

**Golder Associates Inc.**

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April 13, 2007

RECEIVED 073-87554

APR 18 2007

BUREAU OF AIR REGULATION

Florida Department of Environmental Protection  
Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

Attention: Mr. A. A. Linero, P.E., Program Administrator, Permitting South Section

**RE: INDIANTOWN COGENERATION PLANT  
DEP FILE NO. 0850102-009-AC  
RAILCAR LIME UNLOADING SYSTEM  
RESPONSE TO APRIL 2, 2007 REQUEST FOR ADDITIONAL INFORMATION**

Dear Mr. Linero:

Indiantown Cogeneration, L.P. (IC) and Golder Associates Inc. (Golder) have received the Florida Department of Environmental Protection (FDEP) letter dated April 2, 2007, regarding the air construction permit application for the railcar lime unloading system. The request for additional information (RAI) contains a total of six comments. Each of these comments is responded to below, in the same order as they appear in the RAI.

**Comment 1 Does the project involve the construction of a new rail line at the facility? If yes, what is your estimate of pollutant emissions due to the construction activities?**

**Response:** The project does not involve construction of a new rail line at the facility, as the existing rail line will be used.

**Comment 2 Will a new lime unloading building be required? If yes, what is your estimate of pollutant emissions due to the construction?**

**Response:** The project does not involve construction of a new lime unloading building.

**Comment 3 Do you expect significant particulate matter fugitive emissions from the railcar unloading system operations?**

**Response:** There are no significant particulate matter (PM) fugitive emissions expected from the railcar unloading system, as the system will be completely enclosed. All exhausts will go through fabric filters with vendor-guaranteed outlet loadings of no more than 0.010 grains per actual cubic foot (gr/acf).

**Comment 4 Please provide detailed schematic drawings of the new railcar unloading system, including interfaces with existing lime handling and pollution control equipment.**

**Response:** A schematic flow diagram of the proposed system was shown in Attachment IC--EU1-II of the application. This diagram shows the existing facilities as well as the proposed facilities. Only the lime silo is included in the existing facility.

Previously, lime was delivered to the facility by pressurized discharge from trucks and vented through the lime silo vent filter. The railcar lime unloading system will use a vacuum exhauster to provide negative pressure into the filter receiver, which acts as both a collection bin and a mechanism to clean the transport of dust particles, since it has an integral baghouse. The new lime transport system will then interface with the existing transport piping to the lime silo. The lime will be conveyed to the lime silo from the filter receiver by a blower through a rotary air lock. The exhaust from the lime silo will continue to be vented through the existing lime silo vent filter.

The existing 4-inch transport piping up the side of the lime silo will remain, and a new 6-inch line will be added. This new line will terminate at a 90-degree elbow that will direct the new lime stream through a new penetration in the roof of the lime silo. This new penetration will be near the penetration for the existing supply line. The existing supply line will be kept in place in order to account for possible railcar supply interruptions, which would make it necessary to receive lime deliveries by trucks.

In the original air construction permit application submitted to the FDEP, exhaust from the airlock surge hopper was vented back to the filter receiver. It has been determined that this design could potentially cause a too-high pressure differential across the rotary airlock. In order to alleviate this concern, another exhaust point has been added to the surge hopper allowing airlock leakage air to escape while keeping the surge hopper at roughly atmospheric pressure and ensuring that the pressure differential across the airlock is 15 pounds per square inch gauge (psig) or less. A baghouse with a cartridge filter will control the PM emissions. Revised application pages and schematic drawings have been provided as attachments to this response.

**Comment 5 Please provide more details on the manufacturer's specifications of all new equipment, including the new baghouse (for example, electric power requirements, physical dimensions, etc.).**

**Response:** The following list contains the new equipment being considered for purchase for the railcar lime unloading system. Final design engineering may dictate the purchase of different but equivalent equipment.

- Six Railcar Vacuum Pan Adapters – Six railcar vacuum unloading pans; two sized to fit a “6 pocket” car hopper, two sized to fit square hoppers (30 inches x 30 inches), and two sized to fit rectangular hoppers (14 inches x 42 inches). The design of the unloading pan is of the low-profile-type and will be capable of being connected to the outlet hopper flange of the railcar with clamps provided with the unloading pan. The pan will have an air inlet with a manually adjustable opening and be supplied with a 6-inch cam-type quick coupling for connection to the flexible metal unloading hose.

- One Group of Vacuum Conveying Line – Approximately 80 feet (ft) of 6-inch schedule 40 carbon steel pipe. The vacuum conveying line will include a pipe manifold with five lateral connections, each with a quick disconnect cam-type coupler capped with a dust cap and chain. The vacuum manifold that runs parallel to the track will be installed approximately 3 ft above the existing grade. Also included will be three 6-inch 90-degree carbon steel Hammertech elbows with flanged connections, twelve 6-inch plate flange sets, three 6-inch-internal-diameter 12-ft long flexible steel hose with quick coupling, and five aluminum quick couplings.
- One AVR Air Vent Filter Model 39AVRC32, Style III, Vacuum Filter/Receiver – One carbon steel air vent vacuum filter/receiver and structural support frame, with the capability of receiving pebble lime at a rate of 25 tons per hour (TPH), discharging into a double rotary valve airlock beneath it. The vacuum filter/receiver will have 1,152 square feet (ft<sup>2</sup>) of filter media, providing an air-to-cloth ratio of 1.36:1 at 1,570 cubic feet per minute (cfm). The pressure drop across the filter will be up to 17 inches of mercury, and have an efficiency of 99.9 percent. The filter/receiver will contain a mineral-reinforced nylon bag cup and venturi, and 6-inch diameter by 39-inch-long pleated cartridge filters. The unit requires 6.5 standard cubic feet per minute (scfm) at 90 to 100 pounds per square inch (psi), and 120 volts alternating current (VAC). The product discharge flange will mate to the first rotary airlock.
- Two Multi-Duty Wear Resistant Rotary Airlock, Model MD-139 – A rotary airlock capable of delivering 25 TPH from the discharge of the air vent filter and transferring the material to a second rotary airlock. The rotary airlock will feature cast class 40 gray iron housing and end plates, a TS4 seal assembly, outboard sealed bearings, and an 8-vane, closed-end, carbon-steel rotor with fixed relieved 1/8-inch land rotor tips. The rotary airlock motor will be a right-angle drive, 2-horsepower totally enclosed fan cooled (TEFC) gear motor, and require 120 VAC.
- One Inline Filter Model ILFB-8 – A pleated cartridge-type filter to be installed between the discharge of the vacuum filter/receiver and the inlet side of the vacuum pump. The filter will be sized to pass the intake air volume of the vacuum pump when operating at its full rated speed. A differential pressure switch will initiate an alarm and shutdown of the system upon the condition of a high-differential pressure. This unit requires 120 VAC.
- One Group of Clean Air Vacuum Line – Approximately 40 ft of 8-inch schedule 10 carbon steel pipe, with two 8-inch, 90-degree schedule 10 carbon steel elbows, and six 8-inch plate flange sets.
- One Vacuum Pump Package, Model 566 – A rotary lobe-type positive displacement vacuum pump with an inlet flexible connector, discharge flexible connector, inlet silencer, and full-welded, carbon steel base with a spring-loaded vacuum relief valve set at 15 inches of mercury. The vacuum pump will be driven by a 100 horsepower, 1,800 revolutions-per-minute (rpm) motor, and require 120 VAC.

- One Vacuum Pump Sound Enclosure – A sound enclosure to reduce the noise level 3 ft from the vacuum pump to below 85 decibels (dB). It will be made of aluminum construction, with 2-3/4-inch polyurethane acoustical foam, which is resistant to heat and oils. The unit will be approximately 54 inches wide, 89 inches long, and 111 inches tall, and have a 750-cfm ventilation fan.
- One Pressure Blower Package, Model 526 – A rotary lobe-type positive displacement blower package with features similar to the vacuum pump package. The unit will include a high-pressure switch set at 15 psi, and a 125-horsepower, 1,800-rpm motor requiring 120 VAC.
- One Pressure Blower Sound Enclosure – A sound enclosure with similar specifications to the vacuum pump sound enclosure.
- One Group of Clean Pressurized Air Line – Approximately 40 ft of 6-inch, schedule 10 carbon steel pipe. The pipe will include two 6-inch, 90-degree schedule 10 carbon steel elbows, and six 6-inch plate flange sets.
- One Airlock Surge Hopper – Between the two rotary valves will be a carbon steel airlock surge hopper with 60-degree minimum sloped sides and one straight side. The inlet stub will connect to the rotary airlock. The unit will include a 4-inch dust draw-off stub, a level indicator mounted for high-level indication, and an 8-inch-diameter bolted access door.
- One Airlock Surge Hopper Vent Filter Model 39RTC1, Style II – Airlock surge hopper vent ensures that the pressure differential across the airlock is 15 psig or less. The cartridge filter is of the same type as used in the Vacuum Filter/Receiver, with a 6-inch diameter and 39-inch length. This unit has a designed airflow of 86 cfm, 36 ft<sup>2</sup> of filter media, and a 2.39:1 air-to-cloth ratio.
- One Control Panel – A control panel with an Allen-Bradley MicroLogix 1500 PLC for control of the lime unloading system. The control panel will have a NEMA 4X enclosure with indicating lights for control power on, vacuum pump run, vacuum breaker closed, high vacuum, vacuum pump inline filter high differential pressure, receiver filter run, receiver filter high differential pressure, receiver high level, airlock run, pressure blower run, high pressure, silo bin vent filter run, silo bin vent filter high differential pressure, silo vent fan run, and silo high level. The NEMA 4X will have control operators for emergency stop, system stop, system start, vacuum pump hand operation/off/automatic operation, vacuum breaker hand/off/auto, receiver filter hand/off/auto, pressure blower hand/off/auto, receiver airlock hand/off/auto, silo vent filter hand/off/auto, silo vent hand/off/auto, and alarm silence. Audible alarms with alarm silence will be available for high vacuum and high pressure.

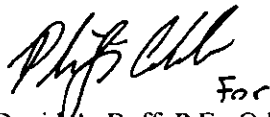
**Comment 6 Please provide the basis for the flow rate (i.e., 2000 actual feet per minute) noted in Attachment IC-EU1-F1.10.**

**Response:** The basis of using 2,000 actual cubic feet per minute (acfm) as the exhaust flow rate through the lime silo baghouse is that the design airflow for the blower is 1,500 internal cubic feet per minute (icfm) when the system is operating at 25 TPH of lime being transported. Because pneumatic conveying is an inexact science, a margin of error was provided to ensure that the 25 TPH of lime transport could be maintained. The manufacturer of the lime silo vent filter has stated that the baghouse would continue to function properly at airflow rates above 2,000 cfm, though the filters might need to be replaced more frequently, perhaps as often as once per year. The design airflow rate for the vacuum system (airflow through the filter receiver system) is 1,625 icfm.

Thank you for consideration of this additional information. Please call at (352) 336-5600 if you have any further questions.

Sincerely,

GOLDER ASSOCIATES INC.



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



Philip D. Cobb, Ph.D., E.I.  
Engineer

DB/all

Enclosures

cc: N. Laryea

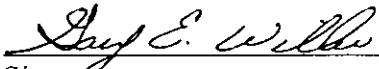
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**UPDATES TO AIR CONSTRUCTION APPLICATION**

# APPLICATION INFORMATION

## Owner/Authorized Representative Statement

**Complete if applying for an air construction permit or an initial FESOP.**

1. Owner/Authorized Representative Name :
<b>Gary E. Willer, General Manager</b>
2. Owner/Authorized Representative Mailing Address...
Organization/Firm: <b>Indiantown Cogeneration, L.P.</b>
Street Address: <b>P.O. Box 1799</b>
City: <b>Indiantown</b> State: <b>FL</b> Zip Code: <b>34956</b>
3. Owner/Authorized Representative Telephone Numbers...
Telephone: <b>(772) 597-6500</b> ext. Fax: <b>(772) 597-6210</b>
4. Owner/Authorized Representative Email Address: <b>GaryWiller@cogentrix.com</b>
5. Owner/Authorized Representative Statement:
<p><i>I, the undersigned, am the owner or authorized representative of the facility 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 requirements identified in this application to which the facility 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.</i></p>
 Signature
<u>4/16/07</u> Date

**APPLICATION INFORMATION**

**Professional Engineer Certification**

1. Professional Engineer Name: <b>David A. Buff</b> Registration Number: <b>19011</b>
2. Professional Engineer Mailing Address... Organization/Firm: <b>Golder Associates Inc.**</b> Street Address: <b>6241 NW 23<sup>rd</sup> Street, Suite 500</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32653</b>
3. Professional Engineer Telephone Numbers... Telephone: <b>(352) 336-5600</b> ext. <b>545</b> Fax: <b>(352) 336-6603</b>
4. Professional Engineer Email Address: <b>dbuff@golder.com</b>
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 checked="" 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 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>  Signature: <u>David A. Buff</u> Date: <u>4/11/07</u> (seal)

\* Attach any exception to certification statement.

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



**EMISSIONS UNIT INFORMATION**

**Section [1]**

**Lime Handling System**

**Emissions Unit Control Equipment**

1. Control Equipment/Method(s) Description:

**3 Fabric Filters (Baghouses)**

2. Control Device or Method Code(s): **127**

**EMISSIONS UNIT INFORMATION**

**Section [1]  
Lime Handling System**

**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: <b>Lime Silo</b>		2. Emission Point Type Code: <b>3</b>	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:  <b>Lime Silo Baghouse Filter Receiver Baghouse Surge Hopper Baghouse</b>			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: <b>D</b>	6. Stack Height: <b>115 feet</b>	7. Exit Diameter: <b>0.25 feet</b>	
8. Exit Temperature: <b>75°F</b>	9. Actual Volumetric Flow Rate: <b>2000 acfm</b>	10. Water Vapor: <b>%</b>	
11. Maximum Dry Standard Flow Rate: <b>dscfm</b>		12. Nonstack Emission Point Height: <b>feet</b>	
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:  <b>Parameters are for the Lime Silo Baghouse. Exit temperature is at ambient conditions. The Filter Receiver Baghouse has the equivalent exit diameter, exit temperature, but a flow rate of 1,570 cfm, and a release height of approximately 16 to 24 feet. The Surge Hopper Baghouse has equivalent exit diameter and exit temperature, but has an exit flow rate of 86 cfm, and a release height of 16 to 24 feet.</b>			

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
Lime Handling System

Page [1] of [2]  
Particulate Matter Total – PM

**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: <b>PM</b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.31 lb/hour                      1.37 tons/year</b>		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: <b>0.010 grains/acf</b>  Reference: <b>Manufacturer's Data</b>		7. Emissions Method Code: <b>0</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions:  <b>See Attachment IC-EU1-F1.10</b>			
11. Potential Fugitive and Actual Emissions Comment:  <b>Potential emissions take into account emissions from both the silo and railcar unloading.</b>			

**EMISSIONS UNIT INFORMATION**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
Lime Handling System

Page [1] of [2]  
Particulate Matter Total - PM

**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: <b>OTHER</b>	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: <b>0.010 grains/acf</b>	4. Equivalent Allowable Emissions: <b>0.31 lb/hour      1.37 tons/year</b>
5. Method of Compliance: <b>EPA Method 9</b>	
6. Allowable Emissions Comment (Description of Operating Method):  <b>Allowable emissions and method of compliance based on PSD-FL-168, Specific Condition Nos. 8, 11, and 19.</b>	

**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**

**POLLUTANT DETAIL INFORMATION**

Section [1]  
Lime Handling System

Page [2] of [2]  
Particulate Matter – PM<sub>10</sub>

**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.**

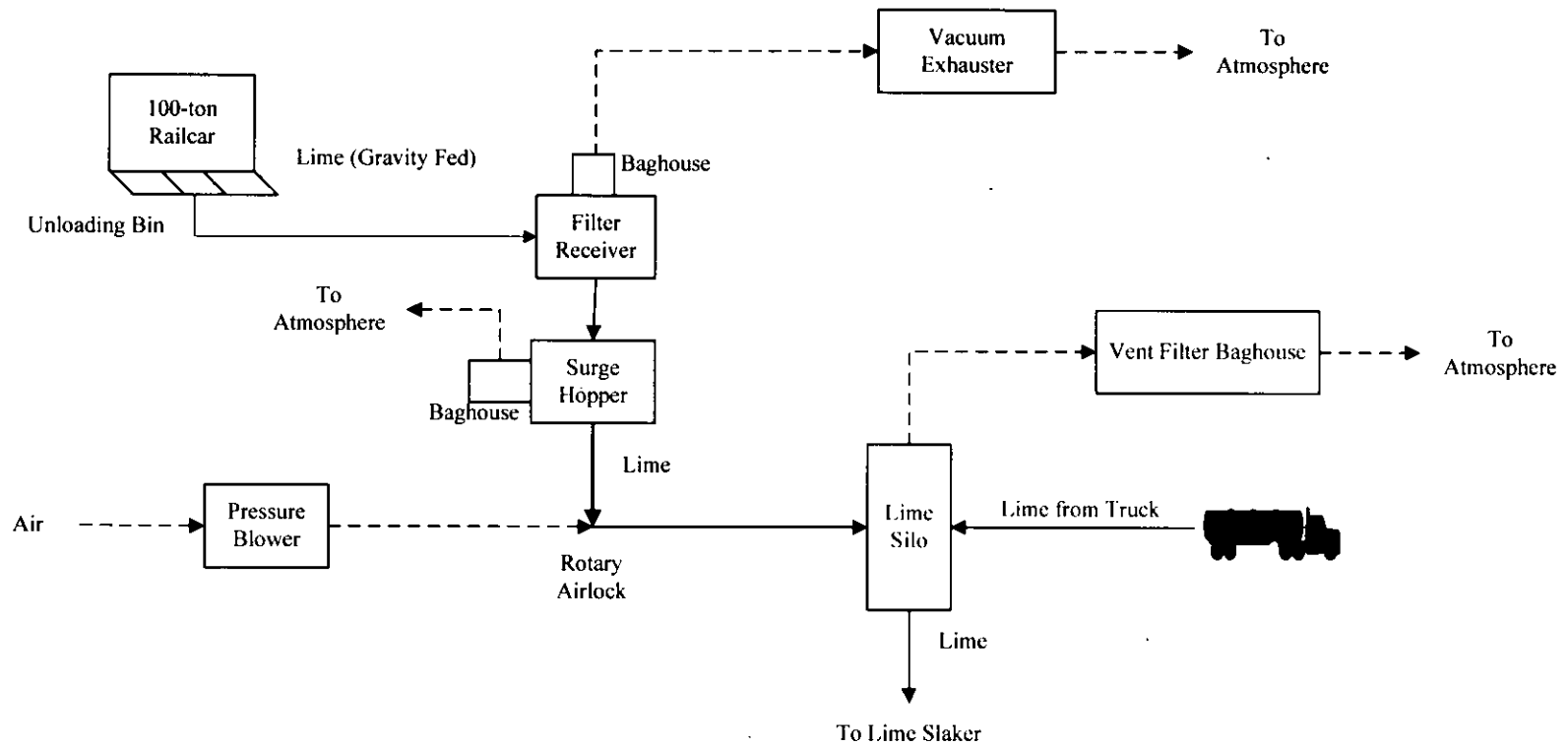
1. Pollutant Emitted: <b>PM<sub>10</sub></b>		2. Total Percent Efficiency of Control:	
3. Potential Emissions: <b>0.31 lb/hour                      1.37 tons/year</b>		4. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
5. Range of Estimated Fugitive Emissions (as applicable): to                      tons/year			
6. Emission Factor: <b>0.010 grains/acf</b>  Reference: <b>Manufacturer's Data</b>		7. Emissions Method Code: <b>5</b>	
8.a. Baseline Actual Emissions (if required): tons/year		8.b. Baseline 24-month Period: From:                      To:	
9.a. Projected Actual Emissions (if required): tons/year		9.b. Projected Monitoring Period: <input type="checkbox"/> 5 years <input type="checkbox"/> 10 years	
10. Calculation of Emissions:  <b>See Attachment IC-EU1-F1.10</b>			
11. Potential Fugitive and Actual Emissions Comment:  <b>Potential emissions take into account emissions from both the silo and railcar unloading.</b>			

**ATTACHMENT IC-EU1-F1.10**  
**CALCULATION OF EMISSIONS**

**Summary of PM/PM<sub>10</sub> Maximum Potential Emission Rate  
for Railcar Unloading and Lime Storage Silo  
Indiantown Cogeneration**

Source	Control Equipment	Exhaust Flow (acfm)	Exhaust Grain Loading (gr/acf)	Operating Hours (hr/yr)	PM/PM <sub>10</sub> Emission Rate	
					lb/hour	TPY
Lime Silo	Baghouse (Existing)	2,000	0.010	8,760	0.17	0.75
Railcar Unloading Filter Receiver	Baghouse	1,570	0.010	8,760	0.13	0.59
Surge Hopper Filter	Baghouse	86	0.010	8,760	0.01	0.03
				Total:	0.31	1.37

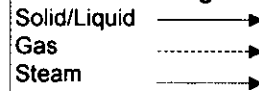
Note: acfm = actual cubic feet per minute.  
 gr/acf = grains per actual cubic feet.  
 lb/hr = pounds per hour.  
 TPY = tons per year.



**Blue:** existing equipment  
**Black:** proposed new equipment

Attachment IC-EU1-11  
 Lime Handling System  
 Process Flow Diagram  
 Indiantown Cogeneration, L.P.  
 Indiantown, Florida

**Process Flow Legend**



Filename: 07387554/IC-EU1-11.VSD

Date: 04/13/07



**ATTACHMENT IC-EU1-I3a**  
**CONTROL EQUIPMENT PARAMETERS FOR THE**  
**LIME SILO BAGHOUSE AT THE INDIANTOWN COGENERATION FACILITY**

Manufacturer and Model No.	BHA, Model JP-H14 (Existing)
Outlet Gas Temp (°F)	75
Outlet Gas Flow Rate (acfm)	2000
Cleaning Method	Reverse Jet
No. of bags	12
Bag Material	Spun Bonded Polyester
Total Area of Filter Media (sq. ft)	516
Air to Cloth Ratio	3.88
Manufacturer's Guaranteed Outlet Loading (grains/acf)	0.010
Pollutants	Outlet Loading
Particulate Matter (lb/hr)	0.17

Note: Parameters based on manufacturers design specifications as shown on the following page.

Sample calculations:

$$\text{Outlet loading rate (lb/hr)} = \text{outlet gas flow rate (acfm)} \times \text{outlet loading rate (grains/acf)} \div 7000 \text{ grains/lb} \times 60 \text{ min/hr}$$



**ATTACHMENT IC-EU1-13b**  
**CONTROL EQUIPMENT PARAMETERS FOR THE**  
**RAILCAR UNLOADING FILTER RECEIVER BAGHOUSE**  
**AT THE INDIANTOWN COGENERATION FACILITY**

Manufacturer and Model No.	MAC Equipment Inc. Air Vent Filter, Model 39AVR32, Style III
Outlet Gas Temp (°F)	75
Outlet Gas Flow Rate (acfm)	1,570
Bag Material	Mineral Reinforced Nylon
Total Area of Filter Media (sq. ft)	1,152
Air to Cloth Ratio	1.36
Manufacturer's Guaranteed Outlet Loading (grains/acf)	0.010
Pollutants	Outlet Loading
Particulate Matter (lb/hr)	0.13

Note: Parameters based on manufacturers design specifications as shown on the following page.

Sample calculations:

$$\text{Outlet loading rate (lb/hr)} = \text{outlet gas flow rate (acfm)} \times \text{outlet loading rate (grains/acf)} \div 7000 \text{ grains/lb} \times 60 \text{ min/hr}$$

**ATTACHMENT IC-EU1-13c  
CONTROL EQUIPMENT PARAMETERS FOR THE  
SURGE HOPPER VENT FILTER BAGHOUSE  
AT THE INDIANTOWN COGENERATION FACILITY**

Manufacturer and Model No.	MAC Equipment Inc., 39RTC, STYLE II
Outlet Gas Temp (°F)	75
Outlet Gas Flow Rate (acfm)	86
Bag Material	Mineral Reinforced Nylon
Total Area of Filter Media (sq. ft)	36
Air to Cloth Ratio	2.39
Manufacturer's Guaranteed Outlet Loading (grains/acf)	0.010
Pollutants	Outlet Loading
Particulate Matter (lb/hr)	0.01

Note: Parameters based on manufacturers design specifications as shown on the following page.

Sample calculations:

$$\text{Outlet loading rate (lb/hr)} = \text{outlet gas flow rate (acfm)} \times \text{outlet loading rate (grains/acf)} \div 7000 \text{ grains/lb} \times 60 \text{ min/hr}$$

**ATTACHMENT A**  
**SUPPLEMENTAL INFORMATION FOR**  
**CONSTRUCTION PERMIT APPLICATION**

Indiantown Cogeneration, L.P. (Indiantown Cogeneration) owns and operates a cogeneration plant located in Indiantown, Martin County, Florida. The plant currently operates under Title V Operating Permit No. 0850102-007-AV. The facility generates electricity for sale and exports steam to the Louis Dreyfus Citrus Processing Plant.

The facility currently uses lime as a reactant in its boiler flue gas desulfurization (FGD) systems. Lime in powdered form is delivered to the facility by truck. The lime is then off-loaded into the existing 900-ton storage silo. Lime from the trucks is transported to the silos via pneumatic discharge at a rate of 25 tons per hour (TPH) (i.e., 1 hour to unload a 25-ton truck) by using the on-board blowers to transfer the lime to the top of the silo. The stored lime is then slaked into a slurry for use in the two boilers' (EU 001) spray dryer absorbers. The lime silo has a bin vent fabric filter baghouse. The lime-handling system is enclosed to the extent practical.

Indiantown Cogeneration is proposing to add the capability to receive lime by railcar. Unloading of the gravity flow-type railcars will be accomplished through a dilute phase, combination vacuum and pressure pneumatic transfer system at a rate of 25 TPH. It will take approximately 4 hours to unload a 100-ton railcar.

The lime will be unloaded directly from railcars through a receiving pan clamped onto the flange at the bottom of the railcar. This procedure will keep the process material flowing from the railcar into the transport system and will prevent fugitive emissions from the unloading process.

The lime will enter a vacuum-type system that transports the lime from the railcar to a filter receiver. The filter receiver acts both as a collection bin and also as a mechanism to clean the transport air of dust particles, since it has an integral baghouse. A rotary air lock will then feed the lime into the air lock surge hopper, which will have a vent to control the pressure differential across the airlock. A baghouse will control the PM emissions from the surge hopper vent. The lime will then enter a second rotary air lock, which will feed into the air stream created from a transporter blower, which transports the lime pneumatically to the existing lime silo. The existing silo already has a dust collector, and this will continue to be used in the future.

Total throughput of lime into the system is approximately 100 tons per day, or 36,500 tons per year (TPY) based on 365 days per year operation.

As described above, a baghouse (MAC Equipment Inc. Air Vent Filter, Model 39AVR32, Style III) is integral to the filter receiver on the railcar unloading system, which reduces PM emissions associated with unloading the railcars. A baghouse (MAC Equipment Inc. Model 39RTC1, Style II) will control PM emissions from the surge hopper vent. The existing bin vent filter baghouse (BHA Model JP-H14) on the lime silo will continue to serve to reduce the PM emission associated from loading the silo.

Maximum hourly and annual PM and particulate matter less than 10 microns in diameter (PM<sub>10</sub>) emissions from the Lime Silo baghouse are 0.17 pound per hour (lb/hr) and 0.75 TPY, respectively. The maximum hourly and annual PM and PM<sub>10</sub> emissions for the railcar unloading filter receiver baghouse are 0.13 lb/hr and 0.59 TPY. The maximum hourly and annual PM and PM<sub>10</sub> emissions for the surge hopper baghouse are 0.01 lb/hr and 0.03 TPY. Total PM/PM<sub>10</sub> emissions from all three baghouses are 0.31 lb/hr and 1.37 TPY. The PM/PM<sub>10</sub> emissions are based on a maximum actual flow rate from each baghouse of 2,000 actual cubic feet per minute (acfm) for the lime silo baghouse, 1,570 acfm for the railcar unloading filter receiver, and 86 acfm for the surge hopper baghouse. The design grain loading is 0.01 grains per actual cubic feet for each baghouse. Hours of operation are assumed continuous. Details of each baghouse, including emissions estimates, are included in this application for an air construction permit.



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

April 2, 2007

Electronic Mail – Received Receipt Requested

Mr. Gary E. Willer, General Manager: GaryWiller@cogentrix.com  
Indiantown Cogeneration, L.P.  
P.O. Box 1799  
Indiantown, Florida 34596

Re: Indiantown Cogeneration Plant  
DEP File No. 0850102-009-AC  
Railcar Lime Unloading System  
Request for Additional Information

Dear Mr. Willer:

We received your application on March 13, 2007, for an air construction permit for the referenced facility for a new railcar lime unloading system. However, review of the document reveals that further information is needed on the following items, and thus we have deemed your application incomplete.

1. Does the project involve the construction of a new rail line at the facility? If yes, what is your estimate of pollutant emissions due to the construction activities?
2. Will a new lime unloading building be required? If yes, what is your estimate of pollutant emissions due to the construction?
3. Do you expect significant particulate matter fugitive emissions from the railcar unloading system operations?
4. Please provide detailed schematic drawings of the new railcar unloading system, including interfaces with existing lime handling and pollution control equipment.
5. Please provide more details on the manufacturer's specifications of all new equipment, including the new baghouse (for example, electric power requirements, physical dimensions, etc.).
6. Please provide the basis for the exhaust flow rate (i.e., 2000 actual feet per minute) noted in Attachment IC-EU1-F1.10

Mr. Gary E. Willer  
April 2, 2007

When we receive this information, we will continue processing your application. We are available to discuss the details of our request for additional information. Rule 62-4.050(3), F.A.C., requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Permit applicants are advised that Rule 62-213.420(1)(b), F.A.C., requires applicants to respond to requests for information within 90 days, unless the applicant has requested in writing, and has been granted, additional time within 90 days. If you have any questions, please contact Tom Cascio at 850-921-9526.

Sincerely,

A handwritten signature in black ink, appearing to read 'A. A. Linero', written in a cursive style.

A. A. Linero, P.E.  
Program Administrator  
Permitting South Section

AAL/tbc

Cc: Nicholas Laryea, Indiantown Cogeneration, L.P.: [NicholasLaryea@cogentrix.com](mailto:NicholasLaryea@cogentrix.com)  
Darrel Graziani, P.E., Southeast District Office: [darrel.graziani@dep.state.fl.us](mailto:darrel.graziani@dep.state.fl.us)  
David A. Buff, P.E., Golder Associates, Inc.: [dbuff@golder.com](mailto:dbuff@golder.com)  
Jim Little, EPA Region 4: [little.james@epa.gov](mailto:little.james@epa.gov)

## Friday, Barbara

---

**From:** System Administrator  
**To:** Cascio, Tom  
**Sent:** Monday, April 02, 2007 1:54 PM  
**Subject:** Delivered: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

### Your message

**To:** 'GaryWiller@cogentrix.com'; 'NicholasLaryea@cogentrix.com'; Graziani, Darrel; 'dbuff@golder.com'; 'Little.James@epamail.epa.gov'  
**Cc:** Cascio, Tom  
**Subject:** DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information  
**Sent:** 4/2/2007 1:54 PM

was delivered to the following recipient(s):

Cascio, Tom on 4/2/2007 1:54 PM

## Friday, Barbara

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**From:** System Administrator  
**To:** Graziani, Darrel  
**Sent:** Monday, April 02, 2007 1:54 PM  
**Subject:** Delivered: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

### Your message

**To:** 'GaryWiller@cogentrix.com'; 'NicholasLaryea@cogentrix.com'; Graziani, Darrel; 'dbuff@golder.com'; 'Little.James@epamail.epa.gov'  
**Cc:** Cascio, Tom  
**Subject:** DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information  
**Sent:** 4/2/2007 1:54 PM

was delivered to the following recipient(s):

Graziani, Darrel on 4/2/2007 1:54 PM



## Friday, Barbara

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**From:** Exchange Administrator  
**Sent:** Monday, April 02, 2007 1:54 PM  
**To:** Friday, Barbara  
**Subject:** Delivery Status Notification (Relay)

**Attachments:** ATT117689.txt; DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information



ATT117689.txt  
(378 B)



DEP File No.  
0850102-009-AC - ..

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

GaryWiller@cogentrix.com  
NicholasLaryea@cogentrix.com

## Friday, Barbara

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**From:** Mail Delivery System [MAILER-DAEMON@sophos.golder.com]  
**Sent:** Monday, April 02, 2007 1:54 PM  
**To:** Friday, Barbara  
**Subject:** Successful Mail Delivery Report

**Attachments:** Delivery report; Message Headers



Delivery report.txt  
(455 B)



Message  
Headers.txt (2 KB)

This is the mail system at host sophos.golder.com.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<dbuff@golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent  
46114325\_21846\_283\_1

## Friday, Barbara

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**From:** Mail Delivery System [MAILER-DAEMON@mseive02.rtp.epa.gov]  
**Sent:** Monday, April 02, 2007 1:58 PM  
**To:** Friday, Barbara  
**Subject:** Successful Mail Delivery Report

**Attachments:** Delivery report; Message Headers



Delivery report.txt  
(531 B)



Message  
Headers.txt (2 KB)

This is the mail system at host mseive02.rtp.epa.gov.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<little.james@epa.gov> (expanded from <little.james@mseive.epa.gov>): delivery  
via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent 46114420\_6253\_109291\_10

## Friday, Barbara

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**From:** Graziani, Darrel  
**To:** Friday, Barbara  
**Sent:** Monday, April 02, 2007 2:02 PM  
**Subject:** Read: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

### Your message

**To:** 'GaryWiller@cogentrix.com'; 'NicholasLaryea@cogentrix.com'; Graziani, Darrel; 'dbuff@golder.com'; 'Little.James@epamail.epa.gov'  
**Cc:** Cascio, Tom  
**Subject:** DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information  
**Sent:** 4/2/2007 1:54 PM

was read on 4/2/2007 2:02 PM.

## Friday, Barbara

---

**From:** Laryea, Nicholas [NicholasLaryea@Cogentrix.com]  
**To:** Friday, Barbara  
**Sent:** Monday, April 02, 2007 2:08 PM  
**Subject:** Read: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

Your message

**To:** NicholasLaryea@Cogentrix.com  
**Subject:**

was read on 4/2/2007 2:08 PM.

**Friday, Barbara**

---

**From:** Little.James@epamail.epa.gov  
**Sent:** Monday, April 02, 2007 2:08 PM  
**To:** Friday, Barbara  
**Subject:** Re: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

We received. Thanks.

Jim Little - U.S. EPA Region 4

"Friday,  
Barbara"  
<Barbara.Friday@  
dep.state.fl.us>  
04/02/2007 01:53  
PM

To  
GaryWiller@cogentrix.com,  
NicholasLaryea@cogentrix.com,  
"Graziani, Darrel"  
<Darrel.Graziani@dep.state.fl.us>  
, dbuff@golder.com, James  
Little/R4/USEPA/US@EPA  
cc  
"Cascio, Tom"  
<Tom.Cascio@dep.state.fl.us>  
Subject  
DEP File No. 0850102-009-AC -  
Indiantown Cogeneration Plant -  
Request for Additional  
Information

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site:  
<http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

[attachment "0850102-009-AC-Indiantown Cogeneration, L.P. Incompleteness Letter.pdf"  
deleted by James Little/R4/USEPA/US]

**Friday, Barbara**

---

**From:** Laryea, Nicholas [NicholasLaryea@Cogentrix.com]  
**Sent:** Monday, April 02, 2007 2:14 PM  
**To:** Friday, Barbara  
**Subject:** RE: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

Thanks Barbara

---

**From:** Friday, Barbara [mailto:Barbara.Friday@dep.state.fl.us]  
**Sent:** Monday, April 02, 2007 1:54 PM  
**To:** Willer, Gary; Laryea, Nicholas; Graziani, Darrel; dbuff@golder.com; Little.James@epamail.epa.gov  
**Cc:** Cascio, Tom  
**Subject:** DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); this may be done by selecting "Reply" on the menu bar of your e-mail software and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

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The document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html>.

The Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

DEP, Bureau of Air Regulation

4/2/2007



**Friday, Barbara**

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**From:** Buff, Dave [DBuff@GOLDER.com]  
**To:** undisclosed-recipients  
**Sent:** Monday, April 02, 2007 2:30 PM  
**Subject:** Read: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

Your message

**To:** DBuff@GOLDER.com  
**Subject:**

was read on 4/2/2007 2:30 PM.

## Friday, Barbara

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**From:** Willer, Gary [GaryWiller@cogentrix.com]  
**To:** Friday, Barbara  
**Sent:** Monday, April 02, 2007 4:01 PM  
**Subject:** Read: DEP File No. 0850102-009-AC - Indiantown Cogeneration Plant - Request for Additional Information

Your message

**To:** GaryWiller@cogentrix.com  
**Subject:**

was read on 4/2/2007 4:01 PM.