

ALBANY ENERGY LLC

TITLE V - DEIS

FORTISTAR METHANE GROUP LLC
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October 7, 2010

NYS Department of Environmental Conservation
Region 4
Mr. Angelo A. Marcuccio
Environmental Analyst
1130 North Westcott Road
Schenectady, New York 12306-2014

Subject: Permit Application # 4-0101-00426/0001
Albany Energy LLC
Landfill Gas to Energy Facility
Title V Air – DEIS

Dear Mr. Marcuccio:

This is in response to your letter Marcuccio to Staley dated September 24, 2010 and received on September 27, 2010.

Section 12 Air Quality – Analysis of Proposed Project’s impact to Air Resources

Request 1:

The emissions analysis and modeling appears to be limited to the four proposed new engines. The emissions modeling should encompass the entire facility and discuss the cumulative impacts to air emissions that the addition of these four new engines will have on the entire landfill facility.

Response 1:

Please find attached the results of the Screen 3 modeling which now includes the landfill, flares, existing engines and the proposed engines. The Screen 3 modeling demonstrates no exceedences of Ambient Air Quality Standards. The approach Fortistar took in evaluating the Air Quality impacts are very conservative for the following reasons:

1. All of the emission sources are assumed to be in one location.
2. The flares are assumed to be operating at the same time as the engines. This is not the case as the majority of LFG going to the flare would be diverted to the engines.
3. The screening compares the most stringent Air Quality standard (8 hours for CO and Annual Average for NO_x and SO_x) to the highest concentration values for the landfill, flares and engines.

4. **The Screen 3 modeling demonstrates no exceedences of the Albany Air Quality Standards.**

Section 11.5 ODOR – Impact

Section 21.0 ODOR Control and Impact

Request 2:

These sections acknowledge there is a potential for an odor problem to develop at the facility and state that steps will be taken to ensure odors are minimized at the facility. However, the sections should also provide an analysis of what are the sources of odors from the overall landfill facility and what is being done to control them, and what will be done to control them in the future.

Response 2:

The Landfill Gas to Energy Facility accepts the LFG from the City of Albany Landfill at a pipe flange outside the generator building. The collection system and associated piping up to that flange is under the control of the City of Albany.

Starting at that flange outside the generation building, the LFG passes through equipment (blowers, compressors, and associated piping) that compresses and cleans the LFG before it is piped to the engines as the heat input. This equipment and the engines are subject to a daily inspection and a daily log is kept identifying pressures, flows and possible leaks and in addition, a quarterly flange check as stipulated in Condition 75 Compliance Demonstration (Draft Permit working copy dated 10/07/2009) and will be a compliance requirement.

Request 3:

The DEIS states that Albany Energy will take the necessary steps to ensure that odors are minimized during the operation of the new generator facility and that routine maintenance will be performed to ensure that the piping that conveys the gas to the facility is maintained in good condition and not a source of odors. The DEIS should explain what other potential odor problems could occur at the facility other than a leak in the pipes that convey the gas to the facility, and what would be done to mitigate those odors, if any.

Response 3:

The possible leak of other associated generation equipment is described in Response 2 above in addition to the Crankcase Ventilation System (“CVS”) which is a post combustion system. Condition 75 as identified in Response 3 applies to the compliance program associated with the CVS.

Request 4:

These sections should also provide an explanation of the protocol(s) that the City of Albany and Albany Energy will follow should odor problems go unabated, or in the event that one or more of the engines needs to be shut down. Further, the DEIS should affirm that Albany Energy will comply with the protocol(s) and conditions in the City's operating permits for the landfill for shutting down the engines and diverting the gas to the flare, if there odor issues occur; specifically, condition number 96 (Compliance Demonstration) of the City's Title V permit issued in June of 2009.

Response 4:

The draft Albany Energy LLC Title V Permit Condition #76 - Compliance Demonstration is the compliance protocol that the permittee must comply with when the permit is issued and executed. Please note that Condition #76 of the draft Albany Energy LLC Title V Permit is identical to Condition #96 of the City of Albany's Title V Permit. Therefore, each permittee must comply together in accordance to the permit condition.

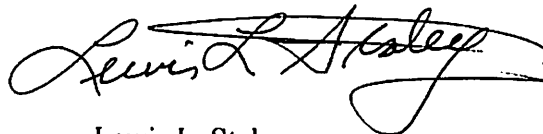
Request 5:

The DEIS must acknowledge and affirm that Albany Energy cannot interfere with City's implementation of the provisions of the City's Title V and Solid Waste permits.

Response 5:

The Albany Energy LLC and its respective supplement filed July 23, 2010, acknowledge and affirm that Albany Energy cannot interfere with the City of Albany's Title V and Solid Waste Permits.

Sincerely,

A handwritten signature in black ink, appearing to read "Lewis L. Staley". The signature is fluid and cursive, with a long horizontal stroke at the end.

Lewis L. Staley
Director

Cc: Don Spencer – Albany DEC
Gary McPherson – Albany DEC

Ambient Air Quality Analysis

Parameter	SCREEN3 Maximum 1-hr Concentration (ppm)	CHA SCREEN3 for Existing Landfill & Engines (ppm)	Background Concentration	Total	Ambient Air Quality Standard*	Compliance
SOX	0.02246 (1-Hour)	0.004 (Annual)	0.003	0.03	0.03	Pass
CO	0.213 (1-Hour)	0.096 (8-Hour)	0.3	0.6	9.0	Pass
NOx	0.0268 (1-Hour)	0.003 (Annual)	0.0027	0.033	0.053	Pass

- NOTES:
- 1) Most stringent standard used (8-hour for CO & Annual Average for NOx and SOx).
 - 2) Maximum 1-Hour Concentration is most conservative (i.e. highest estimated emissions).

**Table 3.8-5
SCREEN3 Combined Results for Engines and Flares**

Contaminant	Averaging Period	Max Result ($\mu\text{g}/\text{m}^3$)	Max Result (ppm)	Background (ppm)	Total (ppm)	NAAQS (ppm)
SO ₂	1 hour	133.24	0.051		0.0506	na
SO ₂	3 hour	119.916	0.046	0.0600	0.1056	0.5
SO ₂	24 hour	53.296	0.020	0.0310	0.0513	0.14
SO ₂	annual	10.6592	0.004	0.0050	0.0091	0.03
NO _x	1 hour	73.78	0.039	0.0340	0.0731	na
NO _x	annual	5.9024	0.003	0.0027	0.0058	0.053
CO	1 hour	157.16	0.138	0.3800	0.5178	35
CO	8 hour	110.012	0.096	0.2660	0.3625	9
NMOC	1 hour	1.03	0.002	0.0340	0.0355	na
NMOC	3 hour	0.927	0.001	0.0306	0.0320	0.24
PM	1 hour	14.50	14.500	20.200	34.70	na
PM	24 hour	5.80	5.800	8.0800	13.88	150
PM	Annual	1.16	1.160	1.6160	2.78	50

Air Sampling Program

Since the landfill expansion area is proposed, no air quality monitoring data is available for the expansion. A series of four ambient air quality sampling events have, however, been conducted at the Albany Landfill on a calendar quarterly basis over the course of a year. Air quality impacts associated with the existing landfill are expected to be representative of air quality impacts associated with the future expansion area. The first air quality sampling occurred on May 3, 2007 and the fourth and final test was conducted on January 31, 2008. The purpose of testing on a quarterly schedule was to identify the existence of any seasonal variations. All monitoring events were scheduled when odor and air quality impacts from the Albany Landfill were expected to be maximized based on meteorology, which included a persistent wind direction with light to moderate wind speeds and falling atmospheric pressure over the course of the test.

In addition, staggering tests over an annual period allowed for testing during different stages of typical landfill operations. Landfill operations included, routine maintenance of landfill gas capture and control equipment, installation of landfill gas collection wells, management of leachate, waste placement and movement, capping and closure of landfill sections, etc. Testing was also performed during different times of the day including during normal business hours and when the landfill complex was closed. This was necessary to determine if air quality levels

DEIS - Supplement

- 12.6 Discuss impacts that operation of this facility would have to National and State Air Quality Standards for the project area and the compliance status for each standard.

The proposed project will not have any negative impacts to the ambient air quality standards for the location. A SCREEN3 Level analysis of the maximum facility emissions from the proposed facility was prepared for NOx, CO, and SOx. The maximum 1-hour concentrations obtained from the SCREEN3 Model were added to the background concentrations obtained from the NYSDEC's 2009 ambient air quality data (where available) and were compared to the Ambient Air Quality Standards. There were no exceedances for any of the three parameters as is illustrated in the table below. Refer to the attached SCREEN3 analysis and a copy of the NYSDEC Ambient Air Quality Standards and the NYSDEC 2009 Air Quality Data for Region 4.

Ambient Air Quality Analysis

Parameter	SCREEN3 Maximum 1-hr Concentration	Region 4 Background Concentration	Total	Ambient Air Quality Standard	Compliance
SOx	0.02246	0.003	0.02546	0.03	Pass
CO	0.213	0.3	0.513	9.0	Pass
NOx	0.0268	Not Available	0.0268	0.05	Pass

NOTE: *Most stringent standard used (8-hour for CO & Annual Average for NOx and SOx).

- 12.7 Impact to existing sources or pollutants-fixed or mobile. (This is covered under Number 6 above)
- 12.8 Impacts to any sensitive receptors within 1 mile of the project area examples: hospitals, schools, nursing homes, parks.
- This item is covered in Number 6 above. The SCREEN3 Models show no exceedances of Ambient Air Quality Standards.
- 12.9 Description of existing monitoring program (if applicable). (This is not applicable)
- 12.10 Discussion of direction of dispersion of air pollutants from the site. (This is not applicable)
- 12.11 Discussion of how the operation of this facility will assure compliance with the air quality and odor permit conditions that are part of the City of Albany's current Title V and Part 360 permits when the authorization to operate this new facility is proposed via permits to be issued on a separate and distinct permitted facility from the current Albany Rapp Road Landfill



malfunctions or upsets.

Condition 77: Air pollution prohibited
Effective for entire length of Permit

Applicable State Requirement:6 NYCRR 211.2

Item 77.1:

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

Condition 75: Compliance Demonstration
Effective for entire length of Permit

Applicable State Requirement:6 NYCRR 211.2

Item 75.1:

The Compliance Demonstration activity will be performed for the facility:
The Compliance Demonstration applies to:

Emission Unit: U-00001

Emission Unit: U-00002

Emission Unit: U-00003

Emission Unit: U-00004

Item 75.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Permittee shall ensure that Fortistar's maintenance programs titled - 'Routine Maintenance Procedure for the Crankcase Ventilation System (CVS)' and 'Quarterly Flange Check Program' - are fully implemented. Maintenance records shall be kept in a bound book on site for a period of no less than two years and made available to the Department upon notice.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

Subsequent reports are due every 6 calendar month(s).

Condition 76: Compliance Demonstration
Effective for entire length of Permit

Applicable State Requirement:6 NYCRR 211.2



Item 76.1:

The Compliance Demonstration activity will be performed for the facility:

The Compliance Demonstration applies to:

Emission Unit: U-00001

Emission Unit: U-00002

Emission Unit: U-00003

Emission Unit: U-00004

Item 76.2:

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

1. Permittee shall conduct an inspection of all gas recovery plant components (including leak checks) within one hour of receiving a report from the Department or other person regarding off-site landfill gas odors. The inspection shall determine whether off-site gas odors are attributable to the gas recovery plant. If the off-site odors are attributable to the gas recovery plant, Permittee shall determine the source of the odors and the necessary repairs and corrective action needed. Permittee shall record notification and inspection information in a bound log kept available on site for a period of no less than two years and made available to the Department upon notice.

2. Permittee shall undertake either of the following actions for off-site odors attributable to the gas recovery plant:

A. abate and control off-site landfill odors by repairing landfill gas engine(s) and/or related components within three hours of receiving notice of the off-site gas odors; or

B. cease operation of the gas recovery plant and divert landfill gas to flare(s) until repairs or corrective actions to control and abate off-site landfill odors attributed to the gas recovery plant are completed.

3. Permittee shall record date and time of detection of engine or related component problems causing off site odors and date and time for either completing the repairs and corrective actions, or the cessation of gas recovery plant and diversion of landfill gas to the flare(s).

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: SEMI-ANNUALLY (CALENDAR)

Reports due 30 days after the reporting period.

Subsequent reports are due every 6 calendar month(s).