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July 28, 2010

Mr. A. A. Linero, Program Administrator
Special Projects Section
Florida Department of Environmental Protection
2600 Blirstone Road
Tallahassee, Florida 32399-2400

**RE: SOUTHEAST RENEWABLE FUELS, LLC
DEP FILE NO. 0510032-001-AC (PSD-FL-412)
ADVANCED BIOREFINERY PERMIT APPLICATION
MODIFICATION TO BIOGAS FLARE MODELING FOR PSD PERMIT APPLICATION**

Dear Mr. Linero:

On behalf of Southeast Renewable Fuels, LLC (SRF), Golder Associates Inc. (Golder) is submitting additional information for the Prevention of Significant Deterioration (PSD) air construction permit application (PSD-FL-412) for the sweet sorghum to ethanol advanced biorefinery to be located in Hendry County, Florida. Several minor design changes were made to the proposed biogas flare, and the proposed facility was re-modeled to address the new 1-hour sulfur dioxide (SO₂) ambient air quality standard (AAQS). The purpose of this letter is to present the updated modeling analysis and design changes to the biogas flare.

EMISSION ESTIMATES

Currently, the SO₂ emissions for the biogas flare are based on 2 percent hydrogen sulfide (H₂S) in the biogas, which results in an uncontrolled SO₂ emission rate of 4.58 pounds per million British thermal units (lb/MMBtu) or 126.2 pounds per hour (lb/hr). SRF is proposing to install an H₂S scrubber to achieve 98 percent control efficiency of H₂S for the biogas flare. Based on this control, the SO₂ emission rate for the biogas flare is 0.0916 lb/MMBtu or 2.52 lb/hr. In addition, SRF is proposing to reduce the biogas flare stack height from 120 feet (ft) to 50 ft. The emission calculations and stack parameters for the proposed changes to the biogas flare are shown in revised Table 2-18. Other emission tables (Tables 2-11, 2-12, 2-15, 2-16, 2-31, and 3-3) from the PSD report have also been updated to reflect the biogas flare changes. In addition, these tables reflect the recently agreed-to lower nitrogen oxides (NO_x) emission rates for the proposed biomass boiler.

AIR QUALITY IMPACT ANALYSIS

The revised air quality impact analysis was conducted using the same methodology as presented in the original air construction permit application. Any exceptions to this methodology are described below.

Significant Impact Analysis

The following pollutants were included in the revised modeling analysis: SO₂, particulate matter (PM) with aerodynamic diameter of 10 microns or less (PM₁₀), PM with aerodynamic diameter of 2.5 microns or less (PM_{2.5}), nitrogen dioxide (NO₂), and carbon monoxide (CO). Modeled emission rates for all sources are summarized in revised Table 6-3. As stated in the application, the AERMOD model is used for the site vicinity [receptors within 50 kilometers (km)], and the CALPUFF model is used for the far field analysis (receptors greater than 50 km from the site).

Two scenarios were modeled to determine the worst-case impacts compared to the U.S. Environmental Protection Agency (EPA) Class I and II significant impact levels (SILs). For the 1-, 3-, and 8-hour averaging times, the biogas flare and biomass boiler do not operate simultaneously. Therefore, Scenario 1 is based



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on the boiler operating without the biogas flare, and Scenario 2 is based on the biogas flare operating without the boiler. For the 24-hour averaging time, it was assumed that both the biogas flare and biomass boiler are operating. For the annual averaging time, the biogas flare operates for 720 hours per year (hr/yr) and the biogas boiler operates for 8,400 hr/yr.

The maximum predicted SO₂, PM₁₀, PM_{2.5}, NO₂, and CO impacts due to the proposed project only for both scenarios, compared to the EPA Class II SILs, are presented in revised Table 6-10. As shown in Table 6-10, the annual average SO₂, annual average NO₂, 8-hour CO, and 1-hour CO impacts are predicted to be less than the SILs, while the maximum predicted 1-, 3-, and 24-hour SO₂, 24-hour and annual average PM₁₀, 24-hour and annual average PM_{2.5}, and 1-hour average NO₂ impacts are predicted to be greater than the SILs. Because the maximum predicted annual average SO₂, annual average NO₂, 8-hour CO, and 1-hour CO impacts are below the SILs, no further modeling is required for those pollutants and averaging times. Because the maximum predicted 1-, 3-, and 24-hour SO₂, 24-hour and annual average PM₁₀, 24-hour and annual average PM_{2.5}, and 1-hour average NO₂ are predicted to be greater than the SILs, detailed modeling analyses are required for these pollutants and averaging times to demonstrate compliance with the AAQS and PSD Class II increments.

It should be noted that the SILs for PM_{2.5} for the annual and 24-hour averaging times are based on the most stringent of three proposed standards in the EPA document titled *PSD for PM_{2.5} – Increments, SILs and SMC* (EPA-HQ-AOR-2006-0605; FRL-8470-1). In addition, EPA has not yet defined SILs for SO₂ 1-hour or NO₂ 1-hour impacts. Therefore, levels based on 4 percent of the AAQS standards were used: 7.8 micrograms per cubic meter (µg/m³) and 7.5 µg/m³ for the SO₂ and NO₂ 1-hour SILs, respectively.

The maximum predicted SO₂, PM₁₀, and NO₂ impacts due to the proposed project at the Everglades National Park (ENP) are summarized in Table A. Because the maximum predicted SO₂, PM₁₀, and NO₂ impacts for all averaging times are predicted to be below the Class I SILs, no further modeling is required for those pollutants.

AAQS and PSD Class II Analyses

The maximum pollutant impacts for the proposed project are predicted to be greater than the SILs for the 1-, 3-, and 24-hour averaging time for SO₂, the 24-hour and annual averaging times for PM₁₀ and PM_{2.5}, and the 1-hour averaging time for NO₂. As a result, cumulative source impact analyses were conducted to determine compliance with the AAQS for these pollutants and averaging times and with the PSD Class II increments for PM₁₀ and SO₂.

A significant impact area (SIA) and the radius of the SIA were determined for each pollutant and averaging time combination for which the proposed project's impact is predicted to be significant. The radius of impact was used as the basis for determining the inventory of background sources to be included in the air impact analyses.

The proposed project's SIAs are as follows:

- SO₂: 1-, 3-, and 24-hour – 3.1, 0.7, and 1.1 km, respectively
- NO₂: 1-hour – 2.6 km
- PM₁₀: 24-hour and annual – 2.9 and 0.9 km, respectively
- PM_{2.5}: 24-hour and annual – 4.4 and 0.9 km, respectively

As such, the SIA for developing an inventory of background sources was assumed to extend out to 3.1 km for SO₂, 2.6 km for NO₂, 2.9 km for PM₁₀, and 4.4 km for PM_{2.5}.

Background source data previously submitted were updated based on the new SIAs. Listings of SO₂ sources that were used in the AAQS and PSD Class II analyses and their locations relative to SRF are provided in revised Table 6-5. Similarly, listings of PM₁₀, PM_{2.5}, and NO₂ sources that were used in the

AAQS and PSD Class II analyses and their locations relative to SRF are provided in revised Table 6-6, Table B, and revised Table 6-8, respectively. Detailed SO₂, PM₁₀, PM_{2.5}, and NO₂ source data that were used for the AAQS and PSD Class II increment analyses are presented in Appendix F.

Background monitoring concentrations for 1-hour average SO₂ and NO₂ have been updated and are presented in revised Tables 4-3 and 4-5, respectively. The monitor used to determine an SO₂ 1-hour non-modeled background concentration is the same monitor used in the PSD report for the 3-hour SO₂ non-modeled background concentration (Monitor ID No. 12-099-2101). The background concentration of 13.1 µg/m³ is based on the highest 1-hour concentration from the Belle Glade station measured over the last 3 years.

The monitor used to determine the 1-hour NO₂ non-modeled background concentration is based on the nearest monitor to the project site (AIRS No. 12-099-1004). The background concentration of 71.4 µg/m³ is based on the highest 1-hour concentration from the Palm Beach station measured in 2008. The higher maximum 1-hour concentrations measured in 2007 at this site and in 2009 at the Lantana site were not used since both these sites are located in urban settings, and therefore these sites would experience much higher NO₂ concentrations compared to the very rural SRF site.

A summary of the results of the modeling analyses to demonstrate compliance with the AAQS is presented in revised Table 6-12. For SO₂, the predicted 99th percentile of the daily maximum 1-hour values is 89 µg/m³, which is well below the AAQS of 196.5 µg/m³. The highest, second highest (HSH) 3- and 24-hour average SO₂ concentrations are 61 µg/m³ and 15 µg/m³, respectively, which are well below the corresponding AAQS of 1,300 and 260 µg/m³.

For PM₁₀, the highest, 6th highest (H6H) 24-hour and highest annual average concentrations are predicted to be 75 and 30 µg/m³, respectively, which are below the corresponding AAQS of 150 and 50 µg/m³. The 5-year average of the highest 24-hour and the highest annual average PM_{2.5} concentrations are predicted to be 33 and 9 µg/m³, respectively, which are below the corresponding AAQS of 35 and 15 µg/m³.

For NO₂, the predicted 98th percentile of the daily maximum 1-hour values is 148 µg/m³, which is below the 1-hour NO₂ AAQS of 188 µg/m³.

A summary of the results of the modeling analyses to demonstrate compliance with the PSD Class II increments is presented in revised Table 6-13. The predicted maximum HSH 3- and 24-hour average SO₂ concentrations are 36 and 8 µg/m³, respectively, which are below the corresponding allowable PSD Class II increments of 512 and 91 µg/m³. The predicted HSH 24-hour and highest annual average PM₁₀ concentrations are 27.0 and 8.6 µg/m³, respectively, which are below the corresponding allowable increments of 30 and 17 µg/m³.

Impacts to AQRVs, Visibility, and Deposition in the ENP

As discussed previously, the CALPUFF model was used to update the far field analysis with the updated biogas flare stack height and emission rate. As such, the results for air quality-related values (AQRVs) are presented in revised Table 7-4. It should be noted that the impacts are greatly reduced compared to the previously submitted values. Therefore, any potential risk to AQRVs has been improved, and no further analyses were conducted.

In addition, the visibility analysis at the ENP was updated and results are presented in revised Table 7-5. Using Method 2, the project's maximum change in visibility is predicted to be approximately 2.4 percent. This value does not exceed the Federal Land Manager's (FLM's) recommended screening criterion of 5 percent change. Using Method 6, which is the preferred method under the proposed FLMs' Air Quality Related Values Work Group (FLAG) document, the project's maximum change in visibility is predicted to be approximately 1.1 percent, well below the FLM's recommended screening criterion of 5 percent change. As a result, the project is not expected to have an adverse impact on the existing regional haze at the PSD Class I area of the ENP.

The maximum total annual nitrogen (N) and sulfur (S) depositions predicted for the SRF project in the PSD Class I area of the ENP were also updated and are summarized in revised Table 7-6. The maximum annual N and S deposition rates for the project are predicted to be well below the N or S deposition analysis threshold (DAT) of 0.01 kilogram per hectare per year (kg/ha/yr).

Application Forms

Pertinent portions of the air permit application form have been updated to reflect the above changes. These are attached.

Conclusions

The results of the air modeling analyses demonstrate that the proposed project, as amended, will comply with all applicable AAQS and PSD increments. In addition, the proposed impacts to visibility and deposition AQRVs are not expected to be significant.

Thank you for considering this information. If you have any questions, please do not hesitate to call me at (352) 336-5600.

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

David A. Buff, P.E., Q.E.P.
Principal Engineer

Priscilla G. Tootley
Priscilla G. Tootley, E.I.
Staff Engineer

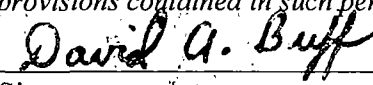
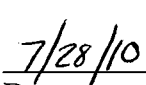
cc: Tom Rogers, FDEP
Kelly Stevens, FDEP
Don Markley, SRF
Carlos Rionda, SRF

Attachments

DB/tz

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: David A. Buff Registration Number: 19011
2. Professional Engineer Mailing Address... Organization/Firm: Golder Associates Inc.** Street Address: 6026 NW 1st Place City: Gainesville State: FL Zip Code: 32607
3. Professional Engineer Telephone Numbers... Telephone: (352) 336-5600 ext. 545 Fax: (352) 336-6603
4. Professional Engineer E-mail Address: dbuff@golder.com
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i> <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/> , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/> , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i> <i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/> , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i>  Signature  Date (seal)

* Attach any exception to certification statement.

**Board of Professional Engineers Certificate of Authorization #00001670.

TABLE A
SUMMARY OF MAXIMUM CONCENTRATIONS PREDICTED FOR PROPOSED
PROJECT AT THE EVERGLADES NP COMPARED TO EPA PROPOSED
PSD CLASS I SIGNIFICANT IMPACT LEVELS

Pollutant	Averaging Time	Maximum Concentration ($\mu\text{g}/\text{m}^3$) ^{a, b}		EPA Class I Significant Impact Levels ($\mu\text{g}/\text{m}^3$)
		Scenario 1 - Boiler and Truck Flare	Scenario 2 - Biogas Flare and Truck Flare	
SO ₂	Annual	0.0022	0.0022	0.1
	24-Hour	0.11	0.0055	0.2
	3-Hour	0.37	0.013	1.0
PM ₁₀	Annual	0.0004	0.0004	0.2
	24-Hour	0.012	0.0008	0.3
NO ₂ (Tier 1) ^c	Annual	0.0026	0.0026	0.1

^a Based on highest predicted concentrations from AERMOD using five years of meteorological data for 2001 to 2005 consisting of surface and upper air data from the National Weather Service stations at Fort Myers Southwest Florida Regional (RSW) Airport and Tampa International Airport, respectively.

^b Scenario 1 is based on the Boiler operating and Scenario 2 is based on the Biogas Flare operating, since they cannot operate simultaneously. These scenarios are consistent for the 1-, 3-, and 8-hour averaging times. For the 24-hour and annual averaging times, all units operate (i.e., the boiler, biogas flare, and truck flare) for both Scenario 1 and 2.

^c NO_x to NO₂ conversion assumed to be 100 percent.

TABLE B
SUMMARY OF THE PM_{2.5} FACILITIES CONSIDERED FOR INCLUSION IN THE PSD CLASS II AIR MODELING ANALYSES

AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a				Maximum PM ₁₀ Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg)			
<u>Modeling Area^d</u>											
No Facilities are located within the modeling area											
<u>Screening Area^d</u>											
0510003	U.S. Sugar Clewiston Mill and Refinery	Hendry	506.1	2956.9	4.1	16.0	16.52	14	1642.0	242.3	YES
0510022	Fiberstar, Inc.	Hendry	487.7	2957.4	-14.3	16.5	21.86	319	172.6	349.3	NO
0510015	Southern Gardens Citrus Processing Corp.	Hendry	487.5	2957.6	-14.5	16.7	22.12	319	358.8	354.3	YES
0990332	Okeelanta Cogeneration Plant - New Hope Power Co.	Palm Beach	524.6	2939.9	22.6	-1.0	22.59	92	267.5	363.7	NO
0990005	Okeelanta Sugar Refinery	Palm Beach	524.7	2939.5	22.7	-1.4	22.75	93	154.8	367.0	NO
0990615	SFWMD - Pump Station G-372	Palm Beach	519.3	2923.6	17.3	-17.3	24.49	135	20.6	401.8	NO
0430008	South Florida Thermal Services, Inc.	Glades	489.2	2966.6	-12.8	25.7	28.71	334	20.9	486.2	NO
0110351	SFWMD Pump Station S-8 & G-404	Broward	522.3	2912.2	20.3	-28.7	35.15	145	46.1	615.1	NO
0990026	Sugar Cane Growers Co-Op	Palm Beach	534.9	2953.9	32.9	13.0	35.33	68	1724.4	618.7	YES
0990614	SFWMD - Pump Station G-370	Palm Beach	540.5	2919.5	38.5	-21.4	44.03	119	20.7	792.5	NO
0510004	Citrus Belle	Hendry	456.4	2950.3	-45.6	9.4	46.56	282	42.5	843.2	NO
0210018	Florida Rock Industries - Sunniland Quarry	Collier	467.8	2905.8	-34.2	-35.1	49.01	224	4.2	892.1	NO
0990019	Osceola Farms	Palm Beach	544.5	2967.7	42.5	26.8	50.23	58	616.7	916.5	NO
0990016	Atlantic Sugar Mill	Palm Beach	552.9	2945.3	50.9	4.4	51.06	85	817.5	933.2	NO
0990549	SFWMD - Pump Station G-310	Palm Beach	554.2	2940.5	52.2	-0.5	52.20	90	14.5	956.0	NO
0990011	Sem-Chi Rice Products Corp.	Palm Beach	554.0	2949.7	52.0	8.8	52.72	80	19.3	966.4	NO
<u>Beyond Screening Area out to 100 km^d</u>											
0990646	FP&L - West County Energy Center	Palm Beach	562.2	2952.9	60.2	12.0	61.35	79	497.6	1139.1	NO
0990348	Palm Beach Aggregates, LLC	Palm Beach	562.4	2952.2	60.4	11.3	61.46	79	114.3	1141.2	NO
0990566	Indian Trail Improvement District - ACI	Palm Beach	565.7	2956.4	63.7	15.5	65.59	76	44.2	1223.7	NO
0850001	FP&L - Martin Power Plant	Martin	543.2	2993.8	41.2	52.9	66.99	38	9678.8	1251.9	YES
0850102	Indiantown Cogeneration Plant	Martin	547.7	2990.7	45.7	49.8	67.56	43	581.3	1263.1	NO
0850012	Bay State Milling	Martin	547.4	2991.7	45.4	50.8	68.12	42	455.0	1274.3	NO
0210031	Raccoon Point	Collier	509.6	2873.2	7.6	-67.7	68.13	174	12.3	1274.5	NO
0850002	Louis Dreyfus Citrus - Indiantown Plant	Martin	548.0	2991.5	46.0	50.6	68.35	42	51.8	1279.0	NO
0990021	United Technologies - Pratt & Whitney ACFT	Palm Beach	568.2	2976.0	66.2	35.1	74.90	62	239.0	1410.1	NO
0210023	Golden Gate Asphalt Plant and Quarry	Collier	437.9	2898.9	-64.1	-42.0	76.63	237	110.4	1444.7	NO
0550014	Lake Placid Asphalt Plant	Highlands	465.6	3008.7	-36.4	67.8	76.95	332	36.0	1451.1	NO
0710133	Gulf Coast Sanitary Landfill	Lee	424.2	2942.8	-77.8	1.9	77.80	271	21.2	1468.1	NO
0710119	Lee Co. Solid Waste Resource Rec. Fac.	Lee	424.1	2945.8	-77.9	4.9	78.02	274	71.9	1472.3	NO

TABLE B
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AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a				Maximum PM ₁₀ Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg)			
0990087	Ranger Construction - Royal Palm Beach	Palm Beach	579.9	2951.7	77.9	10.8	78.65	82	28.8	1484.9	NO
0710002	FP&L - Fort Myers Power Plant	Lee	422.3	2952.5	-79.7	11.6	80.55	278	469.4	1523.0	NO
0990310	Community Asphalt - WPB Plant	Palm Beach	582.3	2950.9	80.3	10.0	80.92	83	128.2	1530.4	NO
0150028	Tuckers Corner	Charlotte	422.7	2963.9	-79.3	23.0	82.57	286	12.3	1563.4	NO
7774822	Pennsylvania Street Site - Ajax Paving Industries, Inc.	Lee	418.4	2930.9	-83.6	-10.0	84.18	263	39.5	1595.6	NO
0710265	Fort Myers Plant - St. Wooten Corp.	Lee	417.4	2931.1	-84.6	-9.8	85.13	263	43.6	1614.7	NO
0990234	Solid Waste Authority of PBC/NCRRF	Palm Beach	584.9	2961.1	82.9	20.2	85.35	76	286.5	1619.1	NO
0112094	Central Disposal	Broward	583.2	2908.0	81.2	-32.9	87.61	112	23.0	1664.2	NO
0930104	Berman Road Landfill	Okeechobee	530.3	3024.0	28.3	83.1	87.74	19	20.6	1666.8	NO
0112120	Wheelabrator North Broward	Broward	583.2	2903.6	81.2	-37.4	89.36	115	296.8	1699.3	NO
0990045	L.W. Utilities - Tom G. Smith PWR Plant	Palm Beach	592.8	2943.7	90.8	2.8	90.84	88	1753.5	1728.9	YES
0250258	White Rock Quarries	Dade	560.0	2868.8	58.0	-72.1	92.53	141	116.0	1762.7	NO
0112187	Conrad Yelvington Distributors, Inc.	Broward	584.6	2899.1	82.6	-41.8	92.56	117	12.0	1763.3	NO
0990042	FP&L - Riviera Power Plant	Palm Beach	593.3	2960.6	91.3	19.7	93.38	78	2855.8	1779.5	YES
0990046	Cemex Construction - Riviera Beach	Palm Beach	594.3	2960.8	92.3	19.9	94.42	78	35.6	1800.4	NO
0112074	Transflo Fort Lauderdale Terminal	Broward	583.0	2888.7	81.0	-52.2	96.36	123	27.0	1839.3	NO
0112119	Wheelabrator South Broward	Broward	579.6	2883.3	77.6	-57.6	96.60	127	309.7	1844.0	NO
0110037	FP&L - FT. Lauderdale Power Plant	Broward	580.1	2883.6	78.1	-57.3	96.89	126	1585.6	1849.9	NO
0250020	TARMAC-Pennusco Cement	Dade	562.3	2861.7	60.3	-79.2	99.52	143	589.3	1902.5	NO

Note: NA = Not applicable, ND = No data, SID = Significant impact distance for the project

^a Southeast Renewable Fuels East and North Coordinates (km) are: 502.0 2940.90 km

^b The significant impact distance for the project is estimated to be: 4.4 km

^c Based on the North Carolina Screening Threshold method, a background facility is included in the modeling analysis if the facility is beyond the modeling area and its emission rate is greater than the product of (Distance-SID) x 20.

^d "Modeling Area" is the area in which the project is predicted to have a significant impact (4.4 km). EPA recommends that all sources within this area be modeled.

"Screening Area" is the significant impact distance for the SRF Facility of 4.4 km, plus 50 km beyond the modeling area. EPA recommends that sources be modeled that are expected to have a significant impact in the modeling area. "Beyond Screening Area out to 100 km" is the distance between the facilities and out to 100 km in which large sources are included in the modeling.

REVISIONS TO APPLICATION FORM

EMISSIONS UNIT INFORMATION

**Section [1]
Biomass Boiler**

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION POLLUTANT DETAIL INFORMATION

Section [1]
Biomass Boiler

Page [5] of [13]
Nitrogen Oxides- NOx

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: NOx		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 96.5 lb/hour 245.7 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.12 lb/MMBtu, 30-day rolling average. Reference: Proposed BACT limit.		7. Emissions Method Code: 0	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: 3-hour maximum: 0.18 lb/MMBtu x 536 MMBtu/hr = 96.5 lb/hr 30-day rolling average: 0.12 lb/MMBtu x 488 MMBtu/hr = 58.6 lb/hr See PSD Tables 2-11 and 2-12 for Spreader Stoker calculations; 2-15 and 2-16 for Bubbling Fluidized Bed calculations.			
11. Potential, Fugitive, and Actual Emissions Comment: Worst case emissions based on Spreader Stoker boiler. Based on biomass firing.			

EMISSIONS UNIT INFORMATION

Section **[1]**
 Biomass Boiler

POLLUTANT DETAIL INFORMATION

Page **[5]** of **[13]**
 Nitrogen Oxides - NO_x

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.12 lb/MMBtu, 30-day rolling average.	4. Equivalent Allowable Emissions: 58.6 lb/hour 245.7 tons/year
5. Method of Compliance: Continuous NO_x monitor.	
6. Allowable Emissions Comment (Description of Operating Method): Based on Spreader Stoker firing any fuel as 30-day rolling average.	

Allowable Emissions Allowable Emissions 2 of 2

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.08 lb/MMBtu, 30-day rolling average.	4. Equivalent Allowable Emissions: 39.0 lb/hour 163.8 tons/year
5. Method of Compliance: Continuous NO_x monitor.	
6. Allowable Emissions Comment (Description of Operating Method): Based on Fluidized Bed Boiler firing any fuel as 30-day rolling average.	

Allowable Emissions Allowable Emissions of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [5]

Bioreactors and Biogas Flare

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application - Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION

Section [5]

Bioreactors and Biogas Flare

Emissions Unit Control Equipment/Method: Control 1 of 2

1. Control Equipment/Method Description: Flare
2. Control Device or Method Code: 023

Emissions Unit Control Equipment/Method: Control 2 of 2

1. Control Equipment/Method Description: Wet Scrubber
2. Control Device or Method Code: 141

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control ____ of ____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

EMISSIONS UNIT INFORMATION

Section [5]

Bioreactors and Biogas Flare

C. EMISSION POINT (STACK/VENT) INFORMATION

(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: Waste Water Anaerobic Digestion Unit		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: F	6. Stack Height: 50 feet		7. Exit Diameter: 1.0 Feet
8. Exit Temperature: 1823°F	9. Actual Volumetric Flow Rate: 632 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: Feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: This unit consists of two methane reactors which produce biogas. When the biogas is not being used as fuel in the biomass boiler it is sent to the biogas flare. Stack parameters are representative of the biogas flare, see PSD report, Table 2-18, for detailed description.			

EMISSIONS UNIT INFORMATION

Section [5]
Bioreactors and Biogas Flare

POLLUTANT DETAIL INFORMATION

Page [1] of [2]
Sulfur Dioxide – SO2

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS
(Optional for unregulated emissions units.)**

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: SO2		2. Total Percent Efficiency of Control:	
3. Potential Emissions: 2.52 lb/hour 0.91 tons/year		4. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year			
6. Emission Factor: 0.092 lb/MMBtu Reference: Based on 2% H₂S in biogas and 98% control efficiency		7. Emissions Method Code: 3	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions: Refer to PSD Table 2-18. Emissions based on flare operating 720 hr/yr.			
11. Potential, Fugitive, and Actual Emissions Comment: When system vents to the Biomass Boiler, emissions are accounted for in that emissions unit.			

REVISIONS TO PSD REPORT

**TABLE 2-11
MAXIMUM SHORT-TERM EMISSIONS FOR THE SPREADER STOKER BIOMASS BOILER
SOUTHEAST RENEWABLE FUELS**

Regulated Pollutant	Sorghum Bagasse			Wood			No. 2 Fuel Oil			Biogas			Propane			Maximum Emissions for all fuels (lb/hr)
	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	
3-hr Averages																
Particulate (PM)	0.02	536	10.7	0.02	536	10.7	0.014 ^h	249	3.6	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	10.7
Particulate (PM ₁₀)	0.02	536	10.7	0.02	536	10.7	0.0072 ^h	249	1.8	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	10.7
Particulate (PM _{2.5}) ^c	0.013	536	7.0	0.013	536	7.0	0.0017 ^h	249	0.4	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	7.0
Sulfur Dioxide ^m	0.075	536	40.2	0.075	536	40.2	0.0015 ^h	249	0.4 ⁿ	1.14 ^d	27.55	31.5	0.0017 ^e	249	0.41	69.7
Nitrogen Oxides (controlled)	0.18	536	96.5	0.18	536	96.5	0.18	249	44.8	0.18	27.55	5.0	0.18	249	44.82	96.5
Carbon Monoxide (cold-startup)	6.5 ^g	208	1,352.0	6.5 ^g	208	1,352.0	0.036 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^e	249	20.6	1,352.0
VOC	0.05	536	26.8	0.05	536	26.8	0.05	249	12.5	0.0076 ^f	27.55	0.21	0.0088 ^e	249	2.20	26.8
Lead	9.60E-05 ⁱ	536	0.051	8.4E-05 ⁱ	536	0.045	1.1E-05 ^h	249	0.0027	6.9E-07 ^f	27.55	1.9E-05	4.9E-07 ^e	249	1.2E-04	0.051
Mercury	1.38E-05 ⁱ	536	0.0074	3.6E-06 ⁱ	536	0.0019	8.2E-07 ^h	249	0.0002	3.6E-07 ^f	27.55	9.9E-06	2.5E-07 ^e	249	6.3E-05	0.0074
Fluorides	6.0E-04 ⁱ	536	0.32	6.0E-04 ⁱ	536	0.32	2.7E-04 ^h	249	0.067	—	—	—	—	249	—	0.32
Sulfuric Acid Mist ^j	0.0037	536	2.0	0.0037	536	2.0	7.6E-05	249	0.019	0.056	27.55	1.55	8.1E-05	249	2.0E-02	2.0
Ammonia ^k	0.015	536	8.1	0.015	536	8.1	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	8.1
24-hr Averages																
Particulate (PM)	0.02	488	9.8	0.02	488	9.8	0.014 ^h	249	3.6	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	9.8
Particulate (PM ₁₀)	0.02	488	9.8	0.02	488	9.8	0.0072 ^h	249	1.8	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	9.8
Particulate (PM _{2.5}) ^c	0.013	488	6.3	0.013	488	6.3	0.00174 ^h	249	0.4	0.010 ^f	27.55	0.29	0.0077 ^e	249	1.9	6.3
Sulfur Dioxide ^m	0.050	488	24.4	0.050	488	24.4	0.0015 ^h	249	0.4	1.14 ^d	27.55	31.5	0.0017 ^e	249	0.41	54.6
Nitrogen Oxides	0.16	488	78.1	0.16	488	78.1	0.16	249	39.8	0.16 ^f	27.55	4.4	0.16	249	39.84	78.1
Carbon Monoxide (cold-startup)	6.5 ^g	208	1,352.0	6.5 ^g	208	1,352.0	0.04 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^e	249	20.6	1,352.0
VOC	0.05	488	24.4	0.05	488	24.4	0.05	249	12.5	0.0076 ^f	27.55	0.21	0.0088 ^e	249	2.20	24.4
Lead	9.60E-05 ⁱ	488	0.047	8.4E-05 ⁱ	488	0.041	1.1E-05 ^h	249	0.0027	6.9E-07 ^f	27.55	1.9E-05	4.9E-07 ^e	249	1.2E-04	0.047
Mercury	1.38E-05 ⁱ	488	0.0067	3.6E-06 ⁱ	488	0.0018	8.2E-07 ^h	249	0.0002	3.6E-07 ^f	27.55	9.9E-06	2.5E-07 ^e	249	6.3E-05	0.0067
Fluorides	6.0E-04 ⁱ	488	0.29	6.0E-04 ⁱ	488	0.29	2.70E-04 ^h	249	0.067	—	—	—	—	249	—	0.29
Sulfuric Acid Mist ^j	0.00245	488	1.2	0.00245	488	1.2	7.56E-05	249	0.019	0.056	27.55	1.55	8.1E-05	249	2.0E-02	1.2
Ammonia ^k	0.015	488	7.4	0.015	488	7.4	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	7.4
30-day Rolling Averages																
Sulfur Dioxide ^m	0.025	488	12.2	0.025	488	12.2	0.0015 ^h	249	0.4	1.14 ^d	27.55	31.5	0.0017 ^e	249	0.41	43.1
Nitrogen Oxides	0.12	488	58.6	0.12	488	58.6	0.12	249	29.9	0.12	27.55	3.3	0.12	249	29.9	58.6
Carbon Monoxide	0.33 ^g	488	161.8	0.33 ^g	488	161.8	0.036 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^e	249	20.6	161.8
Ammonia ^k	0.015	488	7.4	0.015	488	7.4	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	7.4

Notes:

- ^a Based on Proposed BACT limits, unless otherwise noted.
- ^b Maximum 3-hour heat input based on 283,800 lb/hr steam; maximum 24-hour heat input based on 258,000 lb/hr steam.
- ^c Based on wood residue combustion, Section 1.6, AP-42, September 2003; 65 percent of PM emissions.
- ^d Based on 20,000 ppm H₂S, Biogas Flow rate = 38,000 scf/hr for the 3-hour and 24-hour averaging times, see Table 2-2.
- ^e Based on propane combustion, Section 1.5, AP-42, July 2008 for PM, SO₂, NOx, and CO. Assumed 1.5 gr SO₂/100 ft³ of propane and the emission rate for VOC's is estimated based on the emission rate of TOC's (1.0 lb/10³ gal) minus the emission rate of CH₄ (0.2 lb/10³ gal) = 0.8 lb/10³ gal. All other emission rates based on natural gas combustion, Section 1.4, AP-42, July 1998.
- ^f Based on AP-42 emission factor for Natural Gas (Section 1.4, July 1998), divided by the heating value for biogas (725 Btu/scf).
- ^g Under cold startup conditions, boiler will be limited to 100,000 lb/hr of steam. Cold startup heat input rate is based on this limited steam rate. 30-day rolling average based on 400 ppmvd @ 7% O₂ (30-day rolling average), flow rate = 92,824 dscfm.
- ^h Based on emission factors for fuel oil combustion, Section 1.3, AP-42, September 1998.
- ⁱ Based on highest stack test results for New Hope Power Company Boilers A, B, and C (1999-2002) excluding 1999 wood test for Unit C.
- ^j Based on 4% of the SO₂ emissions becomes SO₃ from AP-42 for fuel oil burning; then convert to SAM (98/80).
- ^k Ammonia emission rate of 30 ppmvd @ 7% O₂. For 3-Hour emissions, gas flow rate = 102,106 dscfm; for 24-hour average, emissions are based on 92,824 dscfm (assuming 20% moisture content). Other fuels based on same emissions factor (0.015 lb/MMBtu).
- ^l Based on maximum sorghum fuel content, sorghum fuel analysis September 2009. Maximum values used. Assumed 90% control efficiency for Lead.
- ^m Bagasse and wood uncontrolled emission rates for SO₂ are 0.30, 0.20, and 0.10 lb/MMBtu for the 3-hour, 24-hour, and 30-day rolling averaging times, respectively, based on limits for New Hope Power. Fuel oil emission factors based on 0.0015% Sulfur in fuel oil. Uncontrolled biogas emission factor based on a maximum of 2% H₂S in biogas: 4.58 lb/MMBtu. A control efficiency of 75 percent is applied to all SO₂ emissions rates, except those due to fuel oil or propane combustion.

**TABLE 2-12
MAXIMUM ANNUAL EMISSIONS FOR THE SPREADER STOKER BIOMASS BOILER
SOUTHEAST RENEWABLE FUELS**

Regulated Pollutant	Sorghum Bagasse			Wood			Fuel Oil			Biogas			Propane			Total Annual Emissions ^c (TPY)
	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	
Particulate (PM)	0.020	2.904	29.0	0.020	1.191	11.9	0.014	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	40.9
Particulate (PM ₁₀)	0.020	2.904	29.0	0.020	1.191	11.9	0.0072	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	40.9
Particulate (PM _{2.5})	0.013	2.904	18.9	0.013	1.191	7.7	0.00174	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	26.6
Sulfur dioxide ^e	0.015	2.904	21.8	0.015	0.907	6.8	0.0015	0.000	0.0	1.14	0.231	132.5	0.0017	0.000	0.0	161.1 ^d
Nitrogen oxides	0.12	2.904	174.2	0.12	1.191	71.4	0.12	0.000	0.0	0.12	0.000	0.0	0.12	0.000	0.0	245.7
Carbon monoxide	0.33	2.904	481.4	0.33	1.191	197.4	0.036	0.000	0.0	0.12	0.000	0.0	0.083	0.000	0.0	678.8
VOC	0.05	2.904	72.6	0.05	1.191	29.8	0.05	0.000	0.0	0.0076	0.000	0.0	0.0088	0.000	0.0	102.4
Lead	9.60E-05	2.904	0.14	8.4E-05	1.191	0.050	1.1E-05	0.000	0.0	6.9E-07	0.000	0.0	4.9E-07	0.000	0.0	0.19
Mercury	1.38E-05	2.904	0.0200	3.6E-06	1.191	0.0021	8.2E-07	0.000	0.0	3.6E-07	0.000	0.0	2.5E-07	0.000	0.0	0.022
Fluorides	6.0E-04	2.904	0.87	6.0E-04	1.191	0.36	2.7E-04	0.000	0.0	--	0.000	--	--	0.000	--	1.2
Sulfuric acid mist ^b	0.00074	2.904	1.1	0.00074	0.907	0.33	7.6E-05	0.000	0.0	0.056	0.231	6.49	8.1E-05	0.000	0.0	7.9 ^d
Ammonia	0.015	2.904	21.9	0.015	1.191	9.0	0.015	0.000	0.0	0.015	0.000	0.0	0.015	0.000	0.0	30.9

Notes:

^a Refer to Table 2-11 for basis of emission factors.

^b Based on 4% of the SO₂ emissions becomes SO₃ from AP-42 for fuel oil burning; then convert to SAM (98/80).

^c Denotes maximum for any fuel combination.

^d Total value is a worst case scenario, based on the maximum activity rate from biogas and bagasse, and the remaining from wood.

^e A control efficiency of 75 percent is applied to all SO₂ emissions rates except for fuel oil or propane. Uncontrolled SO₂ is 0.060 lb/MMBtu for bagasse and wood, and 4.58 lb/MMBtu for biogas.

**TABLE 2-15
MAXIMUM SHORT-TERM EMISSIONS FOR THE FLUIDIZED BED BIOMASS BOILER
SOUTHEAST RENEWABLE FUELS**

Regulated Pollutant	Sorghum Bagasse			Wood			No. 2 Fuel Oil			Biogas			Propane			Maximum Emissions for all fuels (lb/hr)
	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor ^a (lb/MMBtu)	Activity Factor ^b (MMBtu/hr)	Maximum Emissions (lb/hr)	
3-hr Averages																
Particulate (PM)	0.02	536	10.7	0.02	536	10.7	0.014 ^h	249	3.6	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	10.7
Particulate (PM ₁₀)	0.02	536	10.7	0.02	536	10.7	0.0072 ^h	249	1.8	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	10.7
Particulate (PM _{2.5}) ^c	0.013	536	7.0	0.013	536	7.0	0.00174 ^h	249	0.4	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	7.0
Sulfur Dioxide ^m	0.075	536	40.2	0.075	536	40.2	0.0015 ^h	249	0.4	1.14 ^d	27.55	31.5	0.0017 ^g	249	0.41	69.7
Nitrogen Oxides (controlled)	0.18	536	96.5	0.18	536	96.5	0.18	249	44.8	0.18	27.55	5.0	0.18	249	44.82	96.5
Carbon Monoxide (cold-startup)	3.0 ^p	208	624.0	6.5 ^p	208	1,352.0	0.036 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^g	249	20.6	624.0
VOC	0.025	536	13.4	0.025	536	13.4	0.05	249	12.5	0.0076 ^f	27.55	0.21	0.0088 ^g	249	2.20	13.4
Lead	9.60E-05 ⁱ	536	0.051	8.4E-05 ⁱ	536	0.045	1.1E-05 ^h	249	0.0027	6.9E-07 ^f	27.55	1.9E-05	4.9E-07 ^g	249	1.2E-04	0.05
Mercury	1.38E-05 ⁱ	536	0.0074	3.6E-06 ⁱ	536	0.0019	8.2E-07 ^h	249	0.0002	3.6E-07 ^f	27.55	9.9E-06	2.5E-07 ^g	249	6.3E-05	0.0074
Fluorides	6.0E-04 ⁱ	536	0.32	6.0E-04 ⁱ	536	0.32	2.7E-04 ^h	249	0.07	-	-	-	-	249	-	0.32
Sulfuric Acid Mist ^j	0.004	536	2.0	0.004	536	2.0	7.6E-05	249	0.02	0.056	27.55	1.55	8.1E-05	249	2.0E-02	2.0
Ammonia ^k	0.015	536	8.1	0.015	536	8.1	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	8.1
24-hr Averages																
Particulate (PM)	0.02	488	9.8	0.02	488	9.8	0.014 ^h	249	3.6	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	9.8
Particulate (PM ₁₀)	0.02	488	9.8	0.02	488	9.8	0.0072 ^h	249	1.8	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	9.8
Particulate (PM _{2.5}) ^c	0.013	488	6.3	0.013	488	6.3	0.00174 ^h	249	0.4	0.010 ^f	27.55	0.29	0.0077 ^g	249	1.9	6.3
Sulfur Dioxide ^m	0.050	488	24.4	0.050	488	24.4	0.0015 ^h	249	0.4	1.14 ^{d,n}	27.55	31.5	0.0017 ^g	249	0.41	54.6
Nitrogen Oxides	0.09	488	44.9	0.09	488	44.9	0.16	249	39.8	0.16 ^f	27.55	4.4	0.16	249	39.84	44.9
Carbon Monoxide (cold-startup)	3.0 ^p	208	624.0	6.5 ^p	208	1,352.0	0.04 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^g	249	20.6	624.0
VOC	0.025	488	12.2	0.025	488	12.2	0.05	249	12.5	0.0076 ^f	27.55	0.21	0.0088 ^g	249	2.20	12.2
Lead	9.60E-05 ⁱ	488	0.047	8.4E-05 ⁱ	488	0.041	1.1E-05 ^h	249	0.0027	6.9E-07 ^f	27.55	1.9E-05	4.9E-07 ^g	249	1.2E-04	0.047
Mercury	1.38E-05 ⁱ	488	0.0067	3.6E-06 ⁱ	488	0.0018	8.2E-07 ^h	249	0.0002	3.6E-07 ^f	27.55	9.9E-06	2.5E-07 ^g	249	6.3E-05	0.0067
Fluorides	6.0E-04 ⁱ	488	0.29	6.0E-04 ⁱ	488	0.29	2.70E-04 ^h	249	0.07	-	-	-	-	249	-	0.29
Sulfuric Acid Mist ^j	0.00245	488	1.2	0.00245	488	1.2	7.56E-05	249	0.02	0.056	27.55	1.55	8.1E-05	249	2.0E-02	1.2
Ammonia ^k	0.015	488	7.4	0.015	488	7.4	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	7.4
30-day Rolling Averages																
Sulfur Dioxide ^m	0.025	488	12.2	0.025	488	12.2	0.0015 ^h	249	0.4	1.14 ^d	27.55	31.5	0.0017 ^g	249	0.41	43.1
Nitrogen Oxides	0.08	488	39.0	0.08	488	39.0	0.08	249	19.9	0.08	27.55	2.2	0.08	249	19.9	39.0
Carbon Monoxide	0.17 ^p	488	80.9	0.17 ^p	488	80.9	0.036 ^h	249	9.0	0.12 ^f	27.55	3.2	0.083 ^g	249	20.6	80.9
Ammonia ^k	0.015	488	7.4	0.015	488	7.4	0.015	249	3.74	0.015	27.55	0.41	0.015	249	3.74	7.4

Notes:

^a Based on Proposed BACT limits, unless otherwise noted.

^b Maximum 3-hour heat input based on 283,800 lb/hr steam; maximum 24-hour heat input based on 258,000 lb/hr steam.

^c Based on wood residue combustion, Section 1.6, AP-42, September 2003; 65 percent of PM emissions.

^d Based on 20,000 ppm H₂S, Biogas Flow rate = 38,000 scf/hr for the 3-hour and 24-hour averaging times, see Table 2-2.

^e Based on propane combustion, Section 1.5, AP-42, July 2008 for PM, SO₂, NO_x, and CO. Assumed 1.5gr of SO₂/100 ft³ of propane and the emission rate for VOC's is estimated based on the emission rate of TOC's (1.0 lb/10³ gal) minus the emission rate of CH₄ (0.2 lb/10³ gal) = 0.8 lb/10³ gal. All other emission rates based on natural gas combustion, Section 1.4, AP-42, July 1998.

^f Based on AP-42 emission factor for Natural Gas (Section 1.4, July 1998), divided by the heating value for biogas (725 Btu/scf).

^g Under cold startup conditions, boiler will be limited to 100,000 lb/hr of steam. Cold startup heat input rate is based on this limited steam rate. 30-day rolling average based on 200 ppmvd @ 7% O₂ (30-day rolling average), flow rate = 92,824 dscfm.

^h Based on emission factors for fuel oil combustion, Section 1.3, AP-42, September 1998.

ⁱ Based on highest stack test results for New Hope Power Company Boilers A, B, and C (1999-2002) excluding 1999 wood test for Unit C.

^j Based on 4% of the SO₂ emissions becomes SO₃ from AP-42 for fuel oil burning; then convert to SAM (98/80).

^k Ammonia emission rate of 30 ppmvd @ 7% O₂. For 3-hour emissions, gas flow rate = 102,106 dscfm; for 24-hour average, emissions are based on 92,8234 dscfm (assuming 20% moisture content). Other fuels based on same emissions factor (0.015 lb/MMBtu).

^l Based on maximum sorghum fuel content, sorghum fuel analysis September 2009. Maximum values used. Assumed 90% control efficiency for Lead.

^m Bagasse and wood uncontrolled emission rates for SO₂ are 0.30, 0.20, and 0.10 lb/MMBtu for the 3-hour, 24-hour, and 30-day rolling averaging times, respectively, based on limits for New Hope Power. Fuel oil emission factors based on 0.0015% Sulfur in fuel oil.

Uncontrolled biogas emission factor based on a maximum of 2% H₂S in biogas: 4.58 lb/MMBtu. A control efficiency of 75 percent is applied to all SO₂ emissions rates, except those due to fuel oil or propane combustion.

**TABLE 2-16
MAXIMUM ANNUAL EMISSIONS FOR THE FLUIDIZED BED BIOMASS BOILER
SOUTHEAST RENEWABLE FUELS**

Regulated Pollutant	Sorghum Bagasse			Wood			Fuel Oil			Biogas			Propane			Total Annual Emissions ^c (TPY)
	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	Emission Factor ^a (lb/MMBtu)	Activity Factor (10 ¹² Btu/yr)	Annual Emissions (TPY)	
Particulate (PM)	0.020	2.904	29.0	0.020	1.191	11.9	0.014	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	40.9
Particulate (PM ₁₀)	0.020	2.904	29.0	0.020	1.191	11.9	0.0072	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	40.9
Particulate (PM _{2.5})	0.013	2.904	18.9	0.013	1.191	7.7	0.00174	0.000	0.0	0.010	0.000	0.0	0.0077	0.000	0.0	26.6
Sulfur dioxide ^e	0.015	2.904	21.8	0.015	0.907	6.8	0.0015	0.000	0.0	1.14	0.231	132.5	0.0017	0.000	0.0	161.1 ^d
Nitrogen oxides	0.08	2.904	116.2	0.08	1.191	47.6	0.08	0.000	0.0	0.08	0.000	0.0	0.08	0.000	0.0	163.8
Carbon monoxide	0.17	2.904	240.7	0.17	1.191	98.7	0.036	0.000	0.0	0.12	0.000	0.0	0.083	0.000	0.0	339.4
VOC	0.025	2.904	36.3	0.025	1.191	14.9	0.05	0.000	0.0	0.0076	0.000	0.0	0.0088	0.000	0.0	51.2
Lead	9.60E-05	2.904	0.14	8.4E-05	1.191	0.050	1.1E-05	0.000	0.0	6.9E-07	0.000	0.0	4.9E-07	0.000	0.0	0.19
Mercury	1.38E-05	2.904	0.0200	3.6E-06	1.191	0.0021	8.2E-07	0.000	0.0	3.6E-07	0.000	0.0	2.5E-07	0.000	0.0	0.022
Fluorides	6.0E-04	2.904	0.87	6.0E-04	1.191	0.36	2.7E-04	0.000	0.0	-	0.000	-	--	0.000	--	1.2
Sulfuric acid mist ^b	0.00074	2.904	1.1	0.00074	0.907	0.33	7.6E-05	0.000	0.0	0.06	0.231	6.49	8.1E-05	0.000	0.0	7.9 ^d
Ammonia	0.015	2.904	32.3	0.015	1.191	9.0	0.015	0.000	0.0	0.015	0.000	0.0	0.015	0.000	0.0	41.3

Notes:

^a Refer to Table 2-15 for basis of emission factors.

^b Based on 4% of the SO₂ emissions becomes SO₃ from AP-42 for fuel oil burning; then convert to SAM (98/80).

^c Denotes maximum for any fuel combination.

^d Total value is a worst case scenario, based on the maximum activity rate from biogas and bagasse, and the remaining from wood.

^e A control efficiency of 75 percent is applied to all SO₂ emissions rates except for fuel oil or propane. Uncontrolled SO₂ is 0.060 lb/MMBtu for bagasse and wood, and 4.58 lb/MMBtu for biogas.

**TABLE 2-18
PHYSICAL, PERFORMANCE, AND EMISSIONS DATA FOR THE
BIOGAS FLARE
SOUTHEAST RENEWABLE FUELS**

Parameter	Values	Basis
Physical Data		
Dimensions (ft)		
Stack Height	50	Estimated
Stack Diameter	1	Estimated
Performance Data		
Maximum flow rate (scf/hr)	38,000	See Table 2-2
Maximum Heat Input Rate (MMBtu/hr)	27.55	See Table 2-2
Hours of Operation (hr/yr)	720	Maximum
Control Efficiency (H ₂ S Scrubber)	98	Percent
Emission Factors		
SO ₂ (lb/MMBtu) - Uncontrolled ^a	4.58	Based on 2% H ₂ S, and 98% Control
SO ₂ (lb/MMBtu) - Controlled ^a	0.092	Based on 2% H ₂ S, and 98% Control
NO _x (lb/10 ⁶ dscf Methane)	39	Draft AP-42, Table 2.4-4
CO (lb/10 ⁶ dscf Methane)	46	Draft AP-42, Table 2.4-4
PM/PM ₁₀ /PM _{2.5} (lb/10 ⁶ dscf Methane) ^b	15	Draft AP-42, Table 2.4-4
VOC Destruction Efficiency (%)	99.0	Draft AP-42, Table 2.4-3
Emissions Calculations		
Maximum 3-Hour		
	Activity Factor	Emissions (lb/hr)
SO ₂	27.55 MMBtu/hr	2.52
NO _x	24,700 scf/hr of Methane ^e	0.96
CO	24,700 scf/hr of Methane ^e	1.14
PM/PM ₁₀ /PM _{2.5}	24,700 scf/hr of Methane ^e	0.37
VOCs	24,700 scf/hr of Methane ^e	13.8
Maximum 24-Hour		
	Activity Factor	Emissions (lb/hr)
SO ₂	27.55 MMBtu/hr	2.52
NO _x	24,700 scf/hr of Methane ^e	0.96
CO	24,700 scf/hr of Methane ^e	1.14
PM/PM ₁₀ /PM _{2.5}	24,700 scf/hr of Methane ^e	0.37
VOCs	24,700 scf/hr of Methane ^e	13.8
Annual Average^d		
	Activity Factor	Emissions (TPY)
SO ₂	27.55 MMBtu/hr	0.91
NO _x	24,700 scf/hr of Methane ^e	0.35
CO	24,700 scf/hr of Methane ^e	0.41
PM/PM ₁₀ /PM _{2.5}	24,700 scf/hr of Methane ^e	0.13
VOCs	24,700 scf/hr of Methane ^e	5.0

^a Based on 2% H₂S in biogas (20,000 ppm), 100% conversion of H₂S to SO₂, standard conditions, and 98% removal efficiency.

$$20,000 \text{ ppm H}_2\text{S} / 10^6 \text{ parts} \times 2116.8 \text{ lb-force/ft}^2 \times 38,000 \text{ scf/hr} \times$$

$$(34 \text{ g/mol H}_2\text{S} / 1545.6) \times (64 \text{ g/mol SO}_2 / 34 \text{ g/mol H}_2\text{S}) \times 1/528^\circ\text{F} \times (1 - 0.98) = 2.52 \text{ lb/hr SO}_2$$

$$2.52 \text{ lb/hr} \times 720 \text{ hr/yr} \times 1 \text{ ton} / 2,000 \text{ lb} = 0.91 \text{ TPY SO}_2$$

^b Draft Section 2.4 of AP-42, Table 2.4-5. Assuming all PM is converted to PM₁₀ and PM_{2.5}.

^c Based on 65% CH₄ in biogas; 0.056 lb/ft³ density.

^d Assumed flare operates a maximum of 720 hours per year (30 days per year).

^e Based on a maximum methane content of 65%.

**TABLE 2-31
EMISSION SUMMARY
SOUTHEAST RENEWABLE FUELS**

Source Description	Pollutant Emission Rate (TPY)											
	SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	TRS	SAM	Mercury	Lead	Fluoride
Future Potential Emissions From Affected Sources ^a												
Spreader Stoker Boiler or Fluidized Bed Boiler	161.1	245.7	678.8	40.9	40.9	26.6	102.4	--	7.9	0.022	0.19	1.2
Boiler Materials Handling, Storage, and Truck Traffic	--	--	--	21.7	5.2	1.6	--	--	--	--	--	--
Ethanol Process	--	--	--	--	--	--	42.3	--	--	--	--	--
Cooling Towers	--	--	--	0.35	0.17	0.17	--	--	--	--	--	--
Biogas Flare	0.91	0.35	0.41	0.13	0.13	0.13	5.0	--	--	--	--	--
Truck Load Out Flare	0.0091	1.04	5.64	0.052	0.052	0.052	2.1	--	--	--	--	--
Facility Tanks	--	--	--	--	--	--	10.6	--	--	--	--	--
Emergency Generators	0.017	15.9	0.86	0.077	0.077	0.077	0.32	--	--	--	--	--
Emergency Fire Pump Engine	0.0018	0.89	0.86	0.049	0.049	0.049	0.10	--	--	--	--	--
Lime/Limestone Silos	--	--	--	0.036	0.036	0.036	--	--	--	--	--	--
TOTAL PROPOSED PROJECT EMISSIONS ^b	152.8 ^c	246.7	684.4	63.0	46.4	28.5	157.4	--	7.9	0.022	0.19	1.2

Notes:

^a Refer to Tables 2-8 through 2-24, and Appendix C for emission calculations.

^b Total emissions (except for SO₂) due to the project are based on the worst case boiler (spreader stoker type), i.e., biogas flare is not operating. Emergency generators and fire pump are not included in totals.

^c Worst-case SO₂ emissions based on biogas flare operating 30 days per year, with boiler operating remaining days (330 days per year).

**TABLE 3-3
PSD APPLICABILITY ANALYSIS
SOUTHEAST RENEWABLE FUELS**

Source Description	Pollutant Emission Rate (TPY)											
	SO ₂	NO _x	CO	PM	PM ₁₀	PM _{2.5}	VOC	TRS	SAM	Mercury	Lead	Fluoride
Future Potential Emissions From Affected Sources ^a												
Spreader Stoker Boiler or Fluidized Bed Boiler	161.1	245.7	678.8	40.9	40.9	26.6	102.4	--	7.9	0.022	0.19	1.2
Boiler Materials Handling, Storage, and Truck Traffic	--	--	--	21.7	5.2	1.6	--	--	--	--	--	--
Ethanol Process	--	--	--	--	--	--	42.3	--	--	--	--	--
Cooling Towers	--	--	--	0.35	0.17	0.17	--	--	--	--	--	--
Biogas Flare	0.91	0.35	0.41	0.13	0.13	0.13	5.0	--	--	--	--	--
Truck Load Out Flare	0.0091	1.04	5.64	0.052	0.052	0.052	2.1	--	--	--	--	--
Facility Tanks	--	--	--	--	--	--	10.6	--	--	--	--	--
Emergency Generators	0.017	15.9	0.86	0.077	0.077	0.077	0.32	--	--	--	--	--
Emergency Fire Pump Engine	0.0018	0.89	0.86	0.049	0.049	0.049	0.10	--	--	--	--	--
Lime/Limestone Silos	--	--	--	0.036	0.036	0.036	--	--	--	--	--	--
<i>Total Potential Emission Rates</i>												
TOTAL CHANGE DUE TO PROPOSED PROJECT^b	152.8	246.7	684.4	63.0	46.4	28.5	157.4	--	7.9	0.022	0.19	1.2
PSD SIGNIFICANT EMISSION RATE	40	40	100	25	15	10	40	10	7	0.1	0.6	3
PSD REVIEW TRIGGERED?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	No

Notes:

^a Refer to Table 2-31.

^b Totals reflect worst case of spreader stoker boiler, and do not include biogas flare (except SO₂) or emergency engines.

**TABLE 4-3
SUMMARY OF MAXIMUM MEASURED SO₂ CONCENTRATIONS FOR PALM BEACH COUNTY, 2007 TO 2009**

Site No.	Operator	Location	Measurement Period		Concentration (µg/m ³)							
					1-Hour			3-Hour		24-Hour		Annual
					Highest	2nd Highest	4th Highest	Highest	2nd Highest	Highest	2nd Highest	Average
<u>Sulfur dioxide</u>		Florida AAQS:			NA	NA	196.5	NA	1,300	NA	365	60
12-099-2101	FSCL	Belle Glade	2007	Jan-Dec	10.5	10.5	6.4	7.8	7.8	5.2	5.2	2.6
			2008	Jan-Dec	13.1	7.9	5.5	13.1	7.8	5.5	5.5	2.6
			2009	Jan-Dec	10.5	10.5	5.2	8.6	5.2	5.2	5.2	2.6
12-099-3004	PBCHD	Riviera Beach	2007	Jan-Dec	13.1	10.5	7.9	10.5	10.5	5.2	5.2	2.6
			2008	Jan-Dec	13.1	10.5	10.5	10.5	10.5	10.5	10.5	5.2
			2009	Jan-Dec	15.7	15.7	14.1	13.1	13.1	7.8	7.8	3.7

Note: NA = not applicable.
 AAQS = ambient air quality standard.
 PBCHD = Palm Beach County Health Department.
 FSCL = Florida Sugar Cane League.

Source: EPA, 2010.

**TABLE 4-5
SUMMARY OF MAXIMUM MEASURED NO₂ CONCENTRATIONS FOR PALM BEACH COUNTY
2007 TO 2009**

Site No.	Operator	Location	Measurement Period		Concentration (µg/m ³)		
					1-Hour		Annual
					Highest	2nd Highest	Average
<u>Nitrogen Dioxide</u>		Florida AAQS:			NA	188 ^a	100
12-099-1004	PBCHD	Palm Beach	2007	Jan-Dec	107.2	105.3	15.0
			2008	Jan-Dec	71.4	67.7	15.0
12-099-0020	PBCHD	Lantana	2009	Jan-Dec	84.6	82.7	9.4

Note: NA = not applicable.
 AAQS = ambient air quality standard.
 PBCHD = Palm Beach County Health Department.
 FSCL = Florida Sugar Cane League.

^a The 1-hour NO₂ standard is met when the 3-year average of the 98th percentile of the daily 1-hour maximum values plus the maximum 1-hour non-modeled background is less than 188 µg/m³.

Source: EPA, 2010.



TABLE 6-3
MODELED EMISSION RATES USED FOR THE SIGNIFICANT IMPACT ANALYSIS, SRF

Source ID	Model ID	Description	Modeled Emission Rate ^a																			
			SO ₂						PM ₁₀				CO				NOx				SAM ^d	
			Annual ^b		24-hour ^c		1-, 3-hour ^c		Annual ^b		24-hour		8-hour		1-hour		Annual ^b		1-hour		24-hour	
(TPY)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(TPY)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)	(TPY)	(g/s)	(lb/hr)	(g/s)	(lb/hr)	(g/s)			
Point Sources																						
Boiler Type^a																						
Spreader Stoker	SSBLR	Spreader Stoker	161.1	4.63	54.6	6.88	69.7	8.78	40.9	1.18	9.8	1.23	1,352.0	170.35	1,352.0	170.35	286.6	8.24	96.5	12.16	1.20	0.15
Bubbling Fluidized Bed	BFBBLR	Bubbling Fluidized Bed	161.1	4.63	54.6	6.88	69.7	8.78	40.9	1.18	9.8	1.23	624.0	78.62	624.0	78.62	204.7	5.89	96.5	12.16	1.20	0.15
Cooling Tower 1	CT1MCH	Machine cooling	--	--	--	--	--	--	0.019	0.00054	0.0043	0.00054	--	--	--	--	--	--	--	--	--	--
Cooling Tower 2	CTCS_A - CTCS_C	Condensing set cooling	--	--	--	--	--	--	0.10	0.0028	0.022	0.0028	--	--	--	--	--	--	--	--	--	--
Cooling Tower 3	CTP_A - CTP_C	Process cooling	--	--	--	--	--	--	0.054	0.0015	0.012	0.0015	--	--	--	--	--	--	--	--	--	--
Flare 1 ^a	BIOFLR	Biogas Flare	0.91	0.026	2.5	0.32	2.5	0.32	0.13	0.0037	0.37	0.047	1.14	0.14	1.14	0.14	0.35	0.010	0.96	0.121	--	--
Flare 2	TRKFLR	Truck Load Out Flare	0.0091	0.00026	0.0059	0.00074	0.0059	0.00074	0.052	0.0015	0.034	0.0043	3.61	0.45	3.61	0.45	1.04	0.030	0.66	0.083	--	--
Area and Volume Sources																						
				Source Type		PM ₁₀				Area Source Emission Rate												
						Annual		24-hour		Area Source Size		Annual		24-hour								
						(TPY)	(g/s)	(lb/hr)	(g/s)	(ft ²)	(m ²)	(g/m ² -s)	(g/m ² -s)									
Biomass Materials Handling	BIOFUG	Conveyors, belts, and sceens		Area		0.75	0.021	0.55	0.070	204,892	19,035	1.13E-06	3.65E-06									
Biomass Pile Wind Erosion	BIOFUGWE	Biomass storage pile wind erosion		Area		0.41	0.012	1.13	0.14	204,892	19,035	6.20E-07	7.47E-06									
Biomass Pile Vehicular Maint.	BIOFUGVM	Biomass storage vehicular maintenance		Area		2.74	0.079	0.91	0.11	204,892	19,035	4.14E-06	6.01E-06									
Biomass Truck Traffic ^b	BMTRK	Sorghum and wood deliveries, and ash hauling		Line		1.18	0.034	0.27	0.034	--	--	--	--									
Other Truck Traffic	MSTRK	Ethanol, fusel oil, second grade alcohol load out, and dry ice load out, plus gasoline deliveries		Line		0.11	0.0030	0.029	0.0037	--	--	--	--									

^a Emissions are included for both boiler types, however, only the spreader stoker boiler is modeled based on worst case emissions. When the boiler is not operating, Flare 1 (biogas flare) can operate up to 720 hr/yr.

^b Annual averages are based on the annual emission rate in TPY over 8,400 hours.

^c SO₂ short-term emissions were modeled based on a worst-case scenario with the biogas flare operating instead of the boiler.

^d SAM emissions are included only for the visibility analysis. SAM is not a PSD pollutant.

TABLE 6-5 SUMMARY OF THE SO₂ FACILITIES CONSIDERED FOR INCLUSION IN THE AAQS AND PSD CLASS II AIR MODELING ANALYSES

Table with columns: AIRS Number, Facility, County, UTM Coordinates (East, North), Relative to SRF (X, Y, Distance, Direction), Maximum SO2 Emissions (TPY), Q, (TPY) Emission Threshold (Dist - SID) x 20, and Include in Modeling Analysis ?

Note: NA = Not applicable, ND = No data, SID = Significant impact distance for the project.

a Southeast Renewable Fuels East and North Coordinates (km) are: 502 2940.90

b The significant impact distance for the project is estimated to be: 3.1 km

c Based on the North Carolina Screening Threshold method, a background facility is included in the modeling analysis if the facility is beyond the modeling area and its emission rate is greater than the product of (Distance-SID) x 20.

d "Modeling Area" is the area in which the project is predicted to have a significant impact (3.1 km). EPA recommends that all sources within this area be modeled.

"Screening Area" is the significant impact distance for the SRF Facility of 3.1 km, plus 50 km beyond the modeling area. EPA recommends that sources be modeled that are expected to have a significant impact in the modeling area. "Beyond Screening Area out to 100 km" is the distance between the facilities and out to 100 km in which large sources are included in the modeling.

TABLE 6-6
SUMMARY OF THE PM FACILITIES CONSIDERED FOR INCLUSION IN THE PSD CLASS II AIR MODELING ANALYSES

AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a				Maximum PM ₁₀ Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg)			
<u>Modeling Area^d</u>											
No Facilities are located within the modeling area											
<u>Screening Area^d</u>											
0510003	U.S. Sugar Clewiston Mill and Refinery	Hendry	506.1	2956.9	4.1	16.0	16.52	14	1642.0	270.3	YES
0510022	Fiberstar, Inc.	Hendry	487.7	2957.4	-14.3	16.5	21.86	319	172.6	377.3	NO
0510015	Southern Gardens Citrus Processing Corp.	Hendry	487.5	2957.6	-14.5	16.7	22.12	319	358.8	382.3	NO
0990332	Okeelanta Cogeneration Plant - New Hope Power Co.	Palm Beach	524.6	2939.9	22.6	-1.0	22.59	92	267.5	391.7	NO
0990005	Okeelanta Sugar Refinery	Palm Beach	524.7	2939.5	22.7	-1.4	22.75	93	154.8	395.0	NO
0990615	SFWMD - Pump Station G-372	Palm Beach	519.3	2923.6	17.3	-17.3	24.49	135	20.6	429.8	NO
0430008	South Florida Thermal Services, Inc.	Glades	489.2	2966.6	-12.8	25.7	28.71	334	20.9	514.2	NO
0110351	SFWMD Pump Station S-8 & G-404	Broward	522.3	2912.2	20.3	-28.7	35.15	145	46.1	643.1	NO
0990026	Sugar Cane Growers Co-Op	Palm Beach	534.9	2953.9	32.9	13.0	35.33	68	1724.4	646.7	YES
0990614	SFWMD - Pump Station G-370	Palm Beach	540.5	2919.5	38.5	-21.4	44.03	119	20.7	820.5	NO
0510004	Citrus Belle	Hendry	456.4	2950.3	-45.6	9.4	46.56	282	42.5	871.2	NO
0210018	Florida Rock Industries - Sunniland Quarry	Collier	467.8	2905.8	-34.2	-35.1	49.01	224	4.2	920.1	NO
0990019	Osceola Farms	Palm Beach	544.5	2967.7	42.5	26.8	50.23	58	616.7	944.5	NO
0990016	Atlantic Sugar Mill	Palm Beach	552.9	2945.3	50.9	4.4	51.06	85	817.5	961.2	NO
0990549	SFWMD - Pump Station G-310	Palm Beach	554.2	2940.5	52.2	-0.5	52.20	90	14.5	984.0	NO
0990011	Sem-Chi Rice Products Corp.	Palm Beach	554.0	2949.7	52.0	8.8	52.72	80	19.3	994.4	NO
<u>Beyond Screening Area out to 100 km^d</u>											
0990646	FP&L - West County Energy Center	Palm Beach	562.2	2952.9	60.2	12.0	61.35	79	497.6	1167.1	NO
0990348	Palm Beach Aggregates, LLC	Palm Beach	562.4	2952.2	60.4	11.3	61.46	79	114.3	1169.2	NO
0990566	Indian Trail Improvement District - ACI	Palm Beach	565.7	2956.4	63.7	15.5	65.59	76	44.2	1251.7	NO
0850001	FP&L - Martin Power Plant	Martin	543.2	2993.8	41.2	52.9	66.99	38	9678.8	1279.9	YES
0850102	Indiantown Cogeneration Plant	Martin	547.7	2990.7	45.7	49.8	67.56	43	581.3	1291.1	NO
0850012	Bay State Milling	Martin	547.4	2991.7	45.4	50.8	68.12	42	455.0	1302.3	NO
0210031	Raccoon Point	Collier	509.6	2873.2	7.6	-67.7	68.13	174	12.3	1302.5	NO
0850002	Louis Dreyfus Citrus - Indiantown Plant	Martin	548.0	2991.5	46.0	50.6	68.35	42	51.8	1307.0	NO
0990021	United Technologies - Pratt & Whitney ACFT	Palm Beach	568.2	2976.0	66.2	35.1	74.90	62	239.0	1438.1	NO
0210023	Golden Gate Asphalt Plant and Quarry	Collier	437.9	2898.9	-64.1	-42.0	76.63	237	110.4	1472.7	NO
0550014	Lake Placid Asphalt Plant	Highlands	465.6	3008.7	-36.4	67.8	76.95	332	36.0	1479.1	NO
0710133	Gulf Coast Sanitary Landfill	Lee	424.2	2942.8	-77.8	1.9	77.80	271	21.2	1496.1	NO
0710119	Lee Co. Solid Waste Resource Rec. Fac.	Lee	424.1	2945.8	-77.9	4.9	78.02	274	71.9	1500.3	NO

**TABLE 6-6
SUMMARY OF THE PM FACILITIES CONSIDERED FOR INCLUSION IN THE PSD CLASS II AIR MODELING ANALYSES**

AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a				Maximum PM ₁₀ Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg)			
0990087	Ranger Construction - Royal Palm Beach	Palm Beach	579.9	2951.7	77.9	10.8	78.65	82	28.8	1512.9	NO
0710002	FP&L - Fort Myers Power Plant	Lee	422.3	2952.5	-79.7	11.6	80.55	278	469.4	1551.0	NO
0990310	Community Asphalt - WPB Plant	Palm Beach	582.3	2950.9	80.3	10.0	80.92	83	128.2	1558.4	NO
0150028	Tuckers Corner	Charlotte	422.7	2963.9	-79.3	23.0	82.57	286	12.3	1591.4	NO
7774822	Pennsylvania Street Site - Ajax Paving Industries, Inc.	Lee	418.4	2930.9	-83.6	-10.0	84.18	263	39.5	1623.6	NO
0710265	Fort Myers Plant - St. Wooten Corp.	Lee	417.4	2931.1	-84.6	-9.8	85.13	263	43.6	1642.7	NO
0990234	Solid Waste Authority of PBC/NCRRF	Palm Beach	584.9	2961.1	82.9	20.2	85.35	76	286.5	1647.1	NO
0112094	Central Disposal	Broward	583.2	2908.0	81.2	-32.9	87.61	112	23.0	1692.2	NO
0930104	Berman Road Landfill	Okeechobee	530.3	3024.0	28.3	83.1	87.74	19	20.6	1694.8	NO
0112120	Wheelabrator North Broward	Broward	583.2	2903.6	81.2	-37.4	89.36	115	296.8	1727.3	NO
0990045	L.W. Utilities - Tom G. Smith PWR Plant	Palm Beach	592.8	2943.7	90.8	2.8	90.84	88	1753.5	1756.9	NO
0250258	White Rock Quarries	Dade	560.0	2868.8	58.0	-72.1	92.53	141	116.0	1790.7	NO
0112187	Conrad Yelvington Distributors, Inc.	Broward	584.6	2899.1	82.6	-41.8	92.56	117	12.0	1791.3	NO
0990042	FP&L - Riviera Power Plant	Palm Beach	593.3	2960.6	91.3	19.7	93.38	78	2855.8	1807.5	YES
0990046	Cemex Construction - Riviera Beach	Palm Beach	594.3	2960.8	92.3	19.9	94.42	78	35.6	1828.4	NO
0112074	Transflo Fort Lauderdale Terminal	Broward	583.0	2888.7	81.0	-52.2	96.36	123	27.0	1867.3	NO
0112119	Wheelabrator South Broward	Broward	579.6	2883.3	77.6	-57.6	96.60	127	309.7	1872.0	NO
0110037	FP&L - FT. Lauderdale Power Plant	Broward	580.1	2883.6	78.1	-57.3	96.89	126	1585.6	1877.9	NO
0250020	TARMAC-Pennusco Cement	Dade	562.3	2861.7	60.3	-79.2	99.52	143	589.3	1930.5	NO

Note: NA = Not applicable, ND = No data, SID = Significant impact distance for the project

^a Southeast Renewable Fuels East and North Coordinates (km) are: 502.0 2940.90 km

^b The significant impact distance for the project is estimated to be: 3 km

^c Based on the North Carolina Screening Threshold method, a background facility is included in the modeling analysis if the facility is beyond the modeling area and its emission rate is greater than the product of (Distance-SID) x 20.

^d "Modeling Area" is the area in which the project is predicted to have a significant impact (3 km). EPA recommends that all sources within this area be modeled.

"Screening Area" is the significant impact distance for the SRF Facility of 3 km, plus 50 km beyond the modeling area. EPA recommends that sources be modeled that are expected to have a significant impact in the modeling area. "Beyond Screening Area out to 100 km" is the distance between the facilities and out to 100 km in which large sources are included in the modeling.

TABLE 6-8
SUMMARY OF THE NO_x FACILITIES CONSIDERED FOR INCLUSION IN THE PSD CLASS II AIR MODELING ANALYSES

AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a				Maximum NO _x Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?
			East (km)	North (km)	X (km)	Y (km)	Distance (km)	Direction (deg)			
Modeling Area^d											
None											
Screening Area^d											
0510003	U.S. Sugar Clewiston Mill And Refinery	Hendry	506.1	2956.9	4.1	16.0	16.52	14	3646.5	278.3	YES
0510022	Fiberstar, Inc.	Hendry	487.7	2957.2	-14.3	16.3	21.69	319	48.4	381.8	NO
0510015	Southern Gardens Citrus Processing Corp.	Hendry	487.5	2957.6	-14.5	16.7	22.12	319	158.4	390.3	NO
0990332	Okeelanta Cogeneration Plant - New Hope Power Co.	Palm Beach	524.4	2940.0	22.4	-0.9	22.38	92	1498.0	395.5	YES
0430018	Oldcastle Lawn And Garden Moore Haven	Glades	492.0	2961.3	-10.0	20.4	22.74	334	25.0	402.8	NO
0990005	Okeelanta Sugar Refinery	Palm Beach	524.9	2940.1	22.9	-0.8	22.91	92	84.4	406.3	NO
0990615	SFWMD - Pump Station G-372	Palm Beach	519.3	2923.6	17.3	-17.3	24.49	135	245.4	437.8	NO
0510027	Clewiston Facility	Hendry	495.4	2966.5	-6.6	25.6	26.43	346	10.9	476.7	NO
0430008	South Florida Thermal Services, Inc.	Glades	489.2	2966.6	-12.8	25.7	28.71	334	34.5	522.2	NO
0110351	SFWMD Pump Station S-8 & G-404	Broward	522.3	2912.2	20.3	-28.7	35.15	145	771.2	651.1	YES
0990026	Sugar Cane Growers Co-Op	Palm Beach	534.9	2953.9	32.9	13.0	35.33	68	3470.7	654.7	YES
0990614	SFWMD - Pump Station G-370	Palm Beach	540.5	2919.5	38.5	-21.4	44.03	119	248.5	828.5	NO
0510004	Citrus Belle	Hendry	456.4	2950.3	-45.6	9.4	46.56	282	107.6	879.2	NO
0210018	Sunniland Quarry	Collier	467.8	2905.8	-34.2	-35.1	49.01	224	46.6	928.1	NO
0990019	Osceola Farms	Palm Beach	544.4	2967.7	42.4	26.8	50.20	58	987.0	952.1	YES
0990016	Atlantic Sugar Mill	Palm Beach	553.0	2945.4	51.0	4.5	51.16	85	1110.6	971.3	YES
0990354	SFWMD - Pump Station S-7	Palm Beach	545.8	2912.8	43.8	-28.1	52.04	123	235.5	988.7	NO
0990549	SFWMD - Pump Station G-310	Palm Beach	554.2	2940.5	52.2	-0.5	52.20	90	498.0	992.0	NO
Beyond Screening Area out to 100 km^d											
0990550	SFWMD - Pump Station G-335	Palm Beach	552.6	2922.0	50.6	-18.9	54.02	110	60.7	1028.4	NO
7775215	Daniel P. Mays/Church Road Site	Hendry	445.8	2934.5	-56.2	-6.4	56.53	263	87.6	1078.7	NO
0710113	City Of Cape Coral Dep Pub Srvc	Lee	444.4	2941.1	-57.6	0.2	57.62	270	14.5	1100.4	NO
7775253	Lehigh Acres Site	Hendry	443.8	2949.2	-58.2	8.3	58.75	278	6.5	1123.0	NO
0710193	West Felda Tank Battery	Lee	442.6	2937.2	-59.4	-3.7	59.51	266	1.6	1138.1	NO
0990646	Fp&L / West County Energy Center	Palm Beach	562.2	2952.9	60.2	12.0	61.37	79	665.6	1175.4	NO
0990349	SFWMD - Pump Station S-5a	Palm Beach	562.6	2951.3	60.6	10.4	61.49	80	249.4	1177.7	NO
0990530	Hubbard / East Coast Paving (Wpb)	Palm Beach	562.8	2952.0	60.8	11.1	61.79	80	29.4	1183.8	NO
0990620	SFWMD - Pump Station S-319	Palm Beach	566.3	2951.2	64.3	10.3	65.12	81	241.4	1250.5	NO
0990621	SFWMD - Pump Station S-362	Palm Beach	567.2	2945.0	65.2	4.1	65.34	86	249.2	1254.8	NO
0990566	Indian Trail Improvement District - Aci	Palm Beach	565.7	2956.4	63.7	15.5	65.59	76	22.1	1259.7	NO
0850102	Indiantown Cogeneration Plant	Martin	547.7	2990.7	45.7	49.8	67.56	43	2584.0	1299.1	YES
0210031	Raccoon Point	Collier	509.6	2873.2	7.6	-67.7	68.13	174	543.7	1310.5	NO
0850002	Louis Dreyfus Citrus / Indiantown Plant	Martin	548.0	2991.5	46.0	50.6	68.35	42	34.0	1315.0	NO
0850001	Martin Power Plant	Martin	543.1	2996.7	41.1	55.8	69.29	36	35913.6	1333.9	YES
0850147	Floridian Natural Gas Storage Co., Inc.	Martin	545.9	2996.3	43.9	55.4	70.73	38	23.9	1362.5	NO
0550060	Compressor Station No. 29	Highlands	494.3	3012.4	-7.7	71.5	71.91	354	28.5	1386.3	NO
7770267	Asphalt Plant #6	Lee	429.0	2928.9	-73.0	-12.0	73.98	261	13.8	1427.7	NO
0710187	Fort Myers Asphalt Plant No. 2	Lee	428.0	2930.4	-74.0	-10.5	74.72	262	20.2	1442.3	NO
0990021	United Technologies / Pratt Whitney Aaft	Palm Beach	568.4	2975.8	66.4	34.9	75.04	62	1256.4	1448.8	NO
7770073	Clearwater Asphalt Plant	Pinellas	514.5	3014.9	12.5	74.0	75.07	10	26.0	1449.5	NO
0210023	Golden Gate Asphalt Plant And Quarry	Collier	437.9	2898.9	-64.1	-42.0	76.63	237	47.8	1480.7	NO
0550014	Lake Placid Asphalt Plant	Highlands	465.6	3008.7	-36.4	67.8	76.95	332	59.9	1487.1	NO
0710133	Gulf Coast Sanitary Landfill	Lee	424.2	2942.8	-77.8	1.9	77.80	271	46.6	1504.1	NO
0710119	Lee Co. Solid Waste Resource Rec. Fac.	Lee	424.1	2945.8	-77.9	4.9	78.04	274	950.1	1508.7	NO
0990087	Ranger Construction / (Royal Palm Beach)	Palm Beach	579.9	2951.7	77.9	10.8	78.65	82	24.8	1520.9	NO
0112410	Sfwm Pump Station S-9/S-9a	Broward	555.5	2882.3	53.5	-58.6	79.31	138	243.0	1534.3	NO

TABLE 6-8
SUMMARY OF THE NO_x FACILITIES CONSIDERED FOR INCLUSION IN THE PSD CLASS II AIR MODELING ANALYSES

AIRS Number	Facility	County	UTM Coordinates		Relative to SRF ^a			Maximum NO _x Emissions (TPY)	Q, (TPY) Emission Threshold ^{b,c} (Dist - SID) x 20	Include in Modeling Analysis ?	
			East (km)	North (km)	X (km)	Y (km)	Distance (km)				Direction (deg)
0710002	Fort Myers Power Plant	Lee	422.3	2952.6	-79.7	11.7	80.56	278	30426.2	1559.3	YES
0990310	Community Asphalt / Wpb Plant	Palm Beach	582.3	2950.9	80.3	10.0	80.92	83	33.9	1566.4	NO
7775172	Asphalt Plant No. 7	Charlotte	423.7	2964.4	-78.4	23.5	81.80	287	15.4	1583.9	NO
0150028	Tuckers Corner	Charlotte	422.7	2963.9	-79.3	23.0	82.57	286	13.8	1599.4	NO
0210051	Collier County Landfill -Naples Landfill	Collier	434.6	2893.2	-67.4	-47.7	82.58	235	31.8	1599.5	NO
0990333	Compressor Station No. 21	Palm Beach	584.3	2952.8	82.3	11.9	83.20	82	156.2	1612.0	NO
7774822	Pennsylvania Street Site	Lee	418.4	2930.9	-83.6	-10.0	84.18	263	38.5	1631.6	NO
0710265	Fort Myers Plant	Lee	417.4	2931.1	-84.6	-9.8	85.13	263	16.2	1650.7	NO
0990234	Solid Waste Authority Of Pbc/Ncrrf	Palm Beach	585.3	2960.9	83.3	20.0	85.62	76	2541.9	1660.4	YES
7770233	Plant #4 - Drum Mix Asphalt Plant	Lee	416.4	2930.8	-85.6	-10.1	86.19	263	13.8	1671.9	NO
7774818	Naples Asphalt Plant No. 4	Collier	432.5	2889.7	-69.5	-51.2	86.32	234	61.1	1674.5	NO
0710004	Gulf Paving Co	Lee	415.2	2944.1	-86.8	3.2	86.86	272	11.2	1685.2	NO
0112094	Central Disposal	Broward	583.2	2908.0	81.2	-32.9	87.61	112	74.8	1700.2	NO
0930104	Berman Road Landfill	Okeechobee	530.3	3024.0	28.3	83.1	87.74	19	146.5	1702.8	NO
0110045	Hardrives / Deerfield Plant	Broward	583.8	2909.1	81.8	-31.8	87.80	111	10.8	1703.9	NO
0990344	Parkway Asphalt / (Riviera Beach)	Palm Beach	587.4	2962.1	85.4	21.2	87.96	76	19.0	1707.3	NO
0850120	Martin Co/Palm City li Sanitary Landfill	Martin	561.1	3006.6	59.1	65.7	88.40	42	17.9	1716.0	NO
0112120	Wheelabrator North Broward	Broward	583.9	2907.6	81.9	-33.3	88.41	112	1399.2	1716.2	NO
0112357	Broward County/North Regional Wwtf	Broward	583.5	2905.0	81.5	-35.9	89.04	114	88.3	1728.9	NO
0990123	Fp&L / Physical Distribution Ctr & Osf	Palm Beach	589.7	2961.2	87.7	20.3	90.02	77	16.1	1748.4	NO
0250252	Miami Plant	Miami-Dade	557.0	2869.3	55.0	-71.6	90.29	142	12.8	1753.7	NO
0210116	Flamingo Bend Nursery	Collier	436.9	2878.1	-65.1	-62.8	90.49	226	48.0	1757.8	NO
0990045	L.W. Utilities / Tom G. Smith Pwr Plant	Palm Beach	592.8	2943.7	90.8	2.8	90.84	88	5863.6	1764.9	YES
0990095	Bethesda Memorial Hospital	Palm Beach	592.6	2931.9	90.6	-9.0	91.00	96	34.2	1768.0	NO
0990119	Boca Raton Community Hospital	Palm Beach	589.5	2915.7	87.5	-25.2	91.07	106	12.3	1769.5	NO
0110038	Bonsal American	Broward	586.2	2904.6	84.2	-36.3	91.69	113	22.1	1781.8	NO
0112152	Gold Coast Crematory	Broward	584.7	2897.8	82.7	-43.1	93.24	118	10.2	1812.9	NO
0990042	FP&L / Riviera Power Plant	Palm Beach	593.3	2960.6	91.3	19.7	93.38	78	16565.2	1815.5	YES
0990015	Boca Raton Resort And Club	Palm Beach	592.0	2913.7	90.0	-27.2	94.04	107	12.4	1828.8	NO
0990046	Cemex Construction / (Riviera Beach)	Palm Beach	594.3	2960.8	92.3	19.9	94.42	78	98.7	1836.4	NO
0990350	Sfwmd / Pump Station S-6	Palm Beach	596.2	2927.8	94.2	-13.1	95.07	98	494.6	1849.5	NO
0111019	Holy Cross Hospital	Broward	587.1	2896.5	85.1	-44.4	95.97	118	10.9	1867.4	NO
0112119	Wheelabrator South Broward	Broward	579.5	2883.3	77.5	-57.6	96.57	127	1497.0	1879.4	NO
0110037	Ft. Lauderdale Power Plant	Broward	580.1	2883.6	78.1	-57.3	96.86	126	11509.1	1885.1	YES
0250603	Miami Dade Solid Wste Mgmt/No Dade Lf	Miami-Dade	570.7	2872.1	68.7	-68.8	97.18	135	259.6	1891.6	NO
0250624	General Asphalt Plant Wdhma	Miami-Dade	569.7	2868.3	67.7	-72.6	99.24	137	81.3	1932.8	NO
0150075	Zemel Road Solid Waste Management Facil.	Charlotte	405.5	2964.0	-96.5	23.1	99.25	283	31.0	1933.0	NO
0250020	Tarmac-Pennsuco Cement	Miami-Dade	562.3	2861.7	60.3	-79.2	99.52	143	1228.6	1938.5	NO

Note: NA = Not applicable, ND = No data, SID = Significant impact distance for the project

^a Southeast Renewable Fuels East and North Coordinates (km) are: 502.0 2940.90 km

^b The significant impact distance for the project is estimated to be: 2.6 km

^c Based on the North Carolina Screening Threshold method, a background facility is included in the modeling analysis if the facility is beyond the modeling area and its emission rate is greater than the product of (Distance-SID) x 20.

^d "Modeling Area" is the area in which the project is predicted to have a significant impact (2.6 km). EPA recommends that all sources within this area be modeled.

"Screening Area" is the significant impact distance for the SRF Facility of 2.6 km, plus 50 km beyond the modeling area. EPA recommends that sources be modeled that are expected to have a significant impact in the modeling area. "Beyond Screening Area out to 100 km" is the distance between the facilities and out to 100 km in which large sources are included in the modeling.

**TABLE 6-10
MAXIMUM PREDICTED IMPACTS FOR SRF PROJECT ONLY
COMPARED TO EPA CLASS II SIGNIFICANT IMPACT LEVELS**

Pollutant	Averaging Time	Rank	Predicted Concentration ($\mu\text{g}/\text{m}^3$) ^{a, b}		EPA Class II Significant Impact Levels ($\mu\text{g}/\text{m}^3$)
			Scenario 1 - Boiler and Truck Flare	Scenario 2 - Biogas Flare and Truck Flare	
SO ₂	Annual	Maximum	0.4	0.4	1
	24-Hour	Maximum	4.7	13.9	5
	3-Hour	Maximum	15.1	51.6	25
	1-Hour	Average	16.2	87.2	7.9 ^c
PM ₁₀	Annual	Maximum	9.0	9.0	1
	24-Hour	Maximum	28.6	28.6	5
PM _{2.5} ^d	Annual	Maximum	1.3	1.3	0.3
	24-Hour	Maximum	12.7	12.7	1.2
NO ₂ (Tier 1) ^e	Annual	Maximum	0.8	0.8	1
	1-Hour	Average	29.0	32.9	7.5 ^f
CO	8-Hour	Maximum	239.2	75.0	500
	1-Hour	Maximum	348.4	134.2	2,000

Note: YYMMDDHH = Year, Month, Day, Hour Ending

- ^a Concentrations are based on concentrations predicted using 5 years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Fort Myers Southwest Florida Regional (RSW) Airport and Tampa International Airport, respectively.
- ^b Scenario 1 is based on the Boiler operating and Scenario 2 is based on the Biogas Flare operating, since they cannot operate simultaneously. These scenarios are consistent for the 1-, 3-, and 8-hour averaging times. For the 24-hour and annual averaging times, all units operate (i.e., the boiler, biogas flare, and truck flare) for both Scenario 1 and 2.
- ^c EPA has not yet defined a significant impact level for SO₂ 1-hour impacts. Therefore, a level of 7.9 $\mu\text{g}/\text{m}^3$ was used, based on 4% of the AAQS standard (196.5 $\mu\text{g}/\text{m}^3$).
- ^d The SIL for PM_{2.5} annual and 24-hour concentrations are based on the most stringent of three proposed standards in the EPA document titled "PSD for PM_{2.5} - Increments, SILs and SMC" (EPA-HQ-AOR-2006-0605; FRL-8470-1).
- ^e NO_x to NO₂ conversion assumed to be 100 percent.
- ^f EPA has not yet defined a significant impact level for NO₂ 1-hour impacts. Therefore, a level of 7.5 $\mu\text{g}/\text{m}^3$ was used, based on 4% of the AAQS standard (188 $\mu\text{g}/\text{m}^3$).



TABLE 6-12
MAXIMUM PREDICTED SO₂, PM₁₀, PM_{2.5} AND NO₂ IMPACTS FOR ALL SOURCES, COMPARED TO THE AAQS

Averaging Time and Rank	Maximum Concentration (µg/m ³) ^a			Receptor Location		Time Period (YYMMDDHH)	AAQS (µg/m ³)
	Total	Modeled		UTM- East (m)	UTM- North (m)		
		Sources	Background				
SO₂							
24-Hour, HSH	20.0	14.5	5.5	501,959	2,940,667	01020324	260
	17.6	12.1	5.5	501,768	2,940,715	02120824	
	18.9	13.4	5.5	502,007	2,940,667	03110924	
	20.6	15.1	5.5	502,007	2,940,667	04010724	
	20.5	15.0	5.5	502,007	2,940,667	05021924	
3-Hour, HSH	48.5	40.7	7.8	501,768	2,940,715	01020812	1,300
	48.4	40.6	7.8	501,767	2,940,764	02121218	
	60.3	52.5	7.8	502,007	2,940,667	03010512	
	60.6	52.8	7.8	501,600	2,940,700	04050906	
	54.8	47.0	7.8	505,100	2,944,000	05032409	
1-Hour, 99th Percentile ^b	—	79.3	—	502,007	2,940,667	—	196.5
	—	75.6	—	502,007	2,940,667	—	
	—	68.2	—	502,007	2,940,667	—	
	—	75.9	—	502,007	2,940,667	—	
	—	79.2	—	502,007	2,940,667	—	
5-Year Average	88.8	75.7	13.1	—	—	—	
PM₁₀							
Annual, Highest	29.6	9.6	20.0	501,767	2,940,764	01123124	50
	29.8	9.8	20.0	501,767	2,940,764	02123124	
	28.9	8.9	20.0	501,767	2,940,764	03123124	
	29.2	9.2	20.0	501,767	2,940,764	04123124	
	28.7	8.7	20.0	501,767	2,940,764	05123124	
24-Hour, H6H	75.3	26.3	49.0	501,768	2,940,715	01121224	150
PM_{2.5}							
Annual, Highest	9.1	1.9	7.2	501,767	2,940,764	01123124	15
	9.2	2.0	7.2	501,767	2,940,764	02123124	
	9.0	1.8	7.2	502,197	2,940,669	03123124	
	9.0	1.8	7.2	501,767	2,940,764	04123124	
	9.1	1.9	7.2	502,197	2,940,669	05123124	
24-Hour, Highest	—	14.6	—	502,197	2,940,669	01101724	35
	—	13.5	—	502,245	2,940,669	02120624	
	—	14.0	—	502,197	2,940,669	03110924	
	—	15.1	—	502,245	2,940,669	04011124	
	—	14.5	—	502,245	2,940,669	05111824	
Average	32.9	14.3	18.6	—	—	—	
NO₂ (Tier 1)^c							
1-Hour, 98th Percentile ^d	—	77.4	—	501,400	2,940,500	—	188
	—	78.2	—	501,400	2,940,500	—	
	—	72.6	—	501,400	2,940,500	—	
	—	77.7	—	501,400	2,940,500	—	
	—	75.4	—	501,400	2,940,500	—	
5-Year Average	147.6	76.2	71.4	—	—	—	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
HSH = Highest, second-highest
H6H = Highest, sixth-highest

- ^a Concentrations are based on concentrations predicted using 5 years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Fort Myers Southwest Florida Regional (RSW) Airport and Tampa International Airport, respectively.
- ^b There is currently no EPA guidance for meeting the SO₂ 1-hour AAQS standard of 196.5 µg/m³. The standard is based on the 99th percentile of the daily maximum values. Impacts were averaged in a manner similar the EPA guidance provided for NO_x. A five year average was taken of the 99th percentile value for each year and added to the maximum 1-hour average non-modeled background concentration for the most representative monitor.
- ^c NO_x to NO₂ conversion assumed to be 100 percent.
- ^d The 1-hour NO_x AAQS standard of 188 µg/m³ is met when the 3-year average of the 98th percentile of the daily 1-hour maximum values is less than 188 µg/m³. Therefore, the 8th highest 1-hour maximum modeled concentration (averaged from 2001 - 2005) was added to the maximum 1-hour monitored background concentration, based on the the 98th percentile value of the maximum daily 1-hr NO₂ monitoring values.



**TABLE 6-13
MAXIMUM PREDICTED SO₂ AND PM₁₀ IMPACTS FOR ALL SOURCES,
COMPARED TO THE PSD CLASS II INCREMENTS**

Averaging Time and Rank	Maximum Concentration ^a (µg/m ³)	Receptor Location		Time Period (YYMMDDHH)	PSD Class II Increment (µg/m ³)
		UTM- East (m)	UTM- North (m)		
<u>SO₂</u>					
24-Hour, HSH	8.2	502,284	2,941,061	01010824	91
	7.2	502,236	2,941,061	02012124	
	7.5	502,284	2,941,061	03020424	
	6.9	502,007	2,940,667	04022824	
	6.4	502,100	2,940,600	05011524	
3-Hour, HSH	29.9	502,236	2,941,061	01040321	512
	30.1	502,236	2,941,061	02061224	
	36.2	502,284	2,941,061	03020421	
	28.5	502,236	2,941,061	04040824	
	27.4	502,284	2,941,061	05072403	
<u>PM₁₀</u>					
Annual, Highest	8.5	501,767	2,940,764	01123124	17
	8.6	501,767	2,940,764	02123124	
	7.6	501,767	2,940,764	03123124	
	8.1	501,767	2,940,764	04123124	
	7.5	501,767	2,940,764	05123124	
24-Hour, HSH	24.5	502,284	2,941,061	01030324	30
	25.9	501,817	2,940,666	02082224	
	21.3	501,767	2,940,764	03112224	
	27.0	501,768	2,940,715	04120624	
	23.2	501,768	2,940,715	05010924	

Note: YYMMDDHH = Year, Month, Day, Hour Ending
 HSH = Highest, second-highest
 H6H = Highest, sixth-highest
 NA = Not Applicable

^a Concentrations are based on concentrations predicted using 5 years of meteorological data from 2001 to 2005 of surface and upper air data from the National Weather Service stations at Fort Myers Southwest Florida Regional (RSW) Airport and Tampa International Airport, respectively.

**TABLE 7-4
MAXIMUM POLLUTANT CONCENTRATIONS PREDICTED
AT THE EVERGLADES NP FOR THE SRF PROJECT**

Pollutant	Averaging Time	Maximum Predicted Concentration ^a (µg/m ³)					
		Scenario 1 - Boiler and Truck Flare			Scenario 2 - Biogas Flare and Truck Flare		
		2001	2002	2003	2001	2002	2003
SO ₂	Annual	0.0018	0.0022	0.0021	0.0018	0.0022	0.0021
	24-Hour	0.4181	0.3310	0.5313	0.0046	0.0045	0.0055
	8-Hour	0.1954	0.2025	0.1944	0.0113	0.0107	0.0131
	3-Hour	0.2863	0.2387	0.3682	0.0146	0.0181	0.0180
	1-Hour	0.4181	0.3310	0.5313	0.0212	0.0204	0.0238
PM ₁₀	Annual	0.0003	0.0003	0.0004	0.0003	0.0003	0.0004
	24-Hour	0.0108	0.0123	0.0105	0.0007	0.0008	0.0008
	8-Hour	0.0242	0.0265	0.0230	0.0018	0.0018	0.0021
	3-Hour	0.0361	0.0298	0.0430	0.0023	0.0032	0.0028
	1-Hour	0.0466	0.0416	0.0615	0.0031	0.0034	0.0036
NO ₂	Annual	0.0021	0.0025	0.0026	0.0021	0.0025	0.0026
	24-Hour	0.1015	0.1124	0.0977	0.0023	0.0024	0.0028
	8-Hour	0.2557	0.2522	0.2522	0.0060	0.0059	0.0074
	3-Hour	0.3507	0.3109	0.4293	0.0082	0.0100	0.0099
	1-Hour	0.4750	0.4340	0.6164	0.0109	0.0113	0.0137
CO	Annual	0.0107	0.0132	0.0120	0.0107	0.0132	0.0120
	24-Hour	2.1250	2.5877	2.2863	0.0122	0.0127	0.0154
	8-Hour	4.0722	4.2796	4.0938	0.0298	0.0313	0.0337
	3-Hour	6.5210	5.6458	7.8246	0.0415	0.0490	0.0424
	1-Hour	9.8111	8.2284	11.3280	0.0605	0.0539	0.0600

^a Concentrations are based on highest predicted concentrations from CALPUFF using 3 years of meteorological data for 2001 to 2003 consisting of surface and upper air data from the NWS stations at Palm Beach and Miami International Airports, respectively.

TABLE 7-5
MAXIMUM 24-HOUR VISIBILITY IMPAIRMENT PREDICTED FOR THE PROPOSED PROJECT
AT THE EVERGLADES NP PSD CLASS I AREA

Background Extinction Calculations	Visibility Impairment (%) ^a			Visibility Impairment Criterion (%)
	2001	2002	2003	
Method 2 with RHMAX = 95 Percent	1.94	1.73	2.42	5.0
Method 6 with monthly F(RH) factors	1.12	0.96	1.13	5.0

^a Concentrations are highest predicted using CALPUFF V5.8 with CALMET V5.8 4-km Domains, 2001 to 2003. Background extinctions calculated using FLAG Document (December 2000) and stated method.

**TABLE 7-6
MAXIMUM ANNUAL NITROGEN AND SULFUR DEPOSITION PREDICTED
FOR THE PROPOSED PROJECT AT THE EVERGLADES NP PSD CLASS I AREA**

Species	Total Deposition (Wet & Dry)		Year	Deposition Analysis
	(g/m ² /s)	(kg/ha/yr) ^a		Threshold ^b
				(kg/ha/yr)
Nitrogen (N) Deposition	2.16E-12	0.0007	2001	0.01
	3.24E-12	0.0010	2002	0.01
	2.62E-12	0.0008	2003	0.01
Sulfur (S) Deposition	4.57E-12	0.0014	2001	0.01
	5.68E-12	0.0018	2002	0.01
	4.34E-12	0.0014	2003	0.01

^a Conversion factor is used to convert g/m²/s to kg/hectare (ha)/yr with the following units:

$$\begin{aligned}
 & \text{g/m}^2/\text{s} \times 0.001 \text{ kg/g} \\
 & \times 10,000 \text{ m}^2/\text{hectare} \\
 & \times 3,600 \text{ sec/hr} \\
 & \times 8,760 \text{ hr/yr} = \text{kg/ha/yr} \\
 & \text{or} \\
 & \text{g/m}^2/\text{s} \times 3.154\text{E}+08 = \text{kg/ha/yr}
 \end{aligned}$$

^b Deposition analysis thresholds (DATs) for nitrogen deposition provided by the U.S. Fish and Wildlife Service, January 2002. A DAT is the additional amount of N or S deposition within a Class I area, below which estimated impacts from a proposed new or modified source are considered insignificant.

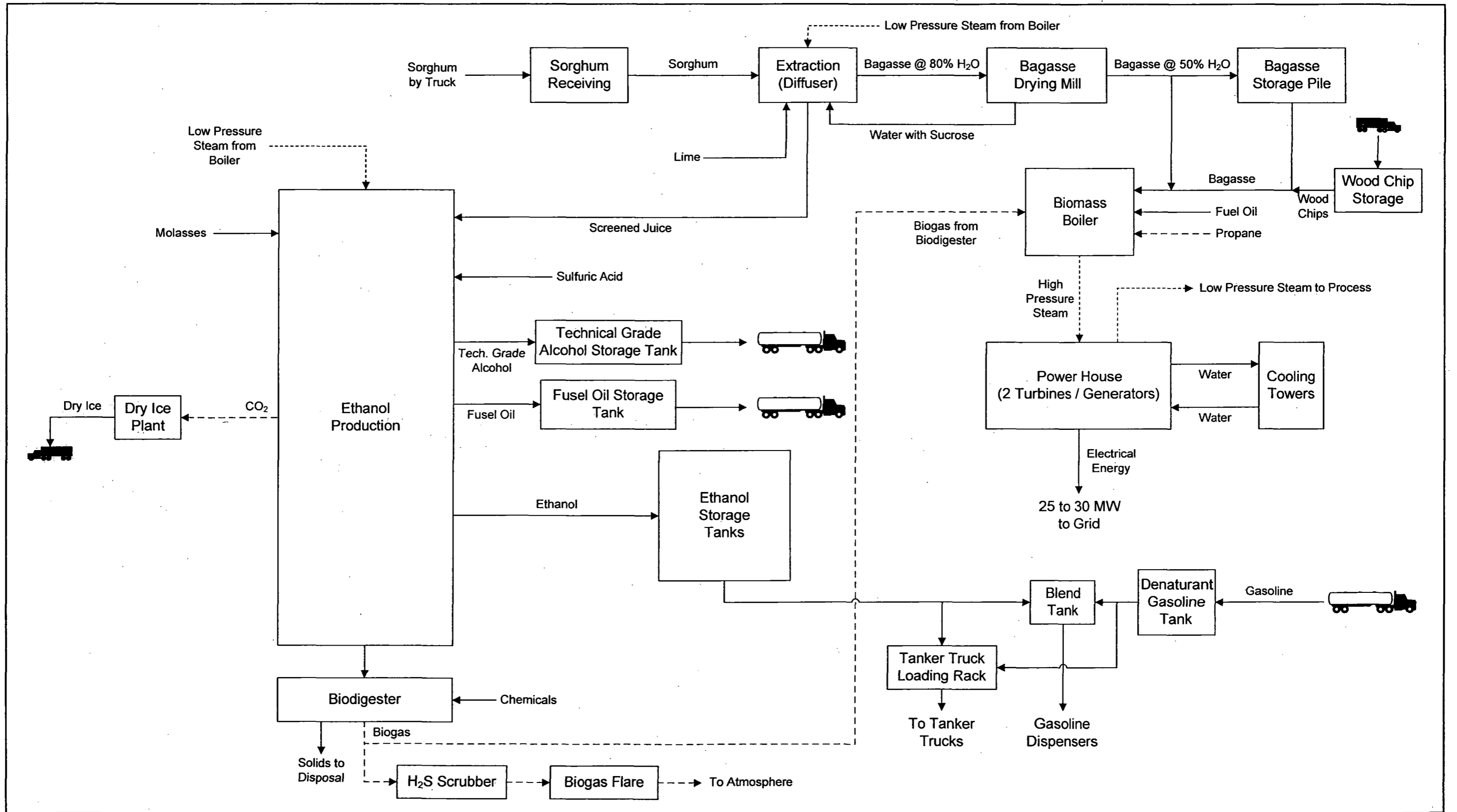


Figure 2-5
Facility Process Flow Diagram
Southeast Renewable Fuels, LLC

Source: Golder Associates, 2010.

Process Flow Legend	
Solid/Liquid	—————>
Gas	- - - - ->
Steam	- · - · ->



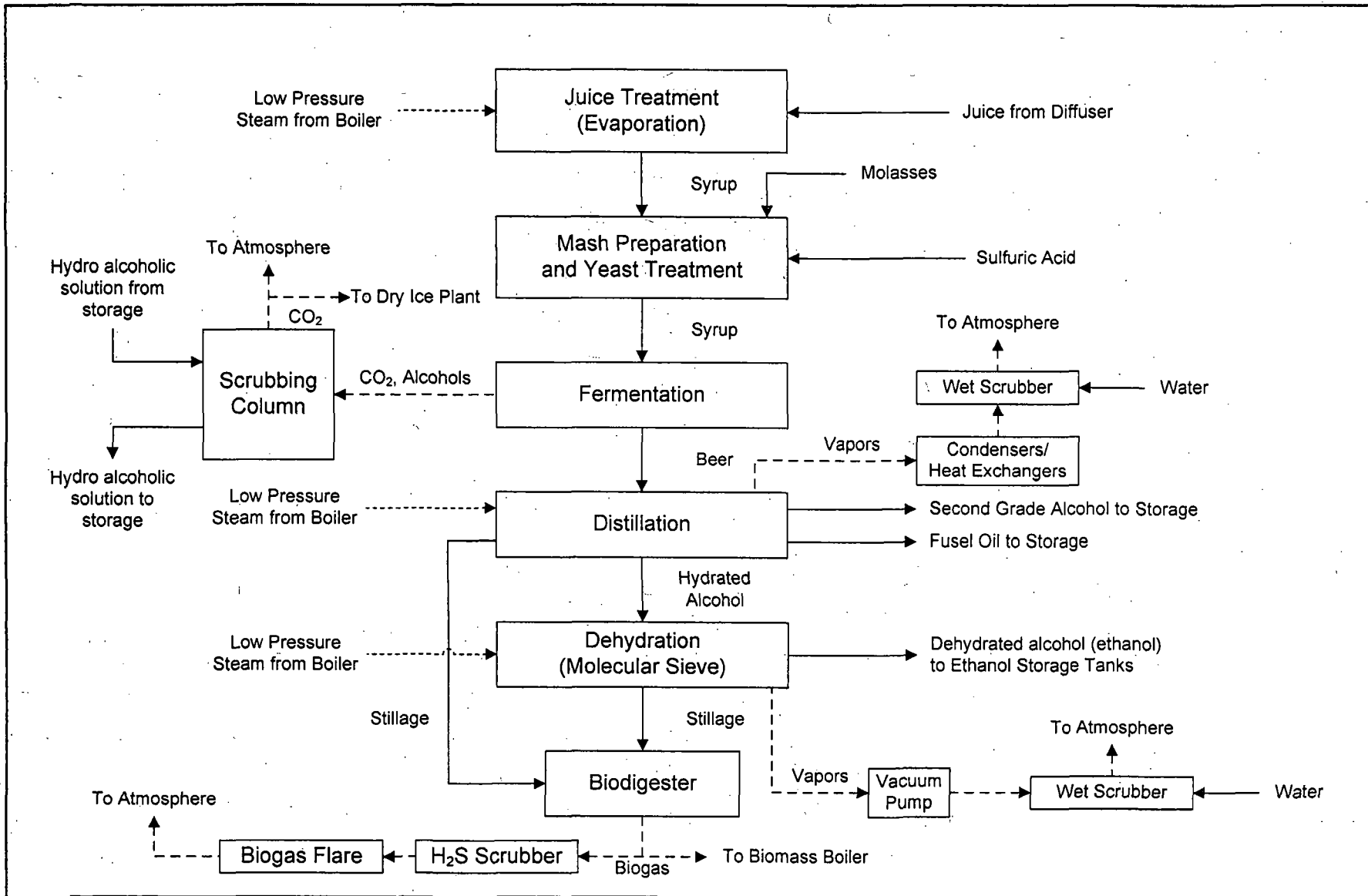


Figure 2-6. Ethanol Production Process Flow Diagram
 Southeast Renewable Fuels
 Hendry County, Florida

Source: Golder Associates, 2010.

Process Flow Legend

- Solid/Liquid ———>
- Gas - - - - ->
- Steam - - - - ->



TABLE F-2
SRF SUMMARY OF SO₂ 24-HOUR SOURCES INCLUDED IN THE PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters								SO ₂ Emission Rate 24-Hour		Type of PSD Source (EXP/CON)	Modeled In	
				X (m)	Y (m)	Height		Diameter		Temperature		Velocity		(lb/hr)	(g/sec)		AAQS	Class II
	BOILER #4 PSD Baseline Off-crop season	--	SCBLR4BF	534,900	2,953,300	86.0	26.20	5.3	1.62	149.1	338.2	32.4	9.88	-205.60	-25.91	EXP	No	Yes
	BOILER #5 PSD Baseline Off-crop season	--	SCBLR5BF	534,900	2,953,300	79.1	24.10	6.7	2.03	490.0	527.6	93.2	28.42	0.00	0.00	EXP	No	Yes
	BOILER #6 PSD Baseline Off-crop season	--	SCBLR6BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.1	605.4	21.4	6.53	0.00	0.00	EXP	No	Yes
	BOILER #7 PSD Baseline Off-crop season	--	SCBLR7BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.4	605.6	56.4	17.20	-121.80	-15.35	EXP	No	Yes
0850102	Indiantown Cogeneration LP - Indiantown Plant																	
	Pulverized Coal Main Boiler	001	INDTOWN1	547,650	2,990,700	495.0	150.9	16.0	4.88	140.0	333.2	93.2	28.41	582.00	73.33	CON	Yes	Yes
	Two Auxiliary Boilers	007	INDTOWN3	547,650	2,990,700	210.0	64.0	5.0	1.52	350.0	449.8	87.5	26.67	18.00	2.27	CON	Yes	Yes
0850001	FPL - Martin Power Plant																	
	Units 1&2 PSD Baseline	1-2	MART12B	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	-13840.00	-1743.84	EXP	No	Yes
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	8817.00	1110.94	CON	Yes	Yes
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	4.00	0.50	CON	Yes	Yes
	Aux Boiler	7	MARTAUX	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	102.38	12.90	CON	Yes	Yes
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	4.05	0.51	CON	Yes	Yes
	Unit 8 (EUs 11, 12, 17, &18)	--	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	16.00	2.02	CON	Yes	Yes
0710002	Fort Myers Power Plant																	
	Unit 1 PSD	1	FMPU1	422,300	2,952,900	301.1	91.8	9.5	2.90	299.9	422.0	98.1	29.90	-4606.50	-580.42	EXP	No	Yes
	Unit 2 PSD	2	FMPU2	422,300	2,952,900	397.5	121.2	18.1	5.52	274.7	408.0	63.0	19.20	-10495.50	-1322.43	EXP	No	Yes
	CT No. 1 - 12	3-14	FMPCT112	422,300	2,952,000	32.0	9.8	11.4	3.5	975.0	797.0	189.4	57.7	4800	604.80	NO	Yes	No
	250MW Combined Cycle CT - 2A - 2F	18-23	FMPCT2AF	422,300	2,953,030	125.0	38.1	19	5.8	220.0	377.6	70.3	21.4	30.6	3.86	CON	Yes	Yes
	170 MW Simple Cycle CT No. 1 & 2 (3A & 3B)	27-28	FMPCT3AB	422,300	2,952,900	80.0	24.4	20.5	6.2	1116.0	875.4	120.7	36.8	206.2	25.98	CON	Yes	Yes
0990045	City of Lake Worth Utilities																	
	Diesel Generator Units 1-5	001-005	LAKWTHDG	592,800	2,943,700	17.0	5.18	1.8	0.56	667.0	625.9	121.7	37.09	38.0	4.78	CON	Yes	Yes
	Gas Turbine No.1	006	LAKWTHHR	592,800	2,943,700	46.0	14.02	16.0	4.88	837.0	720.4	81.5	24.84	109.0	13.73	CON	Yes	Yes
	Steam Generator Unit 1	007	LAKWTHU1	592,800	2,943,700	60.0	18.29	5.0	1.52	311.0	428.2	34.5	10.52	-267.0	-33.64	EXP	No	Yes
	Unit 3, S-3	009	LAKWTHU3	592,800	2,943,700	113.0	34.44	7.0	2.13	293.0	418.2	51.4	15.70	832.0	104.83	NO	Yes	No
	Unit 4, S-4	010	LAKWTHU4	592,800	2,943,700	115.0	35.05	7.5	2.29	293.0	418.2	55.8	17.00	-1072.0	-135.07	EXP	No	Yes
	Combined Cycle Unit, S-5	011	LAKWTHU5	592,800	2,943,700	75.0	22.86	10.0	3.05	404.0	479.8	87.5	27.80	286.0	36.04	CON	Yes	Yes
0990042	FPL -Riviera Beach																	
	Units 3&4 PSD Baseline	--	RIVU34B	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	-4356.0	-548.86	EXP	No	Yes
	Units 3&4	--	RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	5098.0	642.35	CON	Yes	Yes
	Units 1	--	RIVU1	593,270	2,960,620	150	45.7	10.8	3.29	309.0	427.0	24.8	7.56	-160.0	-20.16	EXP	No	Yes
	Units 2	--	RIVU2	593,270	2,960,620	150	45.7	15.0	4.57	315.0	430.4	20.7	6.31	-298.0	-37.55	EXP	No	Yes
0110037	Florida Power & Light (PFL) - Fort Lauderdale																	
	CTs 1-4 PSD	--	LAUDU45	579,390	2,883,360	150	45.7	18.0	5.5	330.0	438.7	158.7	48.37	398.60	50.22	CON	Yes	Yes
	GT 1-12 (0.5% fuel oil)	--	LDGT1_12	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	NO	Yes	No
	GT 13-24 (0.5% fuel oil)	--	LDGT1324	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	NO	Yes	No
	4&5 PSD Baseline	--	FTLAU45B	579,390	2,883,360	150	45.7	14.0	4.3	299.9	422.0	48.0	14.63	-1663.00	-209.54	EXP	No	Yes

Note: EXP = PSD expanding source.

CON = PSD consuming source.

NO = Baseline Source, assuming potential baseline emissions are the same as current actual emissions.

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

^b Facility-wide SO₂ emission limit of 14 tons/day (1,166.7) lb/hr. Only Boilers 1 and 4 operate during off-crop season.

TABLE F-3
SRF SUMMARY OF SO₂ 24-HOUR SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters								SO ₂ Emission Rate		Modeled In AAQS	
				X (m)	Y (m)	Height		Diameter		Temperature		Velocity		24-Hour (lb/hr)	(g/sec)		
						ft	m	ft	m	°F	K	ft/s	m/s				
0510003	U.S. Sugar Clewiston Mill and Refinery																
	<u>On-crop season^a</u>																
	Boiler No. 1	001	USSBLR1N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	29.70	3.74	Yes	
	Boiler No. 2	002	USSBLR2N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	26.80	3.38	Yes	
	Boiler No. 4	009	USSBLR4N	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	36.00	4.54	Yes	
	Boiler No. 7	014	USSBLR7N	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	125.50	15.81	Yes	
	Boiler No. 8	028	USSBLR8N	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	64.60	8.14	Yes	
	<u>Off-crop season^a</u>																
	Boiler No. 7	014	USSBLR7F	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	125.50	15.81	Yes	
	Boiler No. 8	028	USSBLR8F	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	64.60	8.14	Yes	
	<u>Sugar Refinery Sources</u>																
	Granular Carbon Furnace S-12	017	S12	506,100	2,956,900	30.0	9.14	2.00	0.61	160.0	344.3	22.8	6.95	0.64	0.081	Yes	
0990332	New Hope Power Company																
	Boiler A	--	BLRA	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	152	19.15	Yes	
	Boiler B	--	BLRB	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	152	19.15	Yes	
	Boiler C	--	BLRC	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	152	19.15	Yes	
0990026	Sugar Cane Growers Co-Op ^{a, b}																
	<u>On-crop season</u>																
	Boiler No. 1	001	SCBLR1N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	599.10	75.49	Yes	
	Boiler No. 2	002	SCBLR2N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	51.1	15.58	567.57	71.51	Yes	
	Boiler No. 3	003	SCBLR3N	534,900	2,953,300	180.0	54.86	5.3	1.62	156.0	342.0	40.3	12.28	0.00	0.00	Yes	
	Boiler No. 4	004	SCBLR4N	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	0.00	0.00	Yes	
	Boiler No. 5	005	SCBLR5N	534,900	2,953,300	150.0	45.72	7.0	2.13	160.0	344.3	77.1	23.50	0.00	0.00	Yes	
	Boiler No. 8	008	SCBLR8N	534,900	2,953,300	155.0	47.24	9.5	2.90	154.0	340.9	37.6	11.46	0.00	0.00	Yes	
	<u>Off-crop season</u>																
	Boiler No. 1	001	SCBLR1F	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	599.10	75.49	Yes	
	Boiler No. 4	004	SCBLR4F	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	567.57	71.51	Yes	
0850102	Indiantown Cogeneration LP - Indiantown Plant																
	Pulverized Coal Main Boiler	001	INDTOWN1	547,650	2,990,700	495.0	150.9	16.0	4.88	140.0	333.2	93.2	28.41	582.00	73.33	Yes	
	Two Auxiliary Boilers	007	INDTOWN3	547,650	2,990,700	210.0	64.0	5.0	1.52	350.0	449.8	87.5	26.67	18.00	2.27	Yes	

TABLE F-3
SRF SUMMARY OF SO₂ 24-HOUR SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters								SO ₂ Emission Rate		Modeled In AAQS	
				X (m)	Y (m)	Height		Diameter		Temperature		Velocity		24-Hour (lb/hr)	(g/sec)		
						ft	m	ft	m	°F	K	ft/s	m/s				
0850001	FPL - Martin Power Plant																
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	13840.00	1743.84	Yes	
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	3680.00	463.68	Yes	
	Aux Boiler	7	MARTAUX	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	102.38	12.90	Yes	
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	4.05	0.51	Yes	
	Unit 8 (EUs 11, 12, 17, & 18)	-	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	412.40	51.96	Yes	
0710002	Fort Myers Power Plant																
	CT No. 1 - 12	3-14	FMPCT112	422,300	2,952,000	32.0	9.8	11.4	3.5	975.0	797.0	189.4	57.7	4800	604.80	Yes	
	250MW Combined Cycle CT - 2A - 2F	18-23	FMPCT2AF	422,300	2,953,030	125.0	38.1	19	5.8	220.0	377.6	70.3	21.4	30.6	3.86	Yes	
	170 MW Simple Cycle CT No. 1 & 2 (3A & 3B)	27-28	FMPCT3AB	422,300	2,952,900	80.0	24.4	20.5	6.2	1116.0	875.4	120.7	36.8	206.2	25.98	Yes	
0990045	City of Lake Worth Utilities																
	Diesel Generator Units 1-5	001-005	LAKWTHDG	592,800	2,943,700	17.0	5.2	1.8	0.6	667.0	625.9	121.7	37.09	38.0	4.78	Yes	
	Gas Turbine No.1	006	LAKWTHHR	592,800	2,943,700	46.0	14.0	16.0	4.9	837.0	720.4	81.5	24.84	109.0	13.73	Yes	
	Unit 3, S-3	009	LAKWTHU3	592,800	2,943,700	113.0	34.4	7.0	2.1	293.0	418.2	51.4	15.70	832.0	104.83	Yes	
	Combined Cycle Unit, S-5	011	LAKWTHU5	592,800	2,943,700	75.0	22.9	10.0	3.0	404.0	479.8	87.5	27.80	286.0	36.04	Yes	
0990042	FPL -Riviera Beach																
	Units 3&4	-	RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	5098.0	642.35	Yes	
0110037	Florida Power & Light (PFL) - Fort Lauderdale																
	CTs 1-4	--	LAUDU45	579,390	2,883,360	150	45.7	18.0	5.5	330.0	438.7	158.7	48.37	2152.00	271.15	Yes	
	GT 1-12 (0.5% fuel oil)	--	LDGT1_12	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	No	
	GT 13-24 (0.5% fuel oil)	--	LDGT1324	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	No	

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

^b Facility-wide SO₂ emission limit of 14 tons/day (1,166,7) lb/hr). Only Boilers 1 and 4 operate during off-crop season.

TABLE F-4
SRF SUMMARY OF SO₂ 1-, AND 3-HOUR SOURCES INCLUDED IN THE PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters				SO ₂ Emission Rate 1-, 3-Hour		Type of PSD Source (EXP/CON)	Modeled In					
				X (m)	Y (m)	Height ft m		Diameter ft m		Temperature °F K			lb/hr	g/sec	AAQS	Class II		
	BOILER #4 PSD Baseline Off-crop season	--	SCBLR4BF	534,900	2,953,300	86.0	26.20	5.3	1.62	149.1	338.2	32.4	9.88	-205.60	-25.91	EXP	No	Yes
	BOILER #5 PSD Baseline Off-crop season	--	SCBLR5BF	534,900	2,953,300	79.1	24.10	6.7	2.03	490.0	527.6	93.2	28.42	0.00	0.00	EXP	No	Yes
	BOILER #6 PSD Baseline Off-crop season	--	SCBLR6BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.1	605.4	21.4	6.53	0.00	0.00	EXP	No	Yes
	BOILER #7 PSD Baseline Off-crop season	--	SCBLR7BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.4	605.6	56.4	17.20	-121.80	-15.35	EXP	No	Yes
0850102	Indiantown Cogeneration LP - Indiantown Plant																	
	Pulverized Coal Main Boiler	001	INDTOWN1	547,650	2,990,700	495.0	150.9	16.0	4.88	140.0	333.2	93.2	28.41	582.00	73.33	CON	Yes	Yes
	Two Auxiliary Boilers	007	INDTOWN3	547,650	2,990,700	210.0	64.0	5.0	1.52	350.0	449.8	87.5	26.67	18.00	2.27	CON	Yes	Yes
0850001	FPL - Martin Power Plant																	
	Units 1&2 PSD Baseline	1-2	MART12B	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	-13840.00	-1743.84	EXP	No	Yes
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	8817.00	1110.94	CON	Yes	Yes
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	4.00	0.50	CON	Yes	Yes
	Aux Boiler	7	MARTAUX	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	102.38	12.90	CON	Yes	Yes
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	4.05	0.51	CON	Yes	Yes
	Unit 8 (EUs 11, 12, 17, & 18)	--	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	16.00	2.02	CON	Yes	Yes
0710002	Fort Myers Power Plant																	
	Unit 1 PSD	1	FMPU1	422,300	2,952,900	301.1	91.8	9.5	2.90	299.9	422.0	98.1	29.90	-4606.50	-580.42	EXP	No	Yes
	Unit 2 PSD	2	FMPU2	422,300	2,952,900	397.5	121.2	18.1	5.52	274.7	408.0	63.0	19.20	-10495.50	-1322.43	EXP	No	Yes
	CT No. 1 - 12	3-14	FMPCT112	422,300	2,952,000	32.0	9.8	11.4	3.5	975.0	797.0	189.4	57.7	4800	604.80	NO	Yes	No
	250MW Combined Cycle CT - 2A - 2F	18-23	FMPCT2AF	422,300	2,953,030	125.0	38.1	19	5.8	220.0	377.6	70.3	21.4	30.6	3.86	CON	Yes	Yes
	170 MW Simple Cycle CT No. 1 & 2 (3A & 3B)	27-28	FMPCT3AB	422,300	2,952,900	80.0	24.4	20.5	6.2	1116.0	875.4	120.7	36.8	206.2	25.98	CON	Yes	Yes
0990045	City of Lake Worth Utilities																	
	Diesel Generator Units 1-5	001-005	LAKWTHDG	592,800	2,943,700	17.0	5.18	1.8	0.56	667.0	625.9	121.7	37.09	38.0	4.78	CON	Yes	Yes
	Gas Turbine No.1	006	LAKWTHHR	592,800	2,943,700	46.0	14.02	16.0	4.88	837.0	720.4	81.5	24.84	109.0	13.73	CON	Yes	Yes
	Steam Generator Unit 1	007	LAKWTHU1	592,800	2,943,700	60.0	18.29	5.0	1.52	311.0	428.2	34.5	10.52	-267.0	-33.64	EXP	No	Yes
	Unit 3, S-3	009	LAKWTHU3	592,800	2,943,700	113.0	34.44	7.0	2.13	293.0	418.2	51.4	15.70	832.0	104.83	NO	Yes	No
	Unit 4, S-4	010	LAKWTHU4	592,800	2,943,700	115.0	35.05	7.5	2.29	293.0	418.2	55.8	17.00	-1072.0	-135.07	EXP	No	Yes
	Combined Cycle Unit, S-5	011	LAKWTHU5	592,800	2,943,700	75.0	22.86	10.0	3.05	404.0	479.8	87.5	27.80	286.0	36.04	CON	Yes	Yes
0990042	FPL -Riviera Beach																	
	Units 3&4 PSD Baseline	--	RIVU34B	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	-4356.0	-548.86	EXP	No	Yes
	Units 3&4	--	RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	5767.0	726.64	CON	Yes	Yes
	Units 1	--	RIVU1	593,270	2,960,620	150	45.7	10.8	3.29	309.0	427.0	24.8	7.56	-160.0	-20.16	EXP	No	Yes
	Units 2	--	RIVU2	593,270	2,960,620	150	45.7	15.0	4.57	315.0	430.4	20.7	6.31	-298.0	-37.55	EXP	No	Yes
0110037	Florida Power & Light (PFL) - Fort Lauderdale																	
	CTs 1-4 PSD	--	LAUDU45	579,390	2,883,360	150	45.7	18.0	5.5	330.0	438.7	158.7	48.37	398.60	50.22	CON	Yes	Yes
	GT 1-12 (0.5% fuel oil)	--	LDGT1_12	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	NO	Yes	No
	GT 13-24 (0.5% fuel oil)	--	LDGT1324	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	NO	Yes	No
	4&5 PSD Baseline	--	FTLAU45B	579,390	2,883,360	150	45.7	14.0	4.3	299.9	422.0	48.0	14.63	-1663.00	-209.54	EXP	No	Yes

Note: EXP = PSD expanding source.

CON = PSD consuming source.

NO = Baseline Source, assuming potential baseline emissions are the same as current actual emissions.

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

^b Facility-wide SO₂ emission limit of 14 tons/day (1,166,7) lb/hr). Only Boilers 1 and 4 operate during off-crop season.

TABLE F-5
SRF SUMMARY OF SO₂ 1-, AND 3-HOUR SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters								SO ₂ Emission Rate 1-, 3-Hour		Modeled In AAQS	
				X (m)	Y (m)	Height		Diameter		Temperature		Velocity		(lb/hr)	(g/sec)		
						ft	m	ft	m	°F	K	ft/s	m/s				
0510003	U.S. Sugar Clewiston Mill and Refinery																
	On-crop season^a																
	Boiler No. 1	001	USSBLR1N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	29.70	3.74	Yes	
	Boiler No. 2	002	USSBLR2N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	26.80	3.38	Yes	
	Boiler No. 4	009	USSBLR4N	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	38.00	4.79	Yes	
	Boiler No. 7	014	USSBLR7N	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	138.00	17.39	Yes	
	Boiler No. 8	028	USSBLR8N	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	71.10	8.96	Yes	
	Off-crop season^a																
	Boiler No. 7	014	USSBLR7F	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	138.00	17.39	Yes	
	Boiler No. 8	028	USSBLR8F	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	71.10	8.96	Yes	
	Sugar Refinery Sources																
	Granular Carbon Furnace S-12	017	S12	506,100	2,956,900	30.0	9.14	2.00	0.61	160.0	344.3	22.8	6.95	0.64	0.081	Yes	
0990332	New Hope Power Company																
	Boiler A	--	BLRA	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	227.78	28.70	Yes	
	Boiler B	--	BLRB	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	227.78	28.70	Yes	
	Boiler C	--	BLRC	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	227.78	28.70	Yes	
0990026	Sugar Cane Growers Co-Op ^{a,b}																
	On-crop season																
	Boiler No. 1	001	SCBLR1N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	599.10	75.49	Yes	
	Boiler No. 2	002	SCBLR2N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	51.1	15.58	567.57	71.51	Yes	
	Boiler No. 3	003	SCBLR3N	534,900	2,953,300	180.0	54.86	5.3	1.62	156.0	342.0	40.3	12.28	0.00	0.00	Yes	
	Boiler No. 4	004	SCBLR4N	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	0.00	0.00	Yes	
	Boiler No. 5	005	SCBLR5N	534,900	2,953,300	150.0	45.72	7.0	2.13	160.0	344.3	77.1	23.50	0.00	0.00	Yes	
	Boiler No. 8	008	SCBLR8N	534,900	2,953,300	155.0	47.24	9.5	2.90	154.0	340.9	37.6	11.46	0.00	0.00	Yes	
	Off-crop season																
	Boiler No. 1	001	SCBLR1F	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	599.10	75.49	Yes	
	Boiler No. 4	004	SCBLR4F	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	567.57	71.51	Yes	

TABLE F-5
SRF SUMMARY OF SO₂ 1-, AND 3-HOUR SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters						SO ₂ Emission Rate		Modeled In AAQS			
				X (m)	Y (m)	Height		Diameter		Temperature		Velocity			1-, 3-Hour (lb/hr)	(g/sec)	
						ft	m	ft	m	°F	K	ft/s	m/s				
0850102	Indiantown Cogeneration LP - Indiantown Plant																
	Pulverized Coal Main Boiler	001	INDTOWN1	547,650	2,990,700	495.0	150.9	16.0	4.88	140.0	333.2	93.2	28.41	582.00	73.33	Yes	
	Two Auxiliary Boilers	007	INDTOWN3	547,650	2,990,700	210.0	64.0	5.0	1.52	350.0	449.8	87.5	26.67	18.00	2.27	Yes	
0850001	FPL - Martin Power Plant																
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	13840.00	1743.84	Yes	
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	3680.00	463.68	Yes	
	Aux Boiler	7	MARTAUX	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	102.38	12.90	Yes	
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	4.05	0.51	Yes	
	Unit 8 (EUs 11, 12, 17, &18)	-	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	412.40	51.96	Yes	
0710002	Fort Myers Power Plant																
	CT No. 1 - 12	3-14	FMPCT112	422,300	2,952,000	32.0	9.8	11.4	3.5	975.0	797.0	189.4	57.7	4800	604.80	Yes	
	250MW Combined Cycle CT - 2A - 2F	18-23	FMPCT2AF	422,300	2,953,030	125.0	38.1	19	5.8	220.0	377.6	70.3	21.4	30.6	3.86	Yes	
	170 MW Simple Cycle CT No. 1 & 2 (3A & 3B)	27-28	FMPCT3AB	422,300	2,952,900	80.0	24.4	20.5	6.2	1116.0	875.4	120.7	36.8	206.2	25.98	Yes	
0990045	City of Lake Worth Utilities																
	Diesel Generator Units 1-5	001-005	LAKWTHDG	592,800	2,943,700	17.0	5.2	1.8	0.6	667.0	625.9	121.7	37.09	38.0	4.78	Yes	
	Gas Turbine No.1	006	LAKWTHHR	592,800	2,943,700	46.0	14.0	16.0	4.9	837.0	720.4	81.5	24.84	109.0	13.73	Yes	
	Unit 3, S-3	009	LAKWTHU3	592,800	2,943,700	113.0	34.4	7.0	2.1	293.0	418.2	51.4	15.70	832.0	104.83	Yes	
	Combined Cycle Unit, S-5	011	LAKWTHU5	592,800	2,943,700	75.0	22.9	10.0	3.0	404.0	479.8	87.5	27.80	286.0	36.04	Yes	
0990042	FPL -Riviera Beach																
	Units 3&4	--	RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	14800.4	1864.85	Yes	
0110037	Florida Power & Light (PFL) - Fort Lauderdale																
	CTs 1-4	--	LAUDU45	579,390	2,883,360	150	45.7	18.0	5.5	330.0	438.7	158.7	48.37	2152.00	271.15	Yes	
	GT 1-12 (0.5% fuel oil)	--	LDGT1_12	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	No	
	GT 13-24 (0.5% fuel oil)	--	LDGT1324	579,390	2,883,360	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	770.80	97.12	No	

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

^b Facility-wide SO₂ emission limit of 14 tons/day (1,166,7) lb/hr). Only Boilers 1 and 4 operate during off-crop season.

TABLE F-6
SUMMARY OF PM₁₀ SOURCES INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters								PM ₁₀ Emission Rate		PSD Source? (EXP/CON)	Modeled In	
				X (m)	Y (m)	Height ft m		Diameter ft m		Temperature °F K		Velocity ft/s m/s		24-Hour/Annual (lb/hr)	(g/sec)		AAQS	Class II
0510003	U.S. Sugar Clewiston Mill and Refinery																	
	On-crop season^a																	
	Boiler No. 1	001	USSBLR1N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	123.9	15.61	CON	Yes	Yes
	Boiler No. 2	002	USSBLR2N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	111.8	14.08	CON	Yes	Yes
	Boiler No. 4	009	USSBLR4N	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	90.0	11.34	CON	Yes	Yes
	Boiler No. 7	014	USSBLR7N	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	22.1	2.79	CON	Yes	Yes
	All Year																	
	Boiler No. 8	028	USSBLR8N	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	26.9	3.39	CON	Yes	Yes
	Off-crop season^a																	
	Boiler No. 1	001	USSBLR1F	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	123.9	15.61	CON	Yes	Yes
	Boiler No. 2	002	USSBLR2F	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	111.8	14.08	CON	Yes	Yes
	Boiler No. 4	009	USSBLR4F	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	90.0	11.34	CON	Yes	Yes
	Baseline (on-crop)^a																	
	Boiler No. 1	001	USSBLR1B	506,100	2,956,900	75.8	23.10	6.1	1.86	160.0	344.3	99.0	30.18	-59.4	-7.48	EXP	No	Yes
	Boiler No. 2	002	USSBLR2B	506,100	2,956,900	75.8	23.10	6.1	1.86	158.0	343.2	117.0	35.66	-55.9	-7.04	EXP	No	Yes
	Boiler No. 3	003	USSBLR3B	506,100	2,956,900	90.0	27.43	7.5	2.29	156.0	342.0	48.2	14.69	-28.5	-3.59	EXP	No	Yes
	East Pellet Plant	-	EPELLET	506,100	2,956,900	40.0	12.19	5.0	1.52	165.0	347.0	28.0	8.53	-13.4	-1.69	EXP	No	Yes
	West Pellet Plant	-	WPELLET	506,100	2,956,900	51.5	15.70	5.0	1.52	165.0	347.0	28.0	8.53	-6.5	-0.82	EXP	No	Yes
	Units 5 & 6	-	USBLR56B	506,100	2,956,900	75.8	23.10	6.1	1.86	430.0	494.3	145.3	44.29	-420.0	-52.92	EXP	No	Yes
	Sugar Refinery Sources																	
	Vacuum Systems S-1	018	S1	506,100	2,956,900	65.0	19.81	0.50	0.15	68.0	293.2	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Vacuum Systems S-2	018	S2	506,100	2,956,900	65.0	19.81	0.50	0.15	90.0	305.4	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Vacuum Systems S-3	018	S3	506,100	2,956,900	65.0	19.81	0.50	0.15	90.0	305.4	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Packaging S-4	022	S4	506,100	2,956,900	60.0	18.29	1.94	0.59	125.0	324.8	0.033	0.01	0.21	0.026	CON	Yes	Yes
	Screening and Distribution S-5	020	S5	506,100	2,956,900	72.0	21.95	0.95	0.29	125.0	324.8	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Screening and Distribution S-6	020	S6	506,100	2,956,900	72.0	21.95	1.94	0.59	125.0	324.8	0.033	0.01	0.19	0.024	CON	Yes	Yes
	Conditioning Silos S-7	019	S7	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Conditioning Silos S-8	019	S8	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes	Yes
	Conditioning Silos S-9	019	S9	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes	Yes
	White Sugar Dryer No. 1: S-10	016	S10	506,100	2,956,900	10.0	3.05	4.79	1.46	115.0	319.3	0.033	0.01	1.43	0.180	CON	Yes	Yes
	V.H.P. Sugar Dryer S-11	015	S11	506,100	2,956,900	75.0	22.86	7.31	2.23	115.0	319.3	0.033	0.01	1.63	0.205	CON	Yes	Yes
	Granular Carbon Furnace S-12	017	S12	506,100	2,956,900	30.0	9.14	2.00	0.61	160.0	344.3	22.8	6.95	0.63	0.079	CON	Yes	Yes
	White Sugar Dryer No. 2: S-13	029	S13	506,100	2,956,900	80.0	24.38	7.31	2.23	90.0	305.4	0.033	0.01	4.20	0.529	CON	Yes	Yes
	Sugar Mill Sources																	
	BT-13 Lime Silo #1	031	BT3LS1	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes	Yes
	BT-13 Lime Silo #2	031	BT3LS2	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes	Yes
	BT-13 Lime Railcar Receiver	031	BT3LRR	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes	Yes
	Molasses Plant Salt Silo		MOLSALTS	506,100	2,956,900	30.0	9.14	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes	Yes
	Molasses Plant Limestone Silo	030	MOLLSS	506,100	2,956,900	40.0	12.19	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes	Yes
	Water Treatment Lime Silo	010	VVWTPLS	506,100	2,956,900	40.0	12.19	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes	Yes

TABLE F-6
SUMMARY OF PM₁₀ SOURCES INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters				PM ₁₀ Emission Rate		PSD Source? (EXP/CON)	Modeled In					
				X (m)	Y (m)	Height ft m		Diameter ft m		Temperature °F K			24-Hour/Annual (lb/hr) (g/sec)		AAQS	Class II		
0990026	Sugar Cane Growers Co-Op																	
	On-crop season^a																	
	Boiler No. 1	001	SCBLR1N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	66.70	8.40	CON	Yes	Yes
	Boiler No. 2	002	SCBLR2N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	51.1	15.58	66.00	8.32	CON	Yes	Yes
	Boiler No. 3	003	SCBLR3N	534,900	2,953,300	180.0	54.86	5.3	1.62	156.0	342.0	40.3	12.28	52.50	6.62	CON	Yes	Yes
	Boiler No. 4	004	SCBLR4N	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	114.50	14.43	CON	Yes	Yes
	Boiler No. 5	005	SCBLR5N	534,900	2,953,300	150.0	45.72	7.0	2.13	160.0	344.3	77.1	23.50	109.80	13.83	CON	Yes	Yes
	Boiler No. 8	008	SCBLR8N	534,900	2,953,300	155.0	47.24	9.5	2.90	154.0	340.9	37.6	11.46	75.60	9.53	CON	Yes	Yes
	Off-crop season^a																	
	Boiler No. 1	001	SCBLR1F	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	66.70	8.40	CON	Yes	Yes
	Boiler No. 4	004	SCBLR4F	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	114.50	14.43	CON	Yes	Yes
	Baseline																	
	BOILER #1 PSD Baseline Off-crop season	--	SCBLR1BF	534,900	2,953,300	79.1	24.10	5.5	1.68	395.0	474.8	52.3	15.94	-64.50	-8.13	EXP	No	Yes
	BOILER #2 PSD Baseline Off-crop season	--	SCBLR2BF	534,900	2,953,300	79.1	24.10	5.5	1.68	405.1	480.4	58.6	17.88	-113.20	-14.26	EXP	No	Yes
	BOILER #3 PSD Baseline Off-crop season	--	SCBLR3BF	534,900	2,953,300	79.1	24.10	5.5	1.68	470.0	516.5	54.1	16.50	0.00	0.00	EXP	No	Yes
	Boilers 1-3 PSD Baseline off-Crop	--	BLR123BF	534,900	2,953,300	79.1	24.10	5.5	1.68	395.0	474.8	52.3	15.94	-177.70	-22.39	EXP	No	Yes
	BOILER #4 PSD Baseline Off-crop season	--	SCBLR4BF	534,900	2,953,300	86.0	26.20	5.3	1.62	149.1	338.2	32.4	9.88	-68.10	-8.58	EXP	No	Yes
	BOILER #5 PSD Baseline Off-crop season	--	SCBLR5BF	534,900	2,953,300	79.1	24.10	6.7	2.03	490.0	527.6	93.2	28.42	-164.60	-20.74	EXP	No	Yes
	BOILER #6 PSD Baseline Off-crop season	--	SCBLR6BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.1	605.4	21.4	6.53	0.00	0.00	EXP	No	Yes
	BOILER #7 PSD Baseline Off-crop season	--	SCBLR7BF	534,900	2,953,300	40.0	12.20	5.0	1.52	630.4	605.6	56.4	17.20	0.00	0.00	EXP	No	Yes
	BOILER #1 PSD Baseline On-crop season	--	SCBLR1BN	534,900	2,953,300	79.1	24.10	5.5	1.68	395.0	474.8	52.3	15.94	-95.60	-12.05	EXP	No	Yes
	BOILER #2 PSD Baseline On-crop season	--	SCBLR2BN	534,900	2,953,300	79.1	24.10	5.5	1.68	405.1	480.4	58.6	17.88	-174.50	-21.99	EXP	No	Yes
	BOILER #3 PSD Baseline On-crop season	--	SCBLR3BN	534,900	2,953,300	79.1	24.10	5.5	1.68	470.0	516.5	54.1	16.50	-86.90	-10.95	EXP	No	Yes
	Boilers 1-3 PSD Baseline On-Crop	--	BLR123BN	534,900	2,953,300	79.1	24.10	5.5	1.68	395.0	474.8	52.3	15.94	-357.00	-44.98	EXP	No	Yes
	BOILER #4 PSD Baseline On-crop season	--	SCBLR4BN	534,900	2,953,300	86.0	26.20	5.3	1.62	149.1	338.2	32.4	9.88	-68.10	-8.58	EXP	No	Yes
	BOILER #5 PSD Baseline On-crop season	--	SCBLR5BN	534,900	2,953,300	79.1	24.10	6.7	2.03	490.0	527.6	93.2	28.42	-117.40	-14.79	EXP	No	Yes
	BOILER #6 PSD Baseline On-crop season	--	SCBLR6BN	534,900	2,953,300	40.0	12.20	5.0	1.52	630.1	605.4	21.4	6.53	-3.70	-0.47	EXP	No	Yes
	BOILER #7 PSD Baseline On-crop season	--	SCBLR7BN	534,900	2,953,300	40.0	12.20	5.0	1.52	630.4	605.6	56.4	17.20	-8.80	-1.11	EXP	No	Yes
0850001	FPL - Martin Power Plant																	
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	1808.00	227.81	NO	Yes	No
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	242.40	30.54	CON	Yes	Yes
	Aux Boiler	7	MARTAUX	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	0.10	0.01	CON	Yes	Yes
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	2.13	0.27	CON	Yes	Yes
	Unit 8 (EUs 11, 12, 17, & 18)	--	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	148.00	18.65	CON	Yes	Yes
0990042	FPL -Riviera Beach																	
	Units 3&4 at 2.5% fuel oil		RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	652.0	82.15	NO	Yes	No

Note: EXP = PSD expanding source.
CON = PSD consuming source.

NO = Baseline Source, assuming potential baseline emissions are the same as current actual emissions.

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

TABLE F-7
 SUMMARY OF PM_{2.5} SOURCES INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters				PM ₁₀ Emission Rate		PSD Source? (EXP/CON)	Modeled In AAQS?				
				X (m)	Y (m)	Height (ft m)		Diameter (ft m)		Temperature (°F K)				Velocity (ft/s m/s)		24-Hour/Annual (lb/hr)	(g/sec)
0510003 U.S. Sugar Clewiston Mill and Refinery																	
	<u>On-crop season^a</u>																
	Boiler No. 1	001	USSBLR1N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	123.9	15.61	CON	Yes
	Boiler No. 2	002	USSBLR2N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	111.8	14.08	CON	Yes
	Boiler No. 4	009	USSBLR4N	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	90.0	11.34	CON	Yes
	Boiler No. 7	014	USSBLR7N	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	22.1	2.79	CON	Yes
	<u>All Year</u>																
	Boiler No. 8	028	USSBLR8N	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	26.9	3.39	CON	Yes
	<u>Off-crop season^a</u>																
	Boiler No. 1	001	USSBLR1F	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	123.9	15.61	CON	Yes
	Boiler No. 2	002	USSBLR2F	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	111.8	14.08	CON	Yes
	Boiler No. 4	009	USSBLR4F	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	90.0	11.34	CON	Yes
	<u>Sugar Refinery Sources</u>																
	Vacuum Systems S-1	018	S1	506,100	2,956,900	65.0	19.81	0.50	0.15	68.0	293.2	0.033	0.01	0.06	0.008	CON	Yes
	Vacuum Systems S-2	018	S2	506,100	2,956,900	65.0	19.81	0.50	0.15	90.0	305.4	0.033	0.01	0.06	0.008	CON	Yes
	Vacuum Systems S-3	018	S3	506,100	2,956,900	65.0	19.81	0.50	0.15	90.0	305.4	0.033	0.01	0.06	0.008	CON	Yes
	Packaging S-4	022	S4	506,100	2,956,900	60.0	18.29	1.94	0.59	125.0	324.8	0.033	0.01	0.21	0.026	CON	Yes
	Screening and Distribution S-5	020	S5	506,100	2,956,900	72.0	21.95	0.95	0.29	125.0	324.8	0.033	0.01	0.06	0.008	CON	Yes
	Screening and Distribution S-6	020	S6	506,100	2,956,900	72.0	21.95	1.94	0.59	125.0	324.8	0.033	0.01	0.19	0.024	CON	Yes
	Conditioning Silos S-7	019	S7	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes
	Conditioning Silos S-8	019	S8	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes
	Conditioning Silos S-9	019	S9	506,100	2,956,900	130.0	39.62	1.37	0.42	110.0	316.5	0.033	0.01	0.06	0.008	CON	Yes
	White Sugar Dryer No. 1: S-10	016	S10	506,100	2,956,900	10.0	3.05	4.79	1.46	115.0	319.3	0.033	0.01	1.43	0.180	CON	Yes
	V.H.P. Sugar Dryer S-11	015	S11	506,100	2,956,900	75.0	22.86	7.31	2.23	115.0	319.3	0.033	0.01	1.63	0.205	CON	Yes
	Granular Carbon Furnace S-12	017	S12	506,100	2,956,900	30.0	9.14	2.00	0.61	160.0	344.3	22.8	6.95	0.63	0.079	CON	Yes
	White Sugar Dryer No. 2: S-13	029	S13	506,100	2,956,900	80.0	24.38	7.31	2.23	90.0	305.4	0.033	0.01	4.20	0.529	CON	Yes
	<u>Sugar Mill Sources</u>																
	BT-13 Lime Silo #1	031	BT3LS1	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes
	BT-13 Lime Silo #2	031	BT3LS2	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes
	BT-13 Lime Railcar Receiver	031	BT3LRR	506,100	2,956,900	65.0	19.81	0.67	0.20	75.0	297.0	0.033	0.01	0.08	0.010	CON	Yes
	Molasses Plant Salt Silo		MOLSALTS	506,100	2,956,900	30.0	9.14	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes
	Molasses Plant Limestone Silo	030	MOLLSS	506,100	2,956,900	40.0	12.19	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes
	Water Treatment Lime Silo	010	VVWTPLS	506,100	2,956,900	40.0	12.19	0.67	0.20	75.0	297.0	0.033	0.01	0.13	0.016	CON	Yes
0510015 Southern Gardens Citrus Processing Corp.																	
	Boiler #1	001	SGARD01	487,500	2,957,600	55.0	16.76	4.0	1.22	400.0	477.6	49.6	15.12	1.61	0.20	CON	Yes
	Boiler #2	002	SGARD02	487,500	2,957,600	55.0	16.76	4.0	1.22	400.0	477.6	49.6	15.12	1.61	0.20	CON	Yes
	Boiler #3	008	SGARD08	487,500	2,957,600	55.0	16.76	4.0	1.22	400.0	477.6	49.6	15.12	1.61	0.20	CON	Yes
	Boiler #4	010	SGARD10	487,500	2,957,600	55.0	16.76	4.0	1.22	400.0	477.6	49.6	15.12	1.61	0.20	CON	Yes
	Boilers 1-4		SGARDBLR	487,500	2,957,600	55.0	16.76	4.0	1.22	400.0	477.6	49.6	15.12	6.42	0.81	CON	Yes
	Peel Dryer No. 2 with Waste Heat Evaporator	019	SGARD19	487,500	2,957,600	125.0	38.10	5.7	1.74	160.0	344.3	27.3	8.32	12.00	1.51	CON	Yes
	Peel Dryer No. 1 with Waste Heat Evaporator	003	SGARD03	487,500	2,957,600	125.0	38.10	5.7	1.74	160.0	344.3	27.3	8.32	12.00	1.51	CON	Yes
	Peel Dryers 1 and 2		SGARDDRY	487,500	2,957,600	125.0	38.10	5.7	1.74	160.0	344.3	27.3	8.32	24.00	3.02	CON	Yes
	Pellet Cooler No. 3	009	SGACL3	487,500	2,957,600	40.0	12.19	2.0	0.61	110.0	316.5	73.7	22.46	1.00	0.13	CON	Yes
	Pellet Cooler No. 4	020	SGACL4	487,500	2,957,600	40.0	12.19	2.0	0.61	110.0	316.5	73.7	22.46	1.00	0.13	CON	Yes
	Pellet Cooler Nos. 3 and 4		SGACOL	487,500	2,957,600	40.0	12.19	2.0	0.61	110.0	316.5	73.7	22.46	2.00	0.25	CON	Yes

TABLE F-7
SUMMARY OF PM_{2.5} SOURCES INCLUDED IN THE AAQS AND PSD CLASS II MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Height		Stack Parameters				PM ₁₀ Emission Rate		PSD Source? (EXP/CON)	Modeled In AAQS?		
				X (m)	Y (m)	ft	m	Diameter ft	m	Temperature °F	K	Velocity ft/s	m/s			24-Hour/Annual (lb/hr)	(g/sec)
0990026	Sugar Cane Growers Co-Op																
	<u>On-crop season</u> ^a																
	Boiler No. 1	001	SCBLR1N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	66.70	8.40	CON	Yes
	Boiler No. 2	002	SCBLR2N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	51.1	15.58	66.00	8.32	CON	Yes
	Boiler No. 3	003	SCBLR3N	534,900	2,953,300	180.0	54.86	5.3	1.62	156.0	342.0	40.3	12.28	52.50	6.62	CON	Yes
	Boiler No. 4	004	SCBLR4N	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	114.50	14.43	CON	Yes
	Boiler No. 5	005	SCBLR5N	534,900	2,953,300	150.0	45.72	7.0	2.13	160.0	344.3	77.1	23.50	109.80	13.83	CON	Yes
	Boiler No. 8	008	SCBLR8N	534,900	2,953,300	155.0	47.24	9.5	2.90	154.0	340.9	37.6	11.46	75.60	9.53	CON	Yes
	<u>Off-crop season</u> ^a																
	Boiler No. 1	001	SCBLR1F	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	66.70	8.40	CON	Yes
	Boiler No. 4	004	SCBLR4F	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	114.50	14.43	CON	Yes
0850001	FPL - Martin Power Plant																
	Units 1&2	1-2	MART12	542,680	2,992,650	499.0	152.1	26.2	8.0	338.0	443.2	68.7	20.94	1808.00	227.81	NO	Yes
	Units 3&4	3-6	MART34	542,680	2,992,650	213.0	64.9	20.0	6.1	280.0	410.9	62.0	18.90	242.40	30.54	CON	Yes
	Aux Boiler	7	MARTAU	542,680	2,992,650	60.0	18.3	3.6	1.1	504.1	535.4	50.0	15.24	0.10	0.01	CON	Yes
	Diesel Generator	9	MARTGEN	542,680	2,992,650	25.0	7.6	1.0	0.3	955.0	785.9	130.0	39.62	2.13	0.27	CON	Yes
	Unit 8 (EUs 11, 12, 17, & 18)	-	MART8OIL	542,680	2,992,650	120.0	36.6	19.0	5.8	296.3	420.0	73.5	22.40	148.00	18.65	CON	Yes
0990045	City of Lake Worth Utilities																
	Diesel Generator Units 1-5	001-005	LAKWTHDG	592,800	2,943,700	17.0	5.18	1.8	0.56	667.0	625.9	121.7	37.09	24.0	3.02	CON	Yes
	Gas Turbine No.1	006	LAKWTHHR	592,800	2,943,700	46.0	14.02	16.0	4.88	837.0	720.4	81.5	24.84	13.0	1.64	CON	Yes
	Unit 3, S-3	009	LAKWTHU3	592,800	2,943,700	113.0	34.44	7.0	2.13	293.0	418.2	51.4	15.70	23.1	2.91	NO	Yes
	Combined Cycle Unit, S-5	011	LAKWTHU5	592,800	2,943,700	75.0	22.86	10.0	3.05	404.0	479.8	87.5	27.80	9.0	1.13	CON	Yes
0990042	FPL -Riviera Beach																
	Units 3&4 at 2.5% fuel oil		RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	652.0	82.15	NO	Yes

Note: EXP = PSD expanding source.
CON = PSD consuming source.

NO = Baseline Source, assuming potential baseline emissions are the same as current actual emissions.

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

TABLE F-8
SUMMARY OF NO_x SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Height		Stack Parameters				NO _x Emission Rate		Modeled Source?		
				X (m)	Y (m)	ft	m	Diameter ft	m	Temperature °F	K	Velocity ft/s	m/s		1-Hour (lb/hr)	(g/sec)
0510003	U.S. Sugar Clewiston Mill and Refinery															
	<u>On-crop season^a</u>															
	Boiler No. 1	001	USSBLR1N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	50.7	6.39	Yes
	Boiler No. 2	002	USSBLR2N	506,100	2,956,900	213.0	64.92	8.0	2.44	150.0	338.7	82.9	25.27	50.7	6.39	Yes
	Boiler No. 4	009	USSBLR4N	506,100	2,956,900	150.0	45.72	8.2	2.50	160.0	344.3	88.7	27.04	126.6	15.95	Yes
	Boiler No. 7	014	USSBLR7N	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	185.0	23.31	Yes
	Boiler No. 8	028	USSBLR8N	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	165.9	20.90	Yes
	<u>Off-crop season^a</u>															
	Boiler No. 7	014	USSBLR7F	506,100	2,956,900	225.0	68.58	8.0	2.44	335.0	441.5	94.5	28.80	185.0	23.31	No
	Boiler No. 8	028	USSBLR8F	506,100	2,956,900	199.0	60.66	10.9	3.32	315.0	430.4	75.7	23.07	131.0	16.51	No
	<u>Sugar Refinery Sources</u>															
	Granular Carbon Furnace S-12	017	S12	506,100	2,956,900	30.0	9.14	2.00	0.61	160.0	344.3	22.8	6.95	3.00	0.38	Yes
0990332	New Hope Power Partnership Cogeneration Boilers A, B, & C	1	OKCOGENF	524,920	2,939,440	199.0	60.7	10.0	3.05	352.0	450.9	67.7	20.63	342	43.09	Yes
0110351	SFWMD Pump Station S-8 & G-404 Four 800 bhp and three 440 bhp Diesel Engines	1-2	SFWMD12	522,300	2,912,200	12.0	3.7	2.0	0.61	660.0	622.0	31.6	9.63	176.2	22.20	Yes
0990026	Sugar Cane Growers Co-Op															
	<u>On-crop season^a</u>															
	Unit 1	1	SCBLR1N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	159.2	20.05	Yes
	Unit 2	2	SCBLR2N	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	51.1	15.58	128.6	16.20	Yes
	Unit 3	3	SCBLR3N	534,900	2,953,300	180.0	54.86	5.3	1.62	156.0	342.0	40.3	12.28	102.9	12.97	Yes
	Unit 4	4	SCBLR4N	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	257.0	32.38	Yes
	Unit 5	5	SCBLR5N	534,900	2,953,300	150.0	45.72	7.0	2.13	160.0	344.3	77.1	23.50	188.6	23.76	Yes
	Unit 8	8	SCBLR8N	534,900	2,953,300	155.0	47.24	9.5	2.90	154.0	340.9	37.6	11.46	123.0	15.50	Yes
	<u>Off-crop season^a</u>															
	Unit 1	1	SCBLR1F	534,900	2,953,300	150.0	45.72	7.0	2.13	156.0	342.0	49.6	15.12	159.2	20.05	No
	Unit 4	4	SCBLR4F	534,900	2,953,300	180.0	54.86	8.9	2.72	162.0	345.4	54.1	16.49	257.0	32.38	No
0990019	Osceola Farms ^a															
	Boiler #2	2	OSBLR2	544,200	2,968,000	90	27.43	5.0	1.52	155.9	342.0	40.7	12.41	126	15.88	Yes
	Boiler #3	3	OSBLR3	544,200	2,968,000	90	27.43	6.25	1.91	154.0	340.9	38.8	11.84	64.6	8.14	Yes
	Boiler #4	4	OSBLR4	544,200	2,968,000	90	27.43	6.0	1.83	153.6	340.7	59.5	18.14	126	15.88	Yes
	Boiler #5 East	5	OSBLR5E	544,200	2,968,000	90	27.43	5.0	1.52	150.0	338.7	56.9	17.33	148.5	18.71	Yes
	Boiler #5 West	5	OSBLR5W	544,200	2,968,000	90	27.43	5.0	1.52	150.0	338.7	46.7	14.23	148.5	18.71	Yes
	Boiler #6	6	OSBLR6	544,200	2,968,000	90	27.43	6.17	1.88	151.0	339.3	53.0	16.14	78.6	9.90	Yes
	Units 2-6		OSBLR5W	544,200	2,968,000	90	27.43	5.0	1.52	150.0	338.7	46.7	14.23	692.2	87.22	Yes
0990016	Atlantic Sugar Association ^a															
	Boiler 1	1	ATLSUG1	552,900	2,945,200	90	27.43	6	1.83	180	355.4	61.1	18.62	126	15.88	Yes
	Boiler 2	2	ATLSUG2	552,900	2,945,200	90	27.43	6	1.83	180	355.4	60.1	18.32	126	15.88	Yes
	Boiler 3	3	ATLSUG3	552,900	2,945,200	90	27.43	6	1.83	197	364.8	59.7	18.20	112	14.11	Yes
	Boiler 4	4	ATLSUG4	552,900	2,945,200	90	27.43	6	1.83	158	343.2	62.7	19.11	111.6	14.06	Yes
	Units 1-4		ATLSUG14	552,900	2,945,200	90	27.4	6	1.83	158	343.2	62.7	19.11	475.6	59.93	Yes
	Boiler 5 ^b	5	ATLSUG5	552,900	2,945,200	90	27.43	5.5	1.68	150	338.7	63.1	19.23	44.6	5.62	Yes

TABLE F-8
SUMMARY OF NO_x SOURCES INCLUDED IN THE AAQS MODELING ANALYSES

Facility ID	Facility Name Emission Unit Description	EU ID	Modeling ID Name	UTM Location		Stack Parameters				NO _x Emission Rate		Modeled Source?				
				X (m)	Y (m)	Height		Diameter		Temperature			1-Hour			
						ft	m	ft	m	°F	K	ft/s	m/s	(lb/hr)	(g/sec)	
0850102	Indiantown Cogeneration, L.P. Pulverized Coal Main Boiler Aux Boilers (2)	1	INDTOWN1	547,650	2,990,700	495	150.88	16	4.88	140	333.2	93.2	28.41	582	73.33	Yes
		7	INDTOWN3	547,650	2,990,700	210	64.01	5	1.52	551	561.5	124.4	37.92	7.99	1.01	No
0850001	Florida Power & Light, Martin (PMR) Units 1 & 2 CT Units 3 - 6 Units 8A - 8D Auxiliary Boiler	1-2	MART12	542,680	2,992,650	499	152.10	36	10.97	338	443.2	43.1	13.14	5190	653.94	Yes
		3-6	MART36	542,680	2,992,650	213	64.92	20	6.10	280	410.9	128.4	39.14	1844	232.34	Yes
		11-12 & 17-18	MART8	542,680	2,992,650	120	36.58	19	5.79	202	367.6	59	17.98	1279.2	161.18	Yes
		7	MARTAUX	542,680	2,992,650	60	18.29	3.6	1.10	490	527.6	50	15.24	4.88	0.61	No
0710002	FP&L Fort Myers Power Plant CT No. 1 - 12 250MW Combined Cycle CT - 2A - 2F 170 MW Simple Cycle CT No. 1 & 2 (3A & 3B)	3-14	FMPCT112	422,300	2,952,000	32.0	9.8	11.4	3.5	975.0	797.0	189.4	57.7	6360.0	801.36	Yes
		18-23	FMPCT2AF	422,300	2,953,030	125.0	38.1	19	5.8	220.0	377.6	70.3	21.4	390.0	49.14	Yes
		27-28	FMPCT3AB	422,300	2,952,900	80.0	24.4	20.5	6.2	1116.0	875.4	120.7	36.8	640.0	80.64	Yes
0990234	Solid Waste Authority Of PBC Municipal Solid Waste Boiler #1 - potential Municipal Solid waste boiler #2 - potential Boilers 1 and 2	1	PBCRRF1	584,490	2,961,260	250	76.20	6.7	2.04	450	505.4	81	24.69	284.8	35.88	Yes
		2	PBCRRF2	584,490	2,961,260	250	76.20	6.7	2.04	450	505.4	81	24.69	284.8	35.88	Yes
			PBCRRF12	584,490	2,961,260	250	76.20	6.7	2.04	450	505.4	81	24.69	569.6	16.40	Yes
	Class III Landfill with Flare	4	PBCRRF3	584,490	2,961,260	23	7.01	0.5	0.15	1400	1033.2	152.8	46.57	6.4	0.81	Yes
0990045	City of Lake Worth Utilities Diesel Generator Units 1-5 Gas Turbine No.1 Unit 3, S-3 Unit 4, S-4 Combined Cycle Unit, S-5	1-5	LAKWTHDG	592,800	2,943,700	17.0	5.2	1.83	0.6	667.0	625.9	121.7	37.09	499.0	62.87	Yes
		6	LAKWTHGT	592,800	2,943,700	46.0	14.0	16.0	4.9	837.0	720.4	81.5	24.84	392.0	49.39	Yes
		9	LAKWTHU3	592,800	2,943,700	113.0	34.4	7.0	2.1	293.0	418.2	51.4	15.70	163.0	20.54	Yes
		10	LAKWTHU4	592,800	2,943,700	115.0	35.1	7.5	2.3	293.0	418.2	55.8	17.00	209.6	26.41	Yes
		11	LAKWTHU5	592,800	2,943,700	75.0	22.9	10.0	3.0	404.0	479.8	87.5	27.80	286.0	36.04	Yes
0990042	Florida Power & Light, Riviera (PRV) Units 3&4 Potential		RIVU34	593,270	2,960,620	298	90.8	16.0	4.88	263.0	401.5	88.1	26.9	3782.0	476.53	Yes
0110037	Florida Power & Light, Fort Lauderdale (PFL) CTs (Units 4A, 4B, 5A, 5B) Potential GTs 1-12 (0.5% fuel oil) potential GTs 13-24 (0.5% fuel oil) potential	35-38	LAUDU45	557,490	2,852,050	150	45.7	18.0	5.5	330.0	438.7	158.7	48.37	1688.00	212.69	Yes
		3	LDGT1_12	557,490	2,852,050	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	631.00	79.51	Yes
		15	LDGT1324	557,490	2,852,050	45	13.7	15.6	4.8	860.0	733.2	93.3	28.44	631.00	79.51	Yes

^a Facilities or sources within facilities that operate only during the October 1 through April 31 crop season. For sources identified operating during off-crop season, the season is May through September.

^b Sugar mill sources that operate all year.

^c Stack height was assumed to be 20 ft, no data was available in query or in permit.