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Pinellas County
UTILITIES
Solid Waste

July 24, 2006

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BUREAU OF AIR REGULATION

Ms. Trina Vielhauer
Bureau Chief
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road MS 5500
Tallahassee, Florida 32399-2400

RE: Pinellas County – Waste to Energy Facility
Proposed Facility Projects

Dear Ms. Vielhauer:

Pinellas County is submitting this letter to the Florida Department of Environmental Protection ("Department" or "FDEP") to request the Department's approval for several construction projects ("Projects") that the County intends to undertake at the County's Waste-to-Energy Facility ("Facility"). As explained below, the Projects primarily consist of in-kind replacements of existing equipment. The Projects will help ensure the safe and reliable operation of the Facility, but the Projects will not increase the Facility's capacity to process municipal solid waste ("MSW"). The Projects also will not cause an increase in the Facility's short-term emissions or a significant increase in the Facility's annual emissions. The Projects do not constitute a "modification" or "reconstruction" of the Facility. For these reasons, the Projects do not trigger the Department's review process under the Prevention of Significant Deterioration ("PSD") program or the requirements of the Department's New Source Performance Standards ("NSPS").

Based on the information contained in this letter, the County respectfully requests the Department to amend the Facility's PSD permits (PSD-FL-011B and PSD-FL-098B) and thereby authorize the construction of the Projects.

The following sections of this letter contain more detailed descriptions of the Projects and a complete explanation of why the County believes the Department's PSD and NSPS requirements do not apply to the Projects.

PLEASE ADDRESS REPLY TO:
3095 - 114th Avenue North
St. Petersburg, Florida 33716
Phone: (727) 464-7500
FAX: (727) 464-7713
Website: www.pinellascounty.org

Overview

The Projects primarily will consist of the in-kind replacement of existing equipment and systems. The County expects to commence construction on the Projects in 2007. It is anticipated that the Projects will be completed within three or four years.

Furnace Tube Replacements

During the period 2001 through 2003, Pinellas County replaced boiler convection tubes located in the evaporator, superheater, and economizer portions of the three boiler units at the Facility. This work was referred to as the "Capital Replacement Project" or "CRP Project". The CRP Project was authorized by the Department pursuant to PSD Permit No. PSD-FL-011B and PSD-FL-098B. The CRP Project was completed in late 2003.

The County now wishes to replace certain boiler tubes that are located in the furnace section of each boiler. These tubes were not replaced during the CRP Project and consist largely of original tube sections with connecting membranes commonly known as water walls. These water wall panels are connected to header systems at both the top and bottom of the furnace. Collectively the system of water walls, furnace roof tubes, membranes and headers constitute the "furnace" area of the units. Also contained within the furnace are various air nozzles for combustion control, urea injection ports for use with the Selective Non-Catalytic Reduction (SNCR) System for NO_x control, access doors, view ports, and various instruments and appurtenances. Furnace tubes are protected from the corrosive environment by a combination of refractory type coverings over the tubes or by special alloy "overlay" materials applied by a welding process. While many individual tubes and small groups of tubes have been replaced over the years because of excessive tube thinning or to repair leaks, the majority of the furnace tubes are original materials that have been in continuous service for more than 20 years.

As part of the County's Projects, the boiler tubes in the furnace sections of each boiler will be replaced with identically sized tubes. The replacement of the boiler tubes will not change the design steaming rate for the boilers.

The work on the boiler tubes will be performed during extended boiler outages. The work will be completed over a three year period.

Grate Replacements

Similar to the situation described above for the furnaces, the stoker grate and waste feed chute for each boiler consists largely of original equipment, with repairs and replacement of certain components performed over the years. A portion of the grate support system on Boiler No. 3 was replaced during the CRP Project in 2003.

The County now wishes to replace various components of the grate system for each boiler. The planned grate work will consist of the in-kind replacement of the grate system key components, including the lower feed chute, bracing beams and supports, the grate bars, and miscellaneous related components, such as "riddling" systems for removing fines from the

underside of the grate. The work is scheduled to be performed on one unit at a time, coincident with the furnace tube replacement work described above. The proposed work on the grate system will not change the design grate heat release rate or the design waste feed rate for the boilers.

Air Preheater Replacements
Each of the three boilers has an air preheater, which heats the incoming combustion air by using steam as the heating medium. The air preheaters are part of the overall combustion control system. The existing air preheaters have reached the end of their useful life due to corrosion, pluggage and general wear and tear. The County now intends to replace the air preheaters with functionally equivalent equipment when the County conducts the furnace and grate repair projects.

Ash Processing and Storage Building (ASPB) Replacement
The County has a separate building that is used for ash processing and storage. This building has deteriorated due to heavy corrosion resulting from prolonged contact with moist ash and scrubber residue, combined with normal wear and tear. The County intends to demolish the existing ASPB and replace it with a building having a smaller footprint using more robust, corrosion resistant materials. The metal processing system will be simplified but will still separate both ferrous and non-ferrous materials from the residue stream so that these recycled materials can be sold in the scrap market.

Since the existing ash processing and storage building will be replaced with a smaller building, the location and characteristics of some of the existing emission points in the building may be changed slightly in the future. Accordingly, some elements of the Facility's Title V Operating Permit are likely to require minor revisions to conform to the configuration of the new building.

Air Pollution Control (APC) System Improvements
The County intends to make several improvements to the Facility's APC systems. First, the County intends to convert the Facility's existing volumetric carbon feeders to loss-in-weight feeders. This change will enable the County to obtain a more accurate measurement of the Facility's feed rate for powdered activated carbon which is used to control mercury emissions. Second, the County intends to install a redundant lime slurry distribution header. This improvement will enable the County to clean lime buildup in the slurry piping system during normal operations. The redundant system will help ensure that the Facility's acid gas control system receives an uninterrupted supply of lime slurry at all times. Third, the existing inlet and outlet sample probes for the continuous emissions monitoring system (CEMS) will be replaced. The original sample probes are no longer supported by the manufacturer and will be replaced with functionally equivalent equipment. Finally, some of the CEMS inlet sampling system components have reached end of life, and will be replaced with functionally equivalent equipment.

NSPS Regulatory Applicability

The County's proposed Projects will not increase the design capacity of the three municipal waste combustor ("MWC") units at the Facility. The Projects also will not increase the Facility's short-term emission rates (e.g., kg/hr). For these reasons, the Projects are not a "modification", as defined in the New Source Performance Standards (see 40 CFR § 60.51b).

The Projects also do not constitute a "reconstruction", as defined in the NSPS. The "physical boundaries" of the MWC units (i.e., the "affected facility" for NSPS purposes) start at the MSW waste pit and extend through the economizer outlet, the bottom ash system, and the combustor water system as outlined at 40 CFR § 60.51b. Based on information contained in the August 30, 2000 letter application for the CRP project, and using the *Chemical Engineering Plant Cost Index* of 394.1 for calendar year 2000 and 468.2 for calendar year 2005, the total new construction costs for the regulated portions of the Facility's MWCs would be approximately $344.5 million (year 2005 dollars).

The estimated capital cost of the Projects is $ 64.3 million (2005 dollars). Since the Facility began operation in 1983, capital maintenance costs on the regulated portions of the MWC units (excluding Emission Guidelines retrofit costs and not including the proposed Projects) have been approximately $79 million (2005 dollars). Summing the historic capital costs with the capital cost of the proposed Projects, the total capital costs will be $143.3 million (2005 dollars). The total capital cost represents only 41.6% of the new construction cost for the regulated portions of the Facility's MWC units (2005 dollars). Therefore, the proposed Projects do not constitute a "reconstruction" of the Facility for purposes of the NSPS.

Since the Projects are neither a "modification" nor a "reconstruction" under 40 CFR § 60.51b, the Projects will not subject the Facility to the NSPS requirements in 40 CFR 60, Subpart Eb. Instead, the Facility will continue to comply with the requirements in the applicable Emission Guidelines (40 CFR 60, Subpart Cb), which are incorporated into the Facility's current Title V operating permit.

PSD Regulatory Applicability

As noted above, the Projects will not increase the design capacity of the Facility's three MWC units. The Projects also are not expected to cause a significant increase in the Facility's actual long-term emissions (i.e., tons per year or "tpy"). Consequently, the Projects are not subject to review under the Department's PSD program.

Since the Projects only involve minor changes to existing equipment and in-kind replacements, the County has used the methodology in Rule 62-210.370, F.A.C., to compute the Facility's "baseline actual emissions". Rule 62-210.200(34)(a), F.A.C., defines baseline actual emissions for steam electric generating units as "the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department. The Department shall allow the use of a different time period upon a determination that

it is more representative of normal source operation." A similar definition is contained in Rule 62-210.200(34)(b), F.A.C., for other types of existing emissions units.

Except as qualified below, the time period for determining the Facility's baseline actual emissions should begin on December 20, 2003 and extend to the present. The construction activities for the County's CRP Project commenced as of June 1, 2001. The CRP activities were completed on December 20, 2003. The time when the CRP Project was under construction (June 1, 2001 through December 20, 2003) is not representative of normal source operations because one or more MWC units were offline for substantial time periods during the CRP Project.

The time period for determining the Facility's baseline actual emissions should not include September and October 2005. In September 2005, Units 2 and 3 experienced significant problems with their spray dryer absorbers, which led to a shutdown of all three MWC units. Following repairs, the Facility's MWC units were started again in late October 2005. Since these events were highly unusual and resulted in extended downtime for the MWC units, the unit availabilities for the months of September and October 2005 are not representative of normal operations. Therefore, September and October 2005 have been excluded from the computation of the Facility's baseline actual emissions.

The methodology for calculating baseline actual emissions detailed in Rule 62-210.370, F.A.C., specifies use of average values from all stack testing conducted during a five-year period encompassing the period over which the emissions are being calculated, provided all stack tests used shall represent the same operational and physical configuration of the unit. Although the CRP construction period occurred during the five year look-back period, the CRP Project did not change the "operational or physical configuration" of the Facility's MWC units. Therefore, the volumetric flows and non-CEM pollutant emission factors from all valid stack tests from calendar years 2002 through 2006 were used to compute the Facility's baseline actual emissions.

The County recognizes that the Projects may result in a nominal increase in annual emissions if there is an increase in the Facility's availability. To account for this possibility, the County has determined the Facility's projected actual emissions by adding the baseline actual emissions and an amount that is less than the PSD significant emissions rate, as defined in Rule 62-210.200(243), F.A.C. Given the baseline actual emissions and the PSD significant emissions rates, the Facility's future actual emissions will be limited to the "maximum future actual" emission levels shown in the following table. After the Projects are completed, actual emissions will be tracked and reported for five years, in compliance with the requirements in Rule 62-212.300(1)(e), F.A.C., to demonstrate that the Facility's actual emissions have not increased by an amount greater than any PSD significance emission rate.

SUMMARY OF PROJECTED ACTUAL EMISSIONS

Pollutant	Baseline Actual (ton/yr)	Maximum Future Actuals (ton/yr)	Net Increase (ton/yr)	PSD Significant Increase (ton/yr)	Significant?
Nitrogen Oxides	1538	1577	39	40	NO
Carbon Monoxide	133	232	99	100	NO
Sulfur Dioxide	78	117	39	40	NO
PM	10	34	24	25	NO
PM-10/MWC Metals	10	24	14	15	NO
Lead	0.04	0.54	0.5	0.6	NO
Hydrogen Fluoride	0.14	2.14	2	3	NO
MWC Organics	2.4E-06	5.4E-06	3.0E-06	3.5E-06	NO
MWC Acid Gases	154	193	39	40	NO

As required by FDEP rules, attached is a Responsible Official Certification and registered Professional Engineer Certification. Should you have any questions, please contact me at (727-464-7500) or Mr. M. Kirk Dunbar of HDR Engineering, Inc. at (763-591-5476).

Sincerely,

Robert J. Hauser, Jr., Director
Pinellas County Department of Solid Waste Operations

Attachments
cc: P. Talley - Pinellas County Utilities
K. Oswald – Pinellas County Utilities
D. Dee – Young van Assenderp
D. Castro - HDR Engineering, Inc.
K. Dunbar - HDR Engineering, Inc.

ATTACHMENT
BASELINE ACTUAL EMISSIONS
CALCULATIONS

PCWTEF
2007 Facility Rehabilitation Project
Baseline Actual Emissions Calculation

Nitrogen Oxides: May 2004 – April 2006

Unit 1: $\left(\frac{182.0\ partsv}{10^6\ partsv}\right)\left(98{,}175\frac{dscf}{\min}\right)\left(46\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}797\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=517\frac{ton}{yr}$

Unit 2: $\left(\frac{185.5\ partsv}{10^6\ partsv}\right)\left(102{,}099\frac{dscf}{\min}\right)\left(46\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}118\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=522\frac{ton}{yr}$

Unit 3: $\left(\frac{188.6\ partsv}{10^6\ partsv}\right)\left(90{,}287\frac{dscf}{\min}\right)\left(46\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}005\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=499\frac{ton}{yr}$ **TOTAL** = $1538\frac{ton}{yr}$

Carbon Monoxide: May 2004 – April 2006

Unit 1: $\left(\frac{24.3\ partsv}{10^6\ partsv}\right)\left(98{,}175\frac{dscf}{\min}\right)\left(28\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}797\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=42\frac{ton}{yr}$

Unit 2: $\left(\frac{26.0\ partsv}{10^6\ partsv}\right)\left(102{,}099\frac{dscf}{\min}\right)\left(28\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}118\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=45\frac{ton}{yr}$

Unit 3: $\left(\frac{28.6\ partsv}{10^6\ partsv}\right)\left(90{,}287\frac{dscf}{\min}\right)\left(28\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}005\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=46\frac{ton}{yr}$ **TOTAL** = $133\frac{ton}{yr}$

Sulfur Dioxide: July 2004 – June 2006

Unit 1: $\left(\frac{9.3\ partsv}{10^6\ partsv}\right)\left(98{,}175\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}665\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=36\frac{ton}{yr}$

Unit 2: $\left(\frac{6.3\ partsv}{10^6\ partsv}\right)\left(102{,}099\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{13{,}958\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=24\frac{ton}{yr}$

Unit 3: $\left(\frac{4.8\ partsv}{10^6\ partsv}\right)\left(90{,}287\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}909\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=18\frac{ton}{yr}$ **TOTAL** = $78\frac{ton}{yr}$

PCWTEF
2007 Facility Rehabilitation Project
Baseline Actual Emissions Calculation

Particulate Matter, PM-10, and MWC Metals: January 2004 – December 2005

Unit 1: $\left(2.1340\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(98{,}175\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}847\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=3.18\frac{ton}{yr}$

Unit 2: $\left(1.9581\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(102{,}099\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}195\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=2.90\frac{ton}{yr}$

Unit 3: $\left(2.9553\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(90{,}287\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}029\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=4.10\frac{ton}{yr}$ **TOTAL** = $10.2\frac{ton}{yr}$

Lead: January 2004 – December 2005

Unit 1: $\left(0.00430\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(98{,}175\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}847\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0064\frac{ton}{yr}$

Unit 2: $\left(0.00548\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(102{,}099\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}195\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0081\frac{ton}{yr}$

Unit 3: $\left(0.00822\frac{mg}{dscm}\right)\left(\frac{g}{1000\,mg}\right)\left(\frac{lb}{453.59\,g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(90{,}287\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}029\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0114\frac{ton}{yr}$ **TOTAL** = $0.026\frac{ton}{yr}$

Hydrogen Fluoride: January 2004 – December 2005

Unit 1: $\left(\frac{0.0382\,partsv}{10^6\,partsv}\right)\left(98{,}175\frac{dscf}{\min}\right)\left(20\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}847\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0473\frac{ton}{yr}$

Unit 2: $\left(\frac{0.0382\,partsv}{10^6\,partsv}\right)\left(102{,}099\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}195\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0470\frac{ton}{yr}$

Unit 3: $\left(\frac{0.0382\,partsv}{10^6\,partsv}\right)\left(90{,}287\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}029\,hr}{22\,month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\,lb}\right)=0.0440\frac{ton}{yr}$ **TOTAL** = $0.138\frac{ton}{yr}$

PCWTEF
2007 Facility Rehabilitation Project
Baseline Actual Emissions Calculation

MWC Organics: January 2004 – December 2005

Unit 1: $\left(0.5474\frac{ng}{dscm}\right)\left(\frac{g}{10^9\ ng}\right)\left(\frac{lb}{453.59\ g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(98{,}175\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}847\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=8.15\ x\ 10^{-7}\ \frac{ton}{yr}$

Unit 2: $\left(0.5474\frac{mg}{dscm}\right)\left(\frac{g}{10^9\ mg}\right)\left(\frac{lb}{453.59\ g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(102{,}099\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}195\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=8.10\ x\ 10^{-7}\ \frac{ton}{yr}$

Unit 3: $\left(0.5474\frac{mg}{dscm}\right)\left(\frac{g}{1000\ mg}\right)\left(\frac{lb}{453.59\ g}\right)\left(0.3048\frac{m}{ft}\right)^3\left(90{,}287\frac{dscf}{\min}\right)\left(60\frac{\min}{hr}\right)\left(\frac{15{,}029\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=7.59\ x\ 10^{-7}\ \frac{ton}{yr}$

TOTAL = $2.38\ x\ 10^{-6}\ \frac{ton}{yr}$

Hydrogen Chloride: July 2004 – June 2006

Unit 1: $\left(\frac{11.1169\ partsv}{10^6\ partsv}\right)\left(98{,}175\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}665\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=24.8\frac{ton}{yr}$

Unit 2: $\left(\frac{15.2173\ partsv}{10^6\ partsv}\right)\left(102{,}099\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{13{,}958\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=33.6\frac{ton}{yr}$

Unit 3: $\left(\frac{8.4685\ partsv}{10^6\ partsv}\right)\left(90{,}287\frac{dscf}{\min}\right)\left(64\frac{lb}{mole}\right)\left(0.0025956\frac{mole}{dscf}\right)\left(60\frac{\min}{hr}\right)\left(\frac{14{,}909\ hr}{22\ month}\right)\left(12\frac{month}{yr}\right)\left(\frac{ton}{2000\ lb}\right)=17.6\frac{ton}{yr}$

MWC Acid Gases: July 2004 – June 2006

Unit 1: $SO_2 + HCl = 36 + 24.8 = 60.8\frac{ton}{yr}$

Unit 2: $SO_2 + HCl = 24 + 33.6 = 57.6\frac{ton}{yr}$

Unit 3: $SO_2 + HCl = 18 + 17.6 = 35.6\frac{ton}{yr}$ **TOTAL** = $154\frac{ton}{yr}$

PCWTEF
2007 Projects
Baseline Actual Emissions Calculation

Summary of CEM Data

24-Month Total Hours and Pollutant Averages*

	Boiler 1				Boiler 2				Boiler 3			
Time Period	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)
Jan 04-Dec 05	14847	22.5	9.6	181.0	14195	26.2	5.2	185.7	15029	29.3	4.3	187.3
Feb 04-Jan 06	14719	22.9	9.7	181.3	14058	26.4	5.2	185.3	15040	29.4	4.3	187.6
Mar 04-Feb 06	14695	23.2	9.5	181.9	14095	26.1	5.2	185.4	14882	29.1	4.3	188.0
Apr 04-Mar 06	14812	23.6	9.2	182.2	14222	25.9	5.4	185.4	14887	28.8	4.5	188.4
May 04-Apr 06	14797	24.3	9.2	182.0	14118	26.0	5.6	185.5	15005	28.6	4.6	188.6
Jun 04-May 06	14684	24.4	9.3	182.8	14109	25.8	6.0	185.5	15006	28.6	4.6	188.7
Jul 04-Jun 06	14665	24.7	9.3	183.0	13958	25.8	6.3	185.4	14909	28.5	4.8	188.7

* Each time period excludes September and October of 2005 - units down because of SDA failures.

Monthly CEM Data

Month	Boiler 1				Boiler 2				Boiler 3			
Month	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)	Hours	CO (ppm)	SO2 (ppm)	NOx (ppm)
Jan-04	741	11	9	170	735	23	8	181	733	22	11	183
Feb-04	696	13	14	170	621	29	9	178	696	28	9	180
Mar-04	625	15	18	179	574	29	10	182	738	30	9	182
Apr-04	709	11	13	184	635	24	11	182	602	26	7	183
May-04	719	20	5	169	687	23	2	183	743	24	3	187
Jun-04	720	18	6	174	683	22	3	186	648	28	1	193
Jul-04	711	21	8	175	740	17	3	193	739	33	4	185
Aug-04	560	21	8	171	447	22	7	193	588	31	3	185
Sep-04	534	29	8	175	616	41	6	191	628	34	4	184
Oct-04	736	23	9	180	733	23	1	189	744	34	2	189
Nov-04	585	24	9	186	462	78	4	181	597	27	3	189
Dec-04	744	23	11	186	744	16	3	189	728	31	3	188
Jan-05	739	26	11	179	700	23	4	185	726	36	1	184
Feb-05	649	34	12	183	554	20	4	185	589	37	2	182
Mar-05	686	39	10	184	490	25	2	189	652	28	2	186
Apr-05	548	28	10	187	720	15	4	187	720	24	1	186
May-05	671	22	15	182	712	12	7	189	744	23	2	188
Jun-05	603	33	13	191	587	16	9	191	576	27	5	191
Jul-05	744	20	5	192	675	21	3	189	707	30	2	195
Aug-05	712	18	4	192	637	31	4	179	666	28	2	193
Nov-05	670	21	7	185	720	26	6	181	720	26	12	196
Dec-05	744	24	6	188	724	42	4	180	744	37	8	190
Jan-06	613	20	10	177	598	28	8	171	744	24	10	189
Feb-06	672	20	9	183	658	22	10	182	538	22	10	189
Mar-06	743	25	13	185	701	25	15	181	743	25	13	192
Apr-06	694	27	11	181	531	27	15	186	720	21	10	189
May-06	607	21	8	186	677	17	11	183	744	26	3	189
Jun-06	700	25	6	179	532	22	8	183	551	26	5	193
SDA Failure Excluded Time												
Sep-05	542	13	6	191	457	25	2	179	489	29	5	195
Oct-05	467	10	12	183	276	25	7	187	228	29	12	193

NOTE: All pollutant concentrations corrected to 7% oxygen.

PCWTEF
2007 Projects
Baseline Actual Emissions Calculations

Summary of Stack Test Results
Calendar Years 2002 through 2006

Volumetric Flows

Boiler 1			Boiler 2			Boiler 3		
Year	Pollutant Tested	Average Flow Rate dscfm@7% O2	Year	Pollutant Tested	Average Flow Rate dscfm@7% O2	Year	Pollutant Tested	Average Flow Rate dscfm@7% O2
2002	PM/HCl	93790	2002	PM/HCl	100639	2002	PM/HCl	96299
2002	Metals	100045	2002	Metals	99993	2002	Metals	93094
2003	PM/HCl	96093	2003	PM/HCl	105219	2002	Dioxin	92403
2003	Metals	91365	2003	Metals	103646	2003	PM	89680
2003	Dioxin	94162	2004	PM/HCl	111931	2003	HCl	87669
2004	PM/HCl	92919	2004	Dioxin	106677	2003	Metals	89869
2004	Metals	98748	2004	Metals	112897	2004	PM/HCl	91591
2005	PM/HCl	102489	2005	PM/HCl	98066	2004	Metals	94868
2005	Metals	99925	2005	Metals	93320	2005	PM/HCl	88136
2006	PM/HCl	104803	2006	PM/HCl	97058	2005	HF	88123
2006	Dioxin	102239	2006	Metals	93645	2005	Dioxin	85580
2006	Metals	101519				2005	Metals	90937
						2006	PM/HCl	90447
						2006	Metals	85317
	Average	**98175**		**Average**	**102099**		**Average**	**90287**

Non-CEM Pollutant Emission Factors

Year	Pollutant	Average Concentration	Year	Pollutant	Average Concentration	Year	Pollutant	Average Concentration
2002		1.7000 mg/dscm@7%O2	2002		1.2000 mg/dscm@7%O2	2002		0.8900 mg/dscm@7%O2
2003		4.6848 mg/dscm@7%O2	2003		2.0459 mg/dscm@7%O2	2003		2.9589 mg/dscm@7%O2
2004	PM/PM10	0.7505 mg/dscm@7%O2	2004	PM/PM10	1.5837 mg/dscm@7%O2	2004	PM/PM10	0.9629 mg/dscm@7%O2
2005		0.9095 mg/dscm@7%O2	2005		1.4105 mg/dscm@7%O2	2005		7.3743 mg/dscm@7%O2
2006		2.6253 mg/dscm@7%O2	2006		3.5503 mg/dscm@7%O2	2006		2.5902 mg/dscm@7%O2
	Average	**2.1340 mg/dscm@7%O2**		**Average**	**1.9581 mg/dscm@7%O2**		**Average**	**2.9553 mg/dscm@7%O2**
2002		10.0000 ppm@7% O2	2002		13.0000 ppm@7% O2	2002		6.3000 ppm@7% O2
2003		5.3637 ppm@7% O2	2003		21.7789 ppm@7% O2	2003		12.8137 ppm@7% O2
2004	HCl (MWC Acid Gas)	17.7210 ppm@7% O2	2004	HCl (MWC Acid Gas)	15.3612 ppm@7% O2	2004	HCl (MWC Acid Gas)	7.4339 ppm@7% O2
2005		6.6215 ppm@7% O2	2005		13.3517 ppm@7% O2	2005		7.9375 ppm@7% O2
2006		15.8782 ppm@7% O2	2006		12.5948 ppm@7% O2	2006		7.8576 ppm@7% O2
	Average	**11.1169 ppm@7% O2**		**Average**	**15.2173 ppm@7% O2**		**Average**	**8.4685 ppm@7% O2**
2002		0.0019 mg/dscm@7%O2	2002		0.0007 mg/dscm@7%O2	2002		0.0023 mg/dscm@7%O2
2003		0.0094 mg/dscm@7%O2	2003		0.0053 mg/dscm@7%O2	2003		0.0040 mg/dscm@7%O2
2004	Lead	0.00042 mg/dscm@7%O2	2004	Lead	0.00785 mg/dscm@7%O2	2004	Lead	0.00174 mg/dscm@7%O2
2005		0.00346 mg/dscm@7%O2	2005		0.00302 mg/dscm@7%O2	2005		0.02850 mg/dscm@7%O2
2006		0.00634 mg/dscm@7%O2	2006		0.01056 mg/dscm@7%O2	2006		0.00457 mg/dscm@7%O2
	Average	**0.00430 mg/dscm@7%O2**		**Average**	**0.00548 mg/dscm@7%O2**		**Average**	**0.00822 mg/dscm@7%O2**
2006	MWC Organics	0.3259 ng/dscm@7%O2	2003	MWC Organics	0.3440 ng/dscm@7%O2	2002	MWC Organics	0.1700 ng/dscm@7%O2
			2004	MWC Organics	0.8287 ng/dscm@7%O2	2005	MWC Organics	1.0684 ng/dscm@7%O2
					Average of Units 1, 2 and 3			
				MWC Organics	**0.5474 ng/dscm@7%O2**			
						2005	HF	**0.0382 ppm@7% O2**

Pat Talley - Cog-in &
Item to Jeff & AP.

Application Responsible Official Certification

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

1. Application Responsible Official Name: Pick Talley – Director of Utilities

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.

3. Application Responsible Official Mailing Address...
Organization/Firm: Pinellas County Utilities Administration
Street Address: 14 South Fort Harrison Avenue, 5th Floor
City: Clearwater State: FL Zip Code: 33756

4. Application Responsible Official Telephone Numbers...
Telephone: (727) 464 - 3438 ext. Fax: (727) 464 - 3944

5. Application Responsible Official Email Address: ptalley@co.pinellas.fl.us

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.

Pick Talley
Signature

7/26/06
Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Donald J. Castro, P.E.
   Registration Number: 44569
2. Professional Engineer Mailing Address...
   Organization/Firm: HDR Engineering, Inc.
   Street Address: 2202 North West Shore Blvd., Suite 250
   City: Tampa State: FL Zip Code: 33607-5755
3. Professional Engineer Telephone Numbers...
   Telephone: (813) 282 - 2404 ext. Fax: (813) 282 - 2440
4. Professional Engineer Email Address: don.castro@hdrinc.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.

Donald J. Castro, P.E. — July 28, 2006

Signature — Date

(seal)

PE 44569

* Attach any exception to certification statement.