JEA
BUCKMAN STREET WASTEWATER TREATMENT PLANT
FACILITY ID NO.: 0310166
DUVAL COUNTY

AIR CONSTRUCTION PERMIT
FINAL PERMIT NO.: 0310166-013-AC

Permitting & Compliance Authority:
Environmental and Compliance Department
Environmental Quality Division
Ed Ball Building, 214 North Hogan Street, 7th Floor
Jacksonville, FL 32202
Telephone: (904) 255-7100
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Air Construction Permit
FINAL Permit No.: 0310166-013-AC

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Emission Unit ID No.	**Brief Description**
003	Odor Control System No. 1
004	Odor Control System No. 2
018	Boiler No. 1
019	Odor Control System No. 2A

Permittee:
JEA
21 West Church Street, T-8
Jacksonville, FL 32202

FINAL Permit No.: 0310166-013-AC
Facility ID No.: 0310166
SIC No.: 49
Project: Air Construction Permit
Bio-solids Process Modification

This permit is for the modification of the biosolids process at JEA, Buckman Water Reclamation Facility located at 2221 Buckman Street, Jacksonville, Duval County, Florida, 32206. UTM Coordinates: Zone 17, 439.4 km East and 3357.7 km North; Latitude: 30^0 21' 08" North and Longitude: 81^0 37' 42" West.

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (FAC) Rules 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Environmental and Compliance Department, Environmental Quality Division (Permitting Authority), and made a part hereof, in accordance with the terms of this permit.

***Title V Air Operation Permit Application Due Date:** **July 1, 2013**

Expiration Date: **September 30, 2013**

Environmental and Compliance Department
Environmental Quality Division

_____
Robert Steven Pace, P.E., Manager
Air Quality Branch

RSP/GHB

***Note: See Section II. Facility Wide Conditions, Subsection B., Specific Condition 7**

Section I. Facility Information

Subsection A. Project and Facility Description

The applicant, JEA, applied on November 18, 2011 to the Permitting Authority for a permit to modify the biosolids process at the Buckman Water Reclamation Facility. The permit includes the construction of an anaerobic digester tank with a concrete cover, the installation of a new membrane gas storage unit, the construction of a new digester control building, the installation of a new boiler, the demolition of existing biofilters in Odor Control Systems No. 1, 2 and 3. The biofilters for Odor Control Systems No. 1 and 2 will be replaced with newly installed bioscrubbers. Odor Control System No. 3 (Emissions Unit No. 006) will be eliminated. The Pre-Aeration system which it served will be converted into a grit removal process. This eliminates the need for an odor control unit since air will no longer be injected into the influent wastewater stream, thereby preventing the generation of odors. Additionally, a new odor control system equipped with a new bioscrubber will be installed. This permit replaces Air Pollution Construction Permit No. 0310166-012-AC which was issued to the facility on February 24, 2011.

The facility is a municipal wastewater treatment plant with a maximum wastewater treatment capacity of 52.5 million gallons per day. Raw waste water from the sanitary sewer collection system is junctioned to an influent pump station, from which it enters the waste water treatment train consisting of the following major process units; Aerated Grit Chamber, Primary Clarifiers, Aeration Basins, Secondary Clarifiers, and the Chlorination and Sulfur Dioxide Contact Chambers. Treated effluent is discharged to the St. Johns River. Odorous gases from the influent junction box, wet well and pump station prior to the Aerated Grit Chamber are collected and treated in Odor Control System No. 1. Odorous gas from the Biosolids Building will be treated in the Odor Control System No. 2. Odorous gases from the Raw Sludge Storage Tank will be collected and treated in the new Odor Control System No. 2A.

The sludge drying system is equipped with a venturi scrubber followed in series by a regenerative thermal oxidizer for the control of air pollutant emissions. Particulate matter emissions generated by the handling of dry sludge pellets (generated by the sludge dryer) are controlled by a Flex-Kleen baghouse dust collector which is either vented to the regenerative thermal oxidizer (RTO) or through the gravity belt thickener odor control system to the atmosphere as an alternate operating scenario. Portions of the air flow from the baghouse may be vented to both the RTO and the odor control system simultaneously depending on operational needs. Currently, there are two anaerobic digesters for wastewater treatment and the production of bio-gas. One new 2.27 million gallon anaerobic digester will be constructed. Currently, there are two hot water boilers producing hot water and heat for the bio-solids treatment process. One new 3.8 MMBtu/hr hot water boiler will be added. There are two sludge holding tanks with one operating as a raw sludge holding tank and the other operating as a digested sludge holding tank equipped with a membrane cover providing low pressure digester gas storage. An internal combustion engine generator generates electricity. A flare combusts bio-gas as a back-up to the sludge drum dryer. The sludge drum dryer, the hot water boilers, and internal combustion engine generator are each capable of firing either natural gas, digester gas, or a blend of both gases. Air pollution sources will include the following: sludge drum dryer, product storage and truck loading operation, three hot water boilers, digester gas flare (back-up), and internal combustion engine. The bio-solids process emits the air pollutants particulate matter, particulate matter equal to or less than 10 microns in aerodynamic diameter, volatile organic compounds, oxides of nitrogen, carbon monoxide, and sulfur dioxide.

Subsection B. Summary of Emission Unit (EU) ID Nos. and Brief Descriptions

Emission Unit ID No.	Brief Description
003	Odor Control System No. 1
004	Odor Control System No. 2

018	Boiler No. 1
019	Odor Control System No. 2A

Subsection C. Relevant documents

Air Construction Permit No.0310166-012-AC
Air construction permit application received November 18, 2011

Section II. Facility Wide Conditions

Subsection A. General Conditions

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Permitting Authority will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Permitting Authority.

3. The issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Permitting Authority permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Permitting Authority rules, unless specifically authorized by an order from the Permitting Authority.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Permitting Authority rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Permitting Authority rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Permitting Authority personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:
    a. Have access to and copy any records that must be kept under conditions of the permit;
    b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
    c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Permitting Authority rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Permitting Authority with the following information:
    a. A description of and cause of noncompliance; and
    b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Permitting Authority for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Permitting Authority may be used by the Permitting Authority as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Permitting Authority rules, except where such use is prescribed by Sections 403.111 and 403.73, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Permitting Authority rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Permitting Authority rules.

11. This permit is transferable only upon Permitting Authority approval in accordance with Rules 62-4.120 and 62-730.300, FAC, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Permitting Authority.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:
    (X) Determination of Best Available Control Technology (BACT)
    ( ) Determination of Prevention of Significant Deterioration (PSD)
    ( ) Compliance with New Source Performance Standards
    ( ) Compliance with National Emissions Standards for Hazardous Air Pollutants

14. The permittee shall comply with the following:
    a. Upon request, the permittee shall furnish all records and plans required under Permitting Authority rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Permitting Authority.
    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by this permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Permitting Authority rule.
    c. Records of monitoring information shall include:
        1. The date, exact place, and time of sampling or measurements;
        2. The person responsible for performing the sampling or measurements;
        3. The date(s) analyses were performed;
        4. The person responsible for performing the analyses;
        5. The analytical techniques or methods used;
        6. The results of such analyses.

15. When requested by the Permitting Authority, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Permitting Authority, such facts or information shall be corrected promptly.
[Rule 62-4.160, FAC, and Rule 2.1401, Jacksonville Environmental Protection Board (JEPB)]

Subsection B. Specific Conditions

1. Any revision(s) to a permit shall be submitted to and approved by the Permitting Authority prior to implementing.
[Rule 62-4.080(2), FAC, and Rule 2.1401, JEPB]

2. Permittee shall submit an annual operation report to the Permitting Authority for this (these) emission unit(s) on the form(s) supplied for each calendar year on or before April 1 of the following year.
[Rule 62-210.370(3), FAC, and Rule 2.301, JEPB]

3. A permittee may request that a permit be extended as a modification of the permit. Such a request must be submitted to the Permitting Authority in writing before the expiration of the permit.
[Rule 62-4.080(3), FAC, and Rule 2.1401, JEPB]

4. Permittee shall notify the Permitting Authority fifteen (15) days prior to EU testing.
[Rule 62-297.310(7)(a)(9), FAC, and Rule 2.1101, JEPB.]

5. Copies of the test report(s) shall be filed with the Permitting Authority within forty-five (45) days of completion of testing.
[Rule 62-297.310(8)(b), FAC, and Rule 2.1101, JEPB]

6. Stack sampling facilities shall comply with the applicable requirements of Rule 62-297.310(6), FAC, and Rule 2.1101, JEPB.

7. To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for a Title V Air Operating Permit with compliance records and test results, to the Permitting Authority, at least 90 days prior to the expiration date of the construction permit but no later than 180 days after initial start-up, whichever occurs first.
[Rule 62-213.420(1)(a), FAC and Rule 2.501, JEPB]

8. <u>General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited</u>. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants, which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), FAC, and Rule 2.1101, JEPB]

9. <u>General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emission or Organic Solvents (OS) Emissions.</u> The permittee shall allow no person to store, pump, handle, process, load, unload, or use in any installation, VOC or OS without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Permitting Authority.
[Rule 62-296.320(1)(a), FAC, and Rule 2.1101, JEPB]

10. The facility shall be subject to City of Jacksonville Ordinance Code, Title X, Chapter 360 [Environmental Regulation], Chapter 362 [Air and Water Pollution], Chapter 376 [Odor Control], and JEPB Rule 1 [Final Rules with Respect to Organization, Procedure, and Practice].

11. The facility shall be subject to JEPB Rule 2, Part Nos. I through VII, and Part Nos. IX through XIV.

12. Excess emissions resulting from startup, shutdown, or malfunction of any emission unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Permitting Authority for longer duration. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. In the case of excess emissions resulting from malfunctions, each owner or operator shall notify the Permitting Authority in accordance with Rule 62-4.130, FAC and Rule 2.1301, JEPB. A full written report on the malfunctions shall be submitted to the Permitting Authority in a quarterly report, if requested by the Permitting Authority. [Rule 62-210.700, FAC, and Rule 2.201, JEPB]

13. Testing of emissions shall be conducted with the EU operating at permitted capacity. Permitted capacity is defined as 90-100 percent of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then EU may be tested at less than capacity; in this case subsequent EU operation is limited to 110 percent of the test load until a new test is conducted. Once the EU is so limited, then operation at higher capacities is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the permitted capacity in the permit.
[Rule 62-297.310(2), FAC, and Rule 2.1201, JEPB]

14. Modifications: The permittee shall notify the Permitting Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Permitting Authority. Such permit shall be obtained prior to beginning construction or modification.
[Rule 62-210.300(1), FAC, Rule 62-212.300(1)(a), FAC, Rule 2.301, JEPB, and Rule 2.401, JEPB]

15. Source Obligation:
    a. Authorization to construct shall expire if construction is not commenced within 18 months after receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. This provision does not apply to the time period between construction of the approved phases of a phased construction project except that each phase must commence construction within 18 months of the commencement date established by the Permitting Authority in the permit.
    b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), FAC, shall apply to the source or modification as though construction had not yet commenced on the source or modification.
    c. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), FAC., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    [Rule 62-212.400(12), FAC and Rule 2.401, JEPB]

16. The permittee shall submit all compliance related notifications and reports required of this permit to:

Environmental and Compliance Department
Environmental Quality Division
Ed Ball Building, 214 North Hogan Street, 7th Floor

Jacksonville, FL 32202
Telephone: (904) 255-7100
Fax: (904) 588-0518

17. Any reports, data, notification, certifications, and requests required to be sent to the United States Environmental Protection Agency, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch
61 Forsyth Street
Atlanta, GA 30303
Telephone: 404/562-9155
Fax: 404/562-9163

Section III. Emission Units and Conditions

Emission Unit 003-Odor Control System No. 1

Emission Unit Description: Collects off gases from the influent junction box, wet well, and pump station

Odorous gas control device: Gas collection duct work, gas blowers, humidifier, and 12 ft bioscrubber

Essential Potential to Emit (PTE) Parameters

1. The process airflow rate is 14,000 cfm.
[Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

2. This EU shall be allowed to operate continuously, i.e., 8760 hours per year.
[Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

Emission Limitations and Standards

3. Emissions of hydrogen sulfide (H2S) shall be limited to 5 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

4. Emissions of Dimethyl Sulfide (DMS) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

5. Emissions of Dimethyl disulfide (DMDS) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

6. Emissions of Methyl Mercaptan (MM) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

Test Methods and Procedures

7. Testing to demonstrate compliance shall be conducted in accordance with EPA Reference Method 16 (as described in 40 CFR 60, Appendix A) for the determination of the emissions of H2S, DMS, DMDS, and MM.
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

8. Initial H2S, DMS, DMDS, and MM testing shall be conducted within 60 days after achieving the maximum production rate, but no later than 180 days after the initial start-up of the new control device.
[Rule 62-4.070(3), FAC and Rule 2.1401, JEPB]

Emission Unit 004-Odor Control System No. 2

Emission Unit Description: Collects off gases from the Biosolids Building

Odorous gas control device: Gas collection duct work, gas blowers, humidifier, and 12-ft bioscrubber

Essential Potential to Emit (PTE) Parameters

1. The process airflow rate is 15,500 cfm.
[Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

2. This EU shall be allowed to operate continuously, i.e., 8760 hours per year.
[Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

Emission Limitations and Standards

3. Emissions of hydrogen sulfide (H2S) shall be limited to 5 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

4. Emissions of Dimethyl Sulfide (DMS) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

5. Emissions of Dimethyl disulfide (DMDS) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

6. Emissions of Methyl Mercaptan (MM) shall be limited to 1 ppm (v/v).
[Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

Test Methods and Procedures

7. Testing to demonstrate compliance shall be conducted in accordance with EPA Reference Method 16 (as described in 40 CFR 60, Appendix A) for the determination of the emissions of H2S, DMS, DMDS, and MM.
[Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

8. Initial H2S, DMS, DMDS, and MM testing shall be conducted within 60 days after achieving the maximum production rate, but no later than 180 days after the initial start-up of the new control device.
[Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

Emission Unit No. 013 (Boiler No. 2), Emission Unit No. 014 (Boiler No. 3) and

Emission Unit No. 018 (Boiler No. 1)

Emission Unit Description: Three hot water boilers fired by natural gas, bio-gas, or a combination of both.

Essential Potential to Emit (PTE) Parameters

1. Each boiler shall be allowed to operate continuously; i.e.: 8760 hours per year.
[Rule 62-210.200(PTE), FAC, and Rule 2.301, JEPB]

Emission Limitations and Standards

2. The heat input for Boiler No.2 and No. 3 shall each be limited to 5 MMBtu per hour and the heat input for Boiler No. 1 shall be limited to 3.8 MMBtu per hour while firing natural gas, bio-gas, or a combination of both.
[Rule 62-210.200(PTE), FAC, and Rule 2.301, JEPB]

3. Fuels which may be fired are natural gas, bio-gas, or a combination of both.
[Rule 62-210.200(PTE), FAC, and Rule 2.301, JEPB]

4. Sulfur dioxide (SO_2) and PM emissions shall be controlled in accordance with the Best Available Control Technology (BACT) Determination.
[Rule 62-296.406(2) & (3), FAC and Rule 2.1101, JEPB]

5. VE shall be limited to 20% opacity continuous. 27% opacity shall be allowed for up to 6 minutes per hour.
[Rule 62-296.406(1), FAC, and Rule 2.1101, JEPB]

Test Methods and Procedures

6. Testing for demonstration of compliance shall be performed in accordance with Environmental Protection Agency (EPA) Reference Method (RM) 9 (as described in 40 CFR 60, Appendix A) for the visual determination of opacity.
[Rule 62-297.401(9), FAC and Rule 2.1201, JEPB]

7. VE testing on each emission unit shall be conducted for a minimum period of one hour. Testing shall be conducted during each federal fiscal year (October 1 – September 30).
[Rule 62-297.310(4)(a)2., FAC, Rule 62-297.310(7)(a)4.a., FAC and Rule 2.1201, JEPB]

8. Initial VE compliance testing [EU No. 018 (Boiler No. 1)] shall be conducted within 60 days after achieving the maximum production rate at which the boiler will be operated but no later than 180 days after initial start-up of the boiler.
[Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

Record-keeping and Reporting

9. The permittee shall maintain the following records:
   a. Heat input to the boilers on a daily basis
   b. Fuel firing rate to the boilers on a daily basis
   c. Type of fuel fired on a daily basis
   d. Operating hours of the boilers on a daily basis

   Records shall be maintained for a minimum period of five (5) years and shall be made available to the Permitting Authority upon request.
[Rule 62-212.300, FAC, and Rule 2.401, JEPB]

Emission Unit 019-Odor Control System No. 2A

Emission Unit Description: Collects off gases from the Raw Sludge Storage Tank

Odorous gas control device: Gas collection duct work, gas blowers, humidifier, and 8-ft bioscrubber

Essential Potential to Emit (PTE) Parameters

1. The process airflow rate is 4,000 cfm.
   [Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

2. This EU shall be allowed to operate continuously, i.e., 8760 hours per year.
   [Rule 62-210.200(PTE), FAC and Rule 2.301, JEPB]

Emission Limitations and Standards

3. Emissions of hydrogen sulfide (H2S) shall be limited to 5 ppm (v/v).
   [Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

4. Emissions of Dimethyl Sulfide (DMS) shall be limited to 1 ppm (v/v).
   [Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

5. Emissions of Dimethyl disulfide (DMDS) shall be limited to 1 ppm (v/v).
   [Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

6. Emissions of Methyl Mercaptan (MM) shall be limited to 1 ppm (v/v).
   [Stipulation for Consent Agreement dated May 7, 1980, Permit AO16-139973]

Test Methods and Procedures

7. Testing to demonstrate compliance shall be conducted in accordance with EPA Reference Method 16 (as described in 40 CFR 60, Appendix A) for the determination of the emissions of H2S, DMS, DMDS, and MM.
   [Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

8. Initial H2S, DMS, DMDS, and MM testing shall be conducted within 60 days after achieving the maximum production rate, but no later than 180 days after the initial start-up of the new emission unit.
   [Rule 62-4.070(3), FAC, and Rule 2.1401, JEPB]

Section IV. Special Conditions for EU Nos. 007-018

1. In order to provide reasonable assurance that applicable PSD significant levels and sulfur dioxide ambient air concentration standards are not exceeded with the installation and operation of the bio-solids process, restrictions have been placed on the quantity and quality of the bio-gas which may be combusted in the sludge dryer, caterpillar engine, boilers, and the flare. The sulfide content of the bio-gas (as hydrogen sulfide) which may be combusted shall be limited to a maximum of 12,500 ppm by volume based on a weekly test. Testing shall be performed on the bio-gas in accordance with one of the following test methods:

   D 5504-98
   D 1072-80
   D 3031-81
   D 4084-82
   D 3246-81

The test method most appropriate for the sulfide content range of the bio-gas fuel shall be used. Updated versions of the referenced test methods may also be used upon approval of the EQD.

Bio-gas fuel consumption shall be limited using the following equations:

Daily fuel consumption (DFC) = $1.215 \times 10^{10}/C$

DFC is in terms of standard cubic feet per day (scf/day), C is in terms of bio-gas sulfides (as hydrogen sulfide) concentration in parts per million by volume (ppmv)

Annual fuel consumption (AFC) = $2.036 \times 10^{6}/C$

AFC is in terms of million standard cubic feet per year (mmscf/yr), C is in terms of bio-gas sulfides (as hydrogen sulfide) concentration in parts per million by volume (ppmv)

In no case shall the AFC of bio-gas exceed 438 mmscf. Annual refers to a calendar year basis.
[Rule 62-4.070, FAC, and Rule 2.1401, JEPB]

2. The permittee shall maintain records of the quantity and quality of the bio-gas produced at the facility on a semi-annually basis. Direct measurement using acceptable engineering measurement methods shall be used to determine the quantity of bio-gas produced. The quality (sulfide content) of the bio-gas produced shall be determined in accordance with above referenced method(s) on at least a weekly basis. The permittee shall calculate the sulfur dioxide emissions on a semi-annual basis using information required by this permit. This information shall be recorded and summarized in a log.

3. Semi-annual reports of the quantity and quality of bio-gas produced [including the weekly gas analysis test reports (only submit semi-annually)], and the calculated sulfur dioxide emissions on a semi-annual basis shall be submitted to the Permitting Authority. These reports are due by the end of the month following completion of each six month period (i.e.: JAN-JUN reporting period due July 31, JUL-DEC reporting period due January 31).

4. Facility sulfur dioxide emissions shall be capped at 175 tons per year based upon a calendar year.