REGION 3
PHILADELPHIA, PA 19103

Report Title:	Clean Air Act Inspection of Crown Castle		
Inspection Date(s):	11/28/2023		
Regulatory Program(s):	NSPS, SIP		
Company Name:	Crown Castle Inc.		
Facility Name:	Crown Castle		
Facility Location:	401 North Broad St. Philadelphia, PA		
Latitude:	39.959995	**Longitude:**	-75.16196
County/Parish:	Philadelphia County		
AFS/ICIS-Air Number:	PAPAM0004210110213		
Permit Number:	OP18-000147		
NAICS Code:	518210	**SIC:**	4899
DSBID #:	ECAD-101		

Facility Representatives: **Point of Contact**

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EPA Lead Inspector Signature SCOTT YANOS Digitally signed by SCOTT YANOS Date: 2024.01.25 10:00:30 -05'00' **Scott Yanos** **Date**

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DSBID #: ECAD-101

Supervisor Signature	KRISTEN HALL Digitally signed by KRISTEN HALL Date: 2024.01.25 10:15:57 -05'00'	
	Kristen Hall	**Date**

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I. Introduction

The United States Environmental Protection Agency (EPA) conducted a Clean Air Act (CAA) inspection at Crown Castle (Crown Castle or Facility) to verify compliance with applicable State and Federal regulations. The Philadelphia Air Management Services (Philadelphia AMS) was notified of the inspection on November 13, 2023, via email. On November 28, 2023, EPA attempted to notify the Facility of the planned inspection via phone but was unable to get in contact with Crown Castle.

The inspection included an evaluation of the Facility's processes and its compliance with the CAA. All information included in this report is the result of statements by the Facility representatives, materials shown to the inspectors by the Facility representatives, and/or documents provided by the Facility representatives to the inspectors at the time of, or subsequent to, the inspection. In addition, information gathered prior to the inspection from a review of EPA and State records may be included in Section A. Summary of the Facility.

A. Summary of the Facility

The Facility is located at 401 North Broad St, Philadelphia, PA. Crown Castle's primary business is communications infrastructure by providing cell towers for private companies, municipalities and emergency services but also providing network fiber connections. By being at the 401 North Broad Street they are co-located with other companies which provides an easy and convenient way to interface with the companies they provide communications services to as well as providing connections between companies.

The Facility received a Synthetic Minor Operating Permit (OP18-000147) from Philadelphia AMS issued on 10/30/2018.

Crown Castle is classified as Synthetic Minor Source for particulate matter (PM), Carbon Monoxide (CO), Hazardous Air Pollutants (HAPs) and Nitrogen Oxides (NOx). The Facility is subject to, or potentially subject to the following federal regulations:

- 40 CFR Part 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

B. Inspection Opening Conference

At 11:20 AM on November 28, 2023, EPA inspectors arrived at the Facility for a CAA Inspection and conducted a brief opening conference. Crown Castle was represented by Patrick Frisco, Senior Manager Engineer and Daniel Rosamilia, Facility Engineer. EPA inspectors, Scott Yanos, Bruce Augustine and Alex Everhart presented their credentials and explained the purpose of the visit was to conduct a CAA inspection to determine compliance with their permit and any applicable regulations.

Additionally, EPA informed the facility representatives of their right to claim any confidential business information (CBI). At that time, Patrick Frisco did not claim any photos or documentation as CBI.

II. Site Activity/Process Description

Crown Castle is a real estate investment trust that specializes in communications infrastructure. They provide cell towers and fiber network connections to private companies, municipalities, and emergency services, and also provide data center services when co-located like that of the facility at 401 North Broad Street, Philadelphia, PA. Being in a co-location provides redundancy within the network and allows for companies and others that they provide services for to interface with each other without additional infrastructure. Crown Castle has hundreds of small locations around the country but the Philadelphia Crown Castle location is one of two locations that provide service 24 hours, seven days a week, the other location is in Los Angeles, CA. The facility was under Cross Connection Solutions until being acquired by Crown Castle in 2017. Before this, Cross Connection Solutions was under Light Tower, which acquired the company from Sidara in 2013.

Crown Castle currently leases three suites on three different floors from Netrality. The three suites are all data centers and communications infrastructure. Primary power to these suites is supplied from the building by Netrality and brokered through the lease. In the case that the building loses power, Crown Castle has a battery bank that would activate to supply power to the suites Crown Castle leases. Should the battery bank fail, Crown Castle has seven diesel powered emergency generators to provide emergency power. All of the generators were acquired while Crown Castle was still Cross Connect Solutions. In addition, all air conditioners used to cool the data centers are provided by Crown Castle and are in a closed loop system with no chillers. They are all serviced in house and are not contracted out.

Each of the seven generators are on a preventative maintenance schedule with regular inspections performed. These inspections include looking for leaks and making sure that the volts and amps of the generators are maintained. The oil is changed yearly regardless of run time; the oil is not tested in any capacity. Crown Castle does not conduct any fuel sampling of the diesel fuel since they get certification from the supplier with each fuel delivery. The generators operate independently of one another and do not operate in parallel. This is due to the fact that each of the generators was installed by the different companies that have owned the facility over the years. Currently, Crown Castle does not have the infrastructure to go to less generators and each generator is set to take 40% of the load. The generators are each run for 15 minutes weekly for testing purposes. The time this weekly testing occurs is heavily dependent on the air quality and on receiving approval from Philadelphia AMS to run the 15-minute test during ozone season. Once a year, there is an annual “pull the plug” test that is ran at the behest of Netrality. All the emergency generators are run at the same time for eight hours to ensure every operator in the building is able to operate on their generators. The generators use selective catalyst reduction (SCR) as their means of NOx emission control. Each of the generators are

stack tested biannually and currently two generators are in the midst of having their SCR replaced. There is a bi-annual inspection conducted to see if the SCR catalyst bed needs to be replaced. Bolden is the vendor they work with when it comes to SCR replacement. Crown Castle indicated that there has been no major repair work or modifications on any of the generators. GZA GeoEnvironmental has been retained by Crown Castle to take care of the permit work in regard to the generators. The facility petitioned Philadelphia AMS to be re-classified from a Synthetic Minor to a Natural Minor in 2017 but the request was denied. GZA GeoEnvironmental has submitted a permit renewal to Philadelphia AMS.

The opening conference concluded at 12:28 PM.

III. Observations

EPA inspectors were led on a walkthrough of the Facility at 12:33 PM by Patrick Frisco of Crown Castle. EPA inspectors noted photos would be taken during the Facility walkthrough (Attachment 1).

The walkthrough for the facility consisted of inspecting each of the generators including recording engine hours and taking a photo of the engine plate. None of the generators was operating during the inspection. Each of the generators are diesel powered. The following are the engine hours recorded for each generator:

- **Gen 190-1:** Cummins Engine No. 6CTA8.3-G2; 277 Horsepower (hp); 533.1 engine hours; Construction date: 2003
- **Gen 405-1:** Caterpillar Engine No. 3306; 382 hp; 765 engine hours; Construction date: 2000
- **Gen 405-2:** Detroit Diesel Engine No. 6063HV35; 685 hp; 554.9 engine hours; Construction date: 2007
- **Gen 936-1:** Caterpillar Engine No. 340; 519 hp; 226 engine hours; Construction date: 1997
- **Gen 936-2:** Cummins Engine No. QSR50-G4-NR2; 2011.5 hp; 485.3 engine hours; Construction date 2007
- **Gen 450-1:** Mitsubishi Engine No. SI2H-PTA; 1367 hp; 571.9 engine hours; Construction date: 2001
- **Gen 450-2:** Cummins Engine No. QST30-G5-NR2; 1341 hp; 375 engine hours; Construction date: 2007

The walkthrough concluded at 1:16PM.

V. Closing Conference

After the records review, EPA inspectors, and Patrick Frisco had a brief closing conference to ask additional questions and discuss observations. The EPA inspectors noted that the investigation is on-going, and any areas of concern identified in the final report do not necessarily reflect a violation or deviation, rather, they are areas that will require further investigation. EPA also noted that they would

issue an inspection report within in 60 days, with a copy to the State. Simultaneously, EPA will perform a detailed review of records and may have additional questions. The inspection concluded at 1:21 PM.

The following have been identified as potential issues during the inspection. They are issues that require either further investigation by EPA or additional information or explanation by Crown Castle.

- Review compliance status of the permitted emergency generator with the regulatory requirements of Part 60, Subpart IIII- Standards of Performance for Stationary Compression Ignition Internal Combustion Engines and of Part 63, Subpart ZZZZ National Emission Standards for Stationary Reciprocating Internal Combustion Engines. This includes a review of the requirements detailed in 40 CFR Parts 60.4205(b),(d) and the Parts 63.6605, 63.6640 and 63.6645(f).

VI. List of Attachments

Attachment 1: Photo Log

Attachment 2: Crown Castle Inspection Sign- In Sheet