April 16, 2001

Mr. Scott Sheplak, Administrator
Title V Section
Florida Dept. of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

RE: Gainesville Regional Utilities
J.R. Kelly Generating Station (Facility ID 0010005)
Change in Responsible Official

Dear Mr. Sheplak:

Notice is hereby provided that effective immediately I am the responsible official (RO) for the above-referenced facilities pursuant to Rule 62-210.200(247). Mr. Darrell DuBose will return to the office on April 24, 2001 and shall resume his responsibilities as RO at that time.

Please call me at (352) 334-3400 Ext. 1006 if you have any questions.

Sincerely,

Michael L. Kurtz
General Manager

xc: D. Beck
R. Casserleigh
R. Embry
Y. Jonynas
C. Kirts, FDEP – Jax.
R. Klemans
M. Kurtz
L. Lalwani
S. Manasco
K. Pierce, EPA – Region 4
E. Regan
G. Swanson
D. Thompson
CAA - DR
CAA – Title V JRK

JRKRODesignation401.y39

File \ Barbara

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

October 19, 2000

Ms. Yolanta E. Jonynas
Sr. Environmental Engineer
Gainesville Regional Utilities
P.O. Box 147117
Station A136
Gainesville, Florida 32614-7117

Re: Acid Rain Phase II Permit Application – J. R. Kelly Repowered Unit "CC1"
Facility ID: 0010005; ORIS Code: 664

Dear Ms. Jonynas:

Thank you for your earlier submission of the revised Acid Rain Phase II Permit Application for the subject facility unit (with prior designation "JRK8") on February 2, 1999. After an initial review, we requested that you provide us a copy of the U.S. EPA approved Certificate of Representation for the appropriate Designated Representative. This document was promptly received on March 4, 1999 via fax transmission. All was in order at that point, and your application was deemed complete. Please accept this letter as official documentation of that action by the Department.

If you have any questions, please contact Tom Cascio at 850/921-9526.

Sincerely,

Scott M. Sheplak

Scott M. Sheplak, P.E.
Administrator
Title V Section

cc: Jenny Jachim, U.S. EPA Region 4

GRU GAINESVILLE REGIONAL UTILITIES

Strategic Planning

November 12, 1997

Via Fax & Mail

Mr. Scott Sheplak, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

RE: City of Gainesville/Gainesville Regional Utilities
J. R. Kelly Generating Station
Draft Title V Permit No. 0010005-001-AV
Modeling Results - Unit 6

Dear Mr. Sheplak:

Pursuant to the Department's request, enclosed is the assessment of ambient SO2 impacts for the J. R. Kelly Generating Station Unit 6 while combusting natural gas. The assessment demonstrates that the combined impacts of Unit 6 burning natural gas and Units 7 and 8 burning 2.5% sulfur fuel oil will not cause an exceedance of the ambient air quality standards for SO2.

Please call me at (352) 334-3400 Ext. 1284 if you have any questions.

Sincerely,

Yolanta E. Jonynas

Yolanta E. Jonynas
Sr. Environmental Engineer

Attachments

xc: L. Anderson, FDEP
D. Beck
R. Manasco
A. Morrison, HGSS
G. Swanson
CAA Title V

November12jrktv

GAINESVILLE REGIONAL UTILITIES
J.R. KELLY GENERATING STATION
ASSESSMENT OF AMBIENT SO_2 IMPACTS

An assessment of ambient SO_2 impacts due to the operation of Units 7 and 8 at the Gainesville Regional Utilities (GRU) J.R. Kelly Generating Station was previously conducted using EPA's SCREEN3 dispersion model and submitted to FDEP. At the request of FDEP, additional SCREEN3 modeling was conducted to assess the impact of Unit 6 at the J.R. Kelly Generating Station. Specific data used in the SCREEN3 modeling analysis and model results are summarized in the following sections.

A. SO_2 Emission Rates and Stack Parameters

Modeled SO_2 emission rate was based on Unit 6 being fired with natural gas. Maximum SO_2 emission rate was calculated using the AP-42 emission factor of 0.6 lb/MMft^3 (equivalent to 0.0006 lb SO_2/MMBtu using a natural gas heat content of 1,000 Btu/ft^3) and maximum heat input rate of 187 MMBtu/hr.

Stack parameters for Unit 6 were based on historical conditions since the physical stack for Unit 6 was recently demolished. A summary of Unit 6 stack parameters is included on revised Attachment I. Building structures which could result in downwash (i.e., greater than 2.5 times the common stack height and within five times the lessor of the building structure's height or projected width) were assessed and appropriate building dimensions used in the modeling assessment.

Modeled SO_2 emission rates, common stack parameters, and building dimensions are summarized in the following table:

Parameter	Units	Value
SO_2 Emission Rate	g/s	0.014
Stack Height	m	36.6
Stack Diameter	m	1.8
Stack Temperature	K	449.8
Stack Velocity	m/s	9.7
Building Dimensions:		
Height	m	18.0
Minimum Horizontal Dimension	m	28.9
Maximum Horizontal Dimension	m	47.9

GAINESVILLE REGIONAL UTILITIES
J.R. KELLY GENERATING STATION
ASSESSMENT OF AMBIENT SO_2 IMPACTS

B. SCREEN3 Model Options

The SCREEN3 modeling assessment utilized the regulatory defaults for mixing heights and anemometer height, full meteorology, and rural dispersion coefficients. Use of rural dispersion coefficients is consistent with the EPA recommended Auer classification method. The area within a 3-km radius of the J.R. Kelly Generating Station is predominately single family residential dwellings with undeveloped land (i.e., the Paynes Prairie area) beginning approximately 2.0 km to the south of the plant. Based on this land use, the area within a 3-km radius would be characterized as rural using the Auer classification method. SCREEN3 model output is provided as Attachment II.

C. SCREEN3 Model Results

The SCREEN3 dispersion model is a single-source model which yields maximum one-hour impacts. The maximum one-hour SO_2 impacts were converted to 3-, 24-hour, and annual averaging periods using the EPA recommended multipliers of 0.9, 0.4, and 0.08, respectively.

SCREEN3 SO_2 model results for the GRU J.R. Kelly Generating Station are summarized in the following table:

Unit	Maximum One Hour Impact ($\mu g/m^3$)	Downwind Distance (m)	Maximum SO_2 Impacts		
			3-Hr ($\mu g/m^3$)	24-Hr ($\mu g/m^3$)	Annual ($\mu g/m^3$)
6	0.14	180	0.13	0.06	0.01
7 & 8	633.5	299	570	253	51
Totals	633.6	N/A	570.1	253.1	51
	FDEP Standards ($\mu g/m^3$)		1,300	260	60

GAINESVILLE REGIONAL UTILITIES
J.R. KELLY GENERATING STATION
ASSESSMENT OF AMBIENT SO_2 IMPACTS

D. Conclusions

As summarized in the above, conservative modeling of Unit 6 SO_2 emissions using the SCREEN3 model demonstrates that maximum impacts will be insignificant. The SCREEN3 model assessment provides reasonable assurance that maximum ambient SO_2 impacts due to operation of the J.R. Kelly Generating Station Units 6, 7, and 8 will not exceed applicable FDEP ambient standards. As noted previously, the SCREEN3 model was formulated to provide conservative estimates of maximum impacts; i.e., to over-estimate actual maximum impacts.

11/10/97
14:54:46

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

GRU; KELLY PLANT, UNIT 6

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.140000E-01
STACK HEIGHT (M)	=	36.6000
STK INSIDE DIAM (M)	=	1.8300
STK EXIT VELOCITY (M/S)	=	9.7000
STK GAS EXIT TEMP (K)	=	449.8000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	17.9800
MIN HORIZ BLDG DIM (M)	=	28.9000
MAX HORIZ BLDG DIM (M)	=	47.9000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 27.761 M**4/S**3; MOM. FLUX = 51.314 M**4/S**2.

*** FULL METEOROLOGY ***

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*** SCREEN AUTOMATED DISTANCES ***
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*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
50.	.0000	1	1.0	1.1	320.0	273.22	22.39	18.62	NO
100.	.8994E-01	4	20.0	24.3	6400.0	36.87	8.29	15.72	HS
200.	.1165	4	15.0	18.2	4800.0	42.15	15.78	22.30	HS
300.	.8618E-01	4	15.0	18.2	4800.0	44.97	22.87	25.18	HS
400.	.7047E-01	4	15.0	18.2	4800.0	47.28	29.73	27.97	HS
500.	.6663E-01	4	15.0	18.2	4800.0	47.28	36.37	30.61	HS
600.	.6433E-01	3	8.0	9.1	2560.0	63.46	65.22	47.15	HS
700.	.8031E-01	1	1.0	1.1	320.0	273.22	166.64	223.78	NO
800.	.8388E-01	1	1.0	1.1	320.0	273.22	184.25	290.97	NO
900.	.7877E-01	1	1.0	1.1	320.0	273.22	201.84	369.37	NO
1000.	.7265E-01	1	1.0	1.1	320.0	273.22	219.38	458.86	NO
1100.	.6729E-01	1	1.0	1.1	320.0	273.22	236.85	559.40	NO
1200.	.6270E-01	1	1.0	1.1	320.0	273.22	254.22	671.00	NO
1300.	.5871E-01	1	1.0	1.1	320.0	273.22	271.49	793.72	NO
1400.	.5522E-01	1	1.0	1.1	320.0	273.22	288.66	927.61	NO
1500.	.5213E-01	1	1.0	1.1	320.0	273.22	305.72	1072.73	NO
1600.	.4939E-01	1	1.0	1.1	320.0	273.22	322.68	1229.17	NO
1700.	.4804E-01	2	1.0	1.1	320.0	273.22	256.45	206.99	NO
1800.	.4874E-01	2	1.0	1.1	320.0	273.22	268.91	218.99	NO
1900.	.4892E-01	2	1.0	1.1	320.0	273.22	281.32	231.13	NO
2000.	.4867E-01	2	1.0	1.1	320.0	273.22	293.69	243.40	NO
2100.	.4810E-01	2	1.0	1.1	320.0	273.22	306.00	255.77	NO
2200.	.4728E-01	2	1.0	1.1	320.0	273.22	318.27	268.25	NO
2300.	.4629E-01	2	1.0	1.1	320.0	273.22	330.50	280.83	NO
2400.	.4520E-01	2	1.0	1.1	320.0	273.22	342.67	293.49	NO

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
2500.	.4404E-01	2	1.0	1.1	320.0	273.22	354.80	306.23	NO
2600.	.4287E-01	2	1.0	1.1	320.0	273.22	366.88	319.05	NO
2700.	.4169E-01	2	1.0	1.1	320.0	273.22	378.92	331.95	NO
2800.	.4054E-01	2	1.0	1.1	320.0	273.22	390.91	344.91	NO
2900.	.3942E-01	2	1.0	1.1	320.0	273.22	402.86	357.94	NO
3000.	.3834E-01	2	1.0	1.1	320.0	273.22	414.76	371.02	NO
3500.	.3590E-01	3	1.0	1.1	320.0	264.19	327.09	202.99	NO
4000.	.3577E-01	3	1.0	1.1	320.0	264.19	367.27	226.80	NO
4500.	.3454E-01	3	1.0	1.1	320.0	264.19	407.03	250.57	NO
5000.	.3521E-01	5	1.0	1.6	10000.0	113.96	219.97	59.93	NO
MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 50. M:									
180.	.1397	6	4.0	8.2	10000.0	54.44	8.89	22.26	HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	.0000	CONC (UG/M**3)	=	.0000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	21.54	CAVITY HT (M)	=	18.88
CAVITY LENGTH (M)	=	42.89	CAVITY LENGTH (M)	=	36.08
ALONGWIND DIM (M)	=	28.90	ALONGWIND DIM (M)	=	47.90

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
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CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.1397	180.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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Gainesville Regional Utilities
J.R. Kelly Generating Station
Attachment I

A. Stack Parameters

Unit	Load (MW)	Temperature (°F)	Temperature (K)	Flow Rate (acfm)	Flow Rate (acmm)	Velocity (ft/sec)	Velocity (m/s)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)
6	19.0	350.0	449.8	54,000.0	1,529.1	31.8	9.7	120.00	36.6	6.00	1.83
7	20.6	356.0	453.2	92,356.2 [1]	2,615.2	17.8	5.4	N/A	N/A	N/A	N/A
8[2]	40.0	252.3	395.5	159,173.7	4,507.3	30.6	9.3	N/A	N/A	N/A	N/A
7 & 8 Common	**N/A**	**290.4**	**416.7**	**251,529.9**	**7,122.5**	**48.4**	**14.8**	**200.0**	**61.0**	**10.50**	**3.20**

[1] Based on 9,190 dscf/10^6 Btu "F" factor, 5.94 % O_2 , 12.1 % moisture, and 249 x 10^6 Btu/hr heat input.

[2] Based on 1997 RATA, average data for RA-79 through RA-87.

B. Stack Flow Rate Adjusted for Load

Unit	Load Ratio	Temperature (°F)	Temperature (K)	Flow Rate (acfm)	Flow Rate (acmm)	Velocity (ft/sec)	Velocity (m/s)	Height (ft)	Height (m)	Diameter (ft)	Diameter (m)
6	1.000	350.0	449.8	54,000.0	1,529.1	31.8	9.7	120.00	36.6	6.00	1.83
7[1]	1.000	356.0	453.2	92,356.2	2,615.2	17.8	5.4	N/A	N/A	N/A	N/A
8[2]	1.250	252.3	395.5	198,967.1	5,634.1	38.3	11.7	N/A	N/A	N/A	N/A
7 & 8 Common		**285.2**	**413.8**	**291,323.3**	**8,249.4**	**56.1**	**17.1**	**200.0**	**61.0**	**10.50**	**3.20**

[1] Load ratio based on derate to 249 MMBtu/hr (22.9 MW).

[2] Load ratio based on design rate of 50 MW divided by rate occurring during RATA testing.