

# Fact Sheet



## For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on October 20, 2015.

Permit Number: **R30-03900461-2015**  
Application Received: **November 13, 2017**  
Plant Identification Number: **03-54-039-00461**  
Permittee: **City of Charleston**  
Facility Name: **City of Charleston Sanitary Landfill**  
Mailing Address: **P. O. Box 2749; Charleston, WV 25330**

Permit Action Number: *MM01*      Revised: *August 21, 2018*

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Physical Location:	Charleston, Kanawha County, West Virginia
UTM Coordinates:	445.92 km Easting • 4240.52 km Northing • Zone 17
Directions:	From the City of Charleston take I-64 east to Exit 98 (35th St.). Turn right off of 35th St. onto SR61 (MacCorkle Ave. SE) and go approximately 0.15 miles. Turn left onto South Park Road. Follow South Park Road to the landfill.

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### Facility Description

The Charleston Sanitary Landfill is a municipal solid waste (MSW) management facility that operates under SIC Code 4953. The landfill accepts municipal solid waste, construction/demolition/debris (CDD), and approved residual waste streams. The Landfill is comprised of three disposal areas commonly referred to as Areas C1, A, and C. Area C is the only active disposal area.

The Landfill also has a Landfill Gas Collection and Control System (GCCS) and Landfill Gas-to-Energy operations where landfill gas is converted to electricity by combusting gas in engines 21C and 22C. This modification is to remove the Landfill Gas-to-Energy Operations and replace it with a "high BTU upgrade facility." This involves removing engine 22C and converting engine 21C to an emergency backup engine and installing two (2) used Ajax DPC-540 2-Stroke Lean Burn (2SLB) 540 hp engines to compress the

captured landfill gas. In the high BTU upgrade facility, the incoming LFG will be dried in a mechanical chiller, pass through a series of non-regenerating (no emissions) carbon beds, and then be compressed to 375 psig. Carbon dioxide will then be separated from the methane (97%) and nitrogen (3%) by high pressure contact with a CO<sub>2</sub> removal membrane. The now high-BTU gas will then be sent to market via pipeline and the removed CO<sub>2</sub> will be liquified and sold.

**Emissions Summary**

This modification resulted in the following change to emissions:

Pollutant	Change in PTE (tons/year)
CO	-21.12
NO <sub>x</sub>	+3.78
PM <sub>2.5</sub> /PM <sub>10</sub> /PM	-5.71
SO <sub>2</sub>	-0.05
VOCs	+4.81
Total HAPS	-2.93

**Title V Program Applicability Basis**

This landfill has a design capacity over 2.5 million megagrams and 2.5 million cubic meters, which is the Title V applicability threshold set forth by 40 C.F.R. §60.752(b). Due to this facility's design capacity, the City of Charleston Sanitary Landfill is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

**Legal and Factual Basis for Permit Conditions**

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR13	Construction permit requirement.
	45CSR16	Standards of Performance for New Stationary Sources
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants
	40CFR60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
	40CFR63 Subpart ZZZZ	Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
State Only:	None.	

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

### Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit ( <i>if any</i> )
R13-2667B	May 4, 2018	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

### Determinations and Justifications

The following changes were made as part of this modification:

#### 1.1. Emission Units

- Condensed the various groups of Refuse Gas Incinerators that were grouped by installation date into one group with an installation date of TBD (to be determined) since none of the incinerators are currently installed.
- Removed engine 22C.
- Added two (2) Ajax DPC-540 2SLB (Manufactured 1991) engines (CE-1 and CE-2).

#### 3.0 Facility-Wide Requirements

- Updated the boiler plate language of conditions 3.5.3, 3.5.5, and 3.5.6.

#### 5.0 Reciprocating Internal Combustion Engines

- Removed Engine 22C from title and the following conditions: 5.1.1 – 5.1.3 and 5.4.1.
- Updated condition 5.1.3 with the landfill gas/natural gas throughput limit for emission unit 21C from R13-2667B.
- Added condition 5.1.4 containing the emission limits for emission units CE-1 and CE-2 from R13-2667B.
- Added condition 5.1.5 which gives the landfill gas/natural gas throughput limit for emission units CE-1 and CE-2 from R13-2667B.
- Added conditions 5.1.6 – 5.1.10, 5.3.1, and 5.4.2 – 5.4.4 which are the applicable requirements of 40 C.F.R. 60 Subpart JJJJ that emission unit 21C is subject to.
- Conditions 5.1.11 – 5.1.17, 5.4.5, 5.4.6, 5.4.7, 5.5.1, and 5.5.2 were added and contain the applicable requirements of 40 C.F.R. 63 Subpart ZZZZ for emission units CE-1 and CE-2.

Section 6.0 has been removed and reserved since emission unit 22C was removed and the only requirement 21C is subject to now that it is an emergency backup generator that would have been left in section 6.0 was moved to condition 5.1.6.

### **Non-Applicability Determinations**

The following requirements have been determined not to be applicable to the subject facility due to the following:

**40 C.F.R 60 Subpart JJJJ** – The Charleston Sanitary Landfill’s proposed two (2) used (manufactured in 1991) Ajax DPC-540 2SLB 540 hp engines are defined under 40 C.F.R. 60 Subpart JJJJ as stationary spark-ignition internal combustion engines (SI RICE). However, pursuant to the applicability requirements of §60.4230, since the engines were manufactured in 1991, the engines are not subject to Subpart JJJJ.

### **Request for Variances or Alternatives**

None.

### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

### **Comment Period**

Beginning Date: Not Applicable for minor modifications.  
Ending Date: N/A

### **Point of Contact**

All written comments should be addressed to the following individual and office:

Robert Mullins  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1243 • Fax: 304/926-0478  
Robert.A.Mullins@wv.gov

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Response to Comments (Statement of Basis)**

Not applicable.