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Golder Associates

April 23, 2010 093-87678

Jon Holtom, P.E., Title V Section Administrator
Florida Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: BAY COUNTY RESOURCE RECOVERY FACILITY
REQUEST FOR ADDITIONAL INFORMATION
FDEP FILE NO. 0050031-012-AC
REQUEST TO RERATE UNITS 1 AND 2

Dear Mr. Holtom:

Bay County Utility Services (Bay County) has received the Florida Department of Environmental Protection's (FDEP's) request for additional information (RAI) dated March 29, 2010, regarding the air construction permit application to rerate Units 1 and 2. Each of FDEP's requests is answered below, in the same order as they appear in the RAI letter.

Comment 1. **The plant installed air pollution controls prior to November 2005. The "baseline actual emissions (BAE)" should reflect actual emissions after the installation of these controls. In addition, the compliance date pursuant to NSPS Subpart BBBB in 40 CFR 60 was November 16, 2005. The purpose of the NSR Reform regulations is to compare "actual" emissions. In Rule 62-210.200, Florida Administrative Code (F.A.C.), part of the definition of *actual emissions* is, "In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date *and which is representative of the normal operation of the emissions unit.*" Revise the baseline actual emissions as follows: to establish the baseline actual activity level (e.g., steam production), you may use a 2-year baseline period (for production data) that occurs before the installation of new air pollution controls; however, actual emissions data obtained *after* the installation of the new air pollution controls must be used because of the extent of this project. For pollutants with stack test data, use the available stack tests conducted after the control systems were installed.**

Response: We do not believe the Department is correct in the reading and application of this rule. Rule 62-210.200(11), the definition of "actual emissions," is the old definition prior to the promulgation of the new source review (NSR) reform rules. Nevertheless, this definition refers to "actual emission as of a particular date..." Under the NSR reform rules, the applicant is allowed to choose a 2-year period from the last 10 years. Therefore, application of 210.200(11) would require that for each year during the last 10 years that baseline actual emissions are calculated, the emissions should be representative of that particular year ("particular date"). We do not believe this definition means that the actual emissions be representative of the current (i.e., year 2010) normal operation of the unit.

The definition of "baseline actual emissions" under the NSR reform rules is very explicit [Rule 62-210.200(36)]:

> 36) "Baseline Actual Emissions" – The rate of emissions, in tons per year, of a PSD pollutant, as follows:
>
> (b) For an existing emissions unit (other than an electric utility steam generating unit), baseline actual emissions means the average rate, in tons per year, at which the

emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 10-year period immediately preceding the date a complete permit application is received by the Department, except that the 10-year period shall not include any period earlier than November 15, 1990.

1. The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups and shutdowns.

2. The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above an emission limitation that was legally enforceable during the consecutive 24-month period.

3. The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period.

4. For a PSD pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive 24-month period can be used for each PSD pollutant.

5. The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by subparagraphs (b)2. and 3. above.

Based on this definition, there is no requirement to explicitly base the baseline actual emissions on emissions after installation of the new air pollution controls in November 2005. The actual emissions do have to be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the source must currently comply, had such source been required to comply with such limitations during the consecutive 24-month period. In this manner, the new rules indirectly require the new air pollution controls to be reflected in the emissions. For the Bay County Waste to Energy facility (BCWTE), the application of these rules is explained on page 12 of Attachment A to the application. Downward adjustments in actual emissions were made for pollutants and years for which the current emission limit was exceeded (see "adjusted emissions" column in Tables A-6 through A-9 in Appendix A).

In addition, only certain pollutants were affected by the new air pollution control equipment. The following pollutants were unaffected by the new controls, since these pollutants are based on the combustion process, and the municipal waste combustors (MWCs) were not altered or modified due to the new air pollution controls: nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOCs). For all other pollutants, all stack test data were separated into two periods: 2000-2004 (prior to new air controls) and 2005-2008 (after new air controls). Proper downward adjustments were then made to the 2000-2004 time period data to reflect the new air control equipment and new emission limits.

Although we do not agree with FDEP's position, we have nevertheless performed a calculation of the baseline emissions using FDEP's stated approach. These baseline emissions are shown in Table 1 (attached).

Comment 2. **The application maintains that the "re-rating" will not result in an actual change in the emissions profile from the units. In other words, although the "lb/hour" emissions may increase when firing above 245 tons/day, the "lb/ton of waste" (or lb/1000 lb of steam) would not increase. Therefore, the emission factor used to determine "projected actual emissions (PAE)" should be the same as the emission factor used for the BAE. The purpose of the evaluation is to determine whether the "actual" emissions increases caused by the project will result in a PSD significant emissions increase. Increasing the emission factor used for determining PAE above the emission factor used for BAE suggests that the proposed physical change will result in an increased actual emissions profile for the units. In the**

future, when reporting emissions after completing the project, the plant is afforded the opportunity to explain emissions increases and whether these are related to the project. This should not be done during preconstruction review when no facts are available with regard to actual emissions changes.

Response: FDEP's comments are acknowledged. Higher emission factors for projected actual emissions are often used to protect the applicant, and to reflect the actual emissions that could occur in a future worst-case individual year. The applicant will have to report to FDEP its actual emissions for each year for the next 5 years, so this procedure informs the FDEP and the applicant as to the highest expected emissions. The apparent increase in emissions is due to the methodology that must be followed in establishing baseline actual emissions, which must be a 2-year average, as opposed to projected actual emissions, which represent a single year emission rate. Nevertheless, based on FDEP's request, we have revised the projected actual emissions to reflect the same emission factor in pounds per pound of steam produced as used for the baseline actual emissions. The activity factor has also been revised and it is now calculated by multiplying the average steam production rate in pounds per year achieved during the highest 2-year average baseline period (2002-2003) by the ratio of the requested maximum 24-hour steam rate [68,000 pounds per hour (lb/hr)] and the currently permitted maximum 24-hour steam rate (65,333 lb/hr). See attached revised tables. The revised Prevention of Significant Deterioration (PSD) applicability analysis is also attached.

Comment 3. **Any revised emission calculations must follow the procedures pursuant to Rule 62-210.370, F.A.C. and the required hierarchy for using the highest quality emissions factors. If you have any questions regarding a unique circumstance, please contact us and we will interpret these requirements for you with regard to this rule.**

Response: FDEP's comments are acknowledged. The application contained a complete discussion of the derivation of the baseline emissions and emission factors, in accordance with Rule 62-210.370.

Comment 4. **See the third paragraph in Section 2.2 of the project discussion. Explain the rationale for basing the "maximum hourly rates" on 110% of the 24-hour average? Does the plant intend to conduct compliance tests within 90% of the "maximum hourly steaming rate" based on this methodology?**

Response: This is consistent with previous permitting of the facility and the current Title V operating permit. Per Subpart Cb, the unit will not be allowed to operate at greater than 110 percent of the maximum demonstrated load for the unit. Moreover, in order to achieve a 24-hour average steam rate of 68,000 lb/hr, the MWC units must be permitted to operate at times above 68,000 lb/hr steam. BCWTE has already conducted compliance testing at within 90 percent of the requested new maximum 24-hour average rate of 68,000 lb/hr steam. There is no requirement to test at 90 percent of the maximum hourly rate of 74,800 lb/hr steam.

Comment 5. **Provide a list of the specific applicable requirements contained in 40 CFR 60, Subpart Cb.**

Response: See the attached list of applicable requirements.

Comment 6. **Compliance Assurance Monitoring (CAM) is required for all control devices that are being used to control the emissions for a certain pollutant that has a specific emissions limiting standard where the potential emissions of that pollutant would be greater than the Title V applicability levels without the control device. Emissions units subject to a post 1990 federal standard are exempt from complying with the CAM requirements, but only for the specific pollutant and specific standard addressed by the Federal regulation. There are currently several pollutants (i.e. fluorides, hydrogen chloride and sulfuric acid mist) regulated by the PSD permit that are either not regulated by or have higher allowable emissions**

limitations than the new federal limitations from 40 Code of Federal Regulation (CFR) 60, Subpart Cb. These pollutants are subject to CAM if their pre-controlled emissions potentials are greater than the Title V applicability levels. Please provide a CAM applicability determination and the pre-controlled potential emissions for the following pollutants: fluorides, hydrogen chloride and sulfuric acid mist. Also, provide the control efficiencies for the add-on control device or devices for each of these pollutants. Please submit the appropriate CAM plan for each of the pollutants that are determined to be subject to CAM.

Response: For fluorides and hydrogen chloride, BCWTE accepts the Subpart Cb limits as its PSD permit and state-enforceable limits. Therefore, no CAM plan should be required for these pollutants.

To determine pre-control potential emissions for sulfuric acid mist (SAM), the allowable emission limit for SAM prior to the installation of the new air pollution control equipment in 2005 was used. There was no specific SAM control equipment installed during this time, only an electrostatic precipitator (ESP) for particulate matter (PM) control. The allowable SAM limit was 1.5 lb/hr, or 6.57 tons per year (TPY). Therefore, the uncontrolled SAM emissions are below 100 TPY, and no CAM plan is required for SAM.

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

Sincerely,

GOLDER ASSOCIATES INC.

David A. Buff

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

cc: Glenn Ogborn, Bay County
Richard Brookins, BCWTE

Enclosures

DB/edk

Golder Associates

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6026 NW 1st Place**
   City: **Gainesville** State: **FL** Zip Code: **32607**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. Fax: **(352) 336-6603**
4. Professional Engineer E-mail Address: **dbuff@golder.com**
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

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

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☐, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☒, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

David A. Buff — Signature

4/19/10 — Date

(seal)

*Attach any exception to certification statement.

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

APPLICATION INFORMATION

Application Responsible Official Certification

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

1. Application Responsible Official Name:
   Glenn Ogborn, Solid Waste Superintendent

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - ☒ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - ☐ The designated representative at an Acid Rain source, CAIR source, or Hg Budget source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **Bay County Utility Services Department**
   Street Address: **3410 Transmitter Rd**
   City: **Panama City** State: **Florida** Zip Code: **32404**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(850) 784-4028** ext. Fax: **(850) 872-4805**

5. Application Responsible Official E-mail Address: **gogborn@baycountyfl.gov**

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

Signature

4-19-10
Date

TABLE 1
BASELINE ACTUAL EMISSIONS
BAY COUNTY, PANAMA CITY

Source Description	Year 1 Activity Factor [a]	Year 1 Emission Factor [b]	Year 1 (TPY)	Year 2 Activity Factor [a]	Year 2 Emission Factor [b]	Year 2 (TPY)	Average (TPY)
Sulfur Dioxide - SO_2							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.0174 lbs/10^6 lb Steam	4.43	504,740 10^3 lb/yr Steam	0.0174 lbs/10^6 lb Steam	4.39	4.41
	1.87 10^6 CF Natural Gas	0.600 lb/10^6 scf	5.61E-04	1.66 10^6 CF Natural Gas	0.600 lb/10^6 scf	4.98E-04	5.30E-04
MWC Unit 002	498,812 10^3 lb/yr Steam	0.0175 lbs/10^6 lb Steam	4.38	480,553 10^3 lb/yr Steam	0.0175 lbs/10^6 lb Steam	4.22	4.30
	1.83 10^6 CF Natural Gas	0.600 lb/10^6 scf	5.49E-04	1.65 10^6 CF Natural Gas	0.600 lb/10^6 scf	4.95E-04	5.22E-04
Total:			**8.8**			**8.6**	**8.7**
Nitrogen Oxides - NO_x							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.287 lbs/10^6 lb Steam	73.1	504,740 10^3 lb/yr Steam	0.287 lbs/10^6 lb Steam	72.5	72.8
	1.87 10^6 CF Natural Gas	100 lb/10^6 scf	0.0935	1.66 10^6 CF Natural Gas	100 lb/10^6 scf	0.0830	0.0883
MWC Unit 002	498,812 10^3 lb/yr Steam	0.379 lbs/10^6 lb Steam	94.530	480,553 10^3 lb/yr Steam	0.379 lbs/10^6 lb Steam	91.1	92.8
	1.83 10^6 CF Natural Gas	100 lb/10^6 scf	0.0915	1.65 10^6 CF Natural Gas	100 lb/10^6 scf	0.0825	0.0870
Total:			**167.8**			**163.7**	**165.8**
Carbon Monoxide - CO							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.231 lbs/10^6 lb Steam	58.8	504,740 10^3 lb/yr Steam	0.231 lbs/10^6 lb Steam	58.264	58.5
	1.87 10^6 CF Natural Gas	84.0 lb/10^6 scf	0.0785	1.66 10^6 CF Natural Gas	84.0 lb/10^6 scf	0.0697	0.0741
MWC Unit 002	498,812 10^3 lb/yr Steam	0.262 lbs/10^6 lb Steam	65.4	480,553 10^3 lb/yr Steam	0.262 lbs/10^6 lb Steam	63.0	64.2
	1.83 10^6 CF Natural Gas	84.0 lb/10^6 scf	0.0769	1.65 10^6 CF Natural Gas	84.0 lb/10^6 scf	0.0693	0.0731
Total:			**124.3**			**121.4**	**122.9**
Particulate Matter- Total PM							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.0216 lbs/10^6 lb Steam	5.51	504,740 10^3 lb/yr Steam	0.0216 lbs/10^6 lb Steam	5.46	5.49
	1.87 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00711	1.66 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00631	0.00671
MWC Unit 002	498,812 10^3 lb/yr Steam	0.0138 lbs/10^6 lb Steam	3.43	480,553 10^3 lb/yr Steam	0.0138 lbs/10^6 lb Steam	3.31	3.37
	1.83 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00695	1.65 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00627	0.00661
Total:			**8.96**			**8.78**	**8.87**
Particulate Matter - PM_{10}							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.0117 lbs/10^6 lb Steam	2.98	504,740 10^3 lb/yr Steam	0.0117 lbs/10^6 lb Steam	2.95	2.96
	1.87 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00711	1.66 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00631	0.00671
MWC Unit 002	498,812 10^3 lb/yr Steam	0.00743 lbs/10^6 lb Steam	1.85	480,553 10^3 lb/yr Steam	0.00743 lbs/10^6 lb Steam	1.78	1.82
	1.83 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00695	1.65 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00627	0.00661
Total:			**4.84**			**4.75**	**4.80**
Particulate Matter - $PM_{2.5}$							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.00844 lbs/10^6 lb Steam	2.15	504,740 10^3 lb/yr Steam	0.00844 lbs/10^6 lb Steam	2.13	2.14
	1.87 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00711	1.66 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00631	0.00671
MWC Unit 002	498,812 10^3 lb/yr Steam	0.00536 lbs/10^6 lb Steam	1.34	480,553 10^3 lb/yr Steam	0.00536 lbs/10^6 lb Steam	1.29	1.31
	1.83 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00695	1.65 10^6 CF Natural Gas	7.6 lb/10^6 scf	0.00627	0.00661
Total:			**3.50**			**3.43**	**3.47**
Volatile Org Cmpd - VOC							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.0107 lbs/10^6 lb Steam	2.73	504,740 10^3 lb/yr Steam	0.0107 lbs/10^6 lb Steam	2.70	2.71
	1.87 10^6 CF Natural Gas	5.50 lb/10^6 scf	0.00514	1.66 10^6 CF Natural Gas	5.50 lb/10^6 scf	0.00457	0.00485
MWC Unit 002	498,812 10^3 lb/yr Steam	0.00608 lbs/10^6 lb Steam	1.52	480,553 10^3 lb/yr Steam	0.00608 lbs/10^6 lb Steam	1.46	1.49
	1.83 10^6 CF Natural Gas	5.50 lb/10^6 scf	0.00503	1.65 10^6 CF Natural Gas	5.50 lb/10^6 scf	0.00454	0.00479
Total:			**4.25**			**4.17**	**4.21**
Sulfuric Acid Mist - SAM							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	7.74E-04 lbs/10^6 lb Steam	0.197	504,740 10^3 lb/yr Steam	7.74E-04 lbs/10^6 lb Steam	0.195	0.196
	1.87 10^6 CF Natural Gas	0.0267 lb/10^6 scf	2.50E-05	1.66 10^6 CF Natural Gas	0.0267 lb/10^6 scf	2.21E-05	2.35E-05
MWC Unit 002	498,812 10^3 lb/yr Steam	7.80E-04 lbs/10^6 lb Steam	0.195	480,553 10^3 lb/yr Steam	7.80E-04 lbs/10^6 lb Steam	0.188	0.191
	1.83 10^6 CF Natural Gas	0.0267 lb/10^6 scf	2.44E-05	1.65 10^6 CF Natural Gas	0.0267 lb/10^6 scf	2.20E-05	2.32E-05
Total:			**0.392**			**0.383**	**0.387**
Lead - Pb							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	3.42E-05 lbs/10^6 lb Steam	0.00871	504,740 10^3 lb/yr Steam	3.42E-05 lbs/10^6 lb Steam	0.00864	0.00868
	1.87 10^6 CF Natural Gas	5.00E-04 lb/10^6 scf	4.7E-07	1.66 10^6 CF Natural Gas	5.00E-04 lb/10^6 scf	4.15E-07	4.41E-07
MWC Unit 002	498,812 10^3 lb/yr Steam	7.91E-06 lbs/10^6 lb Steam	0.00197	480,553 10^3 lb/yr Steam	7.91E-06 lbs/10^6 lb Steam	0.0019	0.00194
	1.83 10^6 CF Natural Gas	5.00E-04 lb/10^6 scf	4.6E-07	1.65 10^6 CF Natural Gas	5.00E-04 lb/10^6 scf	4.13E-07	4.35E-07
Total:			**0.011**			**0.011**	**0.0106**
Mercury - Hg							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	1.01E-05 lbs/10^6 lb Steam	0.00258	504,740 10^3 lb/yr Steam	1.01E-05 lbs/10^6 lb Steam	0.00256	0.00257
	1.87 10^6 CF Natural Gas	2.60E-04 lb/10^6 scf	2.43E-07	1.66 10^6 CF Natural Gas	2.60E-04 lb/10^6 scf	2.16E-07	2.29E-07
MWC Unit 002	498,812 10^3 lb/yr Steam	7.71E-06 lbs/10^6 lb Steam	0.00192	480,553 10^3 lb/yr Steam	7.71E-06 lbs/10^6 lb Steam	0.00185	0.00189
	1.83 10^6 CF Natural Gas	2.60E-04 lb/10^6 scf	2.38E-07	1.65 10^6 CF Natural Gas	2.60E-04 lb/10^6 scf	2.15E-07	2.26E-07
Total:			**0.00451**			**0.00441**	**0.00446**
Fluorides - F [c]							'05 - '06
MWC Unit 001	509,294 10^3 lb/yr Steam	2.18E-04 lbs/10^6 lb Steam	0.0555	504,740 10^3 lb/yr Steam	2.18E-04 lbs/10^6 lb Steam	0.0550	0.0553
	2.50 10^6 CF Natural Gas	-- lb/10^6 scf	--	7.00 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
MWC Unit 002	498,812 10^3 lb/yr Steam	2.19E-04 lbs/10^6 lb Steam	0.0547	480,553 10^3 lb/yr Steam	2.19E-04 lbs/10^6 lb Steam	0.0527	0.0537
	2.50 10^6 CF Natural Gas	-- lb/10^6 scf	--	7.00 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
Total:			**0.110**			**0.108**	**0.109**
Hydrogen Chloride - HCl							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	0.0233 lbs/10^6 lb Steam	5.94	504,740 10^3 lb/yr Steam	0.0233 lbs/10^6 lb Steam	5.88	5.91
	1.87 10^6 CF Natural Gas	-- lb/10^6 scf	--	1.66 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
MWC Unit 002	498,812 10^3 lb/yr Steam	0.0148 lbs/10^6 lb Steam	3.69	480,553 10^3 lb/yr Steam	0.0148 lbs/10^6 lb Steam	3.55	3.62
	1.83 10^6 CF Natural Gas	-- lb/10^6 scf	--	1.65 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
Total:			**9.63**			**9.44**	**9.53**
MWC - Organics (D/F)							'02 - '03
MWC Unit 001	509,294 10^3 lb/yr Steam	3.12E-08 lbs/10^6 lb Steam	7.94E-06	504,740 10^3 lb/yr Steam	3.12E-08 lbs/10^6 lb Steam	7.87E-06	7.90E-06
	1.87 10^6 CF Natural Gas	-- lb/10^6 scf	--	1.66 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
MWC Unit 002	498,812 10^3 lb/yr Steam	2.26E-08 lbs/10^6 lb Steam	5.63E-06	480,553 10^3 lb/yr Steam	2.26E-08 lbs/10^6 lb Steam	5.43E-06	5.53E-06
	1.83 10^6 CF Natural Gas	-- lb/10^6 scf	--	1.65 10^6 CF Natural Gas	-- lb/10^6 scf	--	--
Total:			**1.36E-05**			**1.33E-05**	**1.34E-05**

Footnotes:

[a] Activity factors for Year 1 and year 2 are based on the steam production rate (lb/yr) achieved during the highest 2-year average baseline period (2002-2003).

[b] Emission factors based on the highest 5-year average after 2005 operational change and average of highest 2-year CEMS data for NO_x, SO_2, and CO.

[c] Based on the 2005 stack test of 0.014 lb/hr divided by the steam production rate of 64,233 lb of steam/hr.

Golder Associates

TABLE 2
PROJECTED ACTUAL EMISSIONS
BAY COUNTY, PANAMA CITY

Pollutant	Activity Factor	Emission Factor [a]		Ref.	Annual Emissions (TPY)
Sulfur Dioxide - SO_2					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.0174	lbs/10^3 lb Steam	1	4.60
	22.2 x10^6 CF Natural Gas	0.600	lb/10^6 scf	2	0.00667
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.0175	lbs/10^3 lb Steam	1	4.47
	22.2 x10^6 CF Natural Gas	0.600	lb/10^6 scf	2	0.00667
				Total:	**9.08**
Nitrogen Oxides - NO_x					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.287	lbs/10^3 lb Steam	1	75.79
	22.2 x10^6 CF Natural Gas	100	lb/10^6 scf	3	1.11
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.379	lbs/10^3 lb Steam	1	97
	22.2 x10^6 CF Natural Gas	100	lb/10^6 scf	3	1.11
				Total:	**174.6**
Carbon Monoxide - CO					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.231	lbs/10^3 lb Steam	1	60.9
	22.2 x10^6 CF Natural Gas	84.0	lb/10^6 scf	3	0.934
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.262	lbs/10^3 lb Steam	1	66.8
	22.2 x10^6 CF Natural Gas	84.0	lb/10^6 scf	3	0.934
				Total:	**129.6**
Particulate Matter Total - PM					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.0216	lbs/10^3 lb Steam	1	5.71
	22.2 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.0138	lbs/10^3 lb Steam	1	3.51
	22.2 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
				Total:	**9.39**
Particulate Matter - PM_{10}					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.0117	lbs/10^3 lb Steam	1	3.08
	22.24 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.0074	lbs/10^3 lb Steam	1	1.89
	22.24 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
				Total:	**5.15**
Particulate Matter - $PM_{2.5}$					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.00844	lbs/10^3 lb Steam	1	2.23
	22.2 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.00536	lbs/10^3 lb Steam	1	1.37
	22.2 x10^6 CF Natural Gas	7.60	lb/10^6 scf	2	0.0845
				Total:	**3.76**
Volatile Organic Compounds - VOC					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.0107	lbs/10^3 lb Steam	1	2.82
	22.2 x10^6 CF Natural Gas	5.50	lb/10^6 scf	2	0.0612
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.00608	lbs/10^3 lb Steam	1	1.55
	22.2 x10^6 CF Natural Gas	5.50	lb/10^6 scf	2	0.0612
				Total:	**4.50**
Sulfuric Acid Mist - SAM					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.000774	lbs/10^3 lb Steam	4	0.204
	22.2 x10^6 CF Natural Gas	0.0267	lb/10^6 scf	4	2.97E-04
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.000780	lbs/10^3 lb Steam	4	0.199
	22.2 x10^6 CF Natural Gas	0.0267	lb/10^6 scf	4	2.97E-04
				Total:	**0.404**
Lead - Pb					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	3.42E-05	lbs/10^3 lb Steam	1	0.00903
	22.2 x10^6 CF Natural Gas	5.00E-04	lb/10^6 scf	2	5.56E-06
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	7.91E-06	lbs/10^3 lb Steam	1	0.00202
	22.2 x10^6 CF Natural Gas	5.00E-04	lb/10^6 scf	2	5.56E-06
				Total:	**0.0111**
Mercury - Hg					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	1.01E-05	lbs/10^3 lb Steam	1	0.00268
	22.2 x10^6 CF Natural Gas	2.60E-04	lb/10^6 scf	5	2.89E-06
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	7.71E-06	lbs/10^3 lb Steam	1	0.00197
	22.2 x10^6 CF Natural Gas	2.60E-04	lb/10^6 scf	5	2.89E-06
				Total:	**0.00465**
Fluorides - F					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	2.18E-04	lbs/10^3 lb Steam	1	0.0575
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	2.19E-04	lbs/10^3 lb Steam	1	0.0559
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
				Total:	**0.113**
Hydrogen Chloride - HCl					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	0.0233	lbs/10^3 lb Steam	1	6.15
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	0.0148	lbs/10^3 lb Steam	1	3.77
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
				Total:	**9.92**
MWC - Organics (D/F)					
Municipal Waste Combustion Unit 001	527,805 x10^3 lbs Steam	3.12E-08	lbs/10^3 lb Steam	1	8.23E-06
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
Municipal Waste Combustion Unit 002	509,760 x10^3 lbs Steam	2.26E-08	lbs/10^3 lb Steam	1	5.76E-06
	22.2 x10^6 CF Natural Gas	--	lb/10^6 scf		--
				Total:	**1.40E-05**

Notes:

[a] Activity factor based on the highest 2-year average steam production rate (lb/yr), achieved in 2002-2003, multiplied by the ratio of the requested maximum 24-hr steam rate (68,000 lb/hr) and the current permitted rate (65,333 lb/hr).
Natural gas burned in each MWC unit based on maximum during baseline period (see Tables A-11 and A-12).

References:

1. Based on same factors used for baseline emissions.
2. Based on AP-42, Table 1.4-2.
3. Based on AP-42, Table 1.4-1.
4. Based on similar method used for fuel oil, where the ratio of SO_3 emissions to SO_2 emissions (5.7/157) is multiplied by the ratio of the molecular weights of H_2SO_4 and SO_3 (98/80), resulting in approximately 4.45% of SO_2 emissions becoming SAM.
5. Based on AP-42, Table 1.4-4.

TABLE 3
PSD APPLICABILITY ANALYSIS, RE-RATE PROJECT
BAY COUNTY, PANAMA CITY

Source Description	EU ID	Pollutant Emission Rate (TPY)													
		SO_2	NO_x	CO	PM	PM_{10}/MWC Metals	$PM_{2.5}$	VOC	SAM	Lead	Mercury	Fluoride	HCl	MWC Acid Gases (SO_2+HCl)	MWC Organics (Dioxins/Furans)
Projected Actual Emissions															
– *Municipal Waste Combustion Unit*	001	4.60	76.9	61.9	5.80	3.17	2.31	2.89	0.205	0.00904	0.00268	0.0575	6.15	10.8	8.23E-06
– *Municipal Waste Combustion Unit*	002	4.48	97.7	67.8	3.59	1.98	1.45	1.61	0.199	0.00202	0.00197	0.0559	3.77	8.25	5.76E-06
Total- Projected Actual		**9.08**	**174.6**	**129.6**	**9.39**	**5.15**	**3.76**	**4.50**	**0.404**	**0.0111**	**0.00465**	**0.113**	**9.92**	**19.0**	**1.40E-05**
Baseline Actual Emissions															
– *Municipal Waste Combustion Unit*	001	4.41	72.90	58.6	5.49	2.97	2.15	2.72	0.196	0.00868	0.00257	0.0553	5.91	5.91	7.90E-06
– *Municipal Waste Combustion Unit*	002	4.30	92.9	64.3	3.37	1.83	1.32	1.49	0.191	0.00194	0.00189	0.0537	3.62	3.62	5.53E-06
Total- Baseline Actual		**8.71**	**165.8**	**122.9**	**8.87**	**4.80**	**3.47**	**4.21**	**0.387**	**0.0106**	**0.00446**	**0.109**	**9.53**	**9.53**	**1.34E-05**
Increase Due to Project		**0.37**	**8.84**	**6.75**	**0.52**	**0.35**	**0.30**	**0.28**	**0.016**	**0.00045**	**0.00019**	**0.0045**	**0.39**	**9.47**	**5.51E-07**
PSD SIGNIFICANT EMISSION RATE		40	40	100	25	15	NA	40	7	0.60	0.10	3	NA	40	3.50E-06
PSD REVIEW TRIGGERED?		**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

LIST OF APPLICABLE REQUIREMENTS
40 CFR 60, SUBPART Cb

60.32b(a) – Designated facilities

60.32b(c)

60.32b(n) – Exemption from Subpart E

60.33b(a)(1) - Emission limits for particulate matter and opacity

60.33b(a)(2) - Emission limits for cadmium

60.33b(a)(3) - Emission limits for mercury

60.33b(a)(4) - Emission limits for lead

60.33b(b)(3) – Emission limits for sulfur dioxide and hydrogen chloride

60.33b(c)(1)(iii) – Emission limits for dioxin/furan

60.33b(d) – Emission limits for nitrogen oxides

60.34b – Emission guidelines for municipal waste combustor operating practices

60.35b – Emission guidelines for municipal waste combustor operating training and certification

60.36b – Emission guidelines for municipal waste combustor fugitive ash emissions

60.38b – Compliance and performance testing

60.39b(a) – Reporting and recordkeeping guidelines and compliance schedules