

**COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office**


MEMO

TO Air Quality Permit File TVOP-26-00402

FROM Jesse S. Parihar
Air Quality Engineering Specialist
Air Quality Program



THROUGH Thomas J. Joseph, P.E.
Environmental Manager
Air Quality Program

Mark R. Gorog, P.E. 
Regional Program Manager
Air Quality Program

DATE July 08, 2016

RE Review of Title V Operating Permit Renewal Application
Advanced Disposal Services Chestnut Valley, Inc.
Chestnut Valley Landfill
German Township, Fayette County
AUTH # 1105322; APS# 889445; PF# 495049

Background:

Advanced Disposal Services Chestnut Valley, Inc. ("Chestnut Valley") provides integrated, non-hazardous solid waste collection, recycling and disposal services to residential, commercial, industrial, and construction customers across 16 states and the Bahamas. Veolia ES Chestnut Valley Landfill, Inc. ("VESCRLF") formerly known as CBF Inc. and J&J Landfill operates a Municipal Solid Waste Landfill in German Township, Fayette County, Pennsylvania. The facility has been in operation since 1960 and possibly earlier as an un-regulated facility. The facility is located on State Route 21 near McClellandtown in Fayette County. The first Solid Waste permit was issued by the Department to J&J Sanitation in 1983. On September 17, 1990, the Department issued a modification to the 1983 permit to allow the landfill to conform to the 1988 Subtitle D regulations. The 1990 permit defined five double-lined disposal cells. Based on 1990 solid waste permit, the landfill was regulated under the emission guidelines of air quality rules for existing landfills. Air Quality Plan Approval PA-26-322-001 was issued to VESCRLF on March 8, 1991 to allow the installation of a candle flare. Due to the small size of the landfill and the low rate of waste acceptance, Operating Permit OP-26-322-001 was issued to allow the continued use of the candle flare until the waste in place exceeded 1,000,000 tons. Plan Approval PA-26-00402A was issued on February 15, 2001, to allow the installation of a nominal 2,400 SCFM (max 2,800 SCFM) enclosed

flare and a leachate evaporation system (LES). The flare was installed and tested, with favorable results.

As noted, the landfill consists of closed inactive disposal sections and open active disposal sections. The gas collection system is connected to an enclosed flare where the collected landfill gas is combusted in order to destroy the organic matter in the gas. An open candlestick flare is connected to the gas collection system and is used as a backup to the enclosed flare. The candlestick flare is also used on a temporary basis to control emissions at various areas on the landfill as required in combination with the enclosed flare. Additionally, an independent gas connection system with a small candlestick flare is used periodically to control gas migration off-site. The low vacuum and low gas concentration typical in this system preclude its incorporation into the enclosed flare collection system. The significant emission sources at the facility consist of the landfill surface fugitive emissions; flare stack emissions, fugitive dust emissions from roads, and miscellaneous operations. Additionally the facility contains a tire shredder powered by a diesel engine, miscellaneous fuel tanks, leachate storage tanks, a leachates treatment system, as well as small storage tanks for lubricating and maintenance fluids. The tire shredder generator set is Olympian D150P1, serial # YD50733*U727131F*, and rated at 200 bhp.

On February 13, 2003, the Bureau of Waste Management issued a Major Permit Modification to VESCVLF increasing their design capacity from 2.4 million tons to 4.6 million tons of all types waste and putrescible Municipal solid waste. The revised design capacity made the facility subject to the applicable requirements of 40 CFR 60, Subpart WWW - Standards of Performance for Municipal Solid Waste Landfills and the Title V permitting requirements of 40 CFR Part 70. In accordance with Pa Code 25§127.505(a) the Department requested the applicant submit a Title V Operating Permit application. On February 15, 2001, the Department issued plan approval PA-26-00402A to construct a landfill gas (LFG) collection and control system and a leachate evaporation system at the site. The LFG collection and control system was installed operated and performance tested. However, leachate evaporation system was not installed. On February 1, 2002, CBF, Inc. submitted a plan approval (PA-26-00402B) application to allow this increase in the design capacity of the landfill including the construction of a leachate evaporation system (LES). This Plan Approval application was also to relocate and keep operating a second candle flare and to keep operating a crusher (both installed under exemptions), the possible future installation of an LES, and the installation of a heat exchanger on the exhaust from one of the candle flares to capture lost thermal energy and use it to warm the leachate treatment system.

Air Quality issued a Title V call letter on June 10, 2003, and received a Title V Operating Permit application on October 8, 2003. A revision to the Title V permit was submitted on July 22, 2010.

On July 29, 2011, TVOP-26-00402 was issued for five year term and would expire on July 29, 2016. On December 5, 2012, the owner of the Chestnut Valley Landfill, Veolia ES Chestnut Valley Landfill, Inc. applied for an administrative amendment to change its name to "Advanced Disposal Services Chestnut Valley Landfill, Inc. ("Chestnut Valley"). On January 7, 2014, the Department processed the administrative amendment and the requested changes were made in the existing operating permit TVOP-26-00402.

On January 14, 2016, Aegis Environmental, Inc. (Aegis) submitted the proposed Title V Operating Permit Renewal Application on behalf of Advance Disposal Services Chestnut Valley, LLC. On June 1, 2016, additional information was requested from the applicant. The requested information was received in the office on June 6, 2016.

Regulatory Analysis:

The collection and control system is subject to the Department's Bureau of Air Quality Permit Manual, Section 7.10; Air Quality Permitting Criteria Including Best Available Technology (BAT) Criteria for Municipal Waste Landfills New Source Performance Standards (NSPS). All of the conditions derived from Title 25 of the Pennsylvania Code have been included in this Title V permit.

25 Pa Code Section 122.3 adopts in entirety the Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources promulgated in 40 CFR Part 60. Per 40 CFR Part 60, Section 60.750 Municipal Solid Waste Landfills that commence construction or modification after May 30, 1991 are subject to the New Source Performance Standards Subpart WWW (Standards of Performance for new Stationary Sources). The applicable requirements of Subpart WWW have been exhaustively included in this Title V permit. In accordance with § 63.1935(a)(3), this landfill is also subject to the applicable requirements of 40 CFR 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. However, the rule states that compliance with 40 CFR 63 Subpart AAAA also constitutes compliance with 40 CFR 60 Subpart WWW.

As noted by the applicant per e-mail dated July 08, 2016, (on file). The soil processing operations are run by a 3rd party for the past several years who brings the mobile crusher on as needed basis. The soil processing contractor possesses and operates under his own permit. The NSPS Subpart OOO for non-metallic mineral processing does not apply to this facility. However, the regulatory analysis for NSR aggregation shall be made at the time when the third party returns to this facility. The tire shredder powered by the Perkins diesel generator rated @ 200 bhp is not subject to NSPS Subpart OOO requirements.

As noted by the applicant per e-mail dated June 24, 2016, (on file), there is only one above ground storage tank (AST), having a 12,000 gallon capacity, and containing ultra-low sulfur diesel (ULSD). The facility has one (1) 275-gallon gasoline AST and one (1) 275-gallons heating oil AST. The vapor pressure of ULSD tank is well below 1.5 psia, and therefore, not subject to 25 Pa Code Section 129.57. The gasoline tank and heating oil tanks are less than 2,000 gallons capacity and not subject to 25 Pa Code Section 129.57, however, these sources are included in the miscellaneous section of the permit for site inventory purposes only.

Chestnut Valley Landfill is not subject to the requirements of the Compliance assurance monitoring (CAM) rule because the facility is currently regulated under NSPS/NESHAP regulations.

There are two (2) diesel generators located at the facility:

- Perkins England diesel engine, rated at 200 bhp, and connected to a tire shredder.
- John Deere diesel engine, rated at 240 bhp, and used as an emergency backup in case of failure of pole power and limited to 500 hours of operation per year.

The Perkins England diesel engine is not subject to 40 CFR Part 60 Subpart IIII as it was manufactured in 1999, i.e. prior to July 11, 2005, however; The Perkins England is a non-emergency diesel engine less than 300 bhp and operating at an area source of HAP emissions is subject 40 CFR Part 63 Subpart ZZZZ. According to 63.6603 and 63.6640, owner/operator must comply with following requirements:

- a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
- b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

During the period of startup minimize the engine's time spent at idle and minimize the engine's startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

The John Deere diesel engine rated at 240 bhp used as an emergency backup, manufactured in July, 2004, i.e. prior to July 11, 2005, not subject to 40 CFR Part 60 Subpart IIII, however; it is subject to 40 CFR Part 63 Subpart ZZZZ §§ 63.6603 and 63.6640; according to which the owner/operator must comply with the following requirements:

- a. Change oil and filter every 500 hours of operation or annually, whichever comes first;

- b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
- c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Site Inventory:

Source ID	Source Name
101	Landfill Waste Gas
102	Landfill Fugitive Dust Emissions
103	Tire shredder powered by a Perkins England diesel engine rated at 200 bhp
104	Candlestick Leachate Treatment System
105	Paved/Un-paved Roadways
106	Emergency Diesel Generator, John Deere rated at 240 bhp
C01	Control on Enclosed Flare
C02	Control on Candlestick Flares (2)
C03	Control on Dust Suppression System
C04	Control on Candlestick Leachate Treatment System
C05	Landfill Gas Migration Control System Candlestick Flare
S01	Enclosed Flare Stack
S02	Candle Flare Stack

Equipment and Emissions:

Sources and emissions at this facility consist of the landfill itself consisting of disposal areas being constructed, disposal areas actively accepting waste, and closed disposal areas, roads, and earthmoving equipment; emitting fugitive (uncollected VOCs and PM₁₀), a landfill gas collection system (wells, manifolds, routed to a flare or gas processing facility, emitting undestroyed VOCs, NO_x, CO, PM₁₀); Leachate Treatment System; tire shredding; and a soil processing system (fugitive PM₁₀). All landfill gas from the landfill (Source 101) is routed to the enclosed flare (Control – C01). As noted, the two (2) candlestick flares (Control – C02) are used as backup for the enclosed flare.

The following units are considered insignificant and are exempt from plan approval requirements; however, the emissions from these sources are considered in the facility-wide potential emissions:

- Migration Gas Control Extraction Wells – Located outside lined waste disposal area
- Leachate Collection System

- Leachate Storage Ponds
- Leachate Storage Tanks
- Condensate Collection System
- Portable Pumps/Generators
- Backup – Standby Generator Tanks
- Gasoline Storage Tanks
- Waste Oil Storage Tanks
- Lubricant Storage Tanks
- Miscellaneous Oil Storage Tanks
- Maintenance Shop Activities
- Combustion Heaters

On June 26, 2015, the Department last inspected the facility for compliance. As noted in the inspection report, the emergency backup generator John Deere rated at 240 bhp, staged near the Zink Flare, kept to keep flare operational during a power failure, and operates (on average) for ½ hour each month. The flare operates at a temperature range of 1,500°F – 2000°F and the flow is usually around 1,000 SCFM. The flare is equipped with a shut off sensor and does not operate if temperature falls below 1500°F or rises above 2,000°F. The facility also performs dust fall monitoring around the site. One dust fall jar is stationed upwind while the other three stationed downwind. The facility is required to maintain a pressurized water truck that is available for use to control the fugitive dust. A truck tire wash has already been installed and operated at the facility to control track out and associated emissions.

The leachate is stored in 1.9 million gallon glass-lined steel tanks equipped with secondary containment prior to being pre-treated and pumped to the Publicly Owned Treatment Works (POTW) in South Union Township.

Table: 1
Summary of Potential Emissions from the landfill

Sources	SO _x	NO _x	CO	VOC	HAP	PM	PM ₁₀
Fugitive Emissions	-	-	-	7.95	4.61	57.00	20.50
Flares	6.88	41.76	57.04	0.75	0.28	2.16	2.16
Cutting/screening/tire shredding	-	-	-	-	-	91.25	65.54
Diesel engines	2.59	39.41	8.49	3.22	0.02	2.77	2.77
Total	10.79	81.36	65.56	11.93	4.91	153.72	91.51

Landfill Gas Flares:

The enclosed flare currently being used for the disposal area is rated at a nominal 2,400 SCFM, max 2,800 SCFM. Flow rate from the disposal area is currently approximately 1,000 SCFM. The enclosed ground flare has a rated destruction efficiency of 98%. The capture efficiency of the system is estimated to be 75%. The assumption is that the remaining 25% of the VOC is fugitive from the landfill. A candle flare is available to be used for a backup control device. VOC emissions which are collected but undestroyed, and emissions of other pollutants (products of combustion) resulting from the operation of the flare are attributed to the landfill gas collection system. There are also two additional candle stick flares; one is dedicated to leachate treatment system and the other one is for LFG migration control system.

Alternate Operating Scenarios:

The backup utility flares shall be used in the event that the enclosed flare is not operational.

Conclusions and Recommendations:

Advanced Disposal Services Chestnut Valley, Inc. has met the regulatory requirements associated with this renewal application submittal. On June 26, 2015, an annual compliance monitoring inspection was performed by Mr. Fred Walter, Air Quality Specialist. No permit deviation or violation was observed by the Department during the inspection. The attached permit reflects the applicable regulatory requirements associated with this facility.

The "Intent to issue Notice" was published in the PA Bulletin for a 30-day public comment period on June 18, 2016. The proposed Title V Operating Permit renewal will be sent to the applicant for review as well as the Department's Air Quality Specialist and District Supervisor for any comments.

It is my recommendation that the proposed Title V Operating Permit renewal be issued for this facility.