

**Golder Associates Inc.**

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September 7, 2007

Florida Department of Environmental Protection  
Bureau of Air Regulation  
Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Attention: Mr. Ed Svec

**SUBJECT: SOUTHERN GARDENS CITRUS PROCESSING CORPORATION  
SECOND PILOT TEST OF HIGHER SULFUR FUEL IN NO. 1 PEEL DRYER**

Dear Mr. Svec:

Southern Gardens Citrus Processing Corporation (SGCPC) is submitting the attached application for an air construction permit to authorize an additional period to pilot test use of higher sulfur fuel oil in the No. 1 Peel Dryer at the Clewiston citrus processing facility. The purpose of the test is to gather further information to determine if the sulfur dioxide (SO<sub>2</sub>) emission limit for the No. 1 Peel Dryer can be met while burning higher sulfur content fuel oil. It is also for the purpose of determining the feasibility of using a continuous emissions monitoring system (CEMS) for SO<sub>2</sub>.

In June 2007, SGCPC conducted a pilot test for this same purpose, under Florida Department of Environmental Protection (FDEP) authorization No. 0510015-018-AC. The permit authorized a 30-day test period, from June 1 through June 30. However, various mechanical/equipment problems and a lack of citrus fruit caused the facility to shut down prior to June 30; only 10 days of valid SO<sub>2</sub> test data were obtained.

Therefore, SGCPC desires to conduct a second pilot test period starting near or at the beginning of the upcoming processing season (projected to begin in November 2007). A 60-day pilot test period is requested for this second test, to ensure enough time for lining the systems out and so that various sulfur content fuels can be tested if necessary. SGCPC may not require the full 60 days to complete the study, but would like to avoid requesting another permit authorization in case additional time is needed.

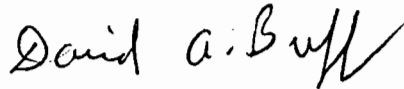
SGCPC is considering several SO<sub>2</sub> analyzers for use during the pilot study. The application addresses the fact that a specific analyzer has not yet been selected. SGCPC will continue to work with the Department to satisfy any concerns regarding a particular analyzer, and will obtain concurrence from the Department on a specific analyzer prior to beginning the pilot study.

RECEIVED  
063-7650  
(SEP 10 2007)  
Bureau of Air Monitoring  
& Mobile Sources

Thank you for your consideration of this application. Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in black ink that reads "David A. Buff". The signature is written in a cursive style with a long, sweeping tail on the letter "f".

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

DB/nav

Enclosures

cc: J. Maldonado, SGPC

Corresp/PilotTest/L090707-650.doc

**APPLICATION FOR  
SECOND PILOT TEST OF HIGHER SULFUR FUELS  
IN CITRUS PEEL DRYER NO. 1  
SOUTHERN GARDENS  
CITRUS PROCESSING CORPORATION  
CLEWISTON, FLORIDA**

**Prepared For:  
Southern Gardens Citrus Processing Corporation  
1820 C.R. 833, P.O. Box 130  
Clewiston, Florida 33440**

**Prepared By:  
Golder Associates Inc.  
6241 NW 23rd Street, Suite 500  
Gainesville, Florida 32653-1500**

**September 2007**

**0637650-1200**

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4 Copies – FDEP  
2 Copies – Southern Gardens  
1 Copy – Golder Associates Inc.**

**APPLICATION FOR AIR PERMIT – LONG FORM**



# Department of Environmental Protection

## Division of Air Resource Management

### APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

**Air Operation Permit** – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

**Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option)**

– Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

#### Identification of Facility

1. Facility Owner/Company Name: <b>Southern Gardens Citrus Processing Corp.</b>	
2. Site Name: <b>Southern Gardens Citrus Processing Corp.</b>	
3. Facility Identification Number: <b>0510015</b>	
4. Facility Location...: Street Address or Other Locator: <b>1820 C.R. 833</b> City: <b>Clewiston</b> County: <b>Henry</b> Zip Code: <b>33440</b>	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

#### Application Contact

1. Application Contact Name: <b>Juan Maldonado, Environmental Specialist</b>	
2. Application Contact Mailing Address... Organization/Firm: <b>Southern Gardens Citrus Processing Corp.</b> Street Address: <b>1820 C.R. 833</b> City: <b>Clewiston</b> State: <b>FL</b> Zip Code: <b>33440</b>	
3. Application Contact Telephone Numbers... Telephone: <b>( 863 ) 902-4178</b> ext. <b>4169</b> Fax: <b>( 863 ) 983-3060</b>	
4. Application Contact Email Address: <b>jmaldonado@southerngardens.com</b>	

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Project Number(s):	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

## APPLICATION INFORMATION

### Purpose of Application

This application for air permit is submitted to obtain: (Check one)

#### **Air Construction Permit**

Air construction permit.

#### **Air Operation Permit**

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

#### **Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)**

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

**Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:**

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

### Application Comment

This application is for a second pilot test of burning higher sulfur fuel oil in the Peel Dryer No. 1 and testing of a SO<sub>2</sub> continuous emissions monitoring system to determine if SO<sub>2</sub> permitted emissions limits can be met while burning the higher sulfur fuel oil.






# APPLICATION INFORMATION

## Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :	
Tristan Chapman, Vice President, General Manager	
2. Owner/Authorized Representative Mailing Address...	
Organization/Firm: Southern Gardens Citrus Processing Corp. Street Address: 1820 C.R. 833 City: Clewiston State: Florida Zip Code: 33440	
3. Owner/Authorized Representative Telephone Numbers...	
Telephone: (863) 983-3030 ext. Fax: (863) 983-3060	
4. Owner/Authorized Representative Email Address: tchapman@southerngardens.com	
5. Owner/Authorized Representative Statement:	
<p><i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i></p>	
 Signature	<u>9/6/07</u> Date

**APPLICATION INFORMATION**

**Application Responsible Official Certification**

**Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."**

1. Application Responsible Official Name:
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Street Address: <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <span>City:</span> <span>State:</span> <span>Zip Code:</span> </div>
4. Application Responsible Official Telephone Numbers... Telephone: (    ) -                      ext.                      Fax: (    ) -
5. Application Responsible Official Email Address:
6. Application Responsible Official Certification: I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.  <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <span>_____</span> <span>_____</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>Signature</span> <span>Date</span> </div>

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: **6241 NW 23<sup>rd</sup> Street, Suite 500**  
 City: **Gainesville** State: **FL** Zip Code: **32653**

3. Professional Engineer Telephone Numbers...  
 Telephone: **(352) 336-5600** ext. **545** Fax: **(352) 336-6603**

4. Professional Engineer Email Address: **dbuff@golder.com**

5. Professional Engineer Statement:

*I, the undersigned, hereby certify, except as particularly noted herein\*, that:*

(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*

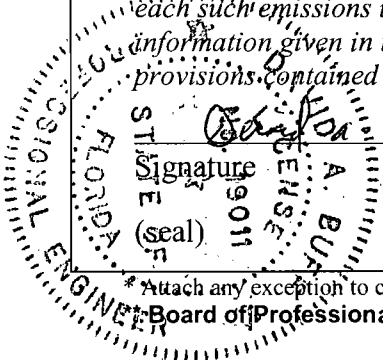
(2) *To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

(3) *If the purpose of this application is to obtain a Title V air operation permit (check here , 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.*

(4) *If the purpose of this application is to obtain an air construction permit (check here , 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 , 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.*

(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 , 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.*

Signature: David A. Buff Date: 9/7/07



\* Attach any exception to certification statement.  
 Board of Professional Engineers Certificate of Authorization #0001670

# FACILITY INFORMATION

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

1. Facility UTM Coordinates... Zone 17      East (km) <b>487.5</b> North (km) <b>2958.0</b>		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) <b>26/44/30</b> Longitude (DD/MM/SS) <b>81/07/30</b>	
3. Governmental Facility Code: <b>0</b>	4. Facility Status Code: <b>A</b>	5. Facility Major Group SIC Code: <b>20</b>	6. Facility SIC(s): <b>2037</b>
7. Facility Comment :			

#### Facility Contact

1. Facility Contact Name: <b>Juan Maldonado, Environmental Specialist</b>
2. Facility Contact Mailing Address... Organization/Firm: <b>Southern Gardens Citrus Processing Corp.</b> Street Address: <b>1820 C.R. 833</b> City: <b>Clewiston</b> State: <b>FL</b> Zip Code: <b>33440</b>
3. Facility Contact Telephone Numbers: Telephone: <b>(863) 902-4178</b> ext. <b>4169</b> Fax: <b>(863) 983-3060</b>
4. Facility Contact Email Address: <b>jmalonado@southerngardens.com</b>

#### Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City:                      State:                      Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: (    )    -                      ext.                      Fax: (    )    -
4. Facility Primary Responsible Official Email Address:

## FACILITY INFORMATION

### Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. <input type="checkbox"/> Small Business Stationary Source	<input type="checkbox"/> Unknown
2. <input type="checkbox"/> Synthetic Non-Title V Source	
3. <input checked="" type="checkbox"/> Title V Source	
4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)	
7. <input type="checkbox"/> Synthetic Minor Source of HAPs	
8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:  <b>HAPs classification is based on limited test data.</b>	





## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <b>October 2005</b>
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <b>October 2005</b>
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Previously Submitted, Date: <b>October 2005</b>

#### Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification: <input checked="" type="checkbox"/> Attached, Document ID: <b>Attachment A</b>
3. Rule Applicability Analysis: <input checked="" type="checkbox"/> Attached, Document ID: <b>Attachment A</b>
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable



## FACILITY INFORMATION

### Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (no exempt units at facility)

### Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):  
 Attached, Document ID: \_\_\_\_\_  Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):  
 Attached, Document ID: \_\_\_\_\_  
 Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications):  
 Attached, Document ID: \_\_\_\_\_  
Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):  
 Attached, Document ID: \_\_\_\_\_  
 Equipment/Activities On site but Not Required to be Individually Listed  
 Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :  
 Attached, Document ID: \_\_\_\_\_  Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:  
 Attached, Document ID: \_\_\_\_\_  Not Applicable

### Additional Requirements Comment

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**ATTACHMENT A**

**ATTACHMENT A**  
**PILOT TEST OF HIGHER SULFUR FUELS IN PEEL DRYER NO. 1**

**1.0 INTRODUCTION**

Southern Gardens Citrus Processing Corporation (SGCPC) operates a citrus processing facility located in Hendry County, west of Clewiston, Florida. SGCPC was issued a final air construction permit and a final Title V permit (Nos. 0510015-016-AC/PSD-FL-368 and 0510015-017-AV, respectively) on June 18, 2007. These permits established sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and nitrogen oxides (NO<sub>x</sub>) emissions limits for Citrus Peel Dryers No. 1 and No. 2.

If SGCPC elects to burn compliance fuel oil to meet the SO<sub>2</sub> emission limit, then only fuel oil with a maximum sulfur content of 0.1 percent by weight can be fired in the dryers. If SGCPC desires to burn a higher sulfur content fuel oil in the dryers, then they must first install a continuous emissions monitoring system (CEMS) for SO<sub>2</sub>, and during the first 180 days of using the CEMS, must meet an SO<sub>2</sub> emission limit of 0.11 pound per million British thermal units (lb/MMBtu) on a 30-day rolling average. After the first 180 days of operation of the CEMS, the emission limit becomes 0.11 lb/MMBtu on a 24-hour rolling average basis.

On May 25, 2007, SGCPC received authorization (Permit No. 0510015-018-AC) to conduct a pilot test while burning higher sulfur fuel oil in the Peel Dryer No. 1. The purpose of the testing was two-fold:

1. To determine if the SO<sub>2</sub> emission limit can be met with the use of higher sulfur fuel oil, or alternatively, the maximum sulfur content of fuel oil that can be burned while meeting the emission limit; and
2. To determine the efficacy of the SO<sub>2</sub> CEMS.

SGCPC began the pilot testing in June 2007, but, due to equipment problems and the lack of available fruit, only 10 days of actual pilot testing were conducted. Therefore, SGCPC is requesting authorization to conduct an additional pilot test in order to collect additional data on SO<sub>2</sub> emissions while burning higher sulfur fuel oil, as well as the efficacy of the SO<sub>2</sub> CEMS. SGCPC is requesting up to 60 days of pilot testing for this purpose, beginning at or near the start of the upcoming processing season in October/November 2007. The pilot test program is described in detail below.

## 2.0 PILOT TEST PROGRAM

A 60-day test period is requested for testing the operation of the CEMS unit, and to determine if the SO<sub>2</sub> emission limit can be met while burning higher sulfur fuel oil, or alternatively, the maximum sulfur content of fuel oil that can be burned while meeting the emission limit. The entire 60-day period may not be utilized by SGPC; however, unforeseen circumstances may make it necessary to utilize the full 60-day period. The CEMS unit would be brought onsite. A sample probe would be inserted into the Peel Dryer No. 1 stack at one of the existing sample ports located on the stack. A sample line would be run from the stack down to the CEMS unit located in the trailer.

SO<sub>2</sub> concentrations in the Peel Dryer No. 1 flue gas will be monitored continuously during the testing period, except during CEMS calibration, breakdown, or repair. Diluent content [oxygen (O<sub>2</sub>) or carbon dioxide (CO<sub>2</sub>)] of the flue gas will also be continuously measured. The CEMS unit will be comparable to a unit meeting the requirements of Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60), Appendix B, Performance Specification 2. A Thermo Electron pulsed-fluorescence SO<sub>2</sub> monitor, a Bacharach Model ECA 450 combustion efficiency and emissions analyzer, or equivalent monitor, will be utilized along with a dilution extractive system at the stack.

An initial relative accuracy test audit (RATA) will be conducted on the unit as soon as practicable after starting the analyzer. The CEMS unit will undergo daily calibration error checks, according to 40 CFR 60, Appendix F, and re-calibrations conducted as needed, to ensure accurate data are collected. All CEMS data will be reduced to 1-hour averages for further evaluation. The SO<sub>2</sub> CEMS span values will be set appropriately, considering the expected range of emissions and the emission standard.

During the pilot testing period, No. 6 or better grade fuel oil with a sulfur content of 1.0 percent or less will be burned in the No. 1 Peel Dryer. SGPC will obtain fuel analysis receipts for each delivery from the fuel oil supplier that show the actual sulfur content and heating value of the fuel. Records of fuel oil usage in the Peel Dryer, obtained from fuel flow monitors, will also be maintained during this period. SGPC may test fuel oils with different sulfur contents during this period, to evaluate the effect on compliance with the emission limit for SO<sub>2</sub>.

This air construction permit application is requesting authorization to allow SGPC to conduct the 60-day pilot testing program.

### 3.0 AIR EMISSIONS AND PSD APPLICABILITY

SGCPC believes that higher sulfur fuel oil, 1.0 percent sulfur or less, may be able to be burned in the Citrus Peel Dryers while meeting all permitted emission limits. However, it is recognized that some of the emission limits contained in the recently issued air permits may not be met at all times during the pilot test period, and there could be some air emission increases due to the pilot testing program.

Prevention of significant deterioration (PSD) new source review requirements are triggered for modifications for which the increase in actual emissions exceeds certain PSD significant emission rates. To estimate the potential worst-case increase in emissions due to the pilot test program, baseline and projected emission estimates were developed.

Baseline emissions are based on the permitted emission limits for the Citrus Peel Dryer No. 1 (from the pending air permit), and using maximum operation for a 60-day time period. These emission estimates are shown in Table 1 for PM/PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, and sulfuric acid mist (SAM). Emission increases of other pollutants [i.e., carbon monoxide (CO) and volatile organic compounds (VOC)] are not expected due to firing of higher sulfur fuel oil, since these emissions from the peel dryer are not dependent on fuel type. Rather, these emissions are dependent on the characteristics of the pressed peel entering the dryer and the dryer operating conditions (i.e., temperatures in the dryer), which are not expected to change during the pilot test.

Projected actual emissions were developed using past emission tests on the Peel Dryers while burning 1.5 percent sulfur fuel oil. The highest emission test results, in general, were used to estimate the worst-case emissions increase, i.e., potential emissions above the permitted levels. Maximum operation of the peel dryer for a 60-day time period was used. These emission estimates are shown in Table 2.

Total emission increases were calculated based on comparison of baseline actual to projected actual emissions, as shown in Table 3. Also shown in Table 3 are the PSD significant emission rates. As shown, all increases are well below the PSD significant emission rate. Therefore, PSD review will not be triggered for the pilot test program.

#### 4.0 AMBIENT AIR QUALITY IMPACTS

With the potential to increase emissions during the 60-day test period, it is necessary to address the potential impact on air quality levels surrounding the SGPCPC facility. In October 2005, SGPCPC submitted a comprehensive air modeling analysis to the Florida Department of Environmental Protection (FDEP) in conjunction with a facility-wide air construction permit and Title V permit application (*Impact Analysis, Southern Gardens Citrus Processing Corporation, Golder Associates Inc., October 2005*). The analysis demonstrated compliance with ambient air quality standards and PSD increments for SO<sub>2</sub>, PM<sub>10</sub>, NO<sub>x</sub>, and CO. This analysis incorporated both the No. 1 and No. 2 Peel Dryers. The following emission rates were used in the modeling analysis:

PM<sub>10</sub>: 15 lb/hr each peel dryer, or 30 lb/hr total

SO<sub>2</sub>: 25 lb/hr each peel dryer, or 50 lb/hr total

NO<sub>x</sub>: 33.7 lb/hr each peel dryer, or 67.4 lb/hr total

During the proposed 60-day test period, only one peel dryer (No. 1 Peel Dryer) will be operated. As a result, maximum short-term emissions from the peel dryers during this period, based on the emission factors in Table 2, are as follows:

PM<sub>10</sub>: 0.27 lb/MMBtu x 99 MMBtu per hour (MMBtu/hr) = 26.7 lb/hr total

SO<sub>2</sub>: 0.23 lb/MMBtu x 99 MMBtu/hr = 22.8 lb/hr total

NO<sub>x</sub>: 0.18 lb/MMBtu x 99 MMBtu/hr = 17.8 lb/hr total

Since these estimated maximum emissions during the 60-day test period are less than the emissions previously modeled and which demonstrated compliance with ambient air quality standards and PSD increments, predicted maximum air quality impacts will not increase during the 60-day test period.

#### 5.0 TEST PROTOCOL

A test protocol, including quality assurance (QA) plan, has been developed for the additional pilot test study. The protocol is attached.

TABLE 1

**BASELINE ACTUAL EMISSIONS FOR CITRUS PEEL DRYER NO. 1  
60-DAY PILOT TEST**

<b>Regulated Pollutant</b>	<b>Emission Factor</b>	<b>Reference</b>	<b>60-Day Activity Factor<sup>a</sup></b>	<b>60-Day Emissions (tons)</b>
Particulate (PM)	12 lb/hr	1	1,440 hr	8.6
Particulate (PM <sub>10</sub> )	12 lb/hr	1	1,440 hr	8.6
Sulfur dioxide	0.11 lb/MMBtu	1	142,560 MMBtu/yr	7.8
Nitrogen oxides	0.15 lb/MMBtu	1	142,560 MMBtu/yr	10.7
Sulfuric Acid Mist	0.00172 lb/MMBtu	2	142,560 MMBtu/yr	0.12

<sup>a</sup> Based on 99 MMBtu/hr permit limit, 24/hr day for 60 days.

References:

1. Permit limit for each dryer.
2. Based on AP-42 factors for SO<sub>2</sub> and SO<sub>3</sub>

$$\text{Ratio of SO}_3 \text{ to SO}_2 = 2/157 = 0.0127$$

$$\text{lb H}_2\text{SO}_4 / \text{MMBtu} = 0.0127 \times \text{lb SO}_2 / \text{MMBtu} \times (98/80) = 0.00172$$

**TABLE 2**  
**PROJECTED ACTUAL EMISSIONS FOR CITRUS PEEL DRYER NO. 1**  
**60-DAY PILOT TEST**

Regulated Pollutant	Emission Factor	Reference	60-Day Activity Factor <sup>a</sup>	60-Day Emissions (tons)
Particulate (PM)	0.27 lb/MMBtu	1	142,560 MMBtu	19.2
Particulate (PM <sub>10</sub> )	0.27 lb/MMBtu	1	142,560 MMBtu	19.2
Sulfur dioxide	0.23 lb/MMBtu	1	142,560 MMBtu	16.4
Nitrogen oxides	0.18 lb/MMBtu	1	142,560 MMBtu	12.8
Sulfuric Acid Mist	0.00359 lb/MMBtu	2	142,560 MMBtu	0.26

## Footnotes:

<sup>a</sup> Based on 99 MMBtu/hr permit limit for 24 hr/day for 60 days.

## References:

1. Highest values from stack tests on No. 1 Peel Dryer burning high sulfur fuel oil.
2. Based on AP-42 factors for SO<sub>2</sub> and SO<sub>3</sub>

$$\text{Ratio of SO}_3 \text{ to SO}_2 = 2/157 = 0.0127$$

$$\text{lb H}_2\text{SO}_4 / \text{MMBtu} = 0.0127 \times \text{lb SO}_2 / \text{MMBtu} \times (98/80) = 0.0036$$



TABLE 3

**NET INCREASE IN EMISSIONS DUE TO PILOT TESTING  
CITRUS PEEL DRYER NO. 1**

<b>Source/ Pollutant</b>	<b>Baseline Actual Emissions (tons)</b>	<b>Projected Actual Emissions (tons)</b>	<b>Net Increase in Emissions (tons)</b>	<b>PSD Significant Emission Rate (TPY)</b>
<b><u>Peel Dryer No. 1/WHE</u></b>				
Particulate Matter (PM)	8.6	19.2	10.6	25
Particulate Matter (PM <sub>10</sub> )	8.6	19.2	10.6	15
Sulfur dioxide	7.8	16.4	8.6	40
Nitrogen oxides	10.7	12.8	2.1	40
Sulfuric Acid Mist	0.12	0.26	0.13	7

**SITE-SPECIFIC TEST PLAN  
FOR  
OCTOBER-NOVEMBER 2007 TESTING OF NO. 1 PEEL DRYER  
BURNING HIGH SULFUR FUEL OIL  
SOUTHERN GARDENS CITRUS PROCESSING CORPORATION  
*CLEWISTON, FLORIDA***

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**September 2007**

**0637650**

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## 1.0 INTRODUCTION

Southern Gardens Citrus Processing Corporation (SGCPC) operates a citrus processing facility located in Hendry County, west of Clewiston, Florida. SGCPC was issued a final air construction permit and a final Title V permit (Nos. 0510015-016-AC/PSD-FL-368 and 0510015-017-AV, respectively) on June 18, 2007. These permits established sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and nitrogen oxides (NO<sub>x</sub>) emissions limits for Citrus Peel Dryer No. 1 and No. 2.

If SGCPC elects to burn compliance fuel oil to meet the SO<sub>2</sub> emission limit, then only fuel oil with a maximum sulfur content of 0.1 percent by weight can be fired in the dryers. If SGCPC desires to burn a higher sulfur content fuel oil in the dryers, then they must first install a continuous emissions monitoring system (CEMS) for SO<sub>2</sub>, and during the first 180 days of using the CEMS, must meet an SO<sub>2</sub> emission limit of 0.11 pound per million British thermal units (lb/MMBtu) on a 30-day rolling average. After the first 180 days of operation of the CEMS, the emission limit becomes 0.11 lb/MMBtu on a 24-hour rolling average basis.

SGCPC will be conducting a pilot test while burning higher sulfur fuel oil in the Peel Dryer No. 1. The testing will be conducted during October-November 2007. The purpose of the testing is two-fold:

1. To determine if the SO<sub>2</sub> emission limit can be met with the use of higher sulfur fuel oil, or alternatively, the maximum sulfur content of fuel oil that can be burned while meeting the emission limit; and
2. To determine the efficacy of the SO<sub>2</sub> CEMS.

SGCPC will be conducting the pilot test using a rented CEMS. A test protocol for the pilot test program is described in the following sections, and includes a quality assurance plan.

## 2.0 TEST PLAN

A test period of up to 60 days will be used for testing the operation of the CEMS unit and to determine if the SO<sub>2</sub> emission limit can be met while burning higher sulfur fuel oil, or alternatively, the maximum sulfur content of fuel oil that can be burned while meeting the emission limit. The CEMS unit will be brought onsite and remain for the test period. A sample probe will be inserted into one of the existing sample ports located on the stack. A sample line will be run from the stack down to the CEMS unit.

During the pilot testing period, No. 6 or better grade fuel oil with a maximum sulfur content of 1.0 percent, will be burned in the No. 1 Peel Dryer. SGPCPC will obtain fuel analysis receipts for each delivery from the fuel oil supplier that show the actual sulfur content and heating value of the fuel being burned. Records of fuel oil usage in the Peel Dryer, obtained from fuel flow monitors, will also be maintained during this period. SGPCPC may test fuel oils with different sulfur contents during this period to evaluate the effect on compliance with the emission limit for SO<sub>2</sub>.

To provide quality assurance data for the SO<sub>2</sub> CEMS, a relative accuracy test audit (RATA) will be conducted during the initial 2 weeks of operation of the CEMS unit. In addition, a 7-day drift test will be performed.

### **3.0 TEST PROCEDURES**

#### **3.1 Peel Dryer Flue Gas Measurements**

SGCPC will conduct testing using the following methods and procedures:

1. The CEMS measurement location will meet the criteria of Title 40, Part 60 of the Code of Federal Regulations [Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60)], Appendix B, Performance Specification 2 (PS-2). The location will be at, or near, the existing stack sampling ports SGPCPC utilizes for compliance testing of the peel dryer.
2. A dilution extractive system will be used for stack gas sampling. A sample line will be run from the test point location down to the analyzer located at the ground. The stack gas sample will be maintained above the dew point to prevent condensation in the sample line.
3. SO<sub>2</sub> concentrations will be measured using an instrumental method, according to 40 CFR 60, Appendix B, PS-2.
  - a. SO<sub>2</sub> concentrations in the Peel Dryer No. 1 flue gas will be monitored continuously during the testing period, except during CEMS calibration, breakdown, or repair.
  - b. A Thermo Electron pulsed-fluorescence SO<sub>2</sub> monitor, a Bacharach combustion efficiency and emission analyzer, or equivalent analyzer will be utilized. The SO<sub>2</sub> CEMS span values will be set appropriately, considering the expected range of emissions and the emission standard. The CEMS unit will undergo daily calibration error checks, according to 40 CFR 60, Appendix F, and recalibrations conducted as needed, to ensure accurate data are collected. All CEMS concentration data will be reduced to 1-hour averages for further evaluation.

4. Diluent content [carbon dioxide (CO<sub>2</sub>)] of the flue gas will also be continuously measured according to 40 CFR 60, Appendix B, Performance Specification 3 (PS-3). The gas sample will be taken at the same time and at the same location as the SO<sub>2</sub> concentration measurement.

### 3.2 Peel Dryer Operational Data

The following peel dryer operational data will be obtained throughout the testing period:

1. Fuel oil usage will be measured by fuel oil meters, and continuously recorded by the rental CEMS Data Acquisition System (DAS). Data will be reduced to hourly averages.
2. Wet peel input to the dryer will be measured on a daily basis, using the methodology in SGPCPC's draft Title V permit.
3. The peel dryer operating temperature (recirculation gas temperature) will be monitored and recorded at least once per shift.
4. The water flow rate to the waste heat evaporator scrubbers will be monitored and recorded at least once per shift.

### 3.3 Quality Assurance Procedures

A RATA will be performed on the CEMS unit during the first weeks of operation. The RATA will be performed according to 40 CFR 60, Appendix B, PS-2. The sampling location for the RATA will be the existing sampling ports on the peel dryer/waste heat evaporator stack. These coincide essentially with the proposed sample location for the CEMS.

The RATA will consist of a minimum of nine 21-minute runs, performed while the CEMS is obtaining continuous SO<sub>2</sub> concentration data. The RATA will be performed using U.S. Environmental Protection Agency (EPA) Method 6C for SO<sub>2</sub> and EPA Method 3A for stack CO<sub>2</sub>.

In addition to the RATA, a 7-day drift test will be performed on the SO<sub>2</sub> CEMS unit. The 7-day drift test will be performed according to the requirements of PS-2.

### 3.4 Calculations

The SO<sub>2</sub> concentrations measured at the stack by the CEMS will be converted to lb/MMBtu units using the following equations:

$$\text{Heat Input (MMBtu/hr)} = \text{gal/hr} \times \text{HHV} / 1,000,000$$

where: Heat Input = the heat input to the peel dryer based on fuel usage, in MMBtu/hr;  
gal/hr = gallons per hour fuel oil consumption; and  
HHV = high heating value of fuel oil, Btu/gal.

$$V \text{ (scfh)} = \text{Heat Input (MMBtu/hr)} \times F_c \times [100 / \%CO_2]$$

where: V = flue gas flow rate, standard cubic feet per hour;  
F<sub>c</sub> = F-Factor for fuel oil (scf/MMBtu); and  
%CO<sub>2</sub>, dry = percent carbon dioxide in stack gas, wet basis.

$$E_m \text{ (lb/hr)} = C \times V \times 1.66 \times 10^{-7}$$

where: E<sub>m</sub> = hourly SO<sub>2</sub> emission rate in lb/hr; and  
C = hourly concentration of SO<sub>2</sub> measured by the CEMS (ppmv).

$$E \text{ (lb/MMBtu)} = E_m / \text{Heat Input.}$$

## 4.0 DATA QUALITY OBJECTIVES

SGCPC expects to follow the precision and accuracy that is required in EPA reference methods and in Florida Department of Environmental Protection (FDEP) rules. The following sections describe in more detail the quality assurance procedures that will be followed throughout the test program.

### 4.1 Internal Quality Assurance

SGCPC has implemented the following internal quality assurance (QA) procedures, which will also be followed during the pilot test:

- Equipment is calibrated at least annually,
- Gauges are checked at least annually,
- Systems are inspected prior to testing,

- Flow meters are calibrated at least annually, and
- Malfunctioning equipment is repaired and recalibrated as soon as practicable.

#### **4.2 External Quality Assurance**

The stack testing will be performed using a contractor. The contractor's QA program will follow the procedures outlined in 40 CFR 60, Appendix F.

#### **4.3 Reporting**

The results of the pilot testing will be submitted to the FDEP within 45 days of completion of the tests. The report will include:

- The SO<sub>2</sub> emissions results for peel dryer determined from the pilot testing;
- The calculations and supporting documentation used to determine the SO<sub>2</sub> emission rates; and
- Data and information demonstrating good quality assurance.