

AIR TESTING & CONSULTING

333 FALKENBURG RD. N. B-214 • TAMPA, FLORIDA 33619 • (813) 651-0878 • FAX (813) 653-9082

April 8, 2004

James McDonald
Department of Environmental Protection
3804 Coconut Palm Dr.
Tampa, FL 33619

Re: **Largo City Sewage Plant**
FDEP File Project No.: 1030060-004-AV

Dear Jim:

In response to your letter of November 4, 2003, the following is submitted to the **BUREAU OF AIR REGULATION**

1. *Is the name of your facility the "City of Largo", "City of Largo-WWTP", "City of Largo WWPT" or "Largo City Sewage Plant"?*

The name of the facility is "City of Largo – Wastewater Reclamation Facility".

2. *Attachment B – Process Flow Diagram in the Facility Supplemental Information of the application shows material from the "grinder (crusher)" going to the "screen" whereas permit 1030060-002-AV states material from the crusher is redirected to the dried solids recycle bin. Note, Attachment 1A shows "product" from the screen can also go to the crusher. Which description is correct and resubmit the diagrams, if appropriate?*

Attached are corrected Attachments B and 1A showing that the grinder discharge is directed to the recycle bin. Material from the screen normally discharges to the recycle bin, but when the bin reaches a preset level, the excess product is diverted to the product storage silos. Once the bin level drops all material goes to the recycle bin.

D.E.P.
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3. *Attachment B – Process Flow Diagram in the Facility Supplemental Information of the application shows the “product” going to either of the 2 silos or joining the fines, which go to the dried solids recycle bin. Can the product simultaneously go to a silo and the dried solids recycle bin? Note, permit 1030060-002-AV states the product just goes to the 2 silos. Can the product only go to 1 silo at a time?*

Product from the screen goes to the silos one at a time. There is also a screw that transfers material from the product storage silos to be sent to the recycle bin (see Attachment B).

4. *Should Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application also show emissions from the Fugitive Dust System (screens, grinder, etc.) going to the cyclone?*

Emissions from the Fugitive Dust System vent to the cyclone (see Attachment B).

5. *Explain why Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application shows a Truck Unloading Station?*

The truck unloading station allows removal of cake sludge if the system goes down.

6. *Page 15 of the application shows the cyclone’s model number as “MS-520” whereas Condition No. 18 of permit 1030060-002-AV shows the model number as “XQ Series XQ340-27 Dual Cyclones”. Explain this difference.*

Attached is a corrected page 15 showing the correct model number.

7. *Regarding No.2 (bottom) on page 33 of the application for the allowable pollutants “Particulate” and “Volatile Organic Compounds (VOC)”, please provide the following:*

- A. *A Compliance Assurance Monitoring (CAM) non-applicability determination to justify your claim that CAM is “Not Applicable” for each pollutant (Particulate and VOC). Your determination should include emission factors and the rationale used.*

B. If you can't justify that CAM does not apply, provide a complete CAM plan that identifies the indicators that will be monitored, the acceptable indicator ranges and the test data to justify the indicator/ranges. For your information, please follow the CAM format examples in Appendix A of the Technical Guidance Document found at the U.S. EPA's web page <http://www.epa.gov/ttn/emc/cam.html>; they may be of help to you. Additionally, please also provide the CAM plans as an electronic copy in M.S.WORD format.

While AP-46 data indicates that the PTE for VOC is approximately 180 tons per year, actual test data from 7/25/00 and 5/13/03 show that the RTO inlet is less than 2.5 lbs/hr or less than 11 tons per year. Attached is a summary of the test results. Based on the test data we believe the unit is not subject to CAM for VOC. The RTO unit has the outlet temperature continuously monitored and the unit is subject to a minimum temperature of 1100⁰F per permit conditions. The sludge dryers have an uncontrolled PTE for particulate emissions greater than 100 TPY. Therefore CAM is applicable. See attached CAM plan. The two storage silos and the truck loading use baghouses for product recovery and are not subject to CAM.

8. *Should No. 1 on page 24 of the application show ESCNAA vs ESCTV?*

ESCNAA. See attached page 24.

9. *No. 6 on page 32 of the application states the dryers were tested on July 15, 2003. Condition A.7. of permit 1030060-002-AV states the dryers are to be tested for odors and visible emissions annually on, or during the 60 day period prior to the date of May 12. Were the tests conducted late? If yes, explain why.*

The date stated was in error. The compliance testing began with setup on Monday, May 12 and testing on May 13 – 15, 2003.

10. *In accordance with stipulations of Condition No. A.8. of permit 1030060-002-AV, submit the appropriate emission test results for particulates, visible emissions.*

The consultant, EEC, submitted the test report in July 2003.

11. *Regarding the 2nd page of Attachment 1A of the application, explain why fuel oil and wood chips are shown when permit 1030060-002-AV only allows natural gas.*

The facility no longer uses any fuel but natural gas.

12. *Re-submit pages 57 and 58 of the application when using 450 dscfm, since information submitted for construction permit AC52-172854 reduced the airflow to 150 – 450 dscfm. Thus, the Operation and Maintenance (O & M) Plan should be updated (corrected) and resubmitted with this new information (450 dscfm) to match the O & M Plan attached to permit AC52-172854.*

Attached are corrected pages 57 and 58 of the application and a corrected O&M Plan for the storage silo.

13. *In accordance with stipulations of Condition No. C.5. of permit 1030060-002-AV, submit the visible test report for each silo.*

The visible emissions test reports were submitted in July as part of the compliance test report.

14. *No. 6 on page 62 of the application states the silos were tested on July 15, 2003. Explain why this date is shown since Condition C.5. of permit 1030060-002-AV requires the silos to be tested for visible emissions during the 180 day period prior to the expiration date of permit 1060060-002-AV.*

All units were tested during the annual compliance testing in mid-May.

15. *Regarding No. 5 on page 69 of the application, should 224,256 be 226,008 (25.8 x 8,760)?*

Attached is a corrected page 69. The emissions should be 25.6 lbs/hr and 224,256 tons/yr.

16. *No.6 on page 74 of the application states that the truck loading station's baghouse was tested on July 15, 2003. Condition C.4. of permit 103006-002-AV states the baghouse is to be tested for visible emissions annually on, or during the 60 day period prior to the date of April 1. Was this test conducted late? If yes, explain why.*

Emission Unit No.: 006 was due to be tested on April 1, but was tested during annual compliance testing in mid-May. We want to request that all annual testing be due at the same time and not be spread out during the year.

17. The O & M Plan for Emission Unit Nos. 001, 003, 005, and 006 will need to be updated with Pinellas County Code Subsection 58-158. The plans and logs need to have the acceptable parameters included. In order to respond to this request, please contact Mr. Gary Robbins of the Pinellas County Department of Environmental Management (PCDEM) at 727-464-4657 for further assistance.

Attached is a copy of the O&M Plan.

18. Please explain why the waste water treatment plant should not be shown as an emission unit, in and out of itself, and subject to 40 CFR 63, Subpart VVV – Publicly Owned Treatment Works. Should the plant be classified as a regulated emission unit, an unregulated emission unit, or an insignificant emission unit?

This facility is neither a major source of HAP emissions nor is it classified as an industrial POTW. Also, the facility has not been under reconstruction as defined in 63.1595. Therefore it is not subject to 40 CFR 63, Subpart VVV.

Based upon the treatment capacity of 18 MGD and the estimated VOC emissions (SSC 5-01-007-01), of 8.9 lbs/million gallons, the POTW is an unregulated emission unit. See attached application pages.

If you have any questions please contact me at (813) 651-0878.

Sincerely,



Kenneth Given, P.E.

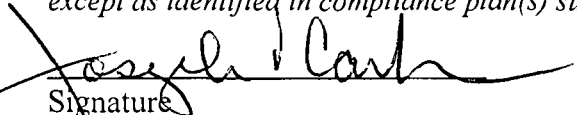
cc: Craven Askew, Largo
Gary Robbins, Pinellas County

APPLICATION INFORMATION
SIGNATURE PAGE

APPLICATION INFORMATION

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: Joseph V. Carlini, Treatment Plant Manager
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input type="checkbox"/> 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. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input checked="" type="checkbox"/> For a municipality, county, state, federal or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: City of Largo – Wastewater Reclamation Facility Street Address: 5000 150th Avenue North City: Clearwater State: Florida Zip Code: 33760
4. Application Responsible Official Telephone Numbers... Telephone: (727) 518-3080 ext. Fax: (727) 518-3081
5. Application Responsible Official Email Address: jcarlini@largo.com
6. Application Responsible Official Certification: <i>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.</i> Signature:  Date: <u>04-07-04</u>

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Kenneth E. Given Registration Number: 23203
2. Professional Engineer Mailing Address... Organization/Firm: Air Testing & Consulting, Inc. Street Address: 333 Falkenburg Road, North Unit B-214 City: Tampa State: Florida Zip Code: 33619
3. Professional Engineer Telephone Numbers... Telephone: (813) 651 - 0878 ext. Fax: (813) 653 - 9082
4. Professional Engineer Email Address: airstest@verizon.net
5. Professional Engineer Statement: <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i> <i>(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</i> <i>(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.</i> <i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, 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.</i> <i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, 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 <input type="checkbox"/>, 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.</i> <i>(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 <input checked="" type="checkbox"/>, 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.</i> <i>Kenneth E. Given</i> Signature 4-7-04 Date (seal)

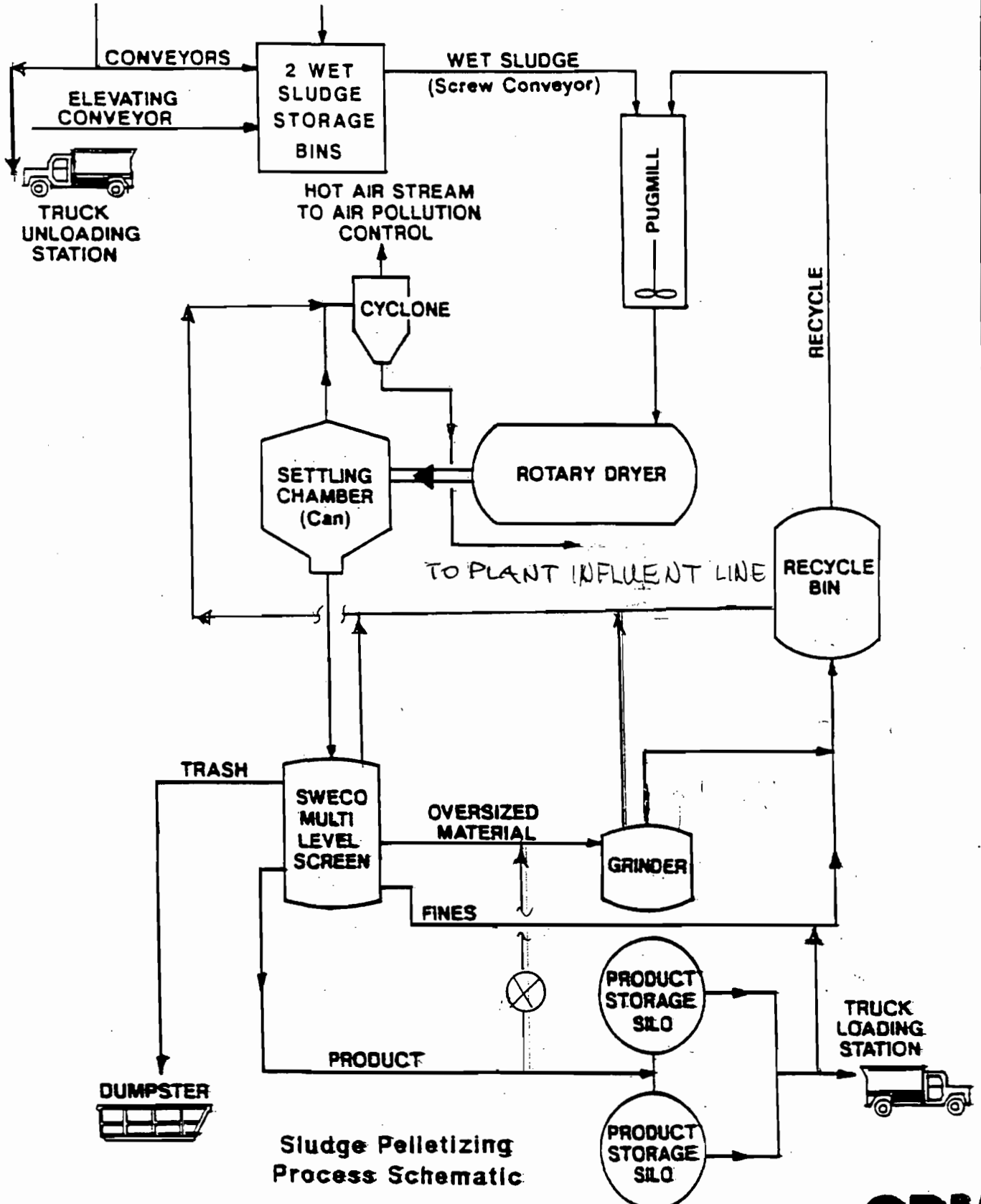
* Attach any exception to certification statement.

B - PROCESS FLOW DIAGRAM

OUTSIDE

CITY OF LARGO WASTEWATER TREATMENT PLANT SLUDGE PELLETIZING SYSTEM

BELT FILTER
PRESSES
(Wet Sludge)

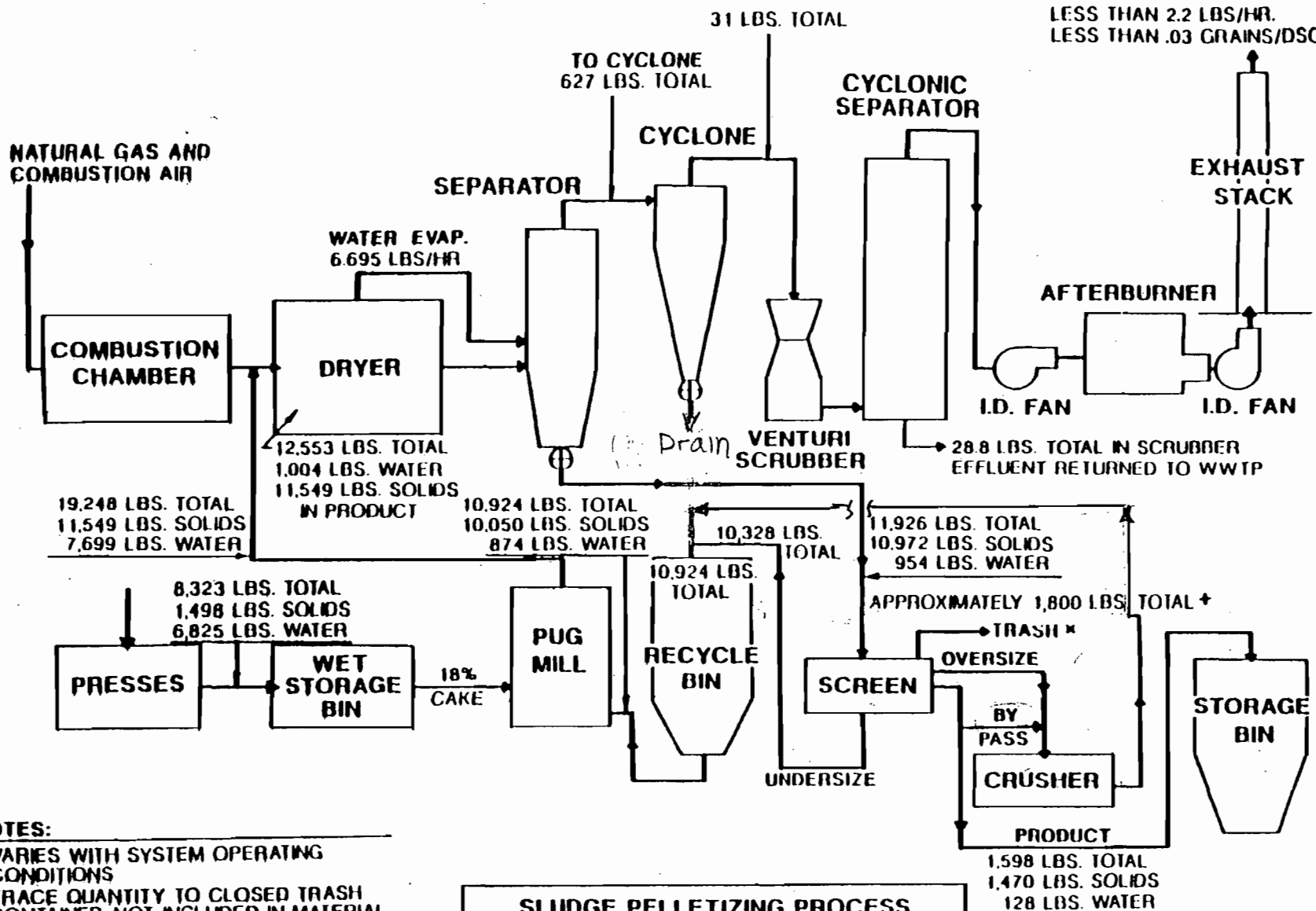


environmental engineers, scientists,
planners, & management consultants

CDM

FIGURE 4-1

1A – PROCESS FLOW DIAGRAM



NOTES:

- ↑ VARIES WITH SYSTEM OPERATING CONDITIONS
- * TRACE QUANTITY TO CLOSED TRASH CONTAINER NOT INCLUDED IN MATERIAL BALANCE. TRASH SCREEN IS A SAFETY DEVICE TO CATCH LOOSE BOLTS, ETC. RATHER THAN A PART OF SLUDGE PELLETIZING SYSTEM

SLUDGE PELLETIZING PROCESS
SYSTEM FLOW - MATERIAL BALANCE
CITY OF LARGO, FLORIDA
SLUDGE HEAT DRYING FACILITY
CDM PROJECT NO. 6157-03

environmental engineers, scientists,
 planners, & management consultants

CDM

FIGURE 4-4

ALL AT 68° F

PRIMARY AIR
11.425 # DRY AIR/HR
0.014 LBS H₂O/LB DRY AIR

NATURAL GAS
444#/HR

SECONDARY AIR
33.397 # DRY AIR/HR
0.014 LBS H₂O/LB DRY AIR
INFILTRATION AIR
2.382 # DRY AIR/HR
0.014 LBS H₂O/LB DRY AIR

NATURAL GAS
105 THERMS/HR

COMBUSTION CHAMBER

1000° F MAX

WATER EVAPORATION
6.695 LBS/HR

DRYER

INLET GAS
47.648 # DRY AIR/HR
AT 989° F
0.0336 LBS H₂O/LB
DRY AIR

FUGITIVE DUST SYSTEM
400 ACFM 0.1 LBS H₂O/LB
DRY AIR AT 90° F

SEPARATOR

DRYER EXIT
16.000 ACFM
54.343 # DRY AIR/HR
0.183 LBS H₂O/LB
DRY AIR

CYCLONE

16.415 ACFM AT 178° F
56.071 # DRY AIR/HR
0.182 LBS H₂O/LB
DRY AIR

VENTURI SCRUBBER

175 GPM

CYCLONIC SEPARATOR

16.420 ACFM
AT 145° F
0.193 LBS H₂O/LB
DRY AIR

TO DRAIN
174 GPM

INDUCTION FAN

AFTERBURNER

NATURAL GAS
22 THERMS/HR
COMBUSTION AIR

20.532 ACFM AT 338°
56.978 # DRY AIR/HR
0.180 LBS H₂O/LB
DRY AIR
LESS THAN 0.3
GRAINS/DSCF

EXHAUST STACK

ALL QUANTITIES ARE BASED ON THE FOLLOWING:

OPERATION: 6 DAYS/WEEK, 312 DAYS/YR, 15.167 HR/DAY

SOLIDS LOADING: 22,723 DRY LB/DAY (1,498 DRY LB/HR)

WET SLUDGE LOADING: 126,239 WET LB/DAY (8,323 WET LB/HR)

@ 18% SOLIDS

NOTE: TYPICAL PROCESS TRAIN

SLUDGE PELLETIZING PROCESS
SYSTEM PROCESS FLOW DIAGRAM
CITY OF LARGO, FLORIDA
SLUDGE HEAT DRYING FACILITY
CDM PROJECT NO. 6157-03

CAMP DRESSER & McKEE INC.

EMISSIONS UNIT INFORMATION

Section [1] of [4]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

The gas stream passes through a Fisher-Klosterman, Inc. Model XQ Series XQ340-27 Dual Cyclones, then to a venturi scrubber and than to a Hunngton Energy System, Inc., Model #65 three chamber, regenerative, ceramic bed-type afterburner.

2. Control Device or Method Code(s): 007,022, 053

City of Largo – Wastewater Reclamation Facility

Results of past two stack tests

Date	Dryer	VOC Inlet lbs/hr	VOC Outlet lbs/hr
7/25/00	#1	2.12	0.08
	#2	0.38	0.09
5/13/03	#1	2.28	0.08
	#2	1.48	0.11

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: ESCNAA	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 2.05 lb/hour	4. Equivalent Allowable Emissions: 2.05 lb/hour 9 tons/year
5. Method of Compliance: EPA Method 18 or 25A	
6. Allowable Emissions Comment (Description of Operating Method): Original construction permit estimated PTE at 180 tons without controls	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions ____ of ____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 0.1157 lb/hour 0.507 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.03 gr/dscf Reference: Rule 62-296.700,F.A.C.	7. Emissions Method Code: 0
8. Calculation of Emissions: 0.03 gr/dscf x lb/7,000 gr x 450 dscfm x 60 min/hr = 0.1157 lb/hr 0.1157 lb/hr x 8,760 hrs/yr x ton/2,000 lbs = 0.507 tons/yr	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
 ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: RULE	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.03 gr/dscf	4. Equivalent Allowable Emissions: 0.1157 lb/hour 0.507 tons/year
5. Method of Compliance: EPA Method 5	
6. Allowable Emissions Comment (Description of Operating Method): Testing by EPA Method 9 per Rule 62-296.711(3)(c),F.A.C. Permit 1030060-002-AV limits each silo to 0.12 lbs/hr and 0.53 tons/yr	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Operation and Maintenance Plan

C.8. Pursuant to Rules 62-297.700(6), F.A.C. and the Pinellas County Code 58-128., as amended, the permittee shall comply with the Operation and Maintenance (O&M) Plan:

- a. Process parameters for each storage silo.
 1. Source Designator: Storage silo for dried sludge
 2. Baghouse Manufacturer: American Air Filter
 3. Model Name: Arrestall AR-30
 4. Design Flow Rate: 150 - 450 dscfm
 5. Efficiency Rating at Design Capacity: 99%
 6. Pressure Drop: 6 1/2" - 4" WG
 7. Air to Cloth Ratio: 3.4
 8. Bag Material: Cotton Sateen
 9. Bag Cleaning Conditions: Periodic/Automatic Shaker
 10. Gas Temperature: Ambient
 11. Stack Height Above Ground: 45 ft.
 12. Exit Dimension: 160 sq. inches
 13. Exit Velocity: 2.8 ft./min.
 14. Water Vapor Content: System designed for zero vapor content.
 15. Process controlled by collection system: Transfer of dried sludge from a dryer to a product storage silo.
 16. Material Handling Rate: 0.76 tons/hr., max.
 17. Operation Schedule: 8760 hrs./yr.

EMISSIONS UNIT INFORMATION

Section [4] of [4]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

4. Segment Description (Process/Fuel Type): Truck loading of pelletized sludge		
2. Source Classification Code (SCC): 3-05-006-12		3. SCC Units: tons processed
4. Maximum Hourly Rate: 25.6	5. Maximum Annual Rate: 224,256	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment: SCC code for cement raw material transfer		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

**APPLICATION INFORMATION
UNREGULATED EMISSION UNIT –
WASTE WATER TREATMENT
PLANT**

EMISSIONS UNIT INFORMATION

Section [5] of [5]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

Description of Emissions Unit Addressed in this Section: Waste water treatment plant

3. Emissions Unit Identification Number: N/A

4. Emissions Unit Status Code: A	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code: 49	8. Acid Rain Unit? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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9. Package Unit:
Manufacturer: _____ Model Number: _____

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:

EMISSIONS UNIT INFORMATION

Section [5] of [5]

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:
N/A.

2. Control Device or Method Code(s):

EMISSIONS UNIT INFORMATION

Section [5] of [5]

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:		2. Emission Point Type Code:	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code:		6. Stack Height: feet	7. Exit Diameter: feet
8. Exit Temperature: °F		9. Actual Volumetric Flow Rate: acfm	10. Water Vapor: % (ambient)
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):		14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:			

EMISSIONS UNIT INFORMATION

Section [5] of [5]

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

5. Segment Description (Process/Fuel Type): Treatment of waste water		
2. Source Classification Code (SCC): 5-01-007-01		3. SCC Units: Mgals Treated
4. Maximum Hourly Rate: 0.75	5. Maximum Annual Rate: 6570	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [5] of [5]

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment ____ of

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

EMISSIONS UNIT INFORMATION

Section [5] of [5]

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
VOC			NS

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –
 POTENTIAL/ESTIMATED FUGITIVE EMISSIONS**

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control: %
3. Potential Emissions: 6.675 lb/hour 29.24 tons/year	4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 8.9 lbs/Mgals Reference: Fire, SCC: 5-01-007-01	7. Emissions Method Code: 3
8. Calculation of Emissions: 18 MGD x 8.9 lbs/Mgals x day/24 hours = 6.675 lbs/hr 6.675 lbs/hr x 8,760 hrs/yr x ton/2,000 lbs = 29.24 TPY	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -
ALLOWABLE EMISSIONS**

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions _____ of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

EMISSIONS UNIT INFORMATION

Section [5] of [5]

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor _____ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [5] of [5]

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor _____ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
4. Monitor Information... Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

EMISSIONS UNIT INFORMATION

Section [5] of [5]

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date
2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date
3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date
4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date <input type="checkbox"/> Not Applicable (construction application)
5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date <input type="checkbox"/> Not Applicable
6. Compliance Demonstration Reports/Records <input type="checkbox"/> Attached, Document ID: _____ Test Date(s)/Pollutant(s) Tested: <input type="checkbox"/> Previously Submitted, Date: Test Date(s)/Pollutant(s) Tested: <input type="checkbox"/> To be Submitted, Date (if known): _____ Test Date(s)/Pollutant(s) Tested: <input type="checkbox"/> Not Applicable Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.
7. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [5] of [5]

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____
2. Compliance Assurance Monitoring <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
3. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
4. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
5. Acid Rain Part Application <input type="checkbox"/> Certificate of Representation (EPA Form No. 7610-1) <input type="checkbox"/> Copy Attached, Document ID: <input type="checkbox"/> Acid Rain Part (Form No. 62-210.900(1)(a)) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) <input type="checkbox"/> Attached, Document ID: <input type="checkbox"/> Previously Submitted, Date: <input type="checkbox"/> Not Applicable

EMISSIONS UNIT INFORMATION

Section [5] of [5]

Additional Requirements Comment

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City of Largo – Wastewater Reclamation Facility

Emissions Unit -001

Two Sewage Sludge Drying Trains

**Particulate matter emissions controlled by Fisher-Klosterman Dual Cyclones, Scrubber –
Train No.1 – Poly Con Corporation, Train No.2 - Fisher-Klosterman and Huntington
Energy System, Inc. Afterburner**

Monitoring Approach

MONITORING APPROACH JUSTIFICATION

I. Background

The facility has two sewage sludge drying trains at this wastewater treatment plant. The two trains, Train No. 1 and Train No.2, are identical but can operate only one at a time. They share a common afterburner.

The gas stream passes from the dryer into a solids settling chamber where most of the dried material is separated from the gas stream. The gas stream from the chamber and from a fugitive dust system enters a cyclonic separator then passes to a venturi scrubber with a cyclonic for disentrainment of water particles. The gas then enters a RTO afterburner before exiting through the exhaust stack.

II. Rational for Selection of Performance Indicators

The dryer operation is fairly constant from day to day. Therefore the operation of the control device was selected as an indicator of performance.

The scrubber differential pressure was selected as the indicator of control device performance. The ~~differential pressure is proportional~~ to the water flow and airflow through the scrubber venturi throat and is an indicator of the energy across the scrubber and the proper operation of the scrubber. Also, the other indicator is water flow through the scrubber.

III. Rational for Selection of Indicators Ranges

The units have operated for several years and have been tested every 5 years upon renewal of permit. During the last two tests (2000 and 2003) the operating conditions showed that the scrubber venturi differential ranged from a low of 6.75 in. H₂O to a high of 13 in. H₂O. The scrubber water flow ranged from a low of 90 gpm to a high of 125 gpm. The afterburner temperature remained above 1100°F.

TABLE 1: MONITORING APPROACH

EMISSION UNIT 001 – DRYERS 1 & 2	
	Indicator No. 1
I. Indicator	Scrubber pressure differential.
Measurement Approach	Measured separately at each of two scrubbers. Locally there are magnehelics gauges. The pressure differential is measured by differential pressure transducer on a continuous basis.
II. Indicator Range	While Dryers are operating, an excursion is defined as a pressure differential outside the range from 6 to 13 inches of water. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The magnehelics and differential transmitters measure the pressure differential between the inlet and outlet of the scrubber.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The units are calibrated on a yearly basis. The operational status of the units are checked if the pressure differential is outside the proposed range. The units are calibrated against Fluke 744 pneumatic calibrator.
D. Monitoring Frequency	The pressure differential is observed and recorded once per hour for each scrubber when the dryers are operating.
E. Data Collection Procedures	Pressure differential recorded on the daily log sheet with the time, date, and name of the observer.
F. Averaging Period	Not Applicable.

TABLE 1: MONITORING APPROACH

EMISSION UNIT 001 – DRYERS 1 & 2	
	Indicator No. 2
I. Indicator	Scrubber liquid feed rate..
Measurement Approach	Measured separately at each of two scrubbers using flow meters.
II. Indicator Range	While Dryers are operating, an excursion is defined as liquid flow below 80 gpm. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria	
A. Data Representativeness	The flow meters measure the liquid flow to the scrubber.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The flow meters will be checked if the flow falls out of range. Calibration is performed annually.
D. Monitoring Frequency	The flow rate is observed and recorded once per hour on the daily log sheet for each scrubber when the dryers are operating.
E. Data Collection Procedures	Flow rate recorded with the time, date, and name of the observer.
F. Averaging Period	Not Applicable.

TABLE 1: MONITORING APPROACH

EMISSION UNIT 001 – DRYERS 1 & 2	
	Indicator No. 3
IV. Indicator	Afterburner temperature.
Measurement Approach	Measured at outlet using thermocouple.
V. Indicator Range	While Dryers are operating, an excursion is defined as a temperature below 1100°F. Excursions trigger an inspection, corrective action, and a reporting requirement. A temperature below 1100°F causes the unit to shutdown.
VI. Performance Criteria	
A. Data Representativeness	The thermocouple measures the afterburner outlet temperature.
B. Verification of Operational Status	Not Applicable.
C. QA/QC Practices and Criteria	The thermocouple is calibrated yearly or if temperature readings are below required.
D. Monitoring Frequency	The temperature is recorded continuously when the dryers are operating.
E. Data Collection Procedures	Chart recorder and is recorded hourly on the daily log sheet.
F. Averaging Period	Not Applicable.

COMPLIANCE ASSURANCE MONITORING
VENTURI SCRUBBER FOR PM CONTROL

I. Background

A. Emissions Units

Description: Sewage Sludge Drying Train
Identification: Train No. 1 & 2
Facility: City of Largo – Wastewater Reclamation Facility
Clearwater, Florida

B. Applicable Regulation, Emission Limit and Monitoring Requirements

Regulation: Florida Rule 62-296.712(2), F.A.C.
RACT

Emissions Limit:
Particulate Matter (PM): 0.03 grains/dscf

The state also specifies that the opacity of visible emissions shall be no visible emissions (5% opacity) except that visible emissions not exceeding 20% opacity are allowed for up to three minutes in any one-hour. (Rule 62-296.401(1)(a).

Monitoring Requirements: Annual opacity test (EPA Method 9)

C. Control Technology

Venturi Scrubber followed by afterburner

II. Monitoring Approach

The key elements of the monitoring approach are presented in Table 1. The indicators of performance are the differential pressure across the scrubber venturi, the scrubber water flow rate to the venturi and the RTO afterburner operating temperature.

Operation and Maintenance Plan

a. Sludge pelletizer cyclones for each train.

1. Source Designator: Sludge Drying Train
2. Cyclone (dry scrubber) Manufacturer: Fisher-Klosterman
3. Model Name and Number: XQ Series XQ340-27 Dual Cyclones
4. Design Flow Rate: 17,172 ACFM
5. Efficiency Rating At Design Capacity: 94.29%
6. Pressure Drop: 4.76 inches W.C. at Full Load
7. Stack Gas Exit Temperature: N/A exhausts to scrubber/afterburner
8. Stack Height: N/A exhausts to scrubber/afterburner
9. Stack Diameter: N/A exhausts to scrubber/afterburner
10. Stack Velocity: N/A exhausts to scrubber/afterburner
11. Process Controlled By Collection System: Emissions from sludge drying train
12. Total Material Handling Rate:
32,680 lbs./hr. sludge input rate to Dryer Train No. 1
32,680 lbs./hr. sludge input rate to dryer Train No. 2
13. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.

b. Sludge pelletizer scrubbers for each train.

1. Source Designator: Sludge Drying Train
2. Scrubber Manufacturer:
Train No. 2 - Fisher-Klosterman
Train No. 1 - Poly con Corporation
3. Model Name and Number: Train No. 2 - MS-520.000-M
Train No. 1 - 1514SS
4. Measured Flow Rate: Train No. 2 - 18,898 ACFM
Measured Flow Rate: Train No. 1 - 18,802 ACFM
5. Efficiency Rating At Design Capacity:
Train No. 2 - 99.03%
Train No. 1 - 99.03% based on data from Train No. 2
6. Design Pressure Drop: Train No. 2: 6 - 13 inches W.C.
Train No. 1: 6 - 13 inches W.C.
7. Fans Current at Rated Voltage: 173 amperes-Train No. 1
167 amperes-Train No. 2
8. Liquid Feed Rate: 200 gpm, maximum

“City of Largo – Wastewater Reclamation Facility”.
EU ID No. –001 Two Sewage Sludge Drying Trains

6. Complete Log Sheet Indicating:

Pugmill speed/amps
Ratio wet/dry
Dryer temp. in/out
Belt scales
Sludge feed
Polymer feed
Belt speed
Hydraulic psi
RTO fan amperes
RTO combustion chamber temp.
% solids cake/pug/prod
Recycle bin level/high temp
product silos level/high temp
Incline wet screw amperes

Weekly

1. Record afterburner's bearing temps.

Monthly

1. Inspect fan/housings for corrosion and material build-up/
2. Check all drive belts for wear and tensions.
3. Check scrubber differential pressure.
4. Check scrubber H₂O flow rate.
5. Check scrubber H₂O inlet pressure
6. Lubricate RTO fan damper bearings.
7. Confirm vibration detection equipment is operational.
8. Lubricate flow control valve drive system.

Every 2 Months

1. Inspect scrubber nozzle and spray bars.
2. Inspect cyclone interior.

Every 6 Months

1. Inspect fan damper and packing.
2. Inspect fan impeller.
3. Inspect fan impeller seal.
4. Check torque anchor and lag bolts.
5. Calibrate vibration detectors.

“City of Largo – Wastewater Reclamation Facility”.
EU ID No. –001 Two Sewage Sludge Drying Trains

9. Stack Gas Exit Temperature: N/A exhausts to afterburner
10. Stack Height: N/A exhausts to afterburner
11. Stack Diameter: N/A exhausts to afterburner
12. Stack Velocity: N/A exhausts to afterburner
13. Process Controlled By Collection System: Emissions from sludge drying train
14. Total Material Handling Rate:
 - 32,680 lbs./hr. sludge input rate to Dryer Train No. 1
 - 32,680 lbs./hr. sludge input rate to dryer Train No. 2
15. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.

c. Afterburner serving 2 sewage sludge drying trains 1 at a time.

1. Source Designator: Sludge Drying Train
2. Afterburner Manufacturer: Huntington Energy System, Inc.
3. Model Name and Number: Model #65
4. Design Flow Rate: 20532 ACFM
5. Efficiency Rating At Design Capacity: 95%
6. Stack Average Temperature: 240 degrees F
7. Stack Height: 65 feet
8. Stack Diameter: 38 inches
9. Stack Gas Exit Velocity: 36 fps
10. Stack Moisture Content: 8%
11. Process Controlled By Collection System: Emissions from sludge drying train
12. Total Material Handling Rate:
 - 32,680 lbs./hr. sludge input rate to Dryer Train No. 1
 - 32,680 lbs./hr. sludge input rate to dryer Train No. 2
13. Operation Schedule: Only 1 of the 2 trains may operate at any one time for a total operating time of 8760 hrs./yr.

d. The following observations, checks, and operations apply to the cyclones, scrubbers, and afterburner and shall be conducted on the following schedule as specified:

Daily

1. Observe stack (visual).
2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, etc.).
3. Note any unusual occurrence in the process being ventilated.
4. Observe all indicators on control panel.
5. Check bearing oil level for fan.

“City of Largo – Wastewater Reclamation Facility”.
EU ID No. –001 Two Sewage Sludge Drying Trains

6. Change bearing oil.
7. Inspect chamber flow control valve packing (6 valves).
8. Lubricate chamber flow control valve bearings (6 valves).
9. Inspect bypass flow control valve packing (4 valves).
10. Change oil valve drive system gearbox.

Annually

1. Check all bolts and welds.
 2. Grease motor.
 3. Inspect chamber insulation.
 4. Inspect ceramic support.
 5. Inspect and adjust gas burners.
 6. Leak test gas piping system.
 7. Calibrate process instrumentation.
- e. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- f. A record log which will indicate, at a minimum:
1. When maintenance was performed.
 2. What maintenance was performed.
 3. Why maintenance was performed.
 4. Who performed the maintenance.
- g. Records of inspections, maintenance, and performance parameters shall be made available to the Department of the PCDEM upon request.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. –003 Pelletizer Building with Odor Control System No. 1

Operation and Maintenance Plan

- a. Process parameter for each scrubber.
 1. Source Designator: Odor Control System No. 1 which consists of two scrubbers
 2. Scrubbers' Manufacturer: Met-Pro corporation/Duall Division
 3. Model Name: Duall Packed Scrubber Towers #P510-120 Serial No. 2269
 4. Design Air Flow For Each Scrubber: 35,500 SCFM
 5. Efficiency Rating For Each Scrubber At Max. Design: 99%
 6. Reclaimed Water (1-6 ppm CL_2) From Waste Water Treatment Plant: 200 gpm design.
 7. Stack Gas Temp. For Each Scrubber: Ambient
 8. Stack Exit Diameter For Each Scrubber: 48 inches
 9. Stack Exit Velocity For Each Scrubber: 2,800 fpm
 10. Oxidation/Reduction Potential (ORP), 575- 675 mv.
 11. pH Range, minimum of 8.
 12. Stack Water Vapor Content For Each Scrubber: 100%
 13. Process Controlled: Odors from the pelletizer building which includes the belt filter presses and wet storage bins.
 14. Operation Schedule: 8760 hrs./yr.
- b. The following observations, checks, and operations apply to each scrubber and shall be conducted on the following schedule as specified:

Daily

1. Walk through system listening for proper operation (audible leaks, proper fan and pump functions, etc.).
2. Note any unusual occurrence.
3. Check for fluid leaks.
4. Check liquid flow rate (gpm) and CL_2 ppm.
5. Record ORP and pH.

Weekly

1. Grease fan bearings.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. –003 Pelletizer Building with Odor Control System No. 1

Monthly

1. Fan /Pump rotation.
2. Check fan belts.
3. Change tower H₂O.
4. Exercise recirculating pump.
5. Check electronic control panels.
6. Check ampere readings for fans and pumps.
7. Verify spray bar operation.

Quarterly

1. Tighten lag bolts.
2. Check all welds.

Yearly

1. Grease motor bearings.
2. Inspect ductwork.
3. Inspect fans.

- c. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- d. A record log which will indicate, at a minimum:
 1. When maintenance was performed.
 2. What maintenance was performed.
 3. Who performed the maintenance.
- e. records of inspections, maintenance, and performance parameters shall be retained and shall be made available to the Department or the PCDEM upon request.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

Operation and Maintenance Plan

a. Process parameters for each storage silo.

1. Source Designator: Storage silo for dried sludge
2. Baghouse Manufacturer: American Air Filter
3. Model Name: Arrestall AR-30
4. Design Flow Rate: 150 - 450 dscfm
5. Efficiency Rating at Design Capacity: 99%
6. Pressure Drop: 6 1/2" - 4" WG
7. Air to Cloth Ratio: 3.4
8. Bag Material: Cotton Sateen
9. Bag Cleaning Conditions: Periodic/Automatic Shaker
10. Gas Temperature: Ambient
11. Stack Height Above Ground: 45 ft.
12. Exit Dimension: 160 sq. inches
13. Exit Velocity: 2.8 ft./min.
14. Water Vapor Content: System designed for zero vapor content.
15. Process controlled by collection system: Transfer of dried sludge from a dryer to a product storage silo.

16. Material Handling Rate: 0.76 tons/hr., max.
17. Operation Schedule: 8760 hrs./yr.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

- b. The following observations, checks, and operations apply to each silo and shall be conducted on the following schedule as specified:

Daily

1. Observe stack (visual).
2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, bag cleaning systems, etc.).
3. Note any unusual occurrence in the process being ventilated.
4. Observe all indicators on control panel.

Weekly

1. Inspect conveyor and air lock bearing for lubrication.

Monthly

1. Check cleaning mechanism moving parts.
2. Inspect fans for corrosion and material build-up.
3. Check all drive belts and chains for wear and tensions.
4. Check all hoses and clamps.
5. Inspect housing for corrosion.

Quarterly

1. Check shaker motor ampere reading.
2. Inspect fan wheel.
3. Thoroughly inspect filter cartridges.
4. Check gaskets on all doors.
5. Inspect paint.

Semi-Annually

1. Lubricate baghouse explosion vent latches.
2. Inspect vacuum vent diaphragms.
3. Inspect vacuum vent guides.

Annually

1. Check all bolts.
2. Check welds.
3. Inspect hopper for wear.
4. Change filter cartridges.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

c. Process parameters for truck loading:

1. Source Designator: Loading trucks with dried sludge from 1 of 2 storage silos.
2. Baghouse Manufacturer: Sternvent Company, Inc.
3. Model Name: CCPS0258 Hopper Style
4. Design Flow Rate: 1000 dscfm
5. Efficiency Rating at Design Capacity: 99%
6. Pressure Drop: 2" - 6" WG
7. Air to Cloth Ratio: 4.24
8. Bag Material: Polyester felt
9. Bag Cleaning Conditions: Jet air pulse, 80-100 psig
10. Gas Temperature: Ambient
11. Stack Height Above Ground: 45 ft.
12. Exit Dimension: 72.5 sq. inches
13. Exit Velocity: 13.8 fpm (design)
14. Water Vapor Content: Ambient
15. Process controlled by collection system: Transfer of dried sludge from 1 of 2 sludge storage silos to a truck.
16. Material Handling Rate: 25.8 tons/hr., max.
17. Operation Schedule: 8760 hrs./yr.

D. The following observations, checks, and operations apply to the sludge truck loading operation and shall be conducted on the following schedule as specified:

Daily during loading

1. Observe stack (visual).
2. Walk through system listening for proper operation (audible leaks, proper fan and motor functions, bag cleaning systems, etc.).
3. Note any unusual occurrence in the process being ventilated.
4. Observe all indicators on control panel.
5. Assure that dust is being removed from system.
6. Check reverse air pressure.

Weekly

1. Inspect conveyor and air lock bearing for lubrication.

“City of Largo – Wastewater Reclamation Facility”.

EU ID No. -005 Two Sludge Storage Silos

EU ID No. -006 Truck Loading Area

Quarterly

1. Check all hoses and clamps.
2. Inspect housing for corrosion.
3. Check bag cleaning sequence to see that all valves are opening and closing properly.
4. Check compressed air lines, including line oilers and filters.
5. Inspect fan.
6. Grease fan bearings.
7. Grease fan shaft seal.
8. Check fan belts.
9. Tighten lag bolts.
10. Inspect electrical control panels.
11. Check fan motor ampere reading.
12. Thoroughly inspect bags.
13. Check gaskets on all doors.

Annually

1. Check paint.
 2. Check welds.
 3. Change filter-tubes.
- e. A list of the type and quantity of required spare parts for the pollution control devices which are stored on the premises.
- f. A record log which will indicate, at a minimum:
1. When maintenance was performed.
 2. What maintenance was performed.
 3. Who performed the maintenance.
- g. Records of inspections, maintenance, and performance parameters shall be retained and shall be made available to the Department or the PCDEM upon request.

City of Largo

Factory Data Log (Dry Side)

Date _____

Midnight Totalizer Readings

Main Gas _____

Train #1 _____

Total Gals Pressed _____

Polymer Bags _____

RTO Gas _____

Train #2 _____

Polymer Batches _____

Midnight Scale Readings - Train #1 _____ Train #2 _____

Time	Pugmill Speed	Dry Incline Feed	Wet Bin Speed	Dryer Burner Inlet Trmp	Dryer Burner Outlet Trmp	Pugmill Amps	RTO Temp	RTO (amp max 240) Amps / Chart Rec	Differential/Venturi PSI / GPM	Sludge Feed #1 / #2	Wet Incline Amps
MID								/	/	/	
1:00								/	/	/	
2:00								/	/	/	
3:00								/	/	/	
4:00								/	/	/	
5:00								/	/	/	
6:00								/	/	/	
7:00								/	/	/	
8:00								/	/	/	
9:00								/	/	/	
10:00								/	/	/	
11:00								/	/	/	
12:00								/	/	/	
13:00								/	/	/	
14:00								/	/	/	
15:00								/	/	/	
16:00								/	/	/	
17:00								/	/	/	
18:00								/	/	/	
19:00								/	/	/	
20:00								/	/	/	
21:00								/	/	/	
22:00								/	/	/	
23:00								/	/	/	

RTO MCC
INVENTORY SHEET
System

Item

P-C 2 UV Scanner Order INS# 21651
3 Pole Contact Kit # 99983L3
3 Pole Contact Kit # 99983L4
Spare Range Board - Dryer Inlet Temp Transmitter 0 -1500 Deg. F Item # 00444-0262-0007
Range Board 0 - 300 Dryer outlet Item # 00444-0262-0002
C7035A 1023 FSG UV Flame Detector
9070EL2D9 Industrial Control Transformer
Ashcroft Transducer 2F219
Solenoid Valve - 120V -60Hz -2630007
Buss semiconductor FWP -600
Slo-Blo Fuses - Volts 250 FLNR 1 1/2
Class CC Fuses Volts 600 KLK 1 1/2
125 Volts small Dimension fuse assortment Box
Ultra Slimpak G428
Fuse FNQ 1
Fuse FNQ 2
Fuse FNQ 5
Fuse FNQ R 1/2
Fuse FNQ R 1
Fuse FNQ R 2
Fuse FNQ R 3
Fuse FNQ R 3.5
Fuse FNQ R 5
Fuse FNQ R10
Fuse KTKR 1
Fuse KTKR 2
Fuse KTKR 3
Fuse KTKR 5
Fuse KTKR 10
LP CC 5 6/10
LP CC 12
LP CC 15
FRN R 1
FRN R 1 6/10
LPJ 10 SP
JKS 400
Joacomatic 881-22-404
Pyco Thermocouple S0# 083392-00 Item # 001 K375-316-S-18-A-2-(Y)
Pyco Thermocouple S0# 083392-00 Item # 002 K375-316-S-18-A-2-(Y)
Ultrasonic Transducer
Programmer Multi +/-DPL ' Potter
Multirange Plus
DC motor speed control 2Hp
Thermocouple / Millivolt Input Module Cat#1746-NTS
Output Module Cat#1746-0X8
Analog input module Cat#1746-N14

RTO MCC
INVENTORY SHEET
System

Item

Alimentation

Remote I/O Adapter Module

Thermo Couple /With out Module 1771IXE

Thermo Couple /With out Module 1771IOAD

Thermo Couple /With out Module 1771IXE

Thermo Couple /With out Module 1771IXE

Thermo Couple /With out Module 1771IAD

Thermo Couple /With out Module 1771IL

Power Supply - AC (120-220V) 1GA

Dynamic Rectification Amplifier

Keyboard Display Module

Automatic Primary Control

Modutrol IV Motor

Honeywell Function control Readout

Actionator Motor

RTO Spare 200HP motor

I.D. Fan spare 150 HP motor

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May				June					
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	
Weekly Preventative Maintenance													Regenerative Thermal Oxidizer														
Record RTO Fan Bearing Temperatures																											
Check RTO Fan Bearing Oil (daily)																											
Check RTO Fan for abnormal noises and vibrations																											
Fill RTO bearing oil container																											
Check RTO for proper operation, check for leaks, vibration or abnormal noises																											
Weekly Preventative Maintenance													Pelletizing Plant														
Record which train is running																											
Lubricate Screw Conveyor, check for proper operation.																											
SHD-SC-1A - Train 1 Wetbin																											
SHD-SC-1B - Train 1 Wet to Pugmill																											
SHD-SC-1C - Train 1 Settling Chamber to Shaker																											
SHD-SC-1G - Train 1 Crusher to Recycle Bin																											
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																											
SHD-SC-2A - Train 2 Wetbin																											
SHD-SC-2B - Train 2 Wetbin to Pugmill																											
SHD-SC-2C - Train 2 Settling Chamber to Shaker																											
SHD-SC-2G - Train 2 Crusher to Recycle Bin																											
SHD-SC-2H - Train 2 Recycle Bin to Pug Mill																											

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May				June							
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Sludge Pump 1																													
Sludge Pump 2																													
Sludge Pump 3																													
Monthly Preventative Maintenance													Regenerative Thermal Oxidizer																
Inspect RTO Fan housing for any corrosion and or material build up																													
Inspect and lubricate RTO exhaust fan damper bearings if required.																													
Perform vibration analysis on RTO fan																													
Lubricate RTO fan gear coupling (perform every two months)																													
Check all fan base and motor mounting bolts/nuts for proper torque.																													
Lubricate RTO flow control valve drive system, inspect all bearings for wear.																													
Perform leak test on all gas piping at all joints and valves using leak test solution and gas monitor																													
Monthly Preventative Maintenance													Pelletizing Plant																
Check screw conveyor drive reducer oil level, verify proper operation																													
SHD-SC-1A - Train 1 Wetbin																													
SHD-SC-1B - Train 1 Wetbin to pugmill																													
SHD-SC-1C - Train 1 Settling Chamber to Shaker																													
SHD-SC-1G - Train 1 Crusher to Recycle Bin																													
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																													

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	July				August				September				October				November				December							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Perform leak test on all gas piping																												
Train 1 Dryer Furnace																												
Train 2 Dryer Furnace																												
Inspect and check combustion blower drive belts, adjust/replace if necessary.																												
Train 1 Combustion Blower																												
Train 2 Combustion Blower																												
Check all fan base and motor mounting bolts/nuts for proper torque.																												
Train 1 Combustion Blower																												
Train 2 Combustion Blower																												
Inspect dryer drum drive chain and sprockets for improper alignment and excessive wear																												
Train 1 Dryer Drum																												
Train 2 Dryer Drum																												
Inspect drive for abnormal noises and vibrations, verify proper oil level.																												
Train 1 Dryer Drum																												
Train 2 Dryer Drum																												
Check pugmill tail shaft and bearings, torque bolts if necessary.																												
Train 1 Pugmill																												
Train 2 Pugmill																												
Inspect Pugmill drive train gears, torque set-screws and check gearbox oil level.																												

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May				June									
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	5
SHD-SS-A - Common first incline to silo																															
SHD-SS-B - Common second incline to silo																															
SHD-SS-4B - Common north / south silo feed.																															
Silo to Factory Recycle Bin Screw Conveyor																															
New Press to SDB-SC-1A Screw Conveyor																															
Inspect belt conveyor drive units and drive belts.																															
SDB-SC-1A - Common north / south																															
SDB-SC-1B - Press 1 East / West																															
SDB-SC-1C - First truck loading																															
SDB-SC-1D - Second truck loading																															
SDB-SC-2A - Train 2 first conveyor to wetbin																															
SDB-SC-2B - Train 2 wetbin feed																															
Inspect Pugmill drive chain and sprockets.																															
Train 1 Pugmill																															
Train 2 Pugmill																															
Inspect Airlock drive chain and sprockets																															
Train 1 West Cyclone Airlock																															
Train 1 East Cyclone Airlock																															
Train 1 Shaker Airlock																															

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	July				August				September					October				November				December								
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	6			
SHD-SS-A - Common first incline to silo																														
SHD-SS-B - Common second incline to silo																														
SHD-SS-4B - Common north / south silo feed.																														
Silo to Factory Recycle Bin Screw Conveyor																														
New Press to SDB-SC-1A Screw Conveyor																														
Inspect belt conveyor drive units and drive belts.																														
SDB-SC-1A - Common north / south																														
SDB-SC-1B - Press 1 East / West																														
SDB-SC-1C - First truck loading																														
SDB-SC-1D - Second truck loading																														
SDB-SC-2A - Train 2 first conveyor to wetbin																														
SDB-SC-2B - Train 2 wetbin feed																														
Inspect Pugmill drive chain and sprockets.																														
Train 1 Pugmill																														
Train 2 Pugmill																														
Inspect Airlock drive chain and sprockets																														
Train 1 West Cyclone Airlock																														
Train 1 East Cyclone Airlock																														
Train 1 Shaker Airlock																														

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May				June						
	1	2	3	4	1	2	3	4	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	5	6
Train 2 West Cyclone Airlock																												
Train 2 East Cyclone Airlock																												
Train 2 Shaker Airlock																												
Check crusher roller gap (1/8") and inspect discharge chute for tears or rips.																												
Train 1 Crusher																												
Train 2 Crusher																												
Quarterly Preventative Maintenance													Silo & Truck Loading															
Clean and inspect dust collector fan wheel																												
Silo 1 Dust Collector																												
Silo 2 Dust Collector																												
Replace filter cartridges																												
Silo 1 Dust Collector																												
Silo 2 Dust Collector																												
Inspect dust collector door gaskets, replace if necessary, inspect paint.																												
Silo 1 Dust Collector																												
Silo 2 Dust Collector																												
Inspect sternvent hoses, clamps, baghouse housing for deterioration and corrosion																												
Check sternvent compressed air lines, including oilers & filters.																												
Lubricate bag house fan bearings and shaft seal.																												

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	July				August				September					October				November				December				
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
Train 2 West Cyclone Airlock																										
Train 2 East Cyclone Airlock																										
Train 2 Shaker Airlock																										
Check crusher roller gap (1/8") and inspect discharge chute for tears or rips.																										
Train 1 Crusher																										
Train 2 Crusher																										
Quarterly Preventative Maintenance													Silo & Truck Loading													
Clean and inspect dust collector fan wheel																										
Silo 1 Dust Collector																										
Silo 2 Dust Collector																										
Replace filter cartridges																										
Silo 1 Dust Collector																										
Silo 2 Dust Collector																										
Inspect dust collector door gaskets, replace if necessary, inspect paint.																										
Silo 1 Dust Collector																										
Silo 2 Dust Collector																										
Inspect sternvent hoses, clamps, baghouse housing for deterioration and corrosion																										
Check sternvent compressed air lines, including ollers & filters.																										
Lubricate bag house fan bearings and shaft seal.																										

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May				June									
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5	
Tighten bag house lag bolts																															
Inspect dust collector fan for corrosion and material build up																															
Inspect bag house filter bags, replace if necessary																															
Inspect baghouse door gaskets, replace if necessary																															
Inspect baghouse fan drive belt tension using tension check, adjust/replace if necessary.																															
Check truck loading spout gearbox oil level, lubricate drive bearings																															
Inspect and lubricate drive pulleys and lifting cables.																															
Semi-Annual Preventive Maint.																Regenerative Thermal Oxidizer															
Inspect RTO fan damper and packing																															
Inspect RTO fan impeller and impeller seal																															
Check and torque fan anchor and lag bolts.																															
Change RTO fan bearing oil																															
North Bearing																															
South Bearing																															
Inspect RTO bypass flow control valve packing (4 Valves)																															
Change RTO valve drive reducer oil																															
Inspect and clean RTO chamber flow control valves (6 Valves)																															
Lubricate RTO flow control drive train bearings																															

City of Largo

Wastewater Treatment Facility

PM Schedule

	July				August				September					October				November				December												
Week Number	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5								
Tighten bag house lag bolts																																		
Inspect dust collector fan for corrosion and material build up																																		
Inspect bag house filter bags, replace if necessary																																		
Inspect baghouse door gaskets, replace if necessary																																		
Inspect baghouse fan drive belt tension using tension check, adjust/replace if necessary.																																		
Check truck loading spout gearbox oil level, lubricate drive bearings																																		
Inspect and lubricate drive pulleys and lifting cables.																																		
Semi Annual Preventative Maint													Regenerative Thermal Oxidizer																					
Inspect RTO fan damper and packing																																		
Inspect RTO fan impeller and impeller seal																																		
Check and torque fan anchor and lag bolts.																																		
Change RTO fan bearing oil																																		
North Bearing																																		
South Bearing																																		
Inspect RTO bypass flow control valve packing (4 Valves)																																		
Change RTO valve drive reducer oil																																		
Inspect and clean RTO chamber flow control valves (6 Valves)																																		
Lubricate RTO flow control drive train bearings																																		

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March					April				May					June										
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	5		
Semi-Annual Preventative Maint																	Pelletizing Plant																
Lubricate induced draft fan motor bearings until old lubricant is purged.																																	
Train 1 ID fan																																	
Train 2 ID fan																																	
Inspect and torque screw conveyor tall shaft bolts, gear reducers and couplings																																	
SHD-SC-1A - Train 1 Wetbin																																	
SHD-SC-1B - Train 1 Wetbin to pugmill																																	
SHD-SC-1C - Train 1 Settling Chamber to Shaker																																	
SHD-SC-1G - Train 1 Crusher to Recycle Bin																																	
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																																	
SHD-SC-2A - Train 2 Wetbin																																	
SHD-SC-2B - Train 2 Wetbin to Pugmill																																	
SHD-SC-2C - Train 2 Settling Chamber to Shaker																																	
SHD-SC-2G - Train 2 Crusher to Recycle Bin																																	
SHD-SC-2H - Train 2 Recycle Bin to Pugmill																																	
SHD-SC-D - Common shaker to SHD-SS-A																																	
SHD-SS-A - Common first incline to silo																																	
SHD-SS-B - Common second incline to silo																																	
SHD-SS-4B - Common north / south silo feed.																																	
Silo to Pelletizer Recycle Bin Screw Conveyor																																	

City of Largo

Wastewater Treatment Facility

PM Schedule

Work Number	January				February				March					April				May				June							
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SDB-SC-1A - Common north / south																													
SDB-SC-1B - Press 1 East / West																													
SDB-SC-1C - First truck loading																													
SDB-SC-1D - Second truck loading																													
SDB-SC-2A - Train 2 first conveyor to wetbin																													
SDB-SC-2B - Train 2 wetbin feed																													
Change belt press hydraulic oil filter, perform oil analysis																													
New Press																													
Old Press																													
Lubricate press roller support bearings, purge old lubricant from bearings.																													
New Press																													
Old Press																													
Inspect dryer furnace fire brick and burner gas ring.																													
Train 1 Dryer Furnace																													
Train 2 Dryer Furnace																													
Inspect dryer drum rollers, if excessive wear is evident replace or re-machine.																													
Train 1 Dyer Drum																													
Train 2 Dryer Drum																													
Check and torque drum base mounting bolts, inspect foundation for cracks.																													

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	July				August				September					October				November				December								
	1	2	3	4	1	2	3	4	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Train 1 Dryer Drum																														
Train 2 Dryer Drum																														
Check drum floats freely within flanged rollers.																														
Train 1 Dryer Drum																														
Train 2 Dryer Drum																														
Torque cyclone anchor and lag bolts, inspect welds																														
Train 1 Cyclone																														
Train 2 Cyclone																														
Torque venturi scrubber anchor and lag bolts, inspect welds																														
Train 1 Venturi Scrubber																														
Train 2 Venturi Scrubber																														
Semi-Annual Preventative Maint.														Silo & Truck Loading																
Inspect and clean silo vacuum relief valve diaphragms, guides and seating surfaces.																														
Silo 1 Vacuum Relief Valves																														
Silo 2 Vacuum Relief Valves																														
Lubricate silo dust collector explosion vents.																														
Silo 1 Dust Collector																														
Silo 2 Dust Collector																														

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	January				February				March				April				May				June											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Annual Preventative Maintenance													Regenerative Thermal Oxidizer																			
Inspect and torque all RTO bolts, checking for corrosion, rust and deterioration.																																
Inspect RTO chamber insulation																																
Inspect and check all RTO welds, checking for corrosion, rust and deterioration																																
Leak test RTO gas piping																																
Lubricate RTO exhaust fan motor bearing until old lubricant is purged																																
Inspect RTO chamber ceramic support.																																
Annual Preventative Maintenance													Pelletizing Plant																			
Inspect conveyor flights, shafts, hanger bearings for excessive wear.																																
SHD-SC-1A - Train 1 Wetbin																																
SHD-SC-1B - Train 1 Wetbin to Pugmill																																
SHD-SC-1C - Train 1 Settling Chamber to Shaker																																
SHD-SC-1G - Train 1 Crusher to Recycle Bin																																
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																																
SHD-SC-2A - Train 2 Wetbin																																
SHD-SC-2B - Train 2 Wetbin to Pugmill																																
SHD-SC-2C - Train 2 Settling Chamber to Shaker																																
SHD-SC-2G - Train 2 Crusher to Recycle Bin																																
SHD-SC-2H - Train 2 Recycle Bin to Pugmill																																

City of Largo

Wastewater Treatment Facility

PM Schedule

Week Number	July				August				September					October				November				December							
	1	2	3	4	1	2	3	4	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Annual Preventative Maintenance													Regenerative Thermal Oxidizer																
Inspect and torque all RTO bolts, checking for corrosion, rust and deterioration.																													
Inspect RTO chamber insulation																													
Inspect and check all RTO welds, checking for corrosion, rust and deterioration																													
Leak test RTO gas piping																													
Lubricate RTO exhaust fan motor bearing until old lubricant is purged																													
Inspect RTO chamber ceramic support.																													
Annual Preventative Maintenance													Pelletizing Plant																
Inspect conveyor flights, shafts, hangar bearings for excessive wear.																													
SHD-SC-1A - Train 1 Wetbin																													
SHD-SC-1B - Train 1 Wetbin to Pugmill																													
SHD-SC-1C - Train 1 Settling Chamber to Shaker																													
SHD-SC-1G - Train 1 Crusher to Recycle Bin																													
SHD-SC-1H - Train 1 Recycle Bin to Pug Mill																													
SHD-SC-2A - Train 2 Wetbin																													
SHD-SC-2B - Train 2 Wetbin to Pugmill																													
SHD-SC-2C - Train 2 Settling Chamber to Shaker																													
SHD-SC-2G - Train 2 Crusher to Recycle Bin																													
SHD-SC-2H - Train 2 Recycle Bin to Pugmill																													

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (MJA 1100 - 0730)	January				February				March					April				May				June				
Week Number	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
SHD-SS-B - Common second incline to silo																										
SHD-SS-4B - Common north / south silo feed.																										
Silo to Pelletizer Recycle Bin Screw Conveyor																										
New Press to SDB-SS-1A																										
Lubricate belt conveyor motor bearings until old lubricant is expelled.																										
SDB-SC-1A - Common north / south																										
SDB-SC-1B - Press 1 East / West																										
SDB-SC-1C - First truck loading																										
SDB-SC-1D - Second truck loading																										
SDB-SC-2A - Train 2 first conveyor to wetbin																										
SDB-SC-2B - Train 2 wetbin feed																										
Drain, flush and refill airlock gearbox oil																										
Train 1 West Cyclone Airlock																										
Train 1 East Cyclone Airlock																										
Train 1 Shaker Airlock																										
Train 2 West Cyclone Airlock																										
Train 2 East Cyclone Airlock																										
Train 2 Shaker Airlock																										
Lubricate airlock drive motor bearings until old lubricant is purged.																										

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (Mid 1100-0730) Week Number	July				August				September					October				November				December						
	1	2	3	4	1	2	3	4	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	5	6
SHD-SS-B - Common second incline to silo																												
SHD-SS-4B - Common north / south silo feed.																												
Silo to Pelletizer Recycle Bin Screw Conveyor																												
New Press to SDB-SS-1A																												
Lubricate belt conveyor motor bearings until old lubricant is expelled.																												
SDB-SC-1A - Common north / south																												
SDB-SC-1B - Press 1 East / West																												
SDB-SC-1C - First truck loading																												
SDB-SC-1D - Second truck loading																												
SDB-SC-2A - Train 2 first conveyor to wetbin																												
SDB-SC-2B - Train 2 wetbin feed																												
Drain, flush and refill airlock gearbox oil																												
Train 1 West Cyclone Airlock																												
Train 1 East Cyclone Airlock																												
Train 1 Shaker Airlock																												
Train 2 West Cyclone Airlock																												
Train 2 East Cyclone Airlock																												
Train 2 Shaker Airlock																												
Lubricate airlock drive motor bearings until old lubricant is purged.																												

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (M/d 1100-0730) Week Number	January				February				March				April				May				June							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Train 1 West Cyclone Airlock																												
Train 1 East Cyclone Airlock																												
Train 1 Shaker Airlock																												
Train 2 West Cyclone Airlock																												
Train 2 East Cyclone Airlock																												
Train 2 Shaker Airlock																												
Lubricate pugmill drive motor bearings until old lubricant is expelled.																												
Train 1 Pugmill																												
Train 2 Pugmill																												
Drain, flush and refill pugmill gear reducer oil																												
Train 1 Pugmill																												
Train 2 Pugmill																												
Drain, flush and refill dryer drum drive gearbox oil																												
Train 1 Dyer Drum Drive																												
Train 2 Dyer Drum Drive.																												
Lubricate dryer drum drive motor until old lubricant is purged.																												
Train 1 Dryer Drum Drive Motor																												
Train 2 Dryer Drum Drive Motor																												
Inspect dryer drum interior, and outlet gasket																												

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (Mid 1100-0730) Week Number	July				August					September					October				November				December						
	1	2	3	4	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	5
Train 1 West Cyclone Airlock																													
Train 1 East Cyclone Airlock																													
Train 1 Shaker Airlock																													
Train 2 West Cyclone Airlock																													
Train 2 East Cyclone Airlock																													
Train 2 Shaker Airlock																													
Lubricate pugmill drive motor bearings until old lubricant is expelled.																													
Train 1 Pugmill																													
Train 2 Pugmill																													
Drain, flush and refill pugmill gear reducer oil																													
Train 1 Pugmill																													
Train 2 Pugmill																													
Drain, flush and refill dryer drum drive gearbox oil																													
Train 1 Dyer Drum Drive																													
Train 2 Dryer Drum Drive.																													
Lubricate dryer drum drive motor until old lubricant is purged.																													
Train 1 Dryer Drum Drive Motor																													
Train 2 Dryer Drum Drive Motor																													
Inspect dryer drum interior, and outlet gasket																													

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (Mid 1100-0730) Week Number	January				February				March					April				May				June						
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5		
Train 1 Dryer Drum																												
Train 2 Dryer Drum																												
Lubricate combustion blower motor bearings until old lubricant is purged.																												
Train 1 Combustion Blower																												
Train 2 Combustion Blower																												
Drain, flush and refill crusher gear reducer oil																												
Train 1 Crusher																												
Train 2 Crusher																												
Inspect spacers for proper size (new .935 worn .785)																												
Train 1 Crusher																												
Train 2 Crusher																												
Drain, flush and refill sludge press drive gear reducer oil																												
New Press																												
Old Press																												
Annual Preventative Maintenance													Silo & Truck Loading															
Inspect all bolts, welds and hoppers for wear, deterioration and corrosion.																												
Silo 1 Dust Collector																												
Silo 2 Dust Collector																												
Inspect baghouse bolts, welds, hopper and paint for deterioration and corrosion.																												

City of Largo

Wastewater Treatment Facility

PM Schedule

2004 (Mid 1100-0730)	July				August				September					October				November				December										
Week Number	1	2	3	4	1	2	3	4	1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	5
Train 1 Dryer Drum																																
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Inspect all bolts, welds and hoppers for wear, deterioration and corrosion.																																
Silo 1 Dust Collector																																
Silo 2 Dust Collector																																
Inspect baghouse bolts, welds, hopper and paint for deterioration and corrosion.																																

2004 (Mid 1100-0730) Week Number	January				February				March					April				May				June				
	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
Inspect dust collector welds																										
Inspect dust collector paint																										
Change baghouse filter tubes																										

2004 (Mid 100-0750)	July				August				September					October				November				December				
Week Number	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	1	2	3	4	5
Inspect dust collector welds																										
Inspect dust collector paint																										
Change baghouse filter tubes																										



Jeb Bush
Governor

Department of Environmental Protection

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

November 4, 2003

CERTIFIED MAIL

RECEIVED

NOV 06 2003

BUREAU OF AIR REGULATION

Mr. Joseph V. Carlini
Treatment Plant Manager
City of Largo - WWTP
5100 150th Avenue North
Clearwater, FL 33760

Re: Title V Air Operation Permit Renewal Application dated September 9, 2003
Current Permit: 1030060-002-AV
FDEP File Project No.: 1030060-004-AV

Dear Mr. Carlini:

On September 12, 2003, the Department received your Title V air operation permit renewal application dated September 9, 2003, regarding your sewage treatment facility located at 5100 150th Avenue North, Largo, Pinellas County. In order to continue processing the application, the Department will need the below additional information pursuant to Rules 62-4.055, 62-4.070(1), and 62-213.420(1)(b), F.A.C.

Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Is the name of your facility the "City of Largo", "City of Largo - WWTP", "City of Largo WWTP" or "Largo City Sewage Plant"?
2. Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application shows material from the "grinder (crusher)" going to "screen" whereas permit 1030060-002-AV states material from the crusher is redirected to the dried solids recycle bin. Note, Attachment 1A shows "Product" from the screen can also go to the crusher. Which description is correct and re-submit the diagrams, if appropriate?
3. Attachment B - Process Flow Diagram in the Facility Supplemental Information section of the application shows the "product" going to either of the 2 silos or joining the fines, which go to the dried solids recycle bin. Can the product

simultaneously go to a silo and the dried solids recycle bin? Note, permit 1030060-002-AV states the product just goes to the 2 silos. Can the product only go to 1 silo at a time?

4. Should Attachment B – Process Flow Diagram in the Facility Supplemental Information section of the application also show emissions from the Fugitive Dust System (screens, grinder, etc.) going to the cyclone?
 5. Explain why Attachment B – Process Flow Diagram in the Facility Supplemental Information section of the application shows a Truck Unloading Station?
 6. Page 15 of the application shows the cyclone's model number as "MS-520" whereas Condition No. 18.a. of permit 1030060-002-AV shows the model number as "XQ Series XQ340-27 Dual Cyclones". Explain this difference.
 7. Regarding No. 2 (bottom) on page 33 of the application for the allowable pollutants "Particulate" and "Volatile Organic Compounds (VOC)", please provide the following:
 - A. A Compliance Assurance Monitoring (CAM) non-applicability determination to justify your claim that CAM is "Not Applicable" for each pollutant (Particulate and VOC). Your determination should include emission factors and the rationale used.
 - B. If you can't justify that CAM does not apply, provide a complete CAM plan that identifies the indicators that will be monitored, the acceptable indicator ranges, and test data to justify the indicators/ranges. For your information, please follow the CAM format examples in Appendix A of the Technical Guidance Document found at the U.S. EPA's web page <http://www.epa.gov/ttn/emc/cam.html>; they may be of help to you. Additionally, please also provide the CAM plans as an electronic copy in M.S. WORD format.
- {Note: Information on pages 21 and 22 of the application indicates the uncontrolled particulate emissions would be greater than 100 tons/yr. Also, page 24 of the application indicates uncontrolled VOC emissions would be 180 tons/yr. When the original construction permit for the 2 dryers/1 afterburner was issued, Pinellas County was classified as non-attainment for ozone. Thus, VOC emission greater than 100 tons/yr. would have triggered "New Source Review".}
8. Should No. 1 on page 24 of the application show ESCNAA vs ESCTV?

9. No. 6 on page 32 of the application states the dryers were tested on July 15, 2003. Condition A.7. of permit 1030060-002-AV states the dryers are to be tested for odors and visible emissions annually on, or during the 60 day period prior to the date of May 12. Were these tests conducted late? If yes, explain why.
10. In accordance with stipulations of Condition No. A.8. of permit 1030060-002-AV, submit the appropriate emission test results for particulates, visible emissions, mercury, and odor.
11. Regarding the 2nd page of Attachment 1A of the application, explain why fuel oil and wood chips are shown when permit 1030060-002-AV only allows natural gas.
12. Re-submit pages 57 and 58 of the application when using 450 dscfm, since information submitted for construction permit AC52-172854 reduced the airflow to 150 - 450 dscfm. Thus, the Operation and Maintenance (O&M) Plan should be updated (corrected) and resubmitted with this new information (450 dscfm) to match the O&M Plan attached to permit AC52-172854.
13. In accordance with stipulations of Condition No. C.5. of permit 1030060-002-AV, submit the visible emission test report for each silo.
14. No. 6 on page 62 of the application states the silos were tested on July 15, 2003. Explain why this date is shown since Condition C.5. of permit 1030060-002-AV requires the silos to be tested for visible emissions during the 180 day period prior to the expiration date of permit 1030060-002-AV.
15. Regarding No. 5 on page 69 of the application, should 224,256 be 226,008 (25.8 x 8760)?
16. No. 6 on page 74 of the application states the truck loading station's baghouse was tested on July 15, 2003. Condition C.4. of permit 1030060-002-AV states the baghouse is to be tested for visible emissions annually on, or during the 60 day period prior to the date of April 1. Was this test conducted late? If yes, explain why.
17. The O&M Plans for Emission Unit Nos. 001, 003, 005, and 006 will need to be updated to comply with Pinellas County Code Subsection 58-158. The plans and logs need to have the acceptable parameters included. In order to respond to this request, please contact Mr. Gary Robbins of the Pinellas County Department of Environmental Management (PCDEM) at 727-464-4657 for further assistance.

18. Please explain why the waste water treatment plant should not be shown as an emission unit, in and of itself, and subject to 40 CFR 63, Subpart VVV – Publicly Owned Treatment Works. Should the plant be classified as a regulated emission unit, unregulated emission unit, or an insignificant emission unit?

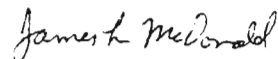
Responsible Official (R.O.) Certification Statement: Rule 62-213.420, F.A.C. requires that all Title V permit applications must be certified by a responsible official. Due to the nature of the information requested above, your response should be certified by the responsible official. Please complete and submit a new R.O. certification statement page from the application form, DEP Form No. 62-210.900(1), effective June 16, 2003.

Professional Engineer (P.E.) Certification Statement: Rule 62-4.050(3), F.A.C. requires that all applications of this type for a Department permit must be certified by a professional engineer registered in the State of Florida. As a result, the information above should be certified by a professional engineer registered in the State of Florida. Please complete and submit a new P.E. certification statement page from the application form, DEP Form No. 62-210.900(1), effective June 16, 2003.

Your response should be submitted with the emission test reports required in Nos. 10 and 13 above, unless you (the applicant) request additional time under Rule 62-213.420(1)(b)6., F.A.C. A copy of your response should also be submitted to Mr. Gary Robbins of the PCDEM.

If you should have any questions, please call me at (813)744-6100 extension 106.

Sincerely,



James L. McDonald.
Air Permitting Engineer

copy to: Mr. Gary Robbins – PCDEM

Mr. Jonathan Holtom, P.E. – DARM, FDEP, Tallahassee

Mr. Kenneth E. Given, P.E.
Air Testing & Consultants, Inc.
333 Falkenburg Road North, Unit B-214
Tampa, FL 33619