UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 2 9 2016

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Suparna Chakladar
Arbor Hills Energy LLC
10611 West 5 Mile Road
Northville, Michigan 48167

Re: Finding of Violation
Arbor Hills Landfill
Northville, Michigan

Dear Ms. Chakladar:

The U.S. Environmental Protection Agency is issuing the enclosed Finding of Violation (FOV) to Arbor Hills Energy LLC (Arbor Hills Energy or you), a subsidiary of Fortistar Methane Group LLC under Section 113(a) of the Clean Air Act, 42 U.S.C. § 7413(a). We find that you are violating the Clean Air Act and its implementing regulations at your Northville, Michigan facility.

Section 113 of the Clean Air Act gives us several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on 100% Recycled Paper (100% Post-Consumer)

The EPA contacts in this matter are Kenneth Ruffatto and Sara Loiacono. You may call him/her at (312) 886-7886 and (312) 353-9199, respectively, to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

Edward Nam
Acting Director
Air and Radiation Division

Enclosure

cc: Diane Kavanaugh Vetort, MDEQ, Senior Environmental Quality Analyst
Alexander Whitlow, MDEQ, Environmental Engineer, E.I.T.
Scott Miller, MDEQ, Jackson District Supervisor

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	
Arbor Hills Landfill	)	**FINDING OF VIOLATION**
Northville, Michigan	)	
	)	**EPA-5-16-MI-11**
Proceedings Pursuant to	)	
the Clean Air Act,	)	
42 U.S.C. §§ 7401 et seq.	)	
	)	

FINDING OF VIOLATION

The U.S. Environmental Protection Agency finds that Arbor Hills Energy LLC (Arbor Hills Energy) is violating the Clean Air Act. Specifically, Arbor Hills Energy is violating the New Source Performance Standards (NSPS) General Provisions at 40 C.F.R. Part 60, Subpart A; the National Emission Standards for Hazardous Air Pollutants (NESHAP) General Provisions at 40 C.F.R. Part 63, Subpart A; and its renewable operating permit (ROP) as follows:

Regulatory Authority

New Source Performance Standards

1. Section 111 of the CAA, 42 U.S.C. § 7411, requires EPA to promulgate performance standards for new stationary sources to achieve the maximum emission reduction possible for each source category.

2. Pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, EPA promulgated the NSPS General Provisions, at 40 C.F.R. Part 60, Subpart A, which contain general provisions that apply to the owner or operator of any stationary source that contains an affected facility, the construction or modification of which is commenced after the date of publication of any NSPS standard applicable to the facility, 40 C.F.R. § 60.1(a).

3. Pursuant to 40 C.F.R. § 60.11(d), the NSPS general provisions require that, at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions, which is determined by information that may include monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

4. Pursuant to Section 111 of the CAA, 42 U.S.C. § 7411, on March 12, 1996, EPA promulgated the NSPS for Municipal Solid Waste (MSW) Landfills at 40 C.F.R. Part 60 Subpart WWW. *See* 61 Fed. Reg. 9919.

5. The NSPS requires new MSW landfills with a design capacity over 2.5 million megagrams by mass or 2.5 million cubic meters by volume to calculate the nonmethane organic compound (NMOC) emission rate of the landfill. If the NMOC emission rate is greater than 50 megagrams per year, the Landfill is required to install, operate, and monitor a gas collection and control system in accordance with NSPS requirements.

National Emission Standards for Hazardous Air Pollutants

6. Section 112(d) of the CAA, 42 U.S.C. § 7412(d), requires EPA to promulgate emission standards for sources of hazardous air pollutants (HAPs) to achieve the maximum emission reduction of HAPs possible for each source category.

7. The HAPs emitted by stationary gas turbines include, but are not limited to, formaldehyde, polycyclic aromatic hydrocarbons (PAH), benzene, toluene, and xylene. Each of the HAPs emitted from stationary gas turbines can cause adverse health effects.

8. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) General Provisions, at 40 C.F.R. Part 63, Subpart A, which contain general provisions that apply as specified in the relevant NESHAP, 40 C.F.R. § 63.1(a)(4)(i).

9. Pursuant to Section 112(d) of the CAA, 42 U.S.C. § 7412(d), on September 10, 1979, EPA promulgated the NESHAP for stationary gas turbines at 40 C.F.R. Part 63, Subpart YYYY. *See* 44 Fed. Reg. 52798.

10. The NESHAP General Provisions that apply to Subpart YYYY are specified in 40 C.F.R. Part 63, Subpart YYYY, Table 7, and include the operation and maintenance requirements in 40 C.F.R. § 63.6(e).

11. Pursuant to 40 C.F.R. § 63.6(e), the NESHAP general provisions require that, at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions, which is determined by information that may include monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

Michigan's Renewable Operating Permit (ROP) Requirements

12. Title V of the CAA, 42 U.S.C. §§ 7661-7661f, establishes an operating permit program for sources of air pollution. Section 502(d) of the CAA, 42 U.S.C. § 7661a(d), provides that each state must submit to EPA an operating permit program meeting the requirements of Title V.

13. In accordance with Section 502(b) of the CAA, 42 U.S.C. § 7661a(b), EPA promulgated regulations implementing Title V of the CAA. *See* 57 Fed. Reg. 32295 (July 21, 1992). Those regulations are codified at 40 C.F.R. Part 70.

14. Section 502(a) of the CAA, 42 U.S.C. § 7661a(a), and 40 C.F.R. § 70.7(b) provided that after the effective date of any permit program approved or promulgated under Title V of the CAA, no source subject to Title V may operate except in compliance with a Title V operating permit.

15. EPA gave interim approval of the Michigan Title V permit program on January 10, 1997. *See* 62 Fed. Reg. 1387 (effective on February 10, 1997). EPA granted source category interim approval of Michigan's Title V program on June 18, 1997. *See* 62 Fed. Reg. 34010 (effective on July 19, 1997). EPA fully approved the Michigan Title V program on December 4, 2001. *See* Fed. Reg. 62949 (effective on November 30, 2001).

16. The Michigan regulations governing the Title V permit program, also known as the "Renewable Operating Permit Program," are codified at R 336.1210 – R 336.1219.

17. The Michigan Department of Environmental Quality ("MDEQ") issued a Renewable Operating permit (MI-ROP-N2688-2011) to Veolia-Arbor Hills Landfill, now Advanced Disposal-Arbor Hills Landfill, on January 24, 2011 (the ROP).

18. The ROP requires Arbor Hills Energy to comply with the applicable NSPS and NESHAP requirements as well as specific emission limits.

19. The ROP requires Arbor Hills Energy to comply with the NSPS requirements for Stationary Gas Turbines and Stationary Combustion Turbines at 40 C.F.R. Part 60, Subpart GG and KKKK, respectively, and the NESHAP requirements for Stationary Combustion Turbines at 40 C.F.R. Part 63, Subpart YYYY.

Findings and Violations

20. Arbor Hills Energy owns and operates a landfill gas-to-energy (LFGTE) facility servicing Arbor Hills Landfill (Arbor Hills, or the Landfill) located at 1611 West Five Mile Road, Northville, Michigan.

21. Advanced Disposal Services (Advanced Disposal) owns and operates the Landfill. BFI Waste Systems of North America LLC (BFI) owns the gas collection and control system (GCCS) at the Landfill.

22. The Landfill began receiving waste in 1970 and is projected to continue accepting waste until 2028.

23. According to its 2006 GCCS design plan, the Landfill has a design capacity of approximately 46.7 million megagrams, which was revised in 2016 to 53.5 million

megagrams. The Landfill currently has approximately 40.8 million megagrams of waste in place.

24. At all times relevant to this FOV, the Landfill had uncontrolled NMOC emissions equal to or greater than 50 megagrams per year, as calculated using the procedures specified at 40 C.F.R. § 60.754.

25. BFI installed and operates a GCCS to capture and destroy landfill gas (LFG) generated by the Landfill. The GCCS consists of over 300 active gas wells all routed to the LFGTE facility operated by Arbor Hills Energy, and backup flares owned by BFI.

26. The LFGTE facility has three (3) European Gas Turbines (EGTs) rated at 58.89 MMBtu/hr that were first operated on June 12, 1996 and one (1) Solar Taurus turbine rated at 68 MMBtu/hr that was first operated in December 2005.

27. On May 4, 2016, EPA conducted an inspection of the LFGTE facility.

28. On June 1, 2016 EPA issued an information request to Arbor Hills Energy under Section 114(a) of the CAA, 42 U.S.C. § 7414.

29. On July 6, 2016, Arbor Hills Energy submitted information to EPA in response to the June 1, 2016 Section 114(a) Information Request.

<u>Failure to Comply with Sulfur Dioxide Emission Limit for Turbines and Duct Burners</u>

30. The ROP sets hourly and annual sulfur dioxide emission limits for the three EGT turbines as follows:
    a. hourly limit of 2.9 lbs/hr; and
    b. annual limit of 12.5 tpy, based on a rolling, 12-month average.

31. Table 1, below, shows the hourly average sulfur dioxide mass emissions reported by Arbor Hills Energy, in pounds per hour, for each of these turbines for the period August 2015 through June 2016.

Table 1: Hourly Average Sulfur Dioxide Emissions for Turbines

Month	EUTURBINE 1-S3 Mass Emissions (lb/hr)	EUTURBINE 3-S3 Mass Emissions (lb/hr)
Aug-15	2.8	**3.1**
Sep-15	**3.1**	**3.5**
Oct-15	**3.4**	**3.8**
Nov-15	**3.7**	**4.2**
Dec-15	**4.0**	**4.6**
Jan-16	**4.0**	**4.6**
Feb-16	**4.0**	**4.6**
Mar-16	**4.0**	**4.6**
Apr-16	**4.1**	**4.6**
May-16	**4.1**	**4.6**
Jun-16	**4.1**	**4.6**
LIMIT	**2.9**	**2.9**

32. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, EUTURBINE 1-S3 and EUTRUBINE 3-S3 have been out of compliance with the applicable hourly sulfur dioxide emission limit since September 2015 and August 2015, respectively.

33. Table 2, below, shows the annual, 12-month rolling average, sulfur dioxide mass emissions reported by Arbor Hills Energy, in tons per year, for these turbines for the period August 2015 through June 2016.

Table 2: 12-Month Rolling Average Sulfur Dioxide Emissions for Turbines

Month	EUTURBINE 1-S3 Mass Emissions (tons per year)	EUTURBINE 3-S3 Mass Emissions (tons per year)
Aug-15	11.3	**13.3**
Sep-15	**12.6**	**14.8**
Oct-15	**14.0**	**16.1**
Nov-15	**15.1**	**16.7**
Dec-15	**15.5**	**18.2**
Jan-16	**15.4**	**18.0**
Feb-16	**15.5**	**18.1**
Mar-16	**15.6**	**18.1**
Apr-16	**15.9**	**18.2**
May-16	**16.3**	**18.2**
Jun-16	**15.3**	**17.1**
LIMIT	**12.5**	**12.5**

34. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, EUTURBINE 1-S3 and EUTURBINE 3-S3 have been out of compliance with the applicable annual sulfur dioxide emission limit since September 2015 and August 2015, respectively.

35. The ROP sets hourly and annual sulfur dioxide emission limits for the three EGT duct burners as follows:
    c. hourly limit of 0.3 lbs/hr; and
    d. annual limit of 1.5 tpy, based on a rolling, 12-month average.

36. Table 3, below, shows the hourly average sulfur dioxide mass emissions reported by Arbor Hills Energy, in pounds per hour, for each of these duct burners for the period March 2015 through June 2016

Table 3: Hourly Average Sulfur Dioxide Emissions for Duct Burners

Month	EUDUCTBURNER 1-S3 Mass Emissions (lb/hr)	EUDUCTBURNER 2-S3 Mass Emissions (lb/hr)	EUDUCTBURNER 3-S3 Mass Emissions (lb/hr)
Mar-15	**0.3**	0.2	**0.3**
Apr-15	**0.4**	0.2	**0.4**
May-15	**0.4**	0.2	**0.4**
Jun-15	**0.5**	0.2	**0.5**
Jul-15	**0.5**	**0.3**	**0.5**
Aug-15	**0.5**	**0.3**	**0.6**
Sep-15	**0.5**	**0.4**	**0.7**
Oct-15	**0.5**	**0.4**	**0.8**
Nov-15	**0.6**	**0.4**	**0.8**
Dec-15	**0.7**	**0.4**	**0.9**
Jan-16	**0.7**	**0.4**	**0.9**
Feb-16	**0.7**	**0.4**	**0.9**
Mar-16	**0.6**	**0.4**	**0.9**
Apr-16	**0.6**	**0.4**	**0.8**
May-16	**0.6**	**0.4**	**0.8**
Jun-16	**0.6**	**0.4**	**0.8**
LIMIT	**0.3**	**0.3**	**0.3**

37. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, EUDUCTBURNER 1-S3, EUDUCTBURNER 2-S3, and EUDUCTBURNER 3-S3 have been out of compliance with the applicable hourly sulfur dioxide emission limit since March 2015, July 2015, and March 2015, respectively.

38. Table 4, below, shows the annual, 12-month rolling average, sulfur dioxide mass emissions reported by Arbor Hills Energy, in tons per year, for these duct burners for the period March 2015 through June 2016.

Table 4: 12-Month Rolling Sulfur Dioxide Emissions for Duct Burners

Month	EUDUCTBURNER 1-S3 Mass Emissions (tons per year)	EUDUCTBURNER 3-S3 Mass Emissions (tons per year)
Mar-15	1.3	1.3
Apr-15	**1.7**	**1.7**
May-15	**1.8**	**1.9**
Jun-15	**1.9**	**2.1**
Jul-15	**1.9**	**2.2**
Aug-15	**1.9**	**2.3**
Sep-15	**1.8**	**2.4**
Oct-15	**2.0**	**2.5**
Nov-15	**2.2**	**2.6**
Dec-15	**2.2**	**2.9**
Jan-16	**2.1**	**2.7**
Feb-16	**2.2**	**2.7**
Mar-16	**2.0**	**2.7**
Apr-16	**1.8**	**2.5**
May-16	**2.0**	**2.5**
Jun-16	**1.9**	**2.4**
LIMIT	**1.5**	**1.5**

39. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, EUDUCTBURNER 1-S3 and EUDUCTBURNER 3-S3 have been out of compliance with the applicable annual sulfur dioxide emission limit since April 2015.

40. By failing to comply with hourly and annual sulfur dioxide emission limits for EUTURBINE 1-S3 and EUTURBINE 3-S3, Arbor Hills Energy violated and continues to violate the FGTURBINES-S3 Emission Limits in Section 3 of the ROP.

41. By failing to comply with hourly sulfur dioxide emission limits for EUDUCTBURNER 1-S3, EUDUCTBURNER 2-S3, and EUDUCTBURNER 3-S3, Arbor Hills Energy violated and continues to violate FGDUCTBURNERS-S3 Emission Limits in Section 3 of the ROP.

42. By failing to comply with annual sulfur dioxide emission limits for EUDUCTBURNER 1-S3 and EUDUCTBURNER 3-S3, Arbor Hills Energy violated and continues to violate FGDUCTBURNERS-S3 Emission Limits in Section 3 of the ROP.

Failure to Properly Operate Control Devices

43. Pursuant to 40 C.F.R. § 60.755(e), the provisions of 40 C.F.R. Part 60, Subpart WWW apply at all times, with the exception of a 1-hour period for control device start-up, shutdown, or malfunction. The intent of the 1-hour period is to allow operators time to identify and correct problems with the control device or to route emissions to a back-up control.

44. Pursuant to 40 C.F.R. §§ 60.11(d) & 63.6(e)(1), owners and operators are required at all times, including startup, shutdown, and malfunction (SSM), to maintain and operate an affected facility including air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions.

45. Arbor Hills Energy is responsible for operating and maintaining its turbines as the primary LFG control system at the Landfill so as to minimize emissions or to route LFG to a backup control.

46. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, one or more turbines at the LFGTE facility were not operating a total of 137 calendar days from August 2015 to February 2016.

47. Table 5, below, shows the downtime of each turbine, based on the days that the turbine had no recorded flow for the period August 2015 through February 2016.

Table 5: Days of Downtime of each Turbine

Month	Days of Turbine Downtime (days)			
	GT1	GT2	GT3	GT4
Aug-15	-	-	-	**5**
Sep-15	-	-	-	**5**
Oct-15	-	-	**4**	**20**
Nov-15	**1**	-	**14**	**28**
Dec-15	**19**	**1**	**1**	**25**
Jan-16	**1**	-	**1**	**22**
Feb-16	-	-	-	**26**

48. Based on information submitted to EPA by Arbor Hills Energy in response to its Section 114(a) Information Request, the flares were operated on only 47 of the 137 days with turbine outages, as shown in Table 6, below.

Table 6: Days of Flare Operation

Month	Number of Days Operated (days)	
	Flare A	Flare B
Aug-15	0	0
Sep-15	0	0
Oct-15	0	**3**
Nov-15	0	**19**
Dec-15	0	**22**
Jan-16	**1**	**2**
Feb-16	0	0

49. On at least 90 days in the period August 2015 through February 2016 no backup control of LFG through flares occurred at the Landfill.

50. By failing to route LFG that would be controlled by the turbines to a backup control device, Arbor Hills Energy violated the requirements at 40 C.F.R. § 60.755(e).

51. By not operating Turbines 1, 2, and 4 and failing to route LFG to back-up flares during turbine outages, Arbor Hills Energy failed to maintain good air pollution control practices to adequately control LFG and minimize fugitive emissions of LFG to the atmosphere, which contributes to air pollution in the area, in violation of the requirements at 40 C.F.R. § 60.11(d) and 40 C.F.R. § 63.6(e)(1).

Environmental Impact of Violations

1. Volatile organic compounds contribute to ozone formation which can result in adverse effects to human health and vegetation. Ozone can penetrate into different regions of the respiratory tract and be absorbed through the respiratory system.

2. Hazardous air pollutant emissions can lead to adverse health effects like cancer, respiratory irritation, and damage to the nervous system.

3. Methane emissions contribute to global climate change and can result in fires or explosions when they accumulate in structures on or off the landfill site.

4. Fugitive emissions of LFG from the Landfill to the local community have resulted in receipt of over 200 odor complaints by MDEQ, Advanced Disposal, and EPA since January 2016.

9/29/16
Date

Edward Nam
Acting Director
Air and Radiation Division

CERTIFICATE OF MAILING

I, Loretta Shaffer, certify that I sent a Finding of Violation, No. EPA-5-16-MI-11, by Certified Mail, Return Receipt Requested, to:

Suparna Chakladar
Fortistar Methane Group
5087 Junction Road
Lockport, New York 14094

I also certify that I sent copies of the Finding of Violation by E-mail to:

Tom Hess
Enforcement Unit Manager
hesst@michigan.gov

On the 30 day of September 2016

Loretta Shaffer
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER: 7009 1680 0000 7667 5796