

# ALLEGHENY COUNTY HEALTH DEPARTMENT AIR QUALITY PROGRAM

October 27, 2014

**SUBJECT:** Verizon Business Network Services, Inc. – PITSPA  
2630 Liberty Commons  
Pittsburgh, PA 15222  
Allegheny County

## **Minor Source Operating Permit No. 0801**

**TO:** Sandra L. Etzel  
Chief Engineer

**FROM:** JoAnn Truchan, P.E.  
Air Quality Engineer

### **FACILITY DESCRIPTION:**

Verizon Business is a seller of telecommunications services. The company operates and maintains several sites within Allegheny County. Each site operates as an individual facility.

This facility is a minor source of particulate matter (PM), particulate matter <10 µm in diameter (PM<sub>10</sub>), particulate matter <2.5 µm in diameter (PM<sub>2.5</sub>), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and volatile organic compounds (VOCs) as defined in §2101.20 of Article XXI.

### **OPERATING PERMIT DESCRIPTION**

This is an operating permit renewal for Verizon Business, located at 2630 Liberty Commons in Pittsburgh. The original operating permit was issued on March 8, 2010. The renewal permit will incorporate conditions from 40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, which was promulgated after the issuance of the most recent operating permit. The source classification for this facility has been changed from synthetic minor to minor due to a change in how the Department defines a minor source for an emergency generator.

### **PERMIT APPLICATION COMPONENTS:**

1. Operating Permit #0801, issued March 7, 2010
2. Operating Permit application #0801, dated August 27, 2014

### **EMISSION SOURCES:**

<b>I.D.</b>	<b>Source Description</b>	<b>Control Device(s)</b>	<b>Maximum Capacity</b>	<b>Fuel / Material</b>	<b>Stack I.D.</b>
B001	Emergency Generator PITSPA Onan/1250DFLC	turbocharger, aftercooler, electronic fuel injection	1,500 kW	Ultra Low- Sulfur Diesel Fuel	S001
D001	Diesel Fuel Storage Tank	none	4,000 gal	Diesel Fuel	--

**STACKS:**

Stack I.D.	Stack Height	Stack Diameter	Exhaust Rate	Exhaust Temp.	Exhaust Moisture	Material
S001	36 ft.	1.25 ft.	9,620 acfm	905 °F	--	steel; n/a

**METHOD OF DEMONSTRATING COMPLIANCE:**

Compliance with the emission standards set in this permit will be demonstrated by maintaining records of generator operation and fuel use as well as supplier certification of sulfur content. See Permit No. 0801 for the specific conditions for determining compliance with the applicable requirements. Compliance with the short-term (lb/hr) limits must be maintained at all times, including startup and shutdown unless explicitly stated otherwise in the permit. Any emissions due to startup and/or shutdown are included in facility's total annual emissions.

**EMISSION CALCULATIONS**

**Emergency Generator**

Generator Rating: 1,250 kW  
 Fuel Use: 84.0 gal/hr  
 No. of Generators: 1 (one)  
 Fuel Oil Sulfur Limit: 0.0015%  
 Operation: 500 hrs/yr

Emissions are based on data supplied by the manufacturer (see permit application #0801). Because particulate matter and sulfur oxide emissions based on manufacturer information are less than the limit in Article XXI, §2104.02(a)(1)(B) and §2104.03(a)(2)(A), the Article XXI limits have been streamlined into the manufacturer's limits. All PM is assumed to be PM<sub>10</sub>, and all PM<sub>10</sub> is assumed to be PM<sub>2.5</sub>.

$$\begin{aligned} \text{Article XXI: } & 0.28 \text{ lb}_{\text{PM}}/\text{MMBtu} \times 84.0 \text{ gal/hr} \times 140,000 \text{ Btu/gal} = 3.29 \text{ lb}_{\text{PM}}/\text{hr} \\ & 1.0 \text{ lb}_{\text{SO}_x}/\text{MMBtu} \times 84.0 \text{ gal/hr} \times 140,000 \text{ Btu/gal} = 11.76 \text{ lb}_{\text{SO}_x}/\text{hr} \end{aligned}$$

From the manufacturer specifications, the maximum brake horsepower is 1,850 bhp.

**Emergency Generator PITSPA Emission Limits**

Pollutant	Manufacturer Emissions (g/hp·hr)	Short-Term Emissions (lb/hr)	Long-Term Emissions (tons/year)
Particulate Matter	0.08	0.326	<b>0.082</b>
PM <sub>10</sub>	0.08	0.326	<b>0.082</b>
PM <sub>2.5</sub>	0.08	0.326	<b>0.082</b>
Nitrogen Oxides	12.60	51.390	<b>12.847</b>
Sulfur Oxides	0.57	2.325	<b>0.581</b>
Carbon Monoxide	0.61	2.488	<b>0.622</b>
Volatile Organic Compounds	0.17	0.693	<b>0.173</b>

**Diesel Fuel Storage Tank**

Emissions estimated using TANKS 4.0.9.d show that VOC emissions from the diesel fuel storage tank are negligible (<0.002 tpy).

**REGULATORY APPLICABILITY:**

1. **Article XXI Requirements for Issuance:**

See Permit Application No. 0801, Section 5: Applicable Requirements. The requirements of Article XXI, Parts B and C for the issuance of minor modification installation permits have been met for this facility. Article XXI, Part D, Part E & Part H will have the necessary sections addressed individually.

2. **Testing Requirements:**

Testing is not required. However, the Department reserves the right to require additional testing if necessary in the future to assure compliance with the terms and conditions of Operating Permit No. 0801.

3. **New Source Performance Standards (NSPS):**

This facility is not subject to 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*. The generator was installed in 2000, before the applicability date of the NSPS.

4. **NESHAP and MACT Standards:**

The facility is subject to 40 CFR Part 63, Subpart ZZZZ – *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*. For emergency generators, only the following sections apply:

- **§63.6603(a), Table 2.d.4** – inspection and routine maintenance on filters, air cleaner, belts, and hoses.
- **§63.6605(b)** – proper operation and maintenance.
- **§63.6625(e)(3)** – requirement to operate and maintain according to manufacturer specifications.
- **§63.6625(f)** – requirement to install a non-resettable hour meter.
- **§63.6640(f)(2)** – allowance to operate up to 100 hrs/yr for maintenance checks and readiness testing.
- **§63.6640(f)(4)** – allowance to operate up to 50 hrs/yr for non-emergency situations.
- **§63.6655(f)** – recordkeeping of hours of operation.

5. **Emissions Inventory:**

This facility is not required to provide annual Emission Inventory reports per §2108.01.e of Article XXI because this facility does not have the potential to emit a total of:

- a. Twenty-five (25) or more tons of any pollutant regulated under Article XXI;
- b. Ten (10) or more tons of any single hazardous air pollutant; or
- c. Twenty-five (25) or more tons combined of hazardous air pollutants.

6. **Risk Management Plan; CAA Section 112(r):**

The facility is not required to have a risk management plan at this time because none of the regulated chemicals exceed the thresholds in the regulation.

**EMISSIONS SUMMARY:**

<b>POLLUTANT</b>	<b>ANNUAL EMISSION LIMIT (tons/year)*</b>
Particulate Matter (PM)	<b>0.082</b>
Particulate Matter <10 µm (PM <sub>10</sub> )	<b>0.082</b>
Particulate Matter <2.5 µm (PM <sub>2.5</sub> )	<b>0.082</b>
Nitrogen Oxides (NO <sub>x</sub> )	<b>12.847</b>
Sulfur Oxides (SO <sub>x</sub> )	<b>0.581</b>
Carbon Monoxide (CO)	<b>0.622</b>
Volatile Organic Compounds (VOCs)	<b>0.173</b>

\* A year is defined as any consecutive 12-month period.

**RECOMMENDATION:**

All applicable Federal, State, and County regulations have been addressed in the permit application and the facility was found to be in compliance. The operating permit for the Verizon Business facility at 2630 Liberty Commons should be approved with the emission limitations and terms & conditions in Operating Permit No. 0801.