTS APPLICABLE TO UNITS 6, 7 AND 8. THE REVISED PERMIT HAS NOT BEEN ISSUED PRIOR TO EXPERIENCING NATURAL GAS CURTAILMENTS IMPOSED BY THE 1991 SUMMER CONDITIONS.

THE REQUESTED EMERGENCY ORDER WILL PERMIT USE OF FUEL OIL TO MEET ELECTRICAL DEMAND ONLY UNDER EMERGENCY CIRCUMSTANCES, UNTIL SUCH TIME AS THE NEW PERMIT IS ISSUED FOR UNIT 9, AND THE CURRENT CONSTRAINTS ARE REMOVED FROM UNITS 6, 7 AND 8. WITHOUT THE RELIEF PROVIDED BY THE REQUESTED EMERGENCY ORDER, ELECTRIC POWER MAY HAVE TO BE CURTAILED TO FPUA CUSTOMERS, IN ORDER NOT TO VIOLATE THE EXISTING PERMITS.

(E) POINTS UPON WHICH THIS PETITION IS BASED.

IF THE FPUA MUST CURTAIL ELECTRIC POWER SUPPLY TO ITS CUSTOMERS IN ORDER TO COMPLY WITH ITS CURRENT PERMITS, IT WILL POSE AN IMMEDIATE THREAT TO PUBLIC HEALTH, SAFETY AND WELFARE. SUCH ACTION WOULD LEAVE THE AFFECTED CUSTOMERS WITHOUT LIGHTS OR REFRIGERATION AND MANY WITHOUT AIR CONDITIONING OR MEANS FOR PREPARING FOOD.

HOSPITALS AND OTHER VITAL SERVICES COULD BE WITHOUT POWER TEMPORARILY, DEPENDING ON WHETHER OR NOT THEIR EMERGENCY BACKUP SYSTEMS FUNCTION PROPERLY. INDUSTRIAL, COMMERCIAL, OFFICE AND RETAIL FACILITIES WOULD BE ADVERSELY AFFECTED AND WOULD SUFFER ECONOMIC HARDSHIP. TRAFFIC SIGNALS WOULD BE OUT OF SERVICE, ADVERSELY AFFECTING TRAFFIC SAFETY. THE LOSS OF STREET AND SECURITY LIGHTING ALSO WOULD ADVERSELY AFFECT PUBLIC SAFETY.

SUBSECTION 120.59(3), F.S., PROVIDES FOR ISSUANCE OF AN IMMEDIATE FINAL ORDER IF MATTERS OF PUBLIC, HEALTH, SAFETY OR WELFARE ARE INVOLVED.

IT IS HEREBY REQUESTED THAT AN EMERGENCY ORDER BE ISSUED TO FORT PIERCE UTILITIES AUTHORITY AUTHORIZING THE BURNING OF FUEL OIL IN UNITS 6, 7 AND 8, UNDER CIRCUMSTANCES THAT WOULD RESULT IN THE FORT PIERCE UTILITIES AUTHORITY'S INABILITY TO SUPPLY ELECTRICAL POWER TO ITS CUSTOMERS, ALL OR IN PART, WERE THE BURNING OF FUEL OIL IN THOSE UNITS NOT ALLOWED.

DATED THIS 2ND DAY OF MAY, 1991.

HARRY M. SCHINDEHETTE
DIRECTOR OF UTILITIES
FORT PIERCE UTILITIES AUTHORITY

CONSULTING ENGINEER:

BLACK & VEATCH, ENGINEERS-ARCHITECTS
ATTN: MR. STEVE DAY
11401 LAMAR
OVERLAND PARK, KANSAS 66211
(913) 339-2880

Florida Department of Environmental Regulation

Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406

Lawton Chiles, Governor

Carol M. Browner, Secretary

RECEIVED

FEB 22 1991

DER - BAQM

February 19, 1991

Mr. H. P. Lamb
Superintendent/Power Resources
Fort Pierce Utilities Authority
311 North Indian River Drive
Fort Pierce, Florida 34950

St. Lucie County
AP - Fort Pierce Utilities Authority
Units 6, 7, 8 and diesels 1 and 2

Dear Mr. Lamb:

This is to acknowledge receipt of your application, file number AO 56-190275 for a permit to operate air pollution sources.

[ ] This letter constitutes notice that a permit will be required for your project pursuant to Chapter(s) _____, Florida Statutes.

[ ] Your application for permit is complete as of _____ and processing has begun. You are advised that the department under Chapter 120, Florida Statutes, must take final action on your application within ninety (90) days unless the time is tolled by administrative hearing.

[ ] Your application for permit is incomplete. Please provide the information listed on the attached sheet promptly. Evaluation of your proposed project will be delayed until all requested information has been received.

[X] The additional information received on January 28, 1991 and January 31, 1991 was reviewed, however, the items listed on the attached sheet remain incomplete. Evaluation of your proposed project will continue to be delayed until we receive all requested information.

[ ] At this time no permit is required for your project by this Department. Any modifications in your plans should be submitted for review, as changes may result in permits being required. This letter does not relieve you from the need to obtain any other permits (local, state or federal) which may be required.

If you have any questions, please contact Stephanie S. Brooks, P.E., of this office at (407)433-2650 . When referring to this project, please use the file number indicated.

Sincerely,

I. Goldman

I. Goldman, P.E.
District Air Programs Administrator

IG:SB/k/17

cc: Harry Schindehette
Preston Lewis, FDER, Tallahassee

Attachment

RECEIVED
FEB 21 1991
BUREAU OF AIR REG.

DER Form 17-1.201(4)
Effective November 30, 1982

Florida Department of Environmental Regulation

Southeast District • 1900 S. Congress Ave., Suite A • West Palm Beach, Florida 33406

Lawton Chiles, Governor — Carol M. Browner, Secretary

February 19, 1991

COMPLETENESS SUMMARY AIR POLLUTION SOURCES

SOURCE NAME: Ft. Pierce Utilities Authority — Date Received 12/14/90

APPLICANT NAME: H. P. Lamb — Date Reviewed: 02/18/91

APPLICANT ADDRESS: 311 North Indian River Drive — Reviewed By: S. Brooks

Ft. Pierce, Florida 34950

Your application for a permit to construct/operate this referenced project has been received, and reviewed for completeness. The following checked items are needed to complete your application.

[ ] Application fee of _____. Make check payable to the Department of Environmental Regulation.

[ ] Letter authorizing applicant to represent owner.

[ ] 8 1/2" x 11" diagram of flow process.

[ ] 8 1/2" x 11" location map.

[ ] 8 1/2" x 11" plant layout sketch showing emission points. (Actual plant)

[ ] Test results showing compliance with emission limitations of the department.

[X] Air diffusion modeling results showing compliance with ambient air standards and PSD increment.

Results in Tallahassee are part of that review. Provide a copy to this office for our review.

[ ] Engineer's report pursuant to Florida Administrative Code Rule 17-4.21(1)(c).

[ ] See comments on application, copy attached.

[ ] Other: (Any section of the application which is incomplete or lacks sufficient information to be evaluated).

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee

To _____ Location _____
To _____ Location _____
To _____ Location _____
From _____ Date _____

Interoffice Memorandum

TO: Gary Smallridge

FROM: Clair Fancy CHF

DATE: February 15, 1991

SUBJ: Emergency Order for Burning Oil in Units 6, 7, and 8
Ft. Pierce Utilities Authority
REFERENCE AIR PERMITS: Unit 6 AO-56-113534
Unit 7 AO 56-112679
Unit 8 AO 56-112678
Unit 9 AO 56-175955

We have reviewed information submitted with Ft. Pierce's request for an emergency order to relax the Units 6, 7, and 8 SO_2 and particulate limitations found in the existing Unit 9 permit. Included in this information are the results of modeling we requested. The modeling results show that the combined impacts from Units 6, 7, and 8 when firing No. 6 fuel oil, do not exceed the applicable Florida and National Ambient Air Quality Standards and increments for SO_2 and PM. The modeling results were based on Units 6 and 8 burning 0.80 lb SO_2/MBtu No. 6 fuel oil and Unit 7 burning 2.75 lb SO_2/MBtu fuel oil. Based on the information Ft. Pierce has given us, we recommend that you draft an emergency order to be used in the event of a natural gas curtailment which will allow the emergency burning of No. 6 fuel oil in Units 6, 7, and 8 for a period not to exceed three days.

CHF/CH/t

cc: Barry Andrews
Preston Lewis
Cleve Holladay

WATER GAS
ELECTRIC SEWER

206 S. SIXTH STREET * P. O. BOX 3191 * FORT PIERCE, FLORIDA 34948 * PHONE (407) 464-5600

January 24, 1991

Florida Department of Environmental Regulation
1900 S. Congress Avenue
Suite A
West Palm Beach, FL 33406

Attention: Mr. I. Goldman, P.E.
District Air Programs Administrator

SUBJECT: Permit Renewal for Units 6, 7, and 8
Diesels 1 and 2

REFERENCE AIR PERMITS: Unit 6 - AO-56-113534
Unit 7 - AO-56-112679
Unit 8 - AO-56-112678
Diesels 1 and 2 AO-56-113533

This letter is in response to your January 10, 1991 determination for the renewal of air permits for Units 6, 7, 8 and diesels 1 & 2. The letter stated that the renewal application was considered incomplete. The following two items were mentioned as being necessary to complete the application. We have provided responses for each item.

ITEM 1. Test results showing compliance with emission limitations of the department.

RESPONSE: FPUA has not received the compliance test results for these units. We will provide the information to FDER when it becomes available from the testing contractor.

ITEM 2. Air diffusion modeling results showing compliance with ambient air standards and PSD increments.

RESPONSE: Mr. C. H. Fancy requested this information as Item 2 in his December 26, 1990 letter regarding the emergency order for burning oil in Units 6, 7, and 8. On January 4, 1991 FPUA transmitted to Mr. Fancy a response letter and copies of air

Florida Department of Environmental Regulation
Mr. I. Goldman, P.E.

January 24, 1991

quality modeling information. Mr. Cleve Holladay (FDER-Tallahassee) is currently reviewing the modeling results.

A similar modeling request was made in Mr. C. H. Fancy's letter dated January 4, 1991 in regards to the Unit 9 PSD permit application. FPUA responded in a January 15, 1991 letter which stated that the modeling provided with FPUA's January 4, 1991 transmittal letter would also satisfy the Unit 9 request.

The same modeling information is also applicable to FDER-Southeast District's request dated January 10, 1991 and is available at the FDER-Tallahassee office.

If you need additional information or have any other comments, please call me at (407) 464-5600, Steve Day at (913) 339-2080 or Jack Miller at (913) 339-7199.

Very truly yours,

Harry Schindehette, P.E.
Director of Utilities

lts

cc: S. Brooks, FDER-Southeast
C. H. Fancy, FDER - Tallahassee
P. Lewis, FDER - Tallahassee
S. Day

WATER GAS
ELECTRIC SEWER

FORT PIERCE UTILITIES AUTHORITY

206 S. SIXTH STREET * P. O. BOX 3191 * FORT PIERCE, FLORIDA 34948 * PHONE (407) 464-5600

January 4, 1991

RECEIVED
JAN 8 1991
DER-BAQM

Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32399

Attention: Mr. C. H. Fancy, P.E.

SUBJECT: Emergency Order for Burning Oil in Units 6, 7 and 8

REFERENCE AIR PERMITS: Unit 6 - AO-56-113534
Unit 7 - AO-56-112679
Unit 8 - AO-56-112678
Unit 9 - AO-56-175955

We have received your letter of December 26, 1990 responding to our letter of December 10, 1990 regarding the subject.

The responses to your questions and requests for additional information are as follows.

Question 1. **What grade fuel will be burned in the Units? What is the maximum sulfur content of the fuel? What is the maximum ash content?**

Response: No. 6 fuel oil will be fired in Units 6, 7, and 8 during emergency conditions.

Currently, two separate supplies of No. 6 fuel oil are being stored onsite with maximum sulfur contents corresponding to 2.75 and 0.80 lb SO_2/MBtu. These compliance fuels satisfy the Florida Administrative Code (FAC) SO_2 emission rates for Units 7 and 8, respectively.

The FAC does not specify an SO_2 limit for boilers the size of Unit 6. Instead the FAC states that the limit must be established by a Best Available Control Technology (BACT) determination. The BACT analysis for Unit 6 was recently submitted to the FDER and concluded that the lower sulfur No. 6 fuel oil represented BACT. Consequently, Units 6 and 8 will burn the 0.80 lb SO_2/MBtu No. 6 fuel oil and Unit 7 will burn the 2.75 lb SO_2/MBtu fuel oil.

Florida Department of Environmental
Regulation
Mr. C. H. Fancy, P.E.

The ash content of the fuel oil is not monitored by FPUA. Therefore, in responding to the question, it is necessary to approximate the expected particulate emission rates for the three units. The emission particulate rates for Units 6, 7, and 8 are estimated to be approximately 0.1 lb/MBtu.

Question 2. **To ensure compliance with ambient air quality standards, please submit modeling of sulfur dioxide and particulate emissions for all sources at the facility, assuming the units are firing the type fuel which will be used during a natural gas curtailment.**

Response: Refer to attached modeling results (Attachment A).

Question 3. **Is it possible for Fort Pierce Utilities Authority to purchase power from another utility during a natural gas curtailment?**

Response: In the event of a natural gas curtailment to the Fort Pierce Utilities Authority generators, replacement power from another utility would be sought. If that effort is unsuccessful, fuel oil would be burned as a last resort to meet the needs of our customers.

Weather related peak demands for power and natural gas generally coincide, and so the availability of surplus power during a weather related gas curtailment, is less likely than at other times.

Question 4. **Why do you expect the supply of natural gas to be curtailed this winter? Would you burn fuel oil less than 400 hours during the year?**

Response: Historically, there is a correlation between the occurrence of low temperature extremes and the unavailability of natural gas for generating electricity, particularly in a steam boiler. There is no way to predict with certainty whether cold weather of that severity will occur in South Florida this winter; however, we do expect that if extremely cold weather is experienced, we will also be subjected to an accompanying curtailment of natural gas.

Based on past experience, we would expect to burn oil less than 400 hours per year.

Florida Department of Environmental Regulation
Mr. C. H. Fancy, P.E.

January 4, 1991

If you need additional information or have any other comments, please call me at (407) 464-5600, Steve Day at (913) 339-2080 or Jack Miller at (913) 339-7199.

Very truly yours,

Harry Schindehette, P.E.
Director of Utilities

lts

cc: S. Day
B. Andrews

FORT PIERCE UTILITIES AUTHORITY

ATTACHMENT A

RESPONSE TO FDER QUESTION 2

1.0 INTRODUCTION

As requested by the Florida Department of Environmental Regulation (FDER) in a December 26, 1990 letter (Question 2), this attachment summarizes the air dispersion modeling for the Fort Pierce Utilities Authority H. D. King Units 6, 7, and 8. In accordance with FDER's request, the modeling analysis examined sulfur dioxide (SO_2) and particulate matter (PM) impacts. Units 6, 7, and 8 were modeled with No. 6 fuel oil, as operated during a natural gas curtailment.

This document outlines the source parameters, modeling options, and analysis results. The results show that the combined impacts from Units 6, 7, and 8, when firing No. 6 fuel oil, do not exceed the applicable Florida Ambient Air Quality Standards (FAAQS) for SO_2 and PM.

2.0 SOURCE PARAMETERS

The modeling analysis considered the potential air quality impacts associated with Units 6, 7, and 8 when firing No. 6 fuel oil. Table 2-1 shows the operating parameters and emission rates for the three sources. Unit 9 was not considered in the analysis since Unit 9 will only be permitted to operate when firing natural gas. The stack exhaust flows and temperatures were obtained from engineering estimates related to the boiler characteristics and fuel properties. Emission rate assumptions were previously outlined in the response to Question 1 of FDER's December 26, 1990 letter.

TABLE 2-1. SOURCE CHARACTERISTICS

Emission Source:	Unit 6	Unit 7	Unit 8
X-Coordinate* (m):	-18.6	6.7	-68.0
Y-Coordinate* (m):	36.3	33.8	18.3
Exhaust Flow (acfm):	64,440	138,300	190,290
Stack Exit Diameter (ft):	5.0	7.1	8.0
Stack Exit Velocity (fpm):	3,282	3,493	3,786
Stack Height (ft):	148	148	150
Stack Exit Temperature (F):	300	300	295
Building Height (ft):	68	68	68
Maximum Projected Width (ft):	148.6	148.6	148.6
Fuel Type:	No. 6	No. 6	No. 6
Max. Heat Input (MBtu/h):	219	470	611
SO_2 Emission Rate (lb/MBtu):	0.8	2.75	0.8
(lb/h):	175.2	1,292.5	488.8
PM Emission Rate (lb/MBtu):	0.1	0.1	0.1
(lb/h):	21.9	47.0	61.1

*Coordinates relative to Unit 9 stack.

3.0 MODELING ASSUMPTIONS

The following list outlines the assumptions used to perform the dispersion modeling analysis.

- The EPA approved ISCST model was used for all modeling.
- Five years (1982 - 1986) of surface and upper air meteorological data from West Palm Beach were used with the ISCST model.
- Receptors were placed along the 36 standard directions surrounding the Unit 9 stack at the following downwind distances: 100-meter intervals from 100 to 1,000 meters, 250-meter intervals from 1,250 to 3000 meters, and 1,000-meter intervals from 4,000 to 10,000 meters. Discrete receptors were placed at the boundary that restricts public access along the 36 radial directions.
- The rural modeling option was considered representative of the site.
- All EPA default modeling options were selected.
- The modeled highest concentration was selected for annual averaging periods and the highest, second-highest concentration was selected for 3- and 24-hour averaging periods.
- A GEP analysis showed that the Huber-Snyder building downwash algorithm was appropriate for all wind directions.

4.0 DISPERSION MODELING RESULTS

Table 4-1 shows the maximum modeled SO_2 and TSP impacts for each modeled year. These concentrations are the combined maximum from Units 6,

TABLE 4-1. MODELED SO2 AND TSP IMPACTS FROM UNITS 6, 7, AND 8

Year	SO2 Conc. ug/m3	Location Dist. km	Location Dir. deg	Day	TSP Conc. ug/m3	Location Dist. km	Location Dir. deg	Day
ANNUAL (Highest)								
1982	14.7*	1.5	310	-	1.0*	1.5	310	-
1983	11.9	1.5	310	-	0.8	1.5	310	-
1984	13.1	2.0	260	-	0.9	2.0	260	-
1985	12.6	1.75	270	-	0.9	1.75	270	-
1986	14.3	1.75	270	-	1.0	1.75	270	-
24-HOUR (Second Highest)								
1982	131.5	0.2	250	291	7.3	1.25	310	208
1983	163.2	0.2	270	58	10.6*	0.3	270	58
1984	175.9*	0.2	270	23	9.2	0.2	270	23
1985	138.0	0.2	260	66	7.8	0.2	260	66
1986	104.1	2.5	270	17	6.9	2.5	270	17
3-HOUR (Second Highest)								
1982	432.6	0.2	250	88	-	-	-	-
1983	619.6*	0.3	270	20	-	-	-	-
1984	397.9	0.2	80	59	-	-	-	-
1985	490.6	0.2	260	323	-	-	-	-
1986	421.0	0.2	270	8	-	-	-	-

*Maximum impact.

7, and 8 when burning No. 6 fuel oil. Table 4-2 shows the overall maximum SO_2 and PM impact for each averaging period, as well as the representative FAAQS. Note that the impacts from Units 6, 7, and 8 are well below the FAAQS. The 24-hour SO_2 impact is the most restrictive, at 68 percent of the standard. A hard copy of the modeling output files is attached.

5.0 CONCLUSION

Ambient air quality dispersion modeling showed that the combined impacts from H. D. King Units 6, 7, and 8 were well below the ambient air quality standards when burning No. 6 fuel oil. This demonstrates that the H. D. King facility will be in compliance with FAAQS when operated during a natural gas curtailment.

TABLE 4-2. IMPACT COMPARISON TO FLORIDA AMBIENT AIR QUALITY STANDARDS

Averaging Period	SO2		Percent of	PM		Percent of
	Conc. ug/m3	FAAQS ug/m3	Standard %	Conc. ug/m3	FAAQS ug/m3	Standard %
Annual	14.7	60	25	1.0	50	2
24-Hour	175.9	260	68	10.6	150	7
3-Hour	619.6	1300	48	-	-	-

WATER GAS
ELECTRIC SEWER

FORT PIERCE UTILITIES AUTHORITY

206 S SIXTH STREET • P O. BOX 3191 • FORT PIERCE, FLORIDA 34948 • PHONE (407) 464-5600

January 4, 1991

RECEIVED
JAN 8 1991
DER-BAQM

Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32399

Attention: Mr. C. H. Fancy, P.E.

SUBJECT: Emergency Order for Burning Oil in Units 6, 7 and 8

REFERENCE AIR PERMITS: Unit 6 - AO-56-113534
Unit 7 - AO-56-112679
Unit 8 - AO-56-112678
Unit 9 - AO-56-175955

We have received your letter of December 26, 1990 responding to our letter of December 10, 1990 regarding the subject.

The responses to your questions and requests for additional information are as follows.

Question 1. **What grade fuel will be burned in the Units? What is the maximum sulfur content of the fuel? What is the maximum ash content?**

Response: No. 6 fuel oil will be fired in Units 6, 7, and 8 during emergency conditions.

Currently, two separate supplies of No. 6 fuel oil are being stored onsite with maximum sulfur contents corresponding to 2.75 and 0.80 lb SO_2/MBtu. These compliance fuels satisfy the Florida Administrative Code (FAC) SO_2 emission rates for Units 7 and 8, respectively.

The FAC does not specify an SO_2 limit for boilers the size of Unit 6. Instead the FAC states that the limit must be established by a Best Available Control Technology (BACT) determination. The BACT analysis for Unit 6 was recently submitted to the FDER and concluded that the lower sulfur No. 6 fuel oil represented BACT. Consequently, Units 6 and 8 will burn the 0.80 lb SO_2/MBtu No. 6 fuel oil and Unit 7 will burn the 2.75 lb SO_2/MBtu fuel oil.

Florida Department of Environmental
Regulation
Mr. C. H. Fancy, P.E.

The ash content of the fuel oil is not monitored by FPUA. Therefore, in responding to the question, it is necessary to approximate the expected particulate emission rates for the three units. The emission particulate rates for Units 6, 7, and 8 are estimated to be approximately 0.1 lb/MBtu.

Question 2. To ensure compliance with ambient air quality standards, please submit modeling of sulfur dioxide and particulate emissions for all sources at the facility, assuming the units are firing the type fuel which will be used during a natural gas curtailment.

Response: Refer to attached modeling results (Attachment A).

Question 3. Is it possible for Fort Pierce Utilities Authority to purchase power from another utility during a natural gas curtailment?

Response: In the event of a natural gas curtailment to the Fort Pierce Utilities Authority generators, replacement power from another utility would be sought. If that effort is unsuccessful, fuel oil would be burned as a last resort to meet the needs of our customers.

Weather related peak demands for power and natural gas generally coincide, and so the availability of surplus power during a weather related gas curtailment, is less likely than at other times.

Question 4. Why do you expect the supply of natural gas to be curtailed this winter? Would you burn fuel oil less than 400 hours during the year?

Response: Historically, there is a correlation between the occurrence of low temperature extremes and the unavailability of natural gas for generating electricity, particularly in a steam boiler. There is no way to predict with certainty whether cold weather of that severity will occur in South Florida this winter; however, we do expect that if extremely cold weather is experienced, we will also be subjected to an accompanying curtailment of natural gas.

Based on past experience, we would expect to burn oil less than 400 hours per year.

Florida Department of Environmental
Regulation
Mr. C. H. Fancy, P.E.

If you need additional information or have any other comments, please call me at (407) 464-5600, Steve Day at (913) 339-2080 or Jack Miller at (913) 339-7199.

Very truly yours,

Harry Schindehette, P.E.
Director of Utilities

lts

cc: S. Day
B. Andrews

FORT PIERCE UTILITIES AUTHORITY

ATTACHMENT A

RESPONSE TO FDER QUESTION 2

1.0 INTRODUCTION

As requested by the Florida Department of Environmental Regulation (FDER) in a December 26, 1990 letter (Question 2), this attachment summarizes the air dispersion modeling for the Fort Pierce Utilities Authority H. D. King Units 6, 7, and 8. In accordance with FDER's request, the modeling analysis examined sulfur dioxide (SO_2) and particulate matter (PM) impacts. Units 6, 7, and 8 were modeled with No. 6 fuel oil, as operated during a natural gas curtailment.

This document outlines the source parameters, modeling options, and analysis results. The results show that the combined impacts from Units 6, 7, and 8, when firing No. 6 fuel oil, do not exceed the applicable Florida Ambient Air Quality Standards (FAAQS) for SO_2 and PM.

2.0 SOURCE PARAMETERS

The modeling analysis considered the potential air quality impacts associated with Units 6, 7, and 8 when firing No. 6 fuel oil. Table 2-1 shows the operating parameters and emission rates for the three sources. Unit 9 was not considered in the analysis since Unit 9 will only be permitted to operate when firing natural gas. The stack exhaust flows and temperatures were obtained from engineering estimates related to the boiler characteristics and fuel properties. Emission rate assumptions were previously outlined in the response to Question 1 of FDER's December 26, 1990 letter.

TABLE 2-1. SOURCE CHARACTERISTICS

Emission Source:	Unit 6	Unit 7	Unit 8
X-Coordinate* (m):	-18.6	6.7	-68.0
Y-Coordinate* (m):	36.3	33.8	18.3
Exhaust Flow (acfm):	64,440	138,300	190,290
Stack Exit Diameter (ft):	5.0 1.52	7.1 2.16	8.0 2.44
Stack Exit Velocity (fpm):	3,282 16.67 MS	3,493 17.74 m/s	3,786 19.23 m/s
Stack Height (ft):	148 45.11 m	148 45.11 m	150 45.72 m
Stack Exit Temperature (F):	300 421°K	300 421°K	295 419°K
Building Height (ft):	68 20.7 m	68 20.7 m	68 20.7 m
Maximum Projected Width (ft):	148.6 45.3 m	148.6 45.3 m	148.6 45.3
Fuel Type:	No. 6	No. 6	No. 6
Max. Heat Input (MBtu/h):	219	470	611
SO_2 Emission Rate (lb/MBtu):	0.8 ✓ OK	2.75 ✓ OK	0.8 ✓ OK
(lb/h):	175.2 22.075 gs^{-1}	1,292.5 162.85 gs^{-1}	488.8 61.59 gs^{-1}
PM Emission Rate (lb/MBtu):	0.1	0.1	0.1
(lb/h):	21.9 OK 2.76	47.0 OK 5.92	61.1 OK 7.70

*Coordinates relative to Unit 9 stack.

% S in #6, 8 = .75 % S in 7 is 2.5

Unit 6 16.5MW
7 33MW
8 53MW

3.0 MODELING ASSUMPTIONS

The following list outlines the assumptions used to perform the dispersion modeling analysis.

- The EPA approved ISCST model was used for all modeling.
- Five years (1982 - 1986) of surface and upper air meteorological data from West Palm Beach were used with the ISCST model.
- Receptors were placed along the 36 standard directions surrounding the Unit 9 stack at the following downwind distances: 100-meter intervals from 100 to 1,000 meters, 250-meter intervals from 1,250 to 3000 meters, and 1,000-meter intervals from 4,000 to 10,000 meters. Discrete receptors were placed at the boundary that restricts public access along the 36 radial directions.
- The rural modeling option was considered representative of the site.
- All EPA default modeling options were selected.
- The modeled highest concentration was selected for annual averaging periods and the highest, second-highest concentration was selected for 3- and 24-hour averaging periods.
- A GEP analysis showed that the Huber-Snyder building downwash algorithm was appropriate for all wind directions.

4.0 DISPERSION MODELING RESULTS

Table 4-1 shows the maximum modeled SO_2 and TSP impacts for each modeled year. These concentrations are the combined maximum from Units 6,

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1984	397.9	0.2	80	59	-	-	-	-
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*Maximum impact.

Class II

Increment Estimated SO_2 Ann 3.7 / 20 ~~75 Ann~~

24-hr 43.9/91

3-hr 154.9/512

7, and 8 when burning No. 6 fuel oil. Table 4-2 shows the overall maximum SO_2 and PM impact for each averaging period, as well as the representative FAAQS. Note that the impacts from Units 6, 7, and 8 are well below the FAAQS. The 24-hour SO_2 impact is the most restrictive, at 68 percent of the standard. A hard copy of the modeling output files is attached.

5.0 CONCLUSION

Ambient air quality dispersion modeling showed that the combined impacts from H. D. King Units 6, 7, and 8 were well below the ambient air quality standards when burning No. 6 fuel oil. This demonstrates that the H. D. King facility will be in compliance with FAAQS when operated during a natural gas curtailment.

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WATER GAS
ELECTRIC SEWER

FORT PIERCE UTILITIES AUTHORITY

206 S. SIXTH STREET * P. O. BOX 3191 * FORT PIERCE, FLORIDA 34948 * PHONE (407) 464-5600

DER GC notified applicant

RECEIVED
DEC 13 1990
DER - BAQM

December 10, 1990

Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32399

Attention: Mr. Steve Smallwood

SUBJECT: Emergency Order for Burning Fuel oil in Units 6, 7 and 8

REFERENCE AIR PERMITS: Unit 6 - AO-56-113534
Unit 7 - AO-56-112679
Unit 8 - AO-56-112678
Unit 9 - AO-56-175955

Pursuant to discussions with Mr. Dan Thompson of the DER, we have prepared and are submitting herewith a petition requesting permission to burn fuel oil in Units 6, 7 and 8 under emergency conditions.

Provisions of the Unit 9 permit, in effect preclude burning of oil in Units 6, 7 and 8 under any circumstances. We are in the process of revising our permit for Unit 9 precisely so that all constraints to the operation of Units 6, 7 and 8, contained in the Unit 9 permit, will be removed. FPUA is vulnerable to a natural gas curtailment that would preclude generating power with natural gas, the primary fuel. If purchase power is unavailable during a natural gas supply interruption, without the ability to burn oil as an emergency backup, FPUA will be forced to curtail its electric customers.

The attached petition for Emergency Order sets forth the facts regarding this situation, and requests issuance of an Emergency Order for use of fuel oil under emergency conditions.

We have been trying to resolve this situation since late August 1990. Now as the winter season is immediately upon us, the probability of needing emergency provisions to burn oil in order to avoid curtailing our customers, is high. Your expeditious attention to this matter is appreciated.

Fort Pierce Utilities Authority
Mr. Harry Schindehette

December 10, 1990

If you have any questions, please call me at (407) 464-5600 or Steve Day at (913) 339-2880.

Sincerely,

Harry Schindehette, P.E.
Director of Utilities

lts
Enclosure

cc: S. Day
D. Thompson
C. Fancy
B. Andrews

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

IN RE: FORT PIERCE UTILITIES AUTHORITY)
)
Issuance of An Emergency Order)
To Permit Burning of Oil In)
H. D. King Units 6, 7 and 8 Under)
Emergency Conditions)
)

PETITION FOR EMERGENCY ORDER TO
THE FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

(a) Name of Petitioner: Fort Pierce Utilities Authority

(b) Address of Petitioner: 206 South Sixth Street
P.O. Box 3191
Fort Pierce, Florida 34948

(c) Statutory provision under which Emergency Order is sought:

Subsection 120.59(3), Florida Statutes (F.S.)

(d) The precise factual circumstances giving rise to the petition:

The Fort Pierce Utilities Authority (FPUA) presently operates the H. D. King Generating Station comprising three steam-electric units (Units 6, 7 and 8), one combined cycle unit (Unit 9 Combustion Turbine Generator and Heat Recovery Steam Generator (HRSG) in Combined Cycle with Unit 5 Steam-electric unit) and two diesel electric units.

The permit for Unit 9, Permit/Certification Number AO-56-175955, contains provisions that impose operational constraints on Units 6, 7 and 8. Those constraints apply to hours of operation of the units as well as emissions, (both the hourly rate and maximum annual total). In effect, the emissions constraints now preclude the burning of fuel oil in units 6, 7 and 8 under any

circumstances, whereas, prior to the unit 9 provisions, those units were permitted to burn fuel oil under the circumstances of an emergency or a temporary natural gas curtailment. The permit No.s for Units 6, 7 and 8 are AO-56-32954, AO-56-32948 and AO-56-41413, respectively.

Ongoing trends in the State's electric power supply and delivery system, as well as the natural gas delivery system, have substantially changed the operational requirements for Units 6, 7 and 8. As a result, FPUA is currently in the process of revising the Permit for Unit 9 so as to remove any constraints applicable to Units 6, 7 and 8. It now appears that the revised permit will not be issued prior to experiencing the peak demands imposed by the 1990-91 winter conditions.

The requested Emergency Order will permit use of fuel oil to meet electrical demand under emergency circumstances, until such time as the new permit is issued for Unit 9, and the current constraints are removed from Units 6, 7 and 8. Without the relief provided by the requested Emergency Order, electric power may have to be curtailed to FPUA customers, in order not to violate the existing permits.

(e) Points upon which this petition is based.

If the FPUA must curtail electric power supply to its customers, in order to comply with its current permits, it will pose an immediate threat to public health, safety and welfare. Such action would leave the affected customers without lights and many without heat or means for preparing food. Hospitals and

other vital services could be without power temporarily, depending on whether or not their emergency backup systems function properly. Industrial, commercial, office and retail facilities would be adversely affected and would suffer economic hardship. Traffic signals would be out of service adversely affecting traffic safety. The loss of street and security lighting also would adversely affect public safety.

Subsection 120.59(3), F.S., provides for issuance of an immediate final order if matters of public health, safety or welfare are involved.

It is hereby requested that an Emergency Order be issued to FPUA authorizing the burning of fuel oil in units 6, 7 and 8, under circumstances that would result in the FPUA's inability to supply electrical power to its customers, all or in part, were the burning of fuel oil in those units, not allowed.

Dated this 10th day of December 1990.

Harry Schindehette
Utility Director
Fort Pierce Utilities Authority

Consulting Engineer
Black & Veatch
c/o Steve Day
11401 Lamar
Overland Park, Kansas 66211
(913) 339-2880