

## **Appendix CAM**

### **Compliance Assurance Monitoring Requirements**

Pursuant to Rule 62-213.440(1)(b)1.a., F.A.C., the CAM plans that are included in this appendix contain the monitoring requirements necessary to satisfy 40 CFR 64. Conditions 1. – 17 are generic conditions applicable to all emissions units that are subject to the CAM requirements. Specific requirements related to each emissions unit are contained in the attached tables, as submitted by the applicant and approved by the Department.

#### **40 CFR 64.6 Approval of Monitoring.**

1. The attached CAM plan(s), as submitted by the applicant, is/are approved for the purposes of satisfying the requirements of 40 CFR 64.3.

[40 CFR 64.6(a)]

2. The attached CAM plan(s) include the following information:

- (i) The indicator(s) to be monitored (such as temperature, pressure drop, emissions, or similar parameter);

- (ii) The means or device to be used to measure the indicator(s) (such as temperature measurement device, visual observation, or CEMS); and

- (iii) The performance requirements established to satisfy 40 CFR 64.3(b) or (d), as applicable.

[40 CFR 64.6(c)(1)]

3. The attached CAM plan(s) describe the means by which the owner or operator will define an exceedance of the permitted limits or an excursion from the stated indicator ranges and averaging periods for purposes of responding to (see **CAM Conditions 5. - 9.**) and reporting exceedances or excursions (see **CAM Conditions 10. – 14.**).

[40 CFR 64.6(c)(2)]

4. The permittee is required to conduct the monitoring specified in the attached CAM plan(s) and shall fulfill the obligations specified in the conditions below (see **CAM Conditions 5. - 17.**).

[40 CFR 64.6(c)(3)]

#### **40 CFR 64.7 Operation of Approved Monitoring.**

5. Commencement of operation. The owner or operator shall conduct the monitoring required under this appendix upon the effective date of this Title V permit.

[40 CFR 64.7(a)]

6. Proper maintenance. At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

[40 CFR 64.7(b)]

7. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous

operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

[40 CFR 64.7(c)]

**8. Response to excursions or exceedances.**

- a. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions, if allowed by this permit). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- b. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.

[40 CFR 64.7(d)(1) & (2)]

**9. Documentation of need for improved monitoring.** If the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator shall promptly notify the permitting authority and, if necessary, submit a proposed modification to the Title V permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

[40 CFR 64.7(e)]

**40 CFR 64.8 Quality Improvement Plan (QIP) Requirements.**

- 10.** Based on the results of a determination made under **CAM Condition 8.b.**, above, the permitting authority may require the owner or operator to develop and implement a QIP. Consistent with **CAM Condition 4.**, an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a reporting period, may require the implementation of a QIP. The threshold may be set at a higher or lower percent or may rely on other

criteria for purposes of indicating whether a pollutant-specific emissions unit is being maintained and operated in a manner consistent with good air pollution control practices.  
[40 CFR 64.8(a)]

**11. Elements of a QIP:**

- a. The owner or operator shall maintain a written QIP, if required, and have it available for inspection.
- b. The plan initially shall include procedures for evaluating the control performance problems and, based on the results of the evaluation procedures, the owner or operator shall modify the plan to include procedures for conducting one or more of the following actions, as appropriate:
  - (i) Improved preventive maintenance practices.
  - (ii) Process operation changes.
  - (iii) Appropriate improvements to control methods.
  - (iv) Other steps appropriate to correct control performance.
  - (v) More frequent or improved monitoring (only in conjunction with one or more steps under **CAM Condition 11.b(i)** through **(iv)**, above).

[40 CFR 64.8(b)]

**12.** If a QIP is required, the owner or operator shall develop and implement a QIP as expeditiously as practicable and shall notify the permitting authority if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

[40 CFR 64.8(c)]

**13.** Following implementation of a QIP, upon any subsequent determination pursuant to **CAM Condition 8.b.**, the permitting authority may require that an owner or operator make reasonable changes to the QIP if the QIP is found to have:

- a. Failed to address the cause of the control device performance problems; or
- b. Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

[40 CFR 64.8(d)]

**14.** Implementation of a QIP shall not excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

[40 CFR 64.8(e)]

**40 CFR 64.9 Reporting And Recordkeeping Requirements.**

**15. General reporting requirements.**

- a. Commencing from the effective date of this permit, the owner or operator shall submit monitoring reports semi-annually to the permitting authority in accordance with Rule 62-213.440(1)(b)3.a., F.A.C.
- b. A report for monitoring under this part shall include, at a minimum, the information required under Rule 62-213.440(1)(b)3.a., F.A.C., and the following information, as applicable:
  - (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and

(iii) A description of the actions taken to implement a QIP during the reporting period as specified in **CAM Conditions 10. through 14.** Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 CFR 64.9(a)]

**16. General recordkeeping requirements.**

a. The owner or operator shall comply with the recordkeeping requirements specified in Rule 62-213.440(1)(b)2., F.A.C. The owner or operator shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to **CAM Conditions 10. through 14** and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).

b. Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

[40 CFR 64.9(b)]

**40 CFR 64.10 Savings Provisions.**

**17. It should be noted that nothing in this appendix shall:**

a. Excuse the owner or operator of a source from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act. The requirements of this appendix shall not be used to justify the approval of monitoring less stringent than the monitoring which is required under separate legal authority and are not intended to establish minimum requirements for the purpose of determining the monitoring to be imposed under separate authority under the Act, including monitoring in permits issued pursuant to title I of the Act. The purpose of this part is to require, as part of the issuance of a permit under Title V of the Act, improved or new monitoring at those emissions units where monitoring requirements do not exist or are inadequate to meet the requirements of this part.

b. Restrict or abrogate the authority of the Administrator or the permitting authority to impose additional or more stringent monitoring, recordkeeping, testing, or reporting requirements on any owner or operator of a source under any provision of the Act, including but not limited to sections 114(a)(1) and 504(b), or state law, as applicable.

c. Restrict or abrogate the authority of the Administrator or permitting authority to take any enforcement action under the Act for any violation of an applicable requirement or of any person to take action under section 304 of the Act.

[40 CFR 64.10]

**COMPLIANCE ASSURANCE MONITORING PLAN  
(CAM PLAN)**

**for**

**Smurfit-Stone Container Enterprises  
Panama City Mill**

**5-18-2006  
Revision 1**

**0437641**

---

## TABLE OF CONTENTS

1.0	CAM APPLICABILITY .....	1-1
1.1	CAM RULE APPLICABILITY DEFINITION .....	1-1
1.2	APPLICABILITY OF CAM TO EMISSIONS UNITS .....	1-2
1.2.1	NO. 1 RECOVERY BOILER (EU 001) .....	1-2
1.2.2	NO. 2 RECOVERY BOILER (EU 019) .....	1-3
1.2.3	NO. 3 COMBINATION BOILER (EU 015) .....	1-3
1.2.4	NO. 4 COMBINATION BOILER (EU 016) .....	1-4
1.2.5	NO. 1 SMELT DISSOLVING TANK (EU 021) .....	1-5
1.2.6	NO. 2 SMELT DISSOLVING TANK (EU 020) .....	1-5
1.2.7	LIME KILN (EU 004).....	1-5
1.2.8	MULTIPLE EFFECT EVAPORATOR SYSTEM (EU 026) AND DIGESER SYSTEM (EU 027) .....	1-6
1.2.9	LIME SLAKER (EU 005).....	1-6
1.2.10	WOODYARD (EU 030) .....	1-7
1.2.11	BLEACH PLANT (EU 033).....	1-7
1.2.12	PULPING SYSTEM-MACT I (EU 034) .....	1-7
2.0	TOTAL REDUCED SULFUR EMISSIONS FROM THE NO. 1 RECOVERY BOILER .....	2-1
2.1	EMISSIONS UNIT IDENTIFICATION .....	2-1
2.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	2-1
2.3	MONITORING APPROACH.....	2-1
3.0	TOTAL REDUCED SULFUR EMISSIONS FROM THE NO. 2 RECOVERY BOILER .....	3-1
3.1	EMISSIONS UNIT IDENTIFICATION .....	3-1
3.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	3-1
3.3	MONITORING APPROACH.....	3-1
4.0	PARTICULATE MATTER EMISSIONS FROM THE NO. 3 COMBINATION BOILER .....	4-1
4.1	EMISSIONS UNIT IDENTIFICATION .....	4-1
4.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	4-1
4.3	CONTROL TECHNOLOGY DESCRIPTION.....	4-1
4.4	MONITORING APPROACH.....	4-1
4.5	JUSTIFICATION.....	4-2
5.0	SULFUR DIOXIDE EMISSIONS FROM THE NO. 3 COMBINATION BOILER.....	5-1
5.1	EMISSIONS UNIT IDENTIFICATION .....	5-1

5.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	5-1
5.3	CONTROL TECHNOLOGY DESCRIPTION .....	5-1
5.4	MONITORING APPROACH .....	5-1
6.0	PARTICULATE MATTER EMISSIONS FROM THE NO. 4 COMBINATION BOILER .....	6-1
6.1	EMISSIONS UNIT IDENTIFICATION .....	6-1
6.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	6-1
6.3	CONTROL TECHNOLOGY DESCRIPTION .....	6-1
6.4	MONITORING APPROACH .....	6-1
6.5	JUSTIFICATION .....	6-2
7.0	SULFUR DIOXIDE EMISSIONS FROM THE NO. 4 COMBINATION BOILER .....	7-1
7.1	EMISSIONS UNIT IDENTIFICATION .....	7-1
7.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	7-1
7.3	CONTROL TECHNOLOGY DESCRIPTION .....	7-1
7.4	MONITORING APPROACH .....	7-1
8.0	PARTICULATE MATTER EMISSIONS FROM THE LIME SLAKER .....	8-1
8.1	EMISSIONS UNIT IDENTIFICATION .....	8-1
8.2	APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS .....	8-1
8.3	CONTROL TECHNOLOGY DESCRIPTION .....	8-1
8.4	MONITORING APPROACH .....	8-1
8.5	JUSTIFICATION .....	8-2

#### LIST OF TABLES

Table 1. CAM Applicability Determination for Smurfit-Stone Container Enterprises, Panama City Mill

Table 2. Summary of Uncontrolled TRS Emission Rates for Smelt Dissolving Tanks at SSCE, Panama City Mill

---

## **1.0 CAM APPLICABILITY**

### **1.1 CAM RULE APPLICABILITY DEFINITION**

On November 5, 2004 the Florida Department of Environmental Protection (FDEP) issued a Title V Air Operation permit (Permit No. 08050009-017-AV) to the Smurfit-Stone Container Enterprises, Inc. (SSCE) Panama City Mill. This permit expires on June 28, 2005. In order to renew the permit, a renewal application must be submitted to the Florida Department of Environmental Protection (FDEP). As part of the Title V renewal application, a Compliance Assurance Monitoring (CAM) Plan must be submitted as required by regulations adopted in Title 40, Part 64 of the Code of Federal Regulations (40 CFR 64). This regulation has been incorporated by reference in Rule 62-204.800, F.A.C., and implemented in Rule 62-213.440, F. A. C.

CAM plans are required for all Title V permitted emission units using control devices to meet federally enforceable emission limits or standards, with pre-control emissions greater than “major” source thresholds. The term “major” is defined as in the Title V Regulations (40 CFR 70), but applied on a source-by-source basis. For most non-hazardous pollutants, the major source threshold is 100 tons per year (TPY). For hazardous air pollutants (HAPs), the threshold is 10 TPY for an individual HAP, and 25 TPY for total HAPs combined.

The CAM rules contain specific exemptions from applicability of CAM. Specifically exempted from the CAM rule are emissions units subject to requirements under Stratospheric Ozone Regulations contained in 40 CFR 82, the Acid Rain Program contained in 40 CFR 72, or that are part of an emissions cap included in the Title V Permit. Also exempt are emissions units subject to New Source Performance Standards (NSPS) contained in 40 CFR 60, or National Emission Standards for Hazardous Air Pollutants (NESHAPs) contained in 40 CFR 63, which were promulgated after November 15, 1990, as these sources have equivalent monitoring requirements included as part of the standard.

Inherent process equipment (IPE), or equipment that may have the effect of controlling emissions but is installed for the primary purpose of product recovery or raw material recovery, is also exempt from CAM (40 CFR 64.1). In addition, CAM does not apply to any emission limit or standard for which the Title V permit specifies a continuous compliance determination method [40 CFR 64.2(b)(1)(vi)].



## **1.2 APPLICABILITY OF CAM TO EMISSIONS UNITS**

A review of emissions units at the SSCE Panama City Mill was conducted to determine the applicability of the CAM rule. This evaluation was conducted for each emissions unit and regulated pollutant. First, the existence of a “control device”, as defined by the CAM rule, was determined on a source-by-source basis for each pollutant. Those emissions units without control devices were eliminated from further consideration. The remaining emissions units were then evaluated on a pollutant-by-pollutant basis to determine if a control device was used to meet a federally enforceable emission limit or standard.

Each pollutant without a federally enforceable emission limit or standard, emitted from a given emissions unit, was eliminated from further consideration. Uncontrolled annual emissions were then calculated for each remaining source-pollutant combination. If uncontrolled emissions for a pollutant emitted from a given emissions unit were below major source thresholds, as defined by the CAM rule, that pollutant was not further considered.

A summary of the results of this evaluation process is presented in Table 1. Specific exemptions to the applicability of the CAM rule were also considered in this evaluation. The “Comments” column in Table 1 contains an explanation of the determination of the applicability of the CAM rule for each emissions unit.

Each pollutant-specific emissions unit identified to require a CAM plan is described below.

### **1.2.1 NO. 1 RECOVERY BOILER (EU 001)**

The No. 1 Recovery Boiler has a maximum input capacity 123,700 pounds per hour (lb/hr) of black liquor solids (BLS), dry basis. Natural gas and No. 6 fuel oil with a maximum sulfur content of 2.5% by weight may be used as backup or supplemental fuel.

The No. 1 Recovery Boiler has federally enforceable emission limits for particulate matter (PM) and total reduced sulfur compounds (TRS). PM emissions from the No. 1 Recovery Boiler are controlled with an electrostatic precipitator (ESP). TRS emissions are controlled using a two-stage heavy black liquor oxidation system. As shown in Table 1, uncontrolled PM and TRS emissions are greater than 100 TPY.

The No. 1 Recovery Boiler is subject to the federal NESHAPs for Chemical Recovery Combustion Sources at Pulp Mills, 40 CFR 63, Subpart MM. This NESHAP was promulgated on

January 12, 2001, with an effective date of March 13, 2002. The compliance date for existing sources was March 13, 2004. The Subpart MM rules regulate PM emissions from existing recovery boilers. As a result, the No. 1 Recovery Boiler is subject to a post-November 15, 1990, NESHAP for PM, and therefore this emissions unit is not subject to CAM for PM.

Since there is a federally enforceable emissions limit for TRS and a control device is used to meet this limit, a CAM plan for TRS is required. However, a continuous emissions monitoring system (CEMS) is already in place to satisfy the monitoring requirements in Rule 62-296.404(5), F.A.C. SSCE will use this CEMS to meet CAM requirements.

#### **1.2.2 NO. 2 RECOVERY BOILER (EU 019)**

The No. 2 Recovery Boiler is identical to the No. 1 Recovery Boiler, and as such, is subject to the same CAM requirements as the No. 1 Recovery Boiler.

#### **1.2.3 NO. 3 COMBINATION BOILER (EU 015)**

The No. 3 Combination Boiler combusts carbonaceous fuels, fuel oil, and natural gas. The total maximum operational heat input rate of this emissions unit is 505 million British thermal units per hour (MMBtu/hr), based on a 24-hour average. The maximum heat input rates for various fuels are 474 MMBtu/hr for carbonaceous fuels, 378 MMBtu/hr for fuel oil, and 411 MMBtu/hr for natural gas. The No. 3 Combination Boiler is also used for thermal destruction of TRS, volatile organic compounds (VOC), and hazardous air pollutant (HAP) emissions from the Condensate Stripper system.

The No. 3 Combination Boiler has federally enforceable emission limits for PM, SO<sub>2</sub>, and TRS. A fly ash arrestor and wet scrubber are used to control PM emissions from the No. 3 Combination Boiler. The wet scrubber is also used to control sulfur dioxide (SO<sub>2</sub>) emissions from this boiler. There are no add-on controls for TRS emissions. As shown in Table 1, uncontrolled PM and SO<sub>2</sub> emissions are greater than 100 TPY. Since a federally enforceable emission limit exists for PM and SO<sub>2</sub>, a control device is used to comply with these emission limits, and uncontrolled PM and SO<sub>2</sub> emissions are greater than 100 TPY, a CAM plan is required for the No. 3 Combination Boiler for these pollutants. Since there is no control device on the boiler for TRS emissions, no CAM plan is required for this pollutant.

The current Title V Permit already includes periodic monitoring requirements for the wet scrubber. SSCE intends to incorporate these requirements into the CAM plan for PM. SSCE already has a CEMS in place to monitor SO<sub>2</sub> emissions from this emission unit and intends to use it to satisfy CAM requirements.

#### **1.2.4 NO. 4 COMBINATION BOILER (EU 016)**

The No. 4 Combination Boiler combusts coal, carbonaceous fuels, fuel oil, and natural gas. The total maximum operational heat input rate of this emissions unit is 545 MMBtu/hr based on a 24-hour average. The maximum heat input rates for various fuels are 474 MMBtu/hr for carbonaceous fuels, 472 MMBtu/hr for fuel oil, 395 MMBtu/hr from coal, and 512 MMBtu/hr for natural gas. The No. 4 Combination Boiler may be used for thermal destruction of TRS, VOC, and HAP emissions from the Condensate Stripper system. It is also used as a backup to the kiln for thermal destruction of Non-Condensable Gasses (NCG's) from the batch digestors, the turpentine system and the multiple effect evaporators.

The No. 4 Combination Boiler has federally enforceable emission limits for PM, SO<sub>2</sub>, and TRS. A fly ash arrestor and wet scrubber are used to control PM emissions from the No. 4 Combination Boiler. The wet scrubber is also used to control SO<sub>2</sub> emissions from this boiler. There are no add-on controls for TRS emissions. As shown in Table 1, uncontrolled PM and SO<sub>2</sub> emissions are greater than 100 TPY. Since a federally enforceable emission limit exists for PM and SO<sub>2</sub>, a control device is used to comply with these emission limits, and uncontrolled PM and SO<sub>2</sub> emissions are greater than 100 TPY, a CAM plan is required for the No. 4 Combination Boiler for these pollutants. Since there is no control device on the boiler for TRS emissions, no CAM plan is required for this pollutant.

The current Title V Permit already includes periodic monitoring requirements for the wet scrubber. SSCE intends to incorporate these requirements into the CAM plan for PM. SSCE already has a CEMS in place to monitor SO<sub>2</sub> emissions from this emission unit and intends to use it to satisfy CAM requirements.

#### **1.2.5 NO. 1 SMELT DISSOLVING TANK (EU 021)**

The No. 1 Smelt Dissolving Tank, associated with the No. 1 Recovery Boiler, has a maximum operating rate of 123,700 lb/hr of dry virgin BLS. The No. 1 Smelt Dissolving Tank has federally enforceable emission limits for PM and TRS. A venturi scrubber is used to control emissions of PM

and TRS. As shown in Table 1, uncontrolled PM emissions are greater than 100 TPY. However, as shown in Table 2, uncontrolled TRS emissions are less than 100 TPY.

The No. 1 Smelt Dissolving Tank is subject to the federal NESHAPs for Chemical Recovery Combustion Sources at Pulp Mills, 40 CFR 63, Subpart MM. This NESHAPs was promulgated on January 12, 2001, with an effective date of March 13, 2002. The compliance date for existing sources was March 13, 2004. The Subpart MM rules regulate PM emissions from existing smelt dissolving tanks. As a result, the No. 1 Smelt Dissolving Tank is subject to a post-November 15, 1990, NESHAPs for PM, and therefore this emissions unit is not subject to CAM for PM.

Since uncontrolled TRS emissions are less than 100 TPY, a CAM plan is not required for the No. 1 Smelt Dissolving Tank for TRS. However, the current Title V Permit already includes periodic monitoring requirements for the wet scrubber for the control of TRS emissions, based on the State of Florida's TRS rules.

#### **1.2.6 NO. 2 SMELT DISSOLVING TANK (EU 020)**

The No. 2 Smelt Dissolving Tank is identical to the No. 1 Smelt Dissolving, and as such, is subject to the same CAM requirements as the No. 1 Smelt Dissolving Tank. As such, CAM does not apply for either PM or TRS emissions. However, the current Title V Permit already includes periodic monitoring requirements for the wet scrubber for the control of TRS emissions, based on the State of Florida's TRS rules.

#### **1.2.7 LIME KILN (EU 004)**

The maximum operating rate for the Lime Kiln is 85,000 lb/hr of lime mud. The maximum heat input rate to the kiln is limited to 180 MMBtu/hr. The Lime Kiln is also used for thermal destruction of non-condensable gases (NCGs) from the batch digester system, the turpentine system, and multiple effect evaporators.

The Lime Kiln has federally enforceable emission limits for PM and TRS. A venturi scrubber controls PM emissions from the Lime Kiln. As shown in Table 1, uncontrolled PM and TRS emissions are greater than 100 TPY.

The Lime Kiln is subject to the federal NESHAPs for Chemical Recovery Combustion Sources at Pulp Mills, 40 CFR 63, Subpart MM. This NESHAPs was promulgated on January 12, 2001, with an

effective date of March 13, 2002. The compliance date for existing sources was March 13, 2004. The Subpart MM rules regulate PM emissions from existing lime kilns. As a result, the No. 4 Lime Kiln is subject to a post-November 15, 1990 NESHAPs for PM, and therefore this emissions unit is not subject to CAM for PM.

There is no control device for TRS emissions. Since TRS emissions are not controlled by a control device, a CAM plan is not required for TRS.

\* ( Under permit D05009-028-AC / 'Subject to CAM for SO<sub>2</sub> Please see AH. SSCE-FU1-IV2 )

#### **1.2.8 MULTIPLE EFFECT EVAPORATOR SYSTEM (EU 026) AND DIGESTER SYSTEM (EU 027)**

The off gases from the Digester System and the Multiple Effect Evaporator System are collected in the low-volume, high-concentration (LVHC) NCG collection system and sent to the Lime Kiln (primary) or No. 4 Combination Boiler (backup) for thermal destruction. There are no emission limits for these emissions unit and, as such, they are not subject to CAM requirements.

#### **1.2.9 LIME SLAKER (EU 005)**

The Lime Slaker has a maximum operating rate of 81.6 tons per hour (TPH), dry basis, consisting of 60.39 TPH of green liquor and 21.18 TPH of lime, based on a 24-hour average. The Lime Kiln has federally-enforceable emission limits for PM. A wet cyclonic scrubber controls PM emissions from the Lime Slaker. As shown in Table 1, uncontrolled PM emissions are greater than 100 TPY.

Since a federally enforceable emission limit exists for PM, a control device is used to comply with the PM emission limits, and uncontrolled PM emissions are greater than 100 TPY, a CAM plan is required for the Lime Slaker for PM.

The current Title V Permit already includes periodic monitoring requirements for the wet scrubber. SSCE intends to incorporate these requirements into the CAM plan for PM.

#### **1.2.10 WOODYARD (EU 030)**

There are no pollutant emission limits associated with this emissions unit. Therefore, the CAM Rule does not apply.

**1.2.11 BLEACH PLANT (EU 033)**

The maximum operation rate of the Bleach Plant is 1,250 and 950 air-dried tons of unbleached pulp per day (ADTUP/day) of hardwood and softwood, respectively. The Bleach Plant has been modified to allow for 100 percent chlorine dioxide substitution, and has a federally-enforceable emission limit for HAPs.

The Bleach Plant is subject to the federal NESHAPs for the Pulp and Paper Industry (40 CFR 63, Supart S). This NESHAP was promulgated on December 14, 1994, with an effective date of February 12, 1995. The compliance date for existing sources was April 16, 2001. The Subpart S rules regulate HAP emissions from existing bleach plants. As a result, the Bleach Plant is subject to a post-November 15, 1990 NESHAP for HAPs, and therefore this emissions unit is not subject to CAM for HAPs.

**1.2.12 PULPING SYSTEM-MACT I (EU 034)**

The off-gases from the Pulping System are collected in the low-volume, high-concentration (LVHC) NCG collection system and sent to the Lime Kiln (primary) or Nos. 4 Combination Boiler (backup) for thermal destruction. There are no emission limits for this emission unit and, as such, it is not subject to CAM requirements.

---

## **2.0 TOTAL REDUCED SULFUR EMISSIONS FROM THE NO. 1 RECOVERY BOILER**

### **2.1 EMISSIONS UNIT IDENTIFICATION**

No. 1 Recovery Boiler—EU 001

### **2.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS**

The No. 1 Recovery Boiler has a TRS emissions limit of 17.5 parts per million by volume, dry basis (ppmvd), corrected to 8 percent oxygen as a 12-hour average [Rule 62-296.404(3)(c)1.a., F.A.C; Title V permit no. 0050009-017-AV). The current visible emissions (VE) limit is 35 percent for no more than 6 percent of the operating time within any quarterly period (40 CFR 63.864 and Title V permit no. 0050009-017-AV).

Compliance with the VE limit is demonstrated through a continuous opacity monitoring system (COMS). TRS compliance testing is required only upon permit renewal. SSCE currently uses a CEMS to demonstrate compliance with the emission limit stipulated in Rule 62-296.404(3)(c)1.a., F.A.C.

### **2.3 MONITORING APPROACH**

SSCE intends to use the CEMS for TRS to satisfy CAM requirements.

### **3.0 TOTAL REDUCED SULFUR EMISSIONS FROM THE NO. 2 RECOVERY BOILER**

#### **3.1 EMISSIONS UNIT IDENTIFICATION**

No. 2 Recovery Boiler—EU 019

#### **3.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS**

The No. 2 Recovery Boiler has a TRS emission limit of 17.5 ppmvd, corrected to 8 percent oxygen [Rule 62-296.404(3)(c)1.a., F.A.C]. The current VE limit is 35 percent for no more than 6 percent of the operating time within any quarterly period (40 CFR 63.864 and Title V permit no. 0050009-017-AV).

Compliance with the VE limit is demonstrated through a COMS. TRS compliance testing is required only upon permit renewal. SSCE currently uses a CEMS to demonstrate compliance with the emission limit stipulated in Rule 62-296.404(3)(c)1.a., F.A.C.

#### **3.3 MONITORING APPROACH**

SSCE intends to use the CEMS for TRS to satisfy CAM requirements.



## 4.0 PARTICULATE MATTER EMISSIONS FROM THE NO. 3 COMBINATION BOILER

### 4.1 EMISSIONS UNIT IDENTIFICATION

No. 3 Combination Boiler—EU 015

### 4.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS

The No. 3 Combination Boiler has a PM emissions limit of 0.3 lb/MMBtu for carbonaceous fuels, 0.1 lb/MMBtu for natural gas and fuel oil, and an emissions cap of 109.5 lb/hr. [Rule 62-296.410(1)(b)2.; Construction Permit No. 0050009-013-AC; and Title V permit no. 0050009-017-AV]. The current VE limit is 30 percent opacity, except up to 40 percent opacity is allowed for up to 2 minutes per hour [Rules 62-296.410(1)(b)1 and 62-296.404(2)(b), F.A.C.; and Title V permit no. 0050009-017-AV]

PM and VE compliance tests are required annually for the No. 3 Combination Boiler.

### 4.3 CONTROL TECHNOLOGY DESCRIPTION

PM emissions from the No. 3 Combination Boiler are controlled by a fly ash arrestor and wet scrubber. The effectiveness of the control equipment is evaluated with an annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application (Attachment SSC-EU3-J3).

### 4.4 MONITORING APPROACH

The newly revised Title V Permit (Permit No. 0050009-017-AV) already includes periodic monitoring requirements for the wet scrubber. Specific Condition No. B.15 stipulates that the scrubber flow rate shall be maintained at 1,026 gallons per minute (gpm) based on a 3-hour average and verified during annual testing.

	<b>Indicator No. 1</b>
Indicator	Minimum scrubber flow rate
Measurement Approach	Measurement of the scrubber flow rate at least four times per hour at approximately 15-minute increments.
Indicator Range	An excursion is defined as a measured 3-hour average flow rate less than 1,026 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.
Data Representativeness	The flow rate is measured using standard instrumentation

	provided for this purpose.
Verification of Operational Status	NA
QA/QC Practices and Criteria	Confirm the meters read zero when the unit is not operating. Calibrate the flow meter and d/p annually.
Monitoring Frequency	The flow rate will be measured at least four times per hour at approximately 15-minute increments.
Data Collection Procedures	Hourly averages are computed from readings at least once every successive 15-minute period.
Averaging Period	3-hour averages are computed from the hourly averages.

#### 4.5 JUSTIFICATION

SSCE is proposing to use the periodic monitor requirements specified in their current Title V Permit to satisfy CAM requirements, except that the flow rate will be measured and recorded four times per hour instead of hourly since controlled emissions from the No. 3 Combination Boiler are above major source thresholds

During SSCE's most recent compliance PM compliance test for the No. 3 Combination Boiler, the scrubber flow rate varied from 1,043 to 1,083 gpm. The PM emission rate measured during the test was 46.9 lb/hr or 0.00753 lb/MMBtu, well below the permitted PM emission rate of 0.03 lb/MMBtu for carbonaceous fuels, 0.01 lb/MMBtu for natural gas, and 109.5 lb/hr overall. As such, given that the measured PM emission rate is well below the permit limits, SSCE is requesting that the minimum scrubber flow specified in their current Title V Permit, 1,026 gpm, be used as an indicator of a deviation from normal operations for CAM purposes.

When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported.

## **5.0 SULFUR DIOXIDE EMISSIONS FROM THE NO. 3 COMBINATION BOILER**

### **5.1 EMISSIONS UNIT IDENTIFICATION**

No. 3 Combination Boiler—EU 015

### **5.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS**

The No. 3 Combination Boiler has a SO<sub>2</sub> emissions limit of 887 lb/hr based on a 24-hour average (Title V permit no. 0050009-020-AV). A SO<sub>2</sub> compliance test is required annually for the No. 3 Combination Boiler. A CEMS is required to continuously monitor SO<sub>2</sub> emissions. In addition, scrubber pH must be maintained above 8.0 (24-hour average) during times when the continuous monitor is being repaired and/or calibrated.

### **5.3 CONTROL TECHNOLOGY DESCRIPTION**

SO<sub>2</sub> emissions from the No. 3 Combination Boiler are controlled using a wet scrubber. The effectiveness of the control equipment is evaluated with annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application (Attachment SSC-EU3-J3).

### **5.4 MONITORING APPROACH**

SSCE currently uses a CEMS to demonstrate compliance with the SO<sub>2</sub> emission limit for the No. 3 Combination Boiler. In addition, scrubber pH is monitored during times when the CEMS is being repaired and/or calibrated. SSCE intends to use this CEMS and pH monitor to satisfy CAM requirements, as required by the current Title V permit.

---

## **6.0 PARTICULATE MATTER EMISSIONS FROM THE NO. 4 COMBINATION BOILER**

### **6.1 EMISSIONS UNIT IDENTIFICATION**

No. 4 Combination Boiler—EU 016

### **6.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS**

The No. 4 Combination Boiler has a PM emission limits of 0.3 lb/MMBtu for carbonaceous fuels, 0.1 lb/MMBtu for coal, natural gas and fuel oil, and an emissions cap of 86.7 lb/hr. [Rule 62-296.410(1)(b)2.; Construction Permit No. 0050009-013-AC; and Title V permit no. 0050009-017-AV]. The current VE limit is 30 percent opacity, except up to 40 percent opacity is allowed for up to 2 minutes per hour [Rules 62-296.410(1)(b)2, F.A.C. and Construction Permit No. 0050009-013-AC; and Title V permit no. 0050009-017-AV].

PM and VE compliance tests are required annually for the No. 4 Combination Boiler.

### **6.3 CONTROL TECHNOLOGY DESCRIPTION**

PM emissions from the No. 4 Combination Boiler are controlled by a fly ash arrestor and wet scrubber. The effectiveness of the control equipment is evaluated with an annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application (Attachment SSC-EU4-J3).

### **6.4 MONITORING APPROACH**

The current Title V Permit (Permit No. 0050009-017-AV) already includes periodic monitoring requirements for the No. 4 Combination Boiler. Specific Condition No. C.17 stipulates that the minimum flow rate of the wet scrubber be maintain above 1,096 gpm. This permit condition further stipulates that the flow must be measured and recorded hourly. For sources with controlled emissions greater than major sources thresholds, such as PM emissions from the No. 4 Combination, CAM regulations require that the selected indicator be measured and recorded a minimum of 4 times per hour. To meet this requirement, SSCE has increased the frequency of measurement of the scrubber flow rate from hourly to at least four times per hour, at approximately 15-minute increments. Permit No. 0050009-022-AC required the installation of a device to continuously monitor and record the scrubber pressure drop. This was completed. Compliance testing conducted on February 6, 2006 indicated compliance with all applicable limits at a scrubber d/p of 15.0 inches of water. This will be considered the minimum d/p.

The monitoring approach is summarized in the following table.

	<b>Indicator No. 1</b>
Indicator	Minimum scrubber flow rate and d/p.
Measurement Approach	Measurement of the scrubber flow rate and d/p at least four times per hour at approximately 15-minute increments.
Indicator Range	An excursion is defined as a measured 3-hour average flow rate less than 1,096 gpm or a d/p of less than 15" of water. Excursions trigger an inspection, corrective action, and a reporting requirement.
Data Representativeness	The flow rate is measured using standard instrumentation provided for this purpose. The d/p is measured using standard instrumentation provided for this purpose.
Verification of Operational Status	NA
QA/QC Practices and Criteria	Confirm the flow meter and d/p reads zero when the unit is not operating. Calibrate flow meter and d/p instruments annually.
Monitoring Frequency	The flow rate and d/p will be measured at least four times per hour at approximately 15-minute increments.
Data Collection Procedures	Hourly averages are computed from readings at least once every successive 15-minute period.
Averaging Period	3-hour averages are computed from the hourly averages.

## 6.5 JUSTIFICATION

SSCE is proposing to use the periodic monitor requirements specified in their current Title V Permit to satisfy CAM requirements. During SSCE's most recent PM compliance test for the No. 4 Combination Boiler, the scrubber flow rate varied from 1,104 to 1,185 gpm. The PM emission rate measured during the test was 38.08 lb/hr or 0.0483 lb/MMBtu, well below the permitted PM emission rate of 0.1 lb/MMBtu for fossil fuels, 0.3 lb/MMBtu for carbonaceous fuels, and 86.7 lb/hr, overall. As such, given that the measured PM emission rate is well below the permitted limits, SSCE requests that the minimum scrubber flow specified in their current Title V Permit, 1,096 gpm, be used for CAM purposes. Additional compliance testing conducted in accordance with Permit No. 0050009-022-AC indicated compliance at a scrubber d/p of 15" of water. SSCE proposes to use this as a minimum d/p.

When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported.

## **7.0 SULFUR DIOXIDE EMISSIONS FROM THE NO. 4 COMBINATION BOILER**

### **7.1 EMISSIONS UNIT IDENTIFICATION**

No. 4 Combination Boiler—EU 016

### **7.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS**

The No. 4 Combination Boiler has a SO<sub>2</sub> emissions limit of 1,183 lb/hr when incinerating both NCG and SOG or when burning NCG but not SOG, 1,174 lb/hr when burning SOG but not NCG, and 772 lb/hr when not burning SOG or NCG. (Construction Permit No. 0050009-020-AC) based on a 24-hour average. A SO<sub>2</sub> compliance test is required annually for the No. 4 Combination Boiler. A CEMS is installed to continuously monitor SO<sub>2</sub> emissions. In addition, scrubber pH must be maintained above 8.0 (24-hour average) during times when the continuous monitor is being repaired and/or calibrated.

### **7.3 CONTROL TECHNOLOGY DESCRIPTION**

SO<sub>2</sub> emissions from the No. 4 Combination Boiler are controlled using a wet scrubber. The effectiveness of the control equipment is evaluated with an annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application (Attachment SSC-EU4-J3).

### **7.4 MONITORING APPROACH**

SSCE currently uses a CEMS to demonstrate compliance with the SO<sub>2</sub> emission limit for the No. 4 Combination Boiler. In addition, scrubber pH is monitored during times when the CEMS is being repaired and/or calibrated. SSCE intends to use this CEMS and pH monitor to satisfy CAM requirements, as required by the current Title V permit.

## **2.0 SULFUR DIOXIDE EMISSIONS FROM THE NO. 3 COMBINATION BOILER**

### **2.1 Emissions Unit Identification**

No. 3 Combination Boiler—EU 015

### **2.2 Applicable Regulations, Emission Limits, and Monitoring Requirements**

The No. 3 Combination Boiler has SO<sub>2</sub> emission limits of (Permit No. 0050009-029-AC/PSD-FL-388A):

- 1,366 lb/hr (based on a 3-hour rolling average) when only the No. 3 Combination Boiler is operating (No. 4 Combination Boiler not operating);
- 1,658 lb/hr (based on a 3-hour rolling average) combined SO<sub>2</sub> emissions when both the Nos. 3 and 4 Combination Boilers are operating;
- 907 lb/hr (based on a 24-hour rolling average) when only the No. 3 Combination Boiler is operating; and
- 329 lb/hr (based on a 24-hour rolling average) when both the Nos. 3 and 4 Combination Boilers are operating.

An SO<sub>2</sub> compliance test is required annually for the No. 3 Combination Boiler. A CEMS is required to continuously monitor SO<sub>2</sub> emissions. In addition, scrubber pH must be maintained above 8.0 (24-hour average) during times when the continuous monitor is being repaired and/or calibrated.

### **2.3 Control Technology Description**

SO<sub>2</sub> emissions from the No. 3 Combination Boiler are controlled using a wet scrubber. The effectiveness of the control equipment is evaluated with annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application submitted to the FDEP in December, 2004.

### **2.4 Monitoring Approach**

SSCE currently uses a CEMS to demonstrate compliance with the SO<sub>2</sub> emission limit for the No. 3 Combination Boiler. In addition, scrubber pH is monitored during times when the CEMS is being repaired and/or calibrated. SSCE intends to use this CEMS and pH monitor to satisfy CAM requirements, as required by the current Title V permit.

### **3.0 SULFUR DIOXIDE EMISSIONS FROM THE NO. 4 COMBINATION BOILER**

#### **3.1 Emissions Unit Identification**

No. 4 Combination Boiler—EU 016

#### **3.2 Applicable Regulations, Emission Limits, and Monitoring Requirements**

The No. 3 Combination Boiler has SO<sub>2</sub> emission limits of (Permit No. 0050009-029-AC/PSD-FL-388A):

- 1,183 lb/hr (based on a 3-hour rolling average) when both the Nos. 3 and 4 Combination Boilers are operating;
- 1,658 lb/hr (based on a 3-hour rolling average) combined SO<sub>2</sub> emissions when both the Nos. 3 and 4 Combination Boilers are operating;
- 690 lb/hr (based on a 24-hour rolling average) when only the No. 4 Combination Boiler is operating (No. 3 Combination Boiler is not operating); and
- 643 lb/hr (based on a 24-hour rolling average) when both the Nos. 3 and 4 Combination Boilers are operating.

An SO<sub>2</sub> compliance test is required annually for the No. 4 Combination Boiler. A CEMS is installed to continuously monitor SO<sub>2</sub> emissions. In addition, scrubber pH must be maintained above 8.0 (24-hour average) during times when the continuous monitor is being repaired and/or calibrated.

#### **3.3 Control Technology Description**

SO<sub>2</sub> emissions from the No. 4 Combination Boiler are controlled using a wet scrubber. The effectiveness of the control equipment is evaluated with annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application submitted to the FDEP in December, 2004.

#### **3.4 Monitoring Approach**

SSCE currently uses a CEMS to demonstrate compliance with the SO<sub>2</sub> emission limit for the No. 4 Combination Boiler. In addition, scrubber pH is monitored during times when the CEMS is being repaired and/or calibrated. SSCE intends to use this CEMS and pH monitor to satisfy CAM requirements, as required by the current Title V permit.



## 8.0 PARTICULATE MATTER EMISSIONS FROM THE LIME SLAKER

### 8.1 EMISSIONS UNIT IDENTIFICATION

Lime Slaker—EU 005

### 8.2 APPLICABLE REGULATIONS, EMISSIONS LIMITS, AND MONITORING REQUIREMENTS

The Lime Slaker has a PM emissions limit of 14 lb/hr (Permit No. 0050008-005-AC/PSD-FL-288; and Title V permit no. 0050009-017-AV). The current VE limit is 20 percent [Rule 62-296.404(2)(b), F.A.C].

PM and VE compliance tests are required annually for the Lime Slaker.

### 8.3 CONTROL TECHNOLOGY DESCRIPTION

PM emissions from the Lime Slaker are controlled by a wet scrubber. The effectiveness of the control equipment is evaluated with annual compliance tests. A detailed description of the control equipment was included in the Title V renewal application (Attachment SSC-EU10-J3).

### 8.4 MONITORING APPROACH

The current Title V Permit (Permit No. 0050009-017-AV) already includes continuous monitoring requirements for the Lime Slaker. Specific Condition No. H.8 stipulates that the minimum flow rate of the scrubber be no less than 30 gpm. This permit condition further stipulates that the flow must be measured and recorded hourly. However, since controlled PM emissions from the Lime Slaker are less than 100 TPY, the minimum measurement frequency under CAM rules is once per 24-hour period.

The monitoring approach is summarized in the following table.

	Indicator No. 1
Indicator	Minimum scrubber flow rate.
Measurement Approach	Hourly measurement of the scrubber flow rate.
Indicator Range	An excursion is defined as a measured flow rate less than 30 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.
Data Representativeness	The flow rate is measured using standard instrumentation provided for this purpose.
Verification of Operational	NA

---

Status	
QA/QC Practices and Criteria	Confirm the flow meter reads zero when the unit is not operating. Calibrate unit annually.
Monitoring Frequency	The flow rate will be measured continuously.
Data Collection Procedures	Data collected using an appropriate measuring device.
Averaging Period	3-hour averages are computed from the hourly averages.

### **8.5 JUSTIFICATION**

SSCE is proposing to use the periodic monitor requirements specified in their current Title V Permit to satisfy CAM requirements. During SSCE's most recent PM compliance test for the slaker, the scrubber flow rate varied from 30 to 37 gpm. The PM emissions rate measured during the test was 1.28 lb/hr, well below the permitted PM emission rate of 14.0 lb/hr. As such, given that the measured PM emission rate is well below the permitted limits, SSCE requests that the minimum scrubber flow specified in their current Title V permit, 30 gpm, be used for CAM purposes.

When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported.

## ATTACHMENT SSCE-EU1-IV2

### COMPLIANCE ASSURANCE MONITORING (CAM) PLAN

#### 1.0 CAM APPLICABILITY

##### 1.1 Cam Rule Applicability

On September 26, 2007, the Florida Department of Environmental Protection (FDEP) issued an air construction permit (Permit No. 0050009-028-AC/PSD-FL-388) which added new emission limits for the Lime Kiln for sulfur dioxide (SO<sub>2</sub>) and for nitrogen oxides (NO<sub>x</sub>). This permit also revised the SO<sub>2</sub> emission limits for the Nos. 3 and 4 Combination Boilers. This permit was modified on March 26, 2008 (Permit No. 0050009-029-AC/PSD-FL-388A). In order to incorporate these emission limit changes into the facility Title V operating permit, the Compliance Assurance Monitoring (CAM) Plan for SO<sub>2</sub> emissions from the Nos. 3 and 4 Combination Boilers must be revised and a CAM Plan for SO<sub>2</sub> emissions from the Lime Kiln must be developed.

##### 1.2 Lime Kiln (EU 004)

CAM plans are required for all Title V permitted emissions units using control devices to meet federally enforceable emission limits or standards, with pre-control emissions greater than "major" source thresholds. The term "major" is defined in the Title V regulations (40 CFR 70), but applied on a source-by-source basis. For most non-hazardous air pollutants, the major source threshold is 100 tons per year (TPY). For hazardous air pollutants (HAPs), the threshold is 10 TPY for an individual HAP, and 25 TPY for total HAPs combined.

The maximum operating rate for the Lime Kiln is 85,000 lb/hr of lime mud. The maximum heat input rate to the kiln is limited to 180 MMBtu/hr. The Lime Kiln is also used for thermal destruction of non-condensable gases (NCGs) from the batch digester system, the turpentine system, and multiple effect evaporators. The Lime Kiln has federally enforceable emission limits for SO<sub>2</sub>, NO<sub>x</sub>, particulate matter (PM), and total reduced sulfur (TRS). A venturi scrubber controls PM and SO<sub>2</sub> emissions from the Lime Kiln. Uncontrolled SO<sub>2</sub>, NO<sub>x</sub>, PM, and TRS emissions are greater than 100 TPY.

The Lime Kiln is subject to the federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for chemical recovery combustion sources at pulp mills (40 CFR 63), Subpart MM. The NESHAPs was promulgated on January 12, 2001, with an effective date of March 13, 2002. The compliance date for existing sources was March 13, 2004. The Subpart MM rules regulate PM

emissions from existing lime kilns. As a result, the No. 4 Lime Kiln is subject to a post-November 15, 1990 NESHAPs for PM, and therefore this emissions unit is not subject to CAM for PM.

Since federally enforceable emission limits exist for  $\text{SO}_2$ , a control device is used to comply with these emission limits, and uncontrolled  $\text{SO}_2$  emissions are greater than 100 TPY, a CAM plan is required for the Lime Kiln for  $\text{SO}_2$ . There is no control device for TRS or  $\text{NO}_x$  emissions. Since TRS and  $\text{NO}_x$  emissions are not controlled by a control device, a CAM plan is not required for TRS or  $\text{NO}_x$ .

## **4.0 SULFUR DIOXIDE EMISSIONS FROM THE LIME KILN**

### **4.1 Emissions Unit Identification**

Lime Kiln—EU 004

### **4.2 Applicable Regulations, Emission Limits, and Monitoring Requirements**

The Lime Kiln has an SO<sub>2</sub> emission limit of 4.6 lb/hr and 0.25 lb/ton of CaO while burning No. 6 Fuel Oil, and 18.8 lb/hr and 1.0245 lb/ton of CaO while burning petcoke blends (Permit No. 0050009-028-AC/PSD-FL-388). The current VE limit is 20 percent [Rule 62-296.404(2)(b), F.A.C].

SO<sub>2</sub> and VE compliance tests are required annually for the Lime Kiln.

### **4.3 Control Technology Description**

SO<sub>2</sub> emissions from the Lime Kiln are inherently controlled by the lime in the kiln, and then further controlled by a wet scrubber. The effectiveness of the control equipment is evaluated with annual compliance tests. A detailed description of the control equipment is included in the Title V revision application (Attachment SSCE-EU1-I3).

### **4.4 Monitoring Approach**

The current Title V Permit (Permit No. 0050009-026-AV) already includes continuous parameter monitoring requirements for the Lime Kiln. Specific Condition No. E.15 stipulates that the minimum flow rate to the scrubber be no less than 455 gpm for the bull nozzle flow and 493 gpm for the tangential flow, with a minimum differential pressure of 18 inches of water. This permit condition further stipulates that the scrubber flow be based on a 3-hour average, and that the set points for these parameters are re-evaluated during the annual testing. These minimum flow rates and pressure drop were revised in the recent testing while firing petcoke to 750 gpm for the bull nozzle and tangential flow rates, and to 24 inches of water. Permit No. 0050009-028-AC/PSD-FL-388 further specifies that the pH of the scrubbing media be continuously monitored in order to ensure compliance with the SO<sub>2</sub> standards. A report was submitted in December, 2008, in which a minimum pH of 7.7 was proposed.

The monitoring approach is summarized in the following table.

	Indicator No. 1	Indicator No. 2	Indicator No. 3	Indicator No. 4
Indicator	Bull nozzle liquid flow rate.	Tangential liquid flow rate.	Pressure drop	Minimum pH of scrubbing media.
Measurement Approach	Continuous measurement of the bull nozzle flow rate.	Continuous measurement of the tangential flow rate.	Continuous measurement of the pressure drop.	Continuous measurement of the pH
Indicator Range	An excursion is defined as a measured flow rate less than 750 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as a measured flow rate less than 750 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as a measured pressure drop less than 24 inches of water. Excursions trigger an inspection, corrective action, and a reporting requirement.	An excursion is defined as a measured pH less than 7.7 based on a 3-hour average. Excursions trigger an inspection, corrective action, and a reporting requirement.
Data Representativeness	The flow rate is measured using standard instrumentation provided for this purpose.	The flow rate is measured using standard instrumentation provided for this purpose.	The flow rate is measured using standard instrumentation provided for this purpose.	The pH is measured using standard instrumentation provided for this purpose.
Verification of Operational Status	NA	NA	NA	NA
QA/QC Practices and Criteria	Confirm the flow meter reads zero when the unit is not operating. Calibrate unit annually.	Confirm the flow meter reads zero when the unit is not operating. Calibrate unit annually.	Confirm the pressure drop is zero when the unit is not operating. Calibrate unit annually.	Confirm the pH meter reads correctly using known standards.
Monitoring Frequency	The flow rate will be measured continuously.	The flow rate will be measured continuously.	The pressure drop will be measured continuously.	The pH will be measured continuously.
Data Collection Procedures	Hourly averages are computed from readings at least once every successive 15-minute period.	Hourly averages are computed from readings at least once every successive 15-minute period.	Hourly averages are computed from readings at least once every successive 15-minute period.	Hourly averages are computed from readings at least once every successive 15-minute period.
Averaging Period	3-hour block averages are computed from the hourly averages.	3-hour block averages are computed from the hourly averages.	3-hour block averages are computed from the hourly averages.	3-hour block averages are computed from the hourly averages.

#### 4.5 Justification

SSCE is proposing to use the periodic monitor requirements specified in their current Title V Permit as well as in this application to satisfy CAM requirements. During SSCE's most recent SO<sub>2</sub> compliance test for the kiln while burning petcoke, the bull nozzle liquid flow rate varied from 755 to 767 gpm, the tangential liquid flow rate varied from 728 to 741 gpm, the pressure drop varied from 27 to 29 inches of water, and the pH varied from 7.7 to 8.0. The proposed minimum pressure drop is based on the previous two year of stack testing, where the pressure drop was held at 20 inches of water during the tests. The SO<sub>2</sub> emissions rate measured during the test was 2.05 lb/hr, well below the permitted SO<sub>2</sub> emission rate of 18.8 lb/hr. As such, given that the measured SO<sub>2</sub> emission rate is well below the permitted limits, SSCE requests that the minimum flow rates, pressure drop, and pH specified in this CAM Plan be used for CAM purposes.

When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence, to determine the action required (if any) to correct the situation. All excursions will be documented and reported.

Table 1. CAM Applicability Determination for Smurfit-Stone Container Enterprises - Panama City Mill

Emission Source	Title V EU ID	Control Equipment	Pollutants with Permitted Emission Limits	Uncontrolled Emission Rates (TPY)						CAM Plan Required? (Yes/No)	Pollutants Requiring CAM	Comments
				SO <sub>2</sub>	NO <sub>x</sub>	PM/PM <sub>10</sub>	VOC	TRS	HAPs			
No. 1 Recovery Boiler	001	ESP, two-stage heavy black liquor oxidation system	PM, TRS	--	--	>100	--	>100	--	Yes	TRS	PM emissions are subject to 40 CFR 63, Subpart MM. TRS emissions are subject to CAM requirements, but CEM already in place to satisfy Rule 62-296.404(5), F.A.C.
No. 2 Recovery Boiler	019	ESP, two-stage heavy black liquor oxidation system	PM, TRS	--	--	>100	--	>100	--	Yes	TRS	PM emissions are subject to 40 CFR 63, Subpart MM. TRS emissions are subject to CAM requirements, but CEM already in place to satisfy Rule 62-296.404(5), F.A.C.
No. 3 Combination Boiler	015	Fly Ash Arrestor, Wet Scrubber	PM, SO <sub>2</sub> , TRS	>100	--	>100	--	>100	--	Yes	PM, SO <sub>2</sub>	PM periodic monitoring required for the scrubber (i.e., liquid flow rate, pressure drop). CEMS already in place for SO <sub>2</sub> emissions. Monitoring of pH is a backup to SO <sub>2</sub> CEMS. No add-on controls for TRS.
No. 4 Combination Boiler	016	Fly Ash Arrestor, Wet Scrubber	PM, SO <sub>2</sub> , TRS	>100	--	>100	--	>100	--	Yes	PM, SO <sub>2</sub>	PM periodic monitoring required for the scrubber (i.e., liquid flow rate, pressure drop). CEMS already in place for SO <sub>2</sub> emissions. Monitoring of pH is a backup to SO <sub>2</sub> CEMS. No add-on controls for TRS.
No. 1 Smelt Dissolving Tank	021	Venturi Scrubber	PM, TRS	--	--	>100	--	<100	--	No	--	PM emissions are subject to 40 CFR 63, Subpart MM. Uncontrolled TRS emissions less than 100 TPY.
No. 2 Smelt Dissolving Tank	020	Venturi Scrubber	PM, TRS	--	--	>100	--	<100	--	No	--	PM emissions are subject to 40 CFR 63, Subpart MM. Uncontrolled TRS emissions less than 100 TPY.
Lime Kiln/NGC Collection	004	Venturi Scrubber	NO <sub>x</sub> , PM, SO <sub>2</sub> , TRS	>100	>100	>100	--	>100	--	Yes	SO <sub>2</sub>	PM emissions are subject to 40 CFR 63, Subpart MM. SO <sub>2</sub> periodic monitoring requirements for the scrubber (i.e., liquid flow rate, pH, pressure drop) included in proposed CAM Plan. No add-on controls for NO <sub>x</sub> or TRS.
Multiple Effect Evaporators	026	Lime Kiln/No. 4 Bark Boiler	None	--	--	--	--	--	--	No	--	No emission limits.
Digester System	027	Lime Kiln/No. 4 Bark Boiler	None	--	--	--	--	--	--	No	--	No emission limits.
Lime Slaker	005	Wet Cyclonic Scrubber	PM	--	--	>100	--	--	--	Yes	PM	Some monitoring of scrubber parameters (i.e., liquid flow rate) is already required by Specific Condition No. H8 of the Title V Permit.
Woodyard	030	None	None	--	--	--	--	--	--	No	--	No control equipment or emission limits.
Bleach Plant	033	Wet Scrubber	HAPs	--	--	--	--	--	>10	No	--	HAP emissions are subject to 40 CFR 63, Subpart S.
Pulping Systems	034	Lime Kiln/Nos. 3 & 4 Combination Boiler	None	--	--	--	--	>100	--	No	--	No emission limits.



Table 2. Summary of Uncontrolled TRS Emission Rates for Smelt Dissolving Tanks at SSCE, Panama City Mill

Emission Source	Title V EU ID	Production/ Process Rate	Emission Factor	Ref	Uncontrolled TRS Emissions	
						Emission Rate <sup>a</sup> (TPY)
No. 1 Smelt Dissolving Tank	021	123,700 lb/hr BLS	0.33 lb/ton BLS	1		90.30
No. 2 Smelt Dissolving Tank	020	123,700 lb/hr BLS	0.33 lb/ton BLS	1		88.32
1. Based on AP-42 Table 10.2-1, Emission Factors for Kraft Pulping (9/90).						
TRS = 0.5 lb/ADTUP / 1.5 ton BLS/ADTUP = 0.33 lb TRS/ton BLS.						
Notes:						
ADTUP = air-dried tons of unbleached pulp						
BLS = black liquor solids						
<sup>a</sup> Based on 8,760 hr/yr operation.						