Nina → Jeff
cc: Larry
Sandra

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

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DIVISION OF AIR RESOURCES MANAGEMENT
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BUREAU OF AIR REGULATION

Mr. Joseph Kahn, Director
Division of Air Resources Management
Florida Department of Environmental Protection
Mail Station 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Kahn:

We have received a letter dated September 27, 2007, from Mr. Jeffery Koerner of your staff requesting an alternative opacity monitoring procedure for the U.S. Sugar Corporation, Clewiston Sugar Mill and Refinery, located in Clewiston, Florida. The request relates to Boiler No. 7 which is subject to New Source Performance Standards (NSPS) Subpart Db - "Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units." The primary fuel for the boiler is bagasse, and U.S. Sugar proposes to fire wood chips with an annual capacity factor of 25 percent. The particulate matter (PM) and opacity standards in Subpart Db will be applicable while burning wood chips, and emissions are controlled by a wet sand separator followed by an electrostatic precipitator (ESP). Due to the possibility of moisture interference and the annual capacity factor of 25 percent for wood chips, the company proposes to monitor the secondary power input to the ESP as an alternative to the use of a continuous opacity monitoring system (COMS) as required by Section 60.48b(a). Based on our review of the information provided, the Environmental Protection Agency (EPA) Region 4 does not approve the U.S. Sugar proposal to use parametric monitoring for the ESP. As discussed below, NSPS Subpart Db allows the use of a PM continuous emission monitoring system (PM CEMS) as an alternative to using a COMS.

Boiler No. 7 has a heat input capacity of 738 mmBtu/hr and currently fires bagasse as a primary fuel, and distillate oil with a sulfur content of less than 0.05 percent by weight is used during startup and as a supplemental fuel. The boiler is subject to the Subpart Db emission standards for PM and opacity while firing distillate oil, and Subpart Db requires a COMS to demonstrate compliance with the opacity standard. On September 11, 1995, EPA Region 4 approved an alternative opacity monitoring procedure for Boiler No. 7 based on the use of EPA Method 9 instead of a COMS, since distillate oil use was limited to an annual capacity factor of ten percent. Section 60.13(i) (2) allows owners and operators to propose alternative monitoring methods for infrequently operated affected facilities. In previous determinations, the EPA has indicated that an annual capacity factor of ten percent for a Subpart Db affected facility constitutes infrequent operation for purposes of alternative opacity monitoring under Section 60.13(i)(2).

U.S. Sugar now proposes to fire wood chips in Boiler No. 7 with an annual capacity factor of 25 percent. Wood chips would be fired with bagasse at the startup of each crop season until the mill is self-sustaining and may also be fired in a blend with bagasse to displace distillate oil during the refinery season. The combustion of wood chips will be subject to the Subpart Db emission standards for PM and opacity and will require the use of a COMS. Due to the moisture content of the bagasse and wood chips and the moisture from the wet sand separator, U.S. Sugar indicates that water droplets in the flue gas would interfere with reliable opacity measurements. Because of potential moisture interference and the 25 percent annual capacity factor for wood chips, U.S. Sugar proposes an alternative opacity monitoring procedure based on monitoring of the secondary power input to the ESP. Since previous EPA determinations have indicated that infrequent operation relates to an annual capacity factor of ten percent or less, EPA Region 4 has determined that an alternative opacity monitoring procedure for Boiler No. 7 based on Section 60.13(i)(2) is not appropriate.

The EPA has previously approved parametric monitoring when liquid water interference would not provide accurate measurements with a COMS, as allowed by Section 60.13(i)(1). However, at the time of those approvals, no other proven direct PM monitoring options were available. The EPA has since then developed performance specifications for PM CEMS which are found in 40 CFR Part 60, Appendix B – "Performance Specification 11 – Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources." NSPS Subpart Db was amended on February 27, 2006 (71 FR 9886), to include Section 60.46b(j) which provides owners or operators with an option to install a PM CEMS. Subpart Db at Section 60.48b(j) indicates that a PM CEMS may be used in lieu of a COMS. Since Subpart Db allows an alternative to the use of a COMS, there is no justification for allowing the use of parametric monitoring of the ESP at U.S. Sugar. EPA Region 4 does not approve the request to use parametric monitoring, unless U.S. Sugar can demonstrate that a PM CEMS is not a viable alternative to a COMS for Boiler No. 7. Enclosed is a January 23, 2007, determination from EPA Region 3 that denies a proposal for a NSPS Subpart Dc facility to use parametric monitoring in lieu of a COMS due to moisture interference. The Region 3 determination relates to a boiler which has a heat input capacity of 90 mmBtu/hr and indicates that a PM CEMS is an alternative available under Subpart Dc.

The U.S. Sugar alternative monitoring proposal for Boiler No. 7 references provisions allowing the use of parametric monitoring for an ESP in 40 CFR Part 63 Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters," as a justification for using parametric monitoring as an alternative under NSPS Subpart Db. However, as indicated in the preamble of 40 CFR Part 63 Subpart DDDDD, at the time that standard was proposed a PM CEMS had not been demonstrated in the United States for determining compliance (68 FR 1685; January 13, 2003). Since a PM CEMS is now an available option and is allowed under NSPS Subpart Db as an alternative to the use of a COMS, the provisions under Part 63 Subpart DDDDD allowing the use of parametric monitoring for an ESP do not justify the approval of U.S. Sugar's alternative monitoring proposal concerning NSPS Subpart Db.

The U.S. Sugar alternative opacity monitoring proposal for Boiler No. 7 also indicates that the Title V renewal application for the facility includes a Compliance Assurance Monitoring

(CAM) plan which allows parametric monitoring (i.e., secondary power input) for the ESP. The alternative monitoring proposal also indicates that the Prevention of Significant Deterioration (PSD) preconstruction permit issued over ten years ago for Boiler No. 7 did not require the use of a COMS to verify compliance with the Best Available Control Technology emission limits. The CAM rule at 40 CFR Part 64.2(b)(1)(i) indicates that requirements of that rule do not apply to emission limitations or standards proposed by the Administrator after November 15, 1990, pursuant to Section 111 or 112 of the Clean Air Act. The CAM rule at Section 64.10(a)(1) further indicates that the rule shall not be used to justify the approval of monitoring less stringent than the monitoring that is required under separate legal authority. Neither the CAM rule nor the provisions in the PSD permit for Boiler No. 7 justify the use of monitoring procedures that are less accurate and reliable than those provided in NSPS Subpart Db.

If there are any questions regarding this letter, please contact Mr. Keith Goff of the Region 4 staff at (404)562-9137.

Sincerely,

Carol L. Kemker for

Beverly H. Banister
Director
Air, Pesticides, and Toxics
Management Division

Enclosure

cc: Jeffery Koerner, Florida Department of Environmental Protection

David A. Buff, Golder Associates Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Ms. Jane Workman
Air Permit Manager
Virginia Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, Virginia 23462

23 JAN 2007

Re: Hercules Alternative Monitoring Requests

Dear Ms. Workman:

The United States Environmental Protection Agency (EPA) Region III has received and reviewed the alternative monitoring request, dated November 1, 2005, and follow-up information dated April 11, 2006, for the proposed boiler complex at the Hercules Incorporated (Hercules) facility in Franklin, Virginia. Specifically, Hercules is seeking approval for 1) the use of wet scrubber parametric monitoring in lieu of the installation of a continuous opacity monitor (COM), and 2) an alternative fuel sampling methodology for crude tall oil and tall oil pitch fired in the facility. Based on the information provided, the Agency denies Hercules' request to use wet scrubber parametric monitoring in lieu of COMS. The Agency approves Hercules' alternative fuel sampling methodology for the crude tall oil and tall oil pitch. The details of our determinations are provided below.

The proposed boiler complex will consist of two boilers, each with maximum heat input capacities of 90 million British thermal units per hour (mmBtu/hr). Boiler 1 will fire a mix of natural gas, distillate oil, residual fuel oil, and crude tall oil and tall oil pitch from the adjacent Eastman Chemical resins plant. Boiler 2 will fire natural gas and distillate fuel oil. To comply with the sulfur limits in Section 60.42c(d), Hercules claims that both boilers will fire fuels with sulfur content less than 0.5 weight-percent.

In order to control sulfur dioxide (SO_2) for PSD avoidance and particulate matter (PM) emissions to comply with the Boiler maximum available control technology, Hercules is proposing to install a wet scrubber control device for controlling emissions from Boiler 1. However, Hercules claims that installation of a wet scrubber will not provide accurate opacity measurement due to liquid water from the wet scrubber entrained in the effluent gases. Therefore, Hercules is seeking approval to monitor wet scrubber operating parameters in lieu of COMS for Boiler 1.

As stated below, Subpart Dc requires owners and operators of affected facilities burning coal, oil, gas, or wood to install and operate COMS.

> The owner or operator of an affected facility combusting coal, oil, gas, or wood that is subject to the opacity standards under §60.43c shall install, calibrate, maintain, and operate a COMS for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system, except as specified in paragraphs (c) and (d) of this section.

40 CFR Section 60.47c(a)

However, as stated below, Subpart Dc offers relief from PM emission monitoring for affected sources burning low sulfur fuel.

> Units that burn only oil that contains no more than 0.5 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 230 ng/J (0.54 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring <u>if they maintain fuel supplier certifications of the sulfur content of the fuels burned</u>.

40 CFR Section 60.47c(c)

As described in the November 1, 2005, request, Boiler 2 only fires natural gas and distillate oil. Therefore, Hercules may demonstrate, using fuel supplier certification, that the fuels fired are low sulfur, in lieu of installing COMS.

In addition to natural gas and distillate oil, Boiler 1 will also fire process liquids, such as crude tall oil and tall oil pitch, from an adjacent chemical facility. Because fuel supplier certifications are not available for these fuels, the PM monitoring exemption provided in 40 CFR Section 60.47c(c) is not applicable to Boiler 1. Boiler 1 would be required to install and operate a COMS per 40 CFR Section 60.47(c)(a).

As cited in your incoming request, the Agency previously approved parametric monitoring of wet scrubbers when moisture interference precluded the use of COMS. At the time of these approvals, no other proven direct PM monitoring options were available. Since then, the Agency has developed performance specification for PM CEMS. <u>See</u> 69 FR 1802, January 12, 2004. In addition, Subpart Dc was amended February 27, 2006 (71 FR 9886) to provide owners or operators with the option to install PM continuous emission monitors (CEMs) in lieu of COMS. Thus, the Agency denies the request to use scrubber parametric monitoring unless the source can demonstrate that PM CEMS is not a viable alternative to COMS for Boiler 1.

For Boiler 1, Hercules is also seeking approval for alternative fuel monitoring in accordance with the alternative monitoring provisions in 40 CFR Section 60.13(i). Hercules proposes the following methodology for sampling the crude tall oil and tall oil pitch fired in Boiler 1:

- Conduct an analysis of the crude tall oil and tall oil pitch in the storage tank for sulfur content in order to determine compliance with the sulfur content of Subpart Dc.
- Actual sampling and analysis of the crude tall oil and tall oil pitch for the sulfur content will be conducted at least twice per week, especially whenever there is any change in the process, for a period of three (3) months.
- If the analysis shows consistent compliance with the Subpart Dc regulations, then analysis only needs to be done once per month for the next six (6) months.
- If Subpart Dc compliance is proven on a consistent basis under the given procedure, then sampling and analysis of the crude tall oil and the tall oil pitch only needs to be done semi-annually from that point on. All sampling and analysis records must be maintained for a period of five (5) years.

Based on recent and historical data provided by Hercules on the sulfur content of the tall oil and tall oil pitch, the Agency is confident that the sulfur content in these fuels will not exceed 0.5 percent by weight. Therefore, consistent with previous Agency determinations, we approve the above proposed alternative fuel sampling alternative for Boiler 1.[1] If however, fuel sampling demonstrates that the sulfur content of the fuels burned in Boiler 1 exceeds 0.5 percent by weight, the Agency may require the source to comply with the sulfur emission limit in 40 CFR Section 60.42c(d) and install and operate the appropriate continuous monitoring equipment per 40 CFR Section 60.46c to demonstrate compliance with Subpart Dc.

This response has been coordinated with EPA's Office of Enforcement and Compliance Assurance. If you should have any comments or questions in regard to this determination, do not hesitate to contact James Hagedorn, of the Air Enforcement Branch, at (215) 814-2161.

Sincerely,

Judith M. Katz, Director
Air Protection Division

cc: Andrew C. Lucas , Hercules, Inc.-Franklin Plant
Michael W. Miller, Plant Manager, Hercules, Inc.-Franklin Plant
Paul Greywall, Trinity Consultants, Inc.
Dr. Yen T. Bao, VaDEQ-Tidewater Regional Office
Greg Fried, OECA

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[1] Letter from Judith M. Katz, Director, Air Protection Division, EPA Region 3 to Robert L. Reitchey, Senior Environmental Control Consultant, Dupont Washington Works, February 13, 2001, ADI#0100018.