

# COVANTA

Covanta Delaware Valley, LP



**Application for Plan Approval  
for  
NOX Control Project  
Selective Non-Catalytic Reduction  
Air Pollution Control Device  
Permit Number 23-00004  
December 2022**



Covanta Delaware Valley, LP.

10 Highland Avenue

Chester, PA 19013

Tel: 610.497.8100

Fax: 610.497.8042

Submitted via PADEP OnBase System

December 19, 2022

Mr. James Rebarchak  
Southeast Region Air Program Manager  
Pennsylvania Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401

Subject: Covanta Delaware Valley, L.P.  
Delaware Valley Resource Recovery Facility (DVRRF)  
Title V Permit No. 23-00004  
RACT III Compliance Submittal and Plan Approval Application

Dear Mr. Rebarchak:

Pursuant to the requirements of 25 Pa Code Chapter 129 (Additional RACT Requirements for Major Sources of NO<sub>x</sub> and VOCs for the 2015 Ozone NAAQS, or RACT III), Covanta Delaware Valley, LP (Covanta) provides this notification of applicability and related documentation for the Delaware Valley Resource Recovery Facility (DVRRF) located at 10 Highland Avenue, Delaware County, Chester, Pennsylvania. Specifically, this submittal fulfills the applicable requirements of the RACT III rule, as more fully described below.

25 Pa Code 129.115(a)- Notification of Compliance.

The following is provided to demonstrate compliance with 25 Pa Code 129.115(a).

- The DVRRF is subject to the presumptive RACT III requirements for municipal waste combustors (25 Pa Code 112(f)).
- The RACT III requirement will apply to each of the following Source ID Nos.: 101, 102, 103, 104, 105, and 106.
- The applicable RACT III presumptive NO<sub>x</sub> emission limit is 110ppm @7% O<sub>2</sub>, daily average.
- This emission limitation will be met through the installation of Selective Non-Catalytic Reaction (SNCR). A Plan Approval application for the installation and operation of SNCR are contained in Attachment A.



25 Pa Code 129.112(n)- alternate RACT compliance schedule

The RACT III compliance deadline of December 31, 2022 cannot be achieved for the DVRRF as installation of SNCR is required to meet the applicable NOx emission limitation. The following information is provided to demonstrate compliance with 25 Pa Code 129.112(n).

- SNCR will be installed on Source ID Nos 101, 102, 103, 104, 105, and 106 in order to meet the presumptive RACT limit.
- A description of the SNCR system is included in the attached Plan Approval application.
- The DVRRF proposes an alternate completion schedule of 24 months from date of written RACT approval and issuance of required PADEP permits

Due to the potential for supply chain and fabrication delays, Covanta is requesting a variance to commence construction before the issuance of the Plan Approval. This variance is requested to ensure that the DVRRF can comply with our proposed completion date of 24 months from the issuance of required permits.

On an interim basis, Covanta, as required by 25 Pa Code 129.112(n)(2)(iv), proposes to comply with a daily NOx emission limit of 165 ppmvd@7% oxygen. This interim standard represents a reduction from the current RACT II NOx limit and has been demonstrated as reasonably achievable without significant facility modifications during the transition period to the above-referenced target schedule.

Note that this proposed schedule is subject to modification due to uncontrollable circumstances related to ongoing supply chain disruptions which may limit the timing and/or availability of key equipment components. Additionally, this schedule reflects the minimum time necessary for installation and optimization of SNCR to ensure effective implementation.

The DVRRF is the first municipal waste combustor using rotary combustor technology to propose installation of SNCR. We have proceeded diligently to conduct a SNCR field-testing program, consistent the PADEP Request for Determination Approval granted in July 2021, which preceded the issuance of the initial RACT III rule proposal. As reviewed with the Department during the 10/13/22 pre-application meeting, over 55 individual test runs were completed over a nine-week period using variable injection locations, spray patterns and ammonia quantities to assess compliance with the RACT III NOx limit. The result of that testing program confirmed that SNCR is capable of meeting the presumptive RACT NOx limit for the DVRRF.

We look forward to working with the Department to ensure timely implementation of RACT III requirements at Covanta. Lastly, the permit fee in the amount of \$2,500 is being sent separately to Southeast Office.

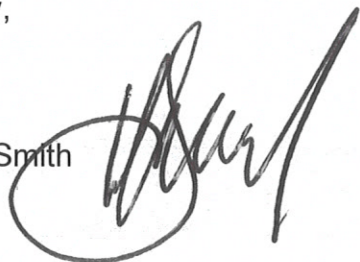
Covanta Delaware Valley  
NOX RACT Compliance Submittal  
December 19, 2022

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If you have any questions regarding the information provided, please contact me at [lsmith2@covanta.com](mailto:lsmith2@covanta.com) or Kim Bradford at [kbradford@covanta.com](mailto:kbradford@covanta.com).

Sincerely,

Larry A. Smith

A handwritten signature in black ink, appearing to read 'Larry A. Smith', is written over a circular stamp or seal.

Attachment A- Plan Approval permit application

cc: Janine Tolluch-Reid (DEP Southeast Regional Office w/o attachments)  
Kevin McLemore (DEP Southeast Regional Office w/o attachments)  
Permitting Section, USEPA Region 3  
Joseph Walsh, Covanta  
File- Delaware Valley Air Quality eFiles



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# COVANTA

**SECTION 1**  
**Project Narrative**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**

**Permit Number 23-00004**

**December 2022**



**PROJECT NARRATIVE and DESCRIPTION**  
**COVANTA DELAWARE VALLEY**  
**NO<sub>x</sub> CONTROL PROJECT**  
**AQUEOUS AMMONIA SNCR APCD**

An aqueous ammonia Selective Non-Catalytic Reduction (SNCR) system is being designed and installed at Covanta Delaware Valley facility located in Chester, Pennsylvania in order to meet the requirements of 25 Pa Code Chapter 129 (Additional RACT Requirements for Major Sources of NO<sub>x</sub> and VOCs for the 2015 Ozone NAAQS, or RACT III). The new system shall be based on the injection of aqueous ammonia and carrier water through six injection nozzles in the first pass of each rotary combustor (Source ID Nos. 101-106).

Aqueous ammonia in a water solution of approximately 19% ammonia by weight will be delivered and stored in a new aboveground storage tank, located in a new secondary containment dike. The low % of ammonia will not trigger the additional requirements of the USEPA Accidental Release Prevention regulations. However, compliance with PADEP storage tank requirements (25 Pa Code Chapter 245) relative to aqueous ammonia storage will be followed. In addition to this Plan Approval application, permit approvals from the Storage Tank and Bureau of Solid Waste Permit will be submitted separately.

The SNCR system consists of an aqueous ammonia storage tank, aqueous ammonia feed pumps, carrier water supply from the boiler de-mineralized make-up water system, nozzle purge air blower system, aqueous ammonia injection nozzles and an automatic control system.

The SNCR system is designed for a maximum flow of 30 gallons per hour of 19% aqueous ammonia per combustor. Control will be accomplished through the facility's distributive control system (DCS) which will control reagent flows using the NO<sub>x</sub> signal from the facility's Continuous Emission Monitors (CEMS). The system is designed to meet the RACT III NO<sub>x</sub> emission limit of 110ppm@7%O<sub>2</sub>, daily average. Compliance with this limit will be monitored using existing PADEP-approved CEMS.

**SECTION 2**  
**General Information Form**  
**(GIF)**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**  
**Permit Number 23-00004**  
**December 2022**





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

## GENERAL INFORMATION FORM -- AUTHORIZATION APPLICATION APPLICANT'S CHECKLIST

This final checklist is to assist the applicant in assuring that all requests for responses, contacts, additional documentation, etc. have been addressed. Please check the following list to make sure that you have included all the required information. Failure to provide all of the requested information will delay the processing of the application and may result in the application being placed on hold with no action, or will be considered withdrawn and the application file closed. This applicant's checklist need not be returned to DEP with your completed application.

REQUIREMENTS	
<input checked="" type="checkbox"/>	<b>1. ATTACHMENTS.</b> The completion of the GIF may require the submission of some or all of the following. Where appropriate, include the appropriate attachment(s) with the completed GIF.
<input checked="" type="checkbox"/>	<b>a) Site Information, Written Directions to Site</b> – Attach additional sheets as necessary. See Section 8.1
<input checked="" type="checkbox"/>	<b>b) Facility Information, Latitude/Longitude</b> – Attach additional sheets as necessary.
<input checked="" type="checkbox"/>	<b>c) Project Information, Project Description</b> – Attach additional sheets as necessary.
<input checked="" type="checkbox"/>	<b>d) Project Information, Time Schedules</b> -- Attach additional sheets as necessary.
<input type="checkbox"/>	<b>e) Land Use Information</b> – Please attached completed County and Municipal Land Use Letters. If County and Municipal Land Use Letters are not included, please attach documentation indicating zoning approval (for early opt-out option), or certified mail receipts indicating that requests for County and Municipal Land Use Letters were sent to the county and municipality. For more information, see GIF Instructions and the Department's Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Authorizations for Facilities and Infrastructure – Document ID: 012-0200-001.
<input type="checkbox"/>	<b>f) Coordination Information</b> - If land is disturbed, it may be the applicant's responsibility to also notify the PA Historical and Museum Commission, Bureau of Historic Preservation, 400 North Street, Floor 2, Harrisburg, PA 17120-0093, (717) 787-3362.
	PHMC notification is required for construction activities that have not been exempted under <a href="#">DEP's Policy for PHMC and DEP Coordination During Permit Application Review and Evaluation of Historic Resources</a> :
	For additional information, see Project Review Form instructions to determine whether submission of information to PHMC is required for this permit application.
<input type="checkbox"/>	<b>g) Coordination Information, Question 9.0.1</b> – Attach copy – Act 537 Approval Letter. <u>Note</u> : Approval required prior to 105/NPDES approval.
<input type="checkbox"/>	<b>h) Coordination Information, Question 16.0.2</b> – Attach copy – Public Water Supplier's Agreement Letter to Serve the Project.
<input checked="" type="checkbox"/>	<b>2. CONTACTS MADE.</b> According to information provided in the Coordination Information section, the appropriate DEP office may need to be contacted; as well as some agencies outside DEP. See the Instructions document for appropriate contact per coordination question.
	In addition to contacts referenced above, prior to proceeding with any project, DEP encourages applicants to be in touch with municipal and county governments to get information on and secure, if possible, any local permits or approvals that might be required for the project. By doing so, potential conflicts at the local level can be resolved prior to application submission to DEP.
<input checked="" type="checkbox"/>	<b>3. BEFORE YOU DIG -- CONTACT.</b> Pennsylvania One Call System at 1-800-242-1776.
<input checked="" type="checkbox"/>	<b>4. APPLICATION SUBMITTED.</b> Application has been completed and properly signed according to instructions and type codes; and will be submitted to the appropriate DEP office.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

## GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This form is used by the Department of Environmental Protection (DEP) to inform our programs regarding what other DEP permits or authorizations may be needed for the proposed project or activity. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the DEP.

Related ID#s (If Known)		DEP USE ONLY
Client ID#	94120	Date Received & General Notes
Site ID#	456217	
Facility ID#	484329	
APS ID#		
Auth ID#	1338439	

### CLIENT INFORMATION

DEP Client ID#	Client Type / Code	Dun & Bradstreet ID#
94120		129835265
Legal Organization Name or Registered Fictitious Name		Employer ID# (EIN) Is the EIN a SSN?
Covanta Delaware Valley, LP		76-0531017 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NO
State of Incorporation or Registration of Fictitious Name	<input type="checkbox"/> Corporation <input type="checkbox"/> LLC <input type="checkbox"/> Partnership <input type="checkbox"/> LLP <input checked="" type="checkbox"/> LP <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Association/Organization <input type="checkbox"/> Estate/Trust <input type="checkbox"/> Other	
Delaware		
Individual Last Name	First Name	MI Suffix
Additional Individual Last Name	First Name	MI Suffix
Mailing Address Line 1	Mailing Address Line 2	
10 Highland Ave		
Address Last Line – City	State	ZIP+4 Country
Chester	PA	19013
Client Contact Last Name	First Name	MI Suffix
Smith	Larry	A
Client Contact Title	Phone	Ext Cell Phone
Facility Manager	610-497-8100	
Email Address	FAX	
lsmith2@covanta.com		

### SITE INFORMATION

DEP Site ID#	Site Name				
456217	Delaware Valley Resource Recovery Facility				
EPA ID#	Estimated Number of Employees to be Present at Site				
PAD987388881	107				
Description of Site					
Energy-from-Waste facility that processes municipal and approved residual waste to generate electricity and recover metals					
Tax Parcel ID(s): 4911013110, 49110131090, 49110131093, 49110131095, 49110131097					
County Name(s)	Municipality(ies)	City	Boro	Twp	State
Delaware	Chester	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PA
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Site Location Line 1	Site Location Line 2				
10 Highland Ave					
Site Location Last Line – City	State	ZIP+4			
Chester	PA	19013			
Detailed Written Directions to Site					



From the PADEP SE Regional Office, Take I-476 South towards Chester for approximately 22 miles. Merge onto 1-96 S toward Chester. Take exit 4 for US-322 E toward New Jersey. Continue onto US-322 E. Take the PA-291 exit toward Chester/Waterfront. Turn left at right onto PA-291 (2<sup>nd</sup> Street). Take PA-291 to Harwick Street. Turn left onto Harwick Street. Cross the railroad tracks and enter the Covanta Delaware Valley facility via the visitors entrance.

<b>Site Contact Last Name</b> Smith	<b>First Name</b> Larry	<b>MI</b> A	<b>Suffix</b>
<b>Site Contact Title</b> Facility Manager		<b>Site Contact Firm</b>	
<b>Mailing Address Line 1</b> 10 Highland Ave		<b>Mailing Address Line 2</b>	
<b>Mailing Address Last Line – City</b> Chester		<b>State</b> PA	<b>ZIP+4</b> 19013
<b>Phone</b> 610-491-8100	<b>Ext</b>	<b>FAX</b>	<b>Email Address</b> lsmith2@covanta.com
<b>NAICS Codes</b> (Two- & Three-Digit Codes – List All That Apply) 56			<b>6-Digit Code</b> (Optional) 562213

**Client to Site Relationship**  
Covanta Delaware Valley, L.P. owns and operate the Delaware Valley Resource Recovery Facility

### FACILITY INFORMATION

<b>Modification of Existing Facility</b>	<b>Yes</b>	<b>No</b>
1. Will this project modify an existing facility, system, or activity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Will this project involve an addition to an existing facility, system, or activity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If "Yes", check all relevant facility types and provide DEP facility identification numbers below.		

Facility Type	DEP Fac ID#	Facility Type	DEP Fac ID#
<input checked="" type="checkbox"/> Air Emission Plant	484329	<input type="checkbox"/> Industrial Minerals Mining Operation	
<input type="checkbox"/> Beneficial Use (water)		<input type="checkbox"/> Laboratory Location	
<input type="checkbox"/> Blasting Operation		<input type="checkbox"/> Land Recycling Cleanup Location	
<input type="checkbox"/> Captive Hazardous Waste Operation		<input type="checkbox"/> Mine Drainage Treatment / Land Recycling Project Location	
<input type="checkbox"/> Coal Ash Beneficial Use Operation		<input type="checkbox"/> Municipal Waste Operation	
<input type="checkbox"/> Coal Mining Operation		<input type="checkbox"/> Oil & Gas Encroachment Location	
<input type="checkbox"/> Coal Pillar Location		<input type="checkbox"/> Oil & Gas Location	
<input type="checkbox"/> Commercial Hazardous Waste Operation		<input type="checkbox"/> Oil & Gas Water Poll Control Facility	
<input type="checkbox"/> Dam Location		<input type="checkbox"/> Public Water Supply System	
<input type="checkbox"/> Deep Mine Safety Operation -Anthracite		<input type="checkbox"/> Radiation Facility	
<input type="checkbox"/> Deep Mine Safety Operation -Bituminous		<input type="checkbox"/> Residual Waste Operation	
<input type="checkbox"/> Deep Mine Safety Operation -Ind Minerals		<input checked="" type="checkbox"/> Storage Tank Location	
<input type="checkbox"/> Encroachment Location (water, wetland)		<input type="checkbox"/> Water Pollution Control Facility	
<input type="checkbox"/> Erosion & Sediment Control Facility		<input type="checkbox"/> Water Resource	
<input type="checkbox"/> Explosive Storage Location		<input type="checkbox"/> Other:	

<b>Latitude/Longitude Point of Origin</b> City of Chester	<b>Latitude</b>			<b>Longitude</b>		
	<b>Degrees</b> 39	<b>Minutes</b> 49	<b>Seconds</b> 38	<b>Degrees</b> 75	<b>Minutes</b> 23	<b>Seconds</b> 27
<b>Horizontal Accuracy Measure</b>	Feet --or-- Meters					
<b>Horizontal Reference Datum Code</b>	<input type="checkbox"/> North American Datum of 1927 <input checked="" type="checkbox"/> North American Datum of 1983 <input type="checkbox"/> World Geodetic System of 1984					
<b>Horizontal Collection Method Code</b>						
<b>Reference Point Code</b>						
<b>Altitude</b>	Feet --or-- Meters					
<b>Altitude Datum Name</b>	<input type="checkbox"/> The National Geodetic Vertical Datum of 1929 <input type="checkbox"/> The North American Vertical Datum of 1988 (NAVD88)					
<b>Altitude (Vertical) Location Datum Collection Method Code</b>						
<b>Geometric Type Code</b>						
<b>Data Collection Date</b>						
<b>Source Map Scale Number</b>	Inch(es)		=	Feet		

--or-- Centimeter(s) = Meters

## PROJECT INFORMATION

### Project Name

Selective Non-Catalytic Reduction (SNCR) Air Pollution Control Device (APCD) Installation

### Project Description

The purpose of this project is to install SNCR APCD on all six combustor units at Covanta Delaware to comply with the RACT Requirements for Major Sources of NOX and VOC regulation finalized on November 12, 2022

### Project Consultant Last Name

Dobak

### First Name

Ashley

### MI

### Suffix

### Project Consultant Title

Managing Engineer

### Consulting Firm

Barton & Loguidice, DPC

### Mailing Address Line 1

3901 Hartzdale Drive

### Mailing Address Line 2

### Address Last Line – City

### State

### ZIP+4

### Phone

717-737-8326

### Ext

### FAX

### Email Address

adobak@bartonandloguidice.com

### Time Schedules

Upon receipt of permits

### Project Milestone (Optional)

Commencement of construction

24 months after start of construction

System startup and commissioning

1. Is the project located in or within a 0.5-mile radius of an Environmental Justice community as defined by DEP? ☒ Yes ☐ No

To determine if the project is located in or within a 0.5-mile radius of an environmental justice community, please use the online [Environmental Justice Areas Viewer](#).

2. Have you informed the surrounding community prior to submitting the application to the Department? ☒ Yes ☐ No

**Method of notification:** Covanta has reached out the PADEP EJ coordinator regarding this action. We are also actively engaging the community with elected/appointed officials via meetings and written notifications. Planning for community outreach meeting(s) is underway.

3. Have you addressed community concerns that were identified? ☐ Yes ☐ No ☒ N/A

If no, please briefly describe the community concerns that have been expressed and not addressed.

Due to the required RACT III timeline, Covanta will obtain feedback from the community regarding this project in late 4Q22 and early 1Q23.

4. Is your project funded by state or federal grants? ☐ Yes ☒ No

**Note:** If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.

Aspect of Project Related to Grant

Grant Source: \_\_\_\_\_

Grant Contact Person: \_\_\_\_\_

Grant Expiration Date: \_\_\_\_\_

5. Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions) ☐ Yes ☒ No

**Note:** If "No" to Question 5, the application is not subject to the Land Use Policy.

If "Yes" to Question 5, the application is subject to this policy and the Applicant should answer the additional questions in the Land Use Information section.

### LAND USE INFORMATION

**Note:** Applicants should submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

- |    |   |                          |     |                          |    |
|----|---|--------------------------|-----|--------------------------|----|
| 1. | Is there an adopted county or multi-county comprehensive plan?  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 2. | Is there a county stormwater management plan?   | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 3. | Is there an adopted municipal or multi-municipal comprehensive plan?  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 4. | Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
- Note:** If the Applicant answers "No" to either Questions 1, 3 or 4, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 5 and 6 below.  
If the Applicant answers "Yes" to questions 1, 3 and 4, the Applicant should respond to questions 5 and 6 below.
- |    |  |                          |     |                          |    |
|----|--|--------------------------|-----|--------------------------|----|
| 5. | Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? If zoning approval has been received, attach documentation. | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| 6. | Have you attached Municipal and County Land Use Letters for the project?   | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

### COORDINATION INFORMATION

**Note:** The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 utilizing the [Project Review Form](#).

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

- |     |   |                          |     |                                     |    |
|-----|---|--------------------------|-----|-------------------------------------|----|
| 1.0 | Is this a coal mining project? If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.   | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| 1.1 | Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?   | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 1.2 | Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?   | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 1.3 | Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?   | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 1.4 | For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?   | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 1.5 | Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet? | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 1.6 | Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?  | <input type="checkbox"/> | Yes | <input type="checkbox"/>            | No |
| 2.0 | Is this a non-coal (industrial minerals) mining project? If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.   | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

2.1	Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.2	Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.3	Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.4	For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
2.5	Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.0	Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well? If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
3.1	Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.2	Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system? If "Yes", discuss in <i>Project Description</i> .	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
3.3	Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0	Will the project involve a construction activity that results in earth disturbance? If "Yes", specify the total disturbed acreage.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
4.0.1	Total Disturbed Acreage				
4.0.2	Will the project discharge or drain to a special protection water (EV or HQ) or an EV wetland?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
4.0.3	Will the project involve a construction activity that results in earth disturbance in the area of the earth disturbance that are contaminated at levels exceeding residential or non-residential medium-specific concentrations (MSCs) in 25 Pa. Code Chapter 250 at residential or non-residential construction sites, respectively?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.0	Does the project involve any of the following: water obstruction and/or encroachment, wetland impacts, or floodplain project by the Commonwealth/political subdivision or public utility? If "Yes", respond to 5.1-5.7. If "No", skip to Question 6.0.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
5.1	Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No



5.2	<b>Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.3	<b>Floodplain Projects by the Commonwealth, a Political Subdivision of the Commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.4	<b>Is your project an interstate transmission natural gas pipeline?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.5	<b>Does your project consist of linear construction activities which result in earth disturbance in two or more DEP regions AND three or more counties?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.6	<b>Does your project utilize Floodplain Restoration as a best management practice for Post Construction Stormwater Management?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
5.7	<b>Does your project utilize Class V Gravity / Injection Wells as a best management practice for Post Construction Stormwater Management?</b>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
6.0	<b>Will the project involve discharge of construction related stormwater to a dry swale, surface water, ground water or separate storm water system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
6.1	<b>Will the project involve discharge of industrial waste stormwater or wastewater from an industrial activity or sewage to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
7.0	<b>Will the project involve the construction and operation of industrial waste treatment facilities?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
8.0	<b>Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations? If “Yes”, indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the <i>Project Description</i>, where applicable.</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>8.0.1 Estimated Proposed Flow (gal/day)</b>				
9.0	<b>Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If “Yes” attach the approval letter. Approval required prior to 105/NPDES approval.</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
10.0	<b>Is this project for the beneficial use of biosolids for land application within Pennsylvania? If “Yes” indicate how much (i.e. gallons or dry tons per year).</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>10.0.1 Gallons Per Year (residential septage)</b>				
	<b>10.0.2 Dry Tons Per Year (biosolids)</b>				
11.0	<b>Does the project involve construction, modification or removal of a dam? If “Yes”, identify the dam.</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>11.0.1 Dam Name</b>				
12.0	<b>Will the project interfere with the flow from, or otherwise impact, a dam? If “Yes”, identify the dam.</b>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
	<b>12.0.1 Dam Name</b>				

13.0	Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
13.0.1	If "Yes", is the operation subject to the agricultural exemption in 35 P.S. § 4004.1?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
13.0.2	If the answer to 13.0.1 is "No", identify each type of emission followed by the estimated amount of that emission. Enter all types & amounts of emissions; separate each set with semicolons. Injection of ammonia to meet the RACT III presumptive emission limit of 110ppmvd@7% O2 on each combustion unit.				
14.0	Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year? If "Yes", check all proposed sub-facilities.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
14.0.1	Number of Persons Served				
14.0.2	Number of Employee/Guests				
14.0.3	Number of Connections				
14.0.4	Sub-Fac: Distribution System	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.5	Sub-Fac: Water Treatment Plant	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.6	Sub-Fac: Source	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.7	Sub-Fac: Pump Station	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.8	Sub Fac: Transmission Main	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
14.0.9	Sub-Fac: Storage Facility	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
15.0	Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0	Is your project to be served by an existing public water supply? If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
16.0.1	Supplier's Name				
16.0.2	Letter of Approval from Supplier is Attached	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
17.0	Will this project be served by on-lot drinking water wells?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0	Will this project involve a new or increased drinking water withdrawal from a river, stream, spring, lake, well or other water bod(ies)? If "Yes", reference Safe Drinking Water Program.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
18.0.1	Source Name				
19.0	Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste? If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
19.0.1	Type & Amount				
20.0	Will your project involve the removal of coal, minerals, contaminated media, or solid waste as part of any earth disturbance activities?	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0	Does your project involve installation of a field constructed underground storage tank? If "Yes", list each Substance & its Capacity. <b>Note:</b> Applicant may need a Storage Tank Site Specific Installation Permit.	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
21.0.1	Enter all substances & capacity of each; separate each set with semicolons.				

<b>22.0</b>	<b>Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility? If "Yes", list each Substance &amp; its Capacity. <u>Note:</u> Applicant may need a Storage Tank Site Specific Installation Permit.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>22.0.1</b>	<b>Enter all substances &amp; capacity of each; separate each set with semicolons.</b>	Ammonium Hydroxide (19% conc.), 35,000 gallons
<b>23.0</b>	<b>Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724? If "Yes", list each Substance &amp; its Capacity. <u>Note:</u> Applicant may need a Storage Tank Site Specific Installation Permit.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>23.0.1</b>	<b>Enter all substances &amp; capacity of each; separate each set with semicolons.</b>	1336-21-6 Ammonium Hydroxide (19% conc), 35,000 gallons
<b>24.0</b>	<b>Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons? If "Yes", list each Substance &amp; its Capacity. <u>Note:</u> Applicant may need a Storage Tank Site Specific Installation Permit.</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>24.0.1</b>	<b>Enter all substances &amp; capacity of each; separate each set with semicolons.</b>	
<b><u>NOTE:</u></b> If the project includes the installation of a regulated storage tank system, including diesel emergency generator systems, the project may require the use of a Department Certified Tank Handler. For a full list of regulated storage tanks and substances, please go to <a href="http://www.dep.pa.gov">www.dep.pa.gov</a> search term storage tanks		
<b>25.0</b>	<b>Will the intended activity involve the use of a radiation source?</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

### CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

For applicants supplying an EIN number: I am applying for a permit or authorization from the Pennsylvania Department of Environmental Protection (DEP). As part of this application, I will provide DEP with an accurate EIN number for the applicant entity. By filing this application with DEP, I hereby authorize DEP to confirm the accuracy of the EIN number provided with the Pennsylvania Department of Revenue. As applicant, I further consent to the Department of Revenue discussing the same with DEP prior to issuance of the Commonwealth permit or authorization.

Type or Print Name Larry A. Smith

Signature

Facility Manager

Title

12/19/2022

Date

**SECTION 3**  
**Incinerator Plan Approval for**  
**Installation of Air Pollution Control**  
**Device**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**

**Permit Number 23-00004**

**December 2022**





Submit in Triplicate

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY

**INCINERATOR**

**Application for Plan Approval to Construct, Modify or Reactivate an  
Air Contamination Source and/or Install an Air Cleaning Device**

This application must be submitted with the General Information Form (GIF).

**Before completing this form, read the instructions provided for the form.**

**Section A - Facility Name, Checklist And Certification**

Organization Name or Registered Fictitious Name/Facility Name: Covanta Delaware Valley, L.P.

DEP Client ID# (if known): 94120

Type of Review required and Fees:

- ☒ Source which is not subject to NSPS, NESHAPs, MACT, NSR and PSD: ..... \$ 2,500
- ☐ Source requiring approval under NSPS or NESHAPs or both: ..... \$
- ☐ Source requiring approval under NSR regulations: ..... \$
- ☐ Source requiring the establishment of a MACT limitation: ..... \$
- ☐ Source requiring approval under PSD: ..... \$

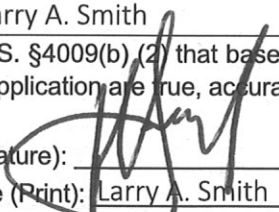
**Applicant's Checklist**

**Check the following list to make sure that all the required documents are included.**

- ☒ **General Information Form (GIF)**
- ☒ **Incinerator Plan Approval Application**
- ☒ **Compliance Review Form** or provide reference of most recently submitted compliance review form for facilities submitting on a periodic basis: December 13, 2022
- ☒ **Copy and Proof of County and Municipal Notifications**
- ☒ **Permit Fees**
- ☒ **Addendum A: Source Applicable Requirements** (only applicable to existing Title V facility)

**Certification of Truth, Accuracy and Completeness by a Responsible Official**

I, Larry A. Smith, certify under penalty of law in 18 Pa. C. S. A. §4904, and 35 P.S. §4009(b) (2) that based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate and complete.

(Signature): 

Name (Print): Larry A. Smith

Date: December 19, 2022

Title: Facility Manager

**OFFICIAL USE ONLY**

Application No. \_\_\_\_\_ Unit ID \_\_\_\_\_ Site ID \_\_\_\_\_  
DEP Client ID #: \_\_\_\_\_ APS. ID \_\_\_\_\_ AUTH. ID \_\_\_\_\_  
Date Received \_\_\_\_\_ Date Assigned \_\_\_\_\_ Reviewed By \_\_\_\_\_  
Date of 1<sup>st</sup> Technical Deficiency \_\_\_\_\_ Date of 2<sup>nd</sup> Technical Deficiency \_\_\_\_\_  
Comments: \_\_\_\_\_



## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 1 (Source ID: 101)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
Rated Capacity 161,000 klbs/hr		Installation Date 04/18/1991

Type of Material Processed  
Municipal and Approved Residual Waste

#### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
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#### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
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#### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
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Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual	

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste See Section B Addendum
2. Percent mix of various waste
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.

### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg

Section B - Incinerator Information (Continued)	
<b>7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.</b>	238,774,047.64 BTU/hr
<b>8. Miscellaneous Information</b>	
<input checked="" type="checkbox"/> <b>Interlocking Devices or Controls</b> Describe The charging of waste to each combustor shall automatically cease through the following interlock system if: (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or, (B) The CO emissions exceed 600 ppm, corrected to 7% O2 on a dry basis of fifteen (15) minutes (waived during SU/SD), or, (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or, (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes	
<input type="checkbox"/> <b>Automatic Loading Device</b> Describe Not Applicable	
<b>Describe each proposed modification to an existing source.</b> Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NOx and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.	
<b>Identify and describe all fugitive emission points, any by-pass stacks if applicable.</b> The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.	
<b>Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.</b> Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.	
<b>Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable).</b> All six combustors are equipped with the following air pollution control devices: * Spray Dryer Absorber - to reduce Sulfur Dioxide (SO2) and Hydrochloric Acid (HCl) emissions; and * Baghouse - to reduce particulate and metals emissions This project is for the installation of SNCR to reduce NOX emissions.	
<b>Anticipated Milestones:</b> i. Expected commencement date of construction/reconstruction: <u>Upon receipt of all environmental permits</u> ii. Expected completion date of construction/reconstruction: <u>24 months after start of construction</u> iii. Anticipated date(s) of start-up: <u>24 months after start of construction</u>	

## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 2 (Source ID: 102)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
Rated Capacity 161,000 klbs/hr		Installation Date 04/18/1991

Type of Material Processed  
Municipal and Approved Residual Waste

### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
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### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
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### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
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Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
 If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual	

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste See Section B Addendum
2. Percent mix of various waste
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.

### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg



### Section B - Incinerator Information (Continued)

**7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.** 238,774,047.64 BTU/hr

**8. Miscellaneous Information**

☒ Interlocking Devices or Controls  
Describe

The charging of waste to each combustor shall automatically cease through the following interlock system if:

- (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or,
- (B) The CO emissions exceed 600 ppm, corrected to 7% O<sub>2</sub> on a dry basis of fifteen (15) minutes (waived during SU/SD), or,
- (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or,
- (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes

☐ Automatic Loading Device  
Describe

Not Applicable

**Describe each proposed modification to an existing source.**

Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NO<sub>x</sub> and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.

**Identify and describe all fugitive emission points, any by-pass stacks if applicable.**

The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.

**Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.**

Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.

**Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable).**

All six combustors are equipped with the following air pollution control devices:

- \* Spray Dryer Absorber - to reduce Sulfur Dioxide (SO<sub>2</sub>) and Hydrochloric Acid (HCl) emissions; and
- \* Baghouse - to reduce particulate and metals emissions

This project is for the installation of SNCR to reduce NO<sub>x</sub> emissions.

**Anticipated Milestones:**

- |   |  |
|---|--|
| i. Expected commencement date of construction/reconstruction: | <u>Upon receipt of all environmental permits</u> |
| ii. Expected completion date of construction/reconstruction:  | <u>24 months after start of construction</u>     |
| iii. Anticipated date(s) of start-up:                         | <u>24 months after start of construction</u>     |

## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 3 (Source ID: 103)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
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Rated Capacity 161,000 klbs/hr	Installation Date 04/18/1991
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Type of Material Processed  
Municipal and Approved Residual Waste

#### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
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#### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
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#### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
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Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
 If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
--	---	----------------------------------

Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual
--	---

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste
2. Percent mix of various waste See Section B Addendum
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.

### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg

Section B - Incinerator Information (Continued)	
<b>7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.</b>	238,774,047.64 BTU/hr
<b>8. Miscellaneous Information</b>	
<input checked="" type="checkbox"/> <b>Interlocking Devices or Controls</b> Describe The charging of waste to each combustor shall automatically cease through the following interlock system if: (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or, (B) The CO emissions exceed 600 ppm, corrected to 7% O2 on a dry basis of fifteen (15) minutes (waived during SU/SD), or, (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or, (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes	
<input type="checkbox"/> <b>Automatic Loading Device</b> Describe Not Applicable	
Describe each proposed modification to an existing source. Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NOx and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.	
Identify and describe all fugitive emission points, any by-pass stacks if applicable. The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.	
Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions. Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.	
Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable). All six combustors are equipped with the following air pollution control devices: * Spray Dryer Absorber - to reduce Sulfur Dioxide (SO2) and Hydrochloric Acid (HCl) emissions; and * Baghouse - to reduce particulate and metals emissions This project is for the installation of SNCR to reduce NOX emissions.	
Anticipated Milestones: i. Expected commencement date of construction/reconstruction: <u>Upon receipt of all environmental permits</u> ii. Expected completion date of construction/reconstruction: <u>24 months after start of construction</u> iii. Anticipated date(s) of start-up: <u>24 months after start of construction</u>	

## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 4 (Source ID: 104)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
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Rated Capacity 161,000 klbs/hr	Installation Date 04/18/1991
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Type of Material Processed  
Municipal and Approved Residual Waste

#### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
-----------------	----------------	------------------	--------------------

#### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
----------------------------	---------	----------	----------

#### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
-----------------------------	-----------	-----------	------------

Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
 If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
--	---	----------------------------------

Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual
--	---

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste See Section B Addendum
2. Percent mix of various waste
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.



### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg

### Section B - Incinerator Information (Continued)

**7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.** 238,774,047.64 BTU/hr

**8. Miscellaneous Information**

☒ Interlocking Devices or Controls  
Describe

The charging of waste to each combustor shall automatically cease through the following interlock system if:

- (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or,
- (B) The CO emissions exceed 600 ppm, corrected to 7% O<sub>2</sub> on a dry basis of fifteen (15) minutes (waived during SU/SD), or,
- (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or,
- (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes

☐ Automatic Loading Device  
Describe

Not Applicable

**Describe each proposed modification to an existing source.**

Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NO<sub>x</sub> and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.

**Identify and describe all fugitive emission points, any by-pass stacks if applicable.**

The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.

**Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.**

Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.

**Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable).**

All six combustors are equipped with the following air pollution control devices:

- \* Spray Dryer Absorber - to reduce Sulfur Dioxide (SO<sub>2</sub>) and Hydrochloric Acid (HCl) emissions; and
- \* Baghouse - to reduce particulate and metals emissions

This project is for the installation of SNCR to reduce NO<sub>x</sub> emissions.

**Anticipated Milestones:**

- |   |  |
|---|--|
| i. Expected commencement date of construction/reconstruction: | <u>Upon receipt of all environmental permits</u> |
| ii. Expected completion date of construction/reconstruction:  | <u>24 months after start of construction</u>     |
| iii. Anticipated date(s) of start-up:                         | <u>24 months after start of construction</u>     |

## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 5 (Source ID: 105)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
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Rated Capacity 161,000 klbs/hr	Installation Date 04/18/1991
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Type of Material Processed  
Municipal and Approved Residual Waste

#### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
-----------------	----------------	------------------	--------------------

#### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
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#### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
-----------------------------	-----------	-----------	------------

Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
 If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
--	---	----------------------------------

Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual
--	---

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste See Section B Addendum
2. Percent mix of various waste
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.

### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg

Section B - Incinerator Information (Continued)	
<b>7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.</b>	238,774,047.64 BTU/hr
<b>8. Miscellaneous Information</b>	
<input checked="" type="checkbox"/> <b>Interlocking Devices or Controls</b> Describe The charging of waste to each combustor shall automatically cease through the following interlock system if: (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or, (B) The CO emissions exceed 600 ppm, corrected to 7% O2 on a dry basis of fifteen (15) minutes (waived during SU/SD), or, (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or, (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes	
<input type="checkbox"/> <b>Automatic Loading Device</b> Describe Not Applicable	
Describe each proposed modification to an existing source. Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NOx and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.	
Identify and describe all fugitive emission points, any by-pass stacks if applicable. The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.	
Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions. Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.	
Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable). All six combustors are equipped with the following air pollution control devices: * Spray Dryer Absorber - to reduce Sulfur Dioxide (SO2) and Hydrochloric Acid (HCl) emissions; and * Baghouse - to reduce particulate and metals emissions This project is for the installation of SNCR to reduce NOX emissions.	
Anticipated Milestones: i. Expected commencement date of construction/reconstruction: <u>Upon receipt of all environmental permits</u> ii. Expected completion date of construction/reconstruction: <u>24 months after start of construction</u> iii. Anticipated date(s) of start-up: <u>24 months after start of construction</u>	



## Section B - Incinerator Information

### 1. Incinerator

- ☒ Municipal Solid Waste
 ☐ Hospital Medical Waste
 ☐ Hazardous Waste  
☐ Sewage Sludge
 ☐ Commercial/Industrial Solid Waste  
☒ Other Approved Residual Waste

Operator's Designation: Rotary Combustor 6 (Source ID: 106)

Manufacturer Westinghouse	Model No. RC170	Type of Incinerator Municipal Waste
Rated Capacity 161,000 klbs/hr		Installation Date 04/18/1991

Type of Material Processed  
Municipal and Approved Residual Waste

#### Maximum Operating Schedule

Hours/Day 24	Days/Week 7	Days/Year 365	Hours/Year 8760
-----------------	----------------	------------------	--------------------

#### Operational restrictions existing or requested, if any (e.g., bottlenecks or voluntary restrictions to limit PTE)

Capacity (specify units)

Per Hour Not Applicable	Per Day	Per Week	Per Year
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#### Operating Schedule

Hours/Day Not Applicable	Days/Week	Days/Year	Hours/Year
-----------------------------	-----------	-----------	------------

Seasonal variations (Months) From \_\_\_\_\_ to \_\_\_\_\_  
 If variations exist, describe them

### 2. Waste

Type of Waste Municipal and Approved Residual Waste	Density of Waste (lbs/cu.yd.) Varies	Water Content of Waste Varies
Btu Content as Fired 4,500 - 5,000 BTU/lb	Daily Amount <input checked="" type="checkbox"/> Estimated <input type="checkbox"/> Actual	

Attach a description of how the waste feed rate will be continuously monitored. See Section B Addendum

Provide detailed information on the following if available:

1. Source of waste See Section B Addendum
2. Percent mix of various waste
3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb
4. Other information including radioactive material present to evaluate the type of emissions.

### Section B - Incinerator Information (Continued)

#### 3. Primary Combustion Chamber

Volume (Cu. Ft.) 17,040	Effective Grate/Hearth Area (sq. ft.) 696	Type of Grate/Hearth Rotary Combustor
% Excess Air 25%	% Air Applied as Over Fire Air 30%	% As Under Fire 70%
Ignition Burner Type and Fuel Natural Gas	Number of Burners 2	Capacity of Each Burner (Btu/Hr.) 55,000,000
Temperature Range (°F) 1100 to 2300		

#### 4. Secondary Combustion Chamber

Volume (cu.ft.) Not Applicable	Maximum Gas Velocity (ft./sec.)	Temperature range (°F) _____ to _____
Estimated gas residence time (sec). Attach calculations.		
Burner Type and Fuel Used	Number of Burners	Capacity of Each Burner (Btu/hr.)

#### 5. Fuel

##### a. Primary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	50,000 SCFH	4.698 X 10 <sup>6</sup> SCF	0.5 grain/100 SCF	0%	1,025 Btu/SCF
Other *					

##### b. Secondary Combustion Chamber

Type	Quantity Hourly	Annually	Sulfur	% Ash (Weight)	BTU Content
Oil Number <u>Not Applicable</u>	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Oil Number _____	GPH @ 60°F	X 10 <sup>3</sup> Gal	% by wt		Btu/Gal. & Lbs./Gal. @ 60 °F
Natural Gas	SCFH	X 10 <sup>6</sup> SCF	grain/100 SCF		Btu/SCF
Other *					

\*Note: Describe and furnish information separately for other fuels in Addendum B.

#### 6. Draft Controls

Barometric Damper	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Guillotine or Sliding Damper	Universal Vortex Pancake Damper
Induced Draft Fan Yes	Capacity (SCFM) 81,679 CFM @ 20.1 in. wg

### Section B - Incinerator Information (Continued)

**7. Total Heat Release Excluding Ash Pit in Btu/hr/cu.ft.** 238,774,047.64 BTU/hr

**8. Miscellaneous Information**

☒ Interlocking Devices or Controls  
Describe

The charging of waste to each combustor shall automatically cease through the following interlock system if:

- (A) The combustor temperature measured at the furnace roof, at the Department approved location drops below 650F , for a 15-minute period, or,
- (B) The CO emissions exceed 600 ppm, corrected to 7% O<sub>2</sub> on a dry basis of fifteen (15) minutes (waived during SU/SD), or,
- (C) The flue gas oxygen (measured upstream of control device) level drops below 3% (wet basis) for 15-minutes, or,
- (D) The opacity of the exhaust gases is equal to or greater than 10% for a period of 15 minutes

☐ Automatic Loading Device  
Describe

Not Applicable

**Describe each proposed modification to an existing source.**

Covanta is seeking a permit to install Selective Non-Catalytic Reaction (SNCR) Air Pollution Control Device on all six combustor units. The installation SNCR APCD is necessary for the facility to demonstrate compliance with 25 PA Code Chapt 121 and 129 Additional RACT Requirements for Major Sources of NO<sub>x</sub> and VOC for the 2015 Ozone NAAQS that became final on November 12, 2022.

**Identify and describe all fugitive emission points, any by-pass stacks if applicable.**

The combustor process do not have any permitted fugitive emission points and/or by-pass stacks.

**Describe how emissions will be minimized especially during start up, shut down, process upsets and/or disruptions.**

Emissions are minimized during start up, shut down, and malfunctions the utilization of written procedures and additional oversight by the facility senior operations team as required to ensure that the facility stays in compliance with all emission limits.

**Describe in detail with a schematic diagram of the control options adopted for all pollutants including particulates, acid gases, oxides of nitrogen, dioxins, and mercury (if applicable).**

All six combustors are equipped with the following air pollution control devices:

- \* Spray Dryer Absorber - to reduce Sulfur Dioxide (SO<sub>2</sub>) and Hydrochloric Acid (HCl) emissions; and
- \* Baghouse - to reduce particulate and metals emissions

This project is for the installation of SNCR to reduce NO<sub>x</sub> emissions.

**Anticipated Milestones:**

- |   |  |
|---|--|
| i. Expected commencement date of construction/reconstruction: | <u>Upon receipt of all environmental permits</u> |
| ii. Expected completion date of construction/reconstruction:  | <u>24 months after start of construction</u>     |
| iii. Anticipated date(s) of start-up:                         | <u>24 months after start of construction</u>     |

### Section C - Air Cleaning Device

#### 1. Precontrol Emissions\*

Pollutant	Maximum Emission Rate				Calculation/ Estimation Method
	Specify Units	Pounds/Hour	Hours/Year	Tons/Year	
PM					
PM <sub>10</sub>					
SO <sub>x</sub>					
CO					
NO <sub>x</sub>	180 ppm, 7% O <sub>2</sub>	82.15	8,760	360.21	CEMS & Emission Calc
VOC					
Others: (e.g., HAPs)	-----	-----	-----	-----	-----

\* These emissions must be calculated based on the requested operating schedule and/or process rate, e.g., operating schedule for maximum limits or restricted hours of operation and/or restricted throughput. Describe how the emission values were determined. Attach calculations. Section 3.3 For Calculations

### Section C - Air Cleaning Device (Continued)

7. ☐ Selective Catalytic Reduction (SCR)  
☒ Selective Non-Catalytic Reduction (SNCR)  
☐ Non-Selective Catalytic Reduction (NSCR)

#### Equipment Specifications

Manufacturer Covanta Engineering	Type Aqueous Ammonia System	Model No. Not Applicable
-------------------------------------	--------------------------------	-----------------------------

Design Inlet Volume (SCFM) 75,000	Design operating temperature (°F) 1,700
--------------------------------------	--

Is the system equipped with a process control for proper mixing/control of the reducing agent in gas stream? If yes, give details.

Yes. Aqueous ammonia will be metered based on continuous monitoring of NOX.

Attach efficiency and other pertinent information (e.g., ammonia, urea slip)

<10 ppmvd @ 7% O2 ammonia slip based on testing/analysis

#### Operating Parameters

Volume of gases handled (ACFM) 75,000 @ 1,700 °F

Operating temperature range for the SCR/SNCR/NSCR system (°F) From 1,500 °F To 1,700 °F

Reducing agent used, if any Ammonia Hydroxide (19% conc.)	Oxidation catalyst used, if any Not applicable
--	---

State expected range of usage rate and concentration.

15-25 GPH of 19% aqueous ammonia

Service life of catalyst Not Applicable	Ammonia/urea slip (ppm) <10 ppmvd @ 7% O2
--	--

Describe fully with a sketch giving locations of equipment, controls systems, important parameters and method of operation.

See Section 8 for drawings and schematics.

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements.

The control room will be alerted if the NOX target is not met or reagent flow is above target threshold.

#### Emissions Data

Pollutant	Inlet	Outlet	Removal Efficiency (%)
NOX	----	110 ppm @7% O2	39%

### Section C - Air Cleaning Device (Continued)

#### 10. Costs

Indicate cost associated with air cleaning device and its operating cost (attach documentation if necessary)

Device	Direct Cost	Indirect Cost	Total Cost	Operating Cost
SNCR	3.6 MM	---	3.6 MM	\$100K/year

#### 11. Miscellaneous

Describe in detail the method of dust/effluent removal, handling and disposal of dust, effluent, etc. from the air cleaning device including proposed methods of controlling fugitive emissions.

Not applicable for SNCR APCD

Attach manufacturer's performance guarantees and/or warranties for each of the major components of the control system (or complete system).

Not applicable. The SNCR is being designed and commissioned by Covanta's Engineering Department.

Attach the maintenance schedule for the control equipment and any part of the process equipment that if in disrepair would increase air contaminant emissions.

Maintenance of the system will be monitored via systems outputs in the central control room. Emission performance is monitored via PADEP approved CEMS.

### Section D - Additional Information

Will the construction, modification of the sources covered by this application increase emissions from other sources at the facility? If so, describe and quantify.

No emission increases from other sources are expected as the result of this project.

If this project is subject to any one of the following, attach a demonstration to show compliance with applicable standards.

- |  |                              |  |
|--|------------------------------|--|
| a. Prevention of Significant Deterioration permit (PSD), 40 CFR 52?  | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| b. New Source Review (NSR), 25 Pa. Code Chapter 127, Subchapter E?   | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| c. New Source Performance Standards (NSPS), 40 CFR Part 60?<br>(If Yes, which subpart) _____                             | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| d. National Emissions Standards for Hazardous Air Pollutants (NESHAPS),<br>40 CFR Part 61? (If Yes, which subpart) _____ | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| e. Maximum Achievable Control Technology (MACT) 40 CFR Part 63?<br>(If Yes, which part) _____                            | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |

Attach a demonstration showing that the emissions from any new sources will be the minimum attainable through the use of best available technology (BAT).

Not applicable

Provide emission increases and decreases in allowable (or potential) and actual emissions within the last five (5) years for applicable PSD pollutant(s) if the facility is an existing major facility (PSD purposes).

Not applicable





## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm@7% O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S01 - Combustor 1 Stack

List Source(s) or source ID exhausted to this stack:

S01 - Combustor 1 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @        RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm@7%O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S02 - Combustor 2 Stack

List Source(s) or source ID exhausted to this stack:

S02 - Combustor 2 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @        RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm@ 7% O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S03 - Combustor 3 Stack

List Source(s) or source ID exhausted to this stack:

S03 - Combustor 3 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @        RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm @ 7% O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S04 - Combustor 4 Stack

List Source(s) or source ID exhausted to this stack:

S04 - Combustor 4 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @ \_\_\_\_\_ RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm @ 7% O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S05 - Combustor 5 Stack

List Source(s) or source ID exhausted to this stack:

S05 - Combustor 5 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @ \_\_\_\_\_ RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.

## Section F - Flue and Air Contaminant Emission

### 1. Estimated Atmospheric Emissions\*

Pollutant	Maximum emission rate			Calculation/ Estimation Method
	units	lbs/hr	tons/yr.	
PM				
PM <sub>10</sub>				
SO <sub>x</sub>				
CO				
NO <sub>x</sub>	110 ppm @7% O <sub>2</sub>	50.21	220.27	CEMS & Emission Calc
VOC				
Others: List	-----	-----	-----	-----

\* These emissions must be calculated based on the choice of operating schedule adopted e.g., operating schedule for maximum limits or restricted hours of operation and /or restricted throughput.

### 2. Stack and Exhauster

Stack Designation/Number S06 - Combustor 6 Stack

List Source(s) or source ID exhausted to this stack:

S06 - Combustor 6 Stack

% of flow exhausted to stack:

100%

Stack height above grade (ft.)

Grade elevation (ft.) 308 Ft

Stack diameter (ft) or Outlet duct area (sq. ft.)

5.5 ft

Weather Cap

☐ YES ☒ NO

Distance of discharge to nearest property line (ft.). Locate on topographic map.

4,752 feet

Does stack height meet Good Engineering Practice (GEP)?

Yes

If modeling (estimating) of ambient air quality impacts is needed, attach a site plan with buildings and their dimensions and other obstructions.

Location of stack** Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
	39	49	31.0066	-75	23	40.1579

Stack exhaust

Volume 125,305 ACFM

Temperature 285 °F

Moisture 22 %

Indicate on an attached sheet the location of sampling ports with respect to exhaust fan, breeching, etc. Give all necessary dimensions.

Exhauster (attach fan curves) 16 in. of H<sub>2</sub>O 201 HP @ \_\_\_\_\_ RPM.

\*\* If the datum and collection method information and codes differ from those provided on the General Information Form-Authorization Application, provide the additional detail required by that form on a separate form.



## Section G - Attachments

Number and list all attachments submitted with this application below:

### SECTION 1 - PROJECT NARRATIVE & DESCRIPTION

1.1 - Project Narrative

### SECTION 2 - GIF

2.1 - GIF Checklist

2.2 - GIF

### SECTION 3 - PLAN APPROVAL APPLICATION

3.1 - Incinerator Plan Approval

3.2 - Section B Addendum Questions

3.3 - Plan Approval Support Calculations

3.4 - ID Fan Curve

### SECTION 4 - APCA REVIEW

4.1 - APCA Compliance Review Section

4.2 - APCA Compliance Review Support Documentation

### SECTION 5 - MUNICIPALITY NOTIFICATIONS

5.1 - Municipality Notification and Delivery Receipts

### SECTION 6 - PERMIT FEE

6.1 - Permit Fee Schedule

### SECTION 7 - ADDENDUM A

7.1 Addendum A Source Applicability Requirements

### SECTION 8 - MAPS AND DRAWINGS

8.1 - Directions and Map to Covanta Delaware Valley

**SECTION 3.2**  
**Incinerator Plan Approval B.2 – Waste Information**  
**Addendum Questions:**

**Describe how the waste feed rate will be continuously monitored.**

DVRRF has a maximum steam rate not to exceed 161,000 lb/hr on a 4-hour average as set forth in the Title V Operating Permit. This limit is monitored closely by control room personnel to prevent exceedances.

**Provide detailed information on the following:**

**1. Source of waste**

Covanta receives municipal solid waste primarily from Delaware County, City of Philadelphia, New York City, and New Jersey. Residual waste comes into the facility from the greater tri-state area (i.e., Delaware, New Jersey, and Pennsylvania).

**2. Percent mix of various waste**

In accordance with the PADEP-approved Solid Waste Permit (Permit No. 400593), the facility may receive and process specified residual waste. On a monthly basis, residual waste may not exceed 10 percent of the total amount of waste received per month.

**3. Ultimate analysis of waste including Cd, Hg, Cr, Ni, Pb**

The facility does not have analysis for MSW. However, the facility may obtain data (e.g., arsenic, cadmium, chromium, barium, lead, mercury, selenium, and silver) from residual waste generators for waste codes requiring chemical analysis, as specified in the Solid Waste Permit.

Additionally, Covanta, in cooperation with Delaware County, ensures that at least three household hazardous waste collection events take place annually in order to reduce the amount of household hazardous waste in MSW receipts.

**4. Other information including radioactive material present to evaluate the type of emissions**

The facility is not allowed to process radioactive waste. Prior to the waste vehicles weighing in at the scalehouse, they are scanned for radioactive waste. If the alarm sounds, the vehicle is quarantined in the facility's designated radioactive holding area until a permit-to-ship can be obtained for the vehicle for landfill disposal or the radioactive waste can be isolated at the facility for third party disposal. The facility is allowed to process some medical isotopes such as Technetium-99 and Iodine-131 if the measured dose is below the regulated half-life.

### SECTION 3.3

Covanta Delaware Valley

SNCR Plan Approval

Support Calculations and Information

#### Section B.1 - Maximum Operating Schedule

##### Operating Schedule

Hours A Day:	24
Day Per Week:	7
Days Per Year:	365
Max Hours Per Year:	<b>8760</b>

#### Section 3.5 - Fuel Natural Gas

##### Hourly Quantity

##### 2021 Annual Natural Gas Usage

	kft3	10^6 SCF
Unit 1	7430	7.43
Unit 2	2768	2.768
Unit 3	3874	3.874
Unit 4	3219	3.219
Unit 5	5439	5.439
Unit 6	5460	5.46
Average	<b>4698</b>	10^3 SCF (KSCF)
	<b>4.698</b>	10^6 SCF (MMSCF)

$$\frac{4,698 \text{ kscf}}{1} \left| \frac{1,000 \text{ scf}}{1 \text{ kscf}} \right| \frac{1 \text{ Mscf}}{1,000,000 \text{ scf}} = 4.698 \text{ } 10^6 \text{ SCF (or MMSCF)}$$

##### Sulfur Content & BTU

Per email received from PECO Exelon

"Pipeline natur gas contain 0.5 grains or less of total sulfur per 100 standard cubic feet."

Gross calorific values between 950 - 1100 BTU per SCF

Average Calorific Value 1025 BTU/SCF

## Section C.1 - Precontrol Emissions

\*\* These emissions must be calculated based on the requested operating schedule and/or process rate, e.g. operating scheduled for maximum limits Hours, Flow, Natural Gas Consumption based on information reported in 2021 AES Report

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Max of All Units <sup>1</sup>
Max NOx(ppm)@7%O2	180	180	180	180	180	180	180
2021 O2-stack testing	10.12	9.99	10.05	9.83	9.04	9.55	10.12
2021 correction	1.29	1.27	1.28	1.26	1.17	1.23	1.17
NOx(ppm)raw	139.56	141.27	140.55	143.40	153.61	146.93	153.61
NOx-MW	46.01	46.01	46.01	46.01	46.01	46.01	46.01
2021 Stacktest Avg Flow	74,589.19	71,330.95	67,429.19	66,901.24	65,463.67	66,875.71	74,589.19
Lbs/hr. (limit =88.56 lbs/hr)	74.64	72.25	67.96	68.79	72.10	70.46	<b>82.15</b>
Max Operating Hrs/yr	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Lbs/yr.	653,858.99	632,950.03	595,298.39	602,609.22	631,625.02	617,195.95	719,672.47
tons/yr (from stack test flows)	326.93	316.48	297.65	301.30	315.81	308.60	359.84
tons/yr (nat gas)	0.37	0.14	0.19	0.16	0.27	0.27	0.37
Total Tons/Yr	<b>327.30</b>	<b>316.61</b>	<b>297.84</b>	<b>301.47</b>	<b>316.08</b>	<b>308.87</b>	<b>360.21</b>

1-Max Emissions (lb/hr and tons/yr) was calculated using maximum O2, NOX raw, stacktest flow, and minimum O2 correction observed across all six units in 2021.

## Section F.1 - Estimated Atmospheric Emissions

\*\* These emissions must be calculated based on choice operating schedule and/or process rate, e.g. operating scheduled for maximum limits.

Hours, Flow, Natural Gas Consumption based on information reported in 2021 AES Report

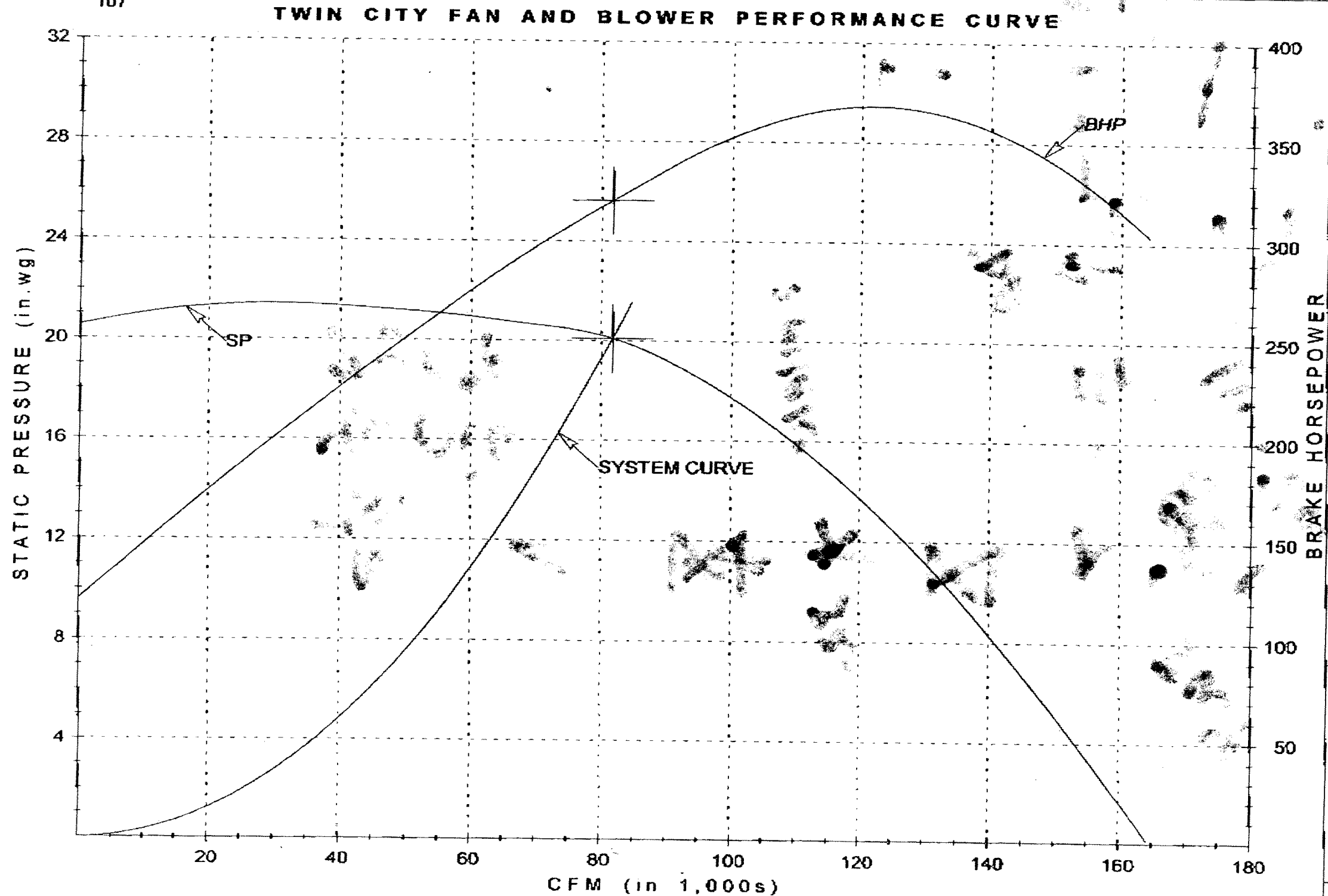
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Max of All Units <sup>1</sup>
Max NOx(ppm)@7%O2	110	110	110	110	110	110	110
O2-stack testing	10.12	9.99	10.05	9.83	9.04	9.55	10.12
correction	1.29	1.27	1.28	1.26	1.17	1.23	1.17
NOx(ppm)raw	85.29	86.33	85.89	87.63	93.87	89.79	93.87
NOx-MW	46.01	46.01	46.01	46.01	46.01	46.01	46.01
2021 Stacktest Avg Flow	74,589.19	71,330.95	67,429.19	66,901.24	65,463.67	66,875.71	74,589.19
Lbs/hr. (limit =88.56 lbs/hr)	45.61	44.16	41.53	42.04	44.06	43.06	50.21
Max Operating Hrs/yr	8,760	8,760	8,760	8,760	8,760	8,760	8,760
Lbs/yr.	399,580.49	386,802.80	363,793.46	368,261.19	385,993.07	377,175.30	439,799.84
tons/yr (from stack test flows)	199.79	193.40	181.90	184.13	193.00	188.59	219.90
tons/yr (nat gas)	0.37	0.14	0.19	0.16	0.27	0.27	0.37
Total Tons/Yr	200.16	193.54	182.09	184.29	193.27	188.86	220.27

1-Max Emissions (lb/hr and tons/yr) was calculated using maximum O2, NOX raw, stacktest flow, and minimum O2 correction observed across all six units in 2021.



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Customer:	Fan Tag:	CFM: 81,679
Job ID: SN 90-74276-1-2	Model: 660 BAF-SW	SP: 20.1 in.wg
		RPM: 1185
		BHP: 313.02
		Outlet Velocity: 3,361
		Density: 0.07



Inlet Sound Power	
Octave	Level
1	115
2	110
3	110
4	103
5	100
6	96
7	91
8	86
in db re 10 <sup>-12</sup> watts	

5/2/01 09:16

**SECTION 4**  
**APCA Compliance**  
**Review Form**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**  
**Permit Number 23-00004**  
**December 2022**





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY

## AIR POLLUTION CONTROL ACT COMPLIANCE REVIEW FORM

Fully and accurately provide the following information, as specified. Attach additional sheets as necessary.

**Type of Compliance Review Form Submittal (check all that apply)**

<input type="checkbox"/> Original Filing <input checked="" type="checkbox"/> Amended Filing	Date of Last Compliance Review Form Filing: <u>12/18/2020</u>
--	--

**Type of Submittal**

<input checked="" type="checkbox"/> New Plan Approval <input type="checkbox"/> Extension of Plan Approval <input type="checkbox"/> Other: _____	<input type="checkbox"/> New Operating Permit <input type="checkbox"/> Change of Ownership	<input type="checkbox"/> Renewal of Operating Permit <input type="checkbox"/> Periodic Submission (@ 6 mos)
---	---	--

### SECTION A. GENERAL APPLICATION INFORMATION

**Name of Applicant/Permittee/("applicant")**  
**(non-corporations-attach documentation of legal name)**

Covanta Delaware Valley, LP

**Address**      10 Highland Avenue  
                     Chester, PA 19013

**Telephone**      (610) 497-8150      **Taxpayer ID#**      76-0531017

**Permit, Plan Approval or Application ID#**      23-00004

**Identify the form of management under which the applicant conducts its business (check appropriate box)**

<input type="checkbox"/> Individual <input type="checkbox"/> Municipality <input type="checkbox"/> Proprietorship <input type="checkbox"/> Public Corporation <input type="checkbox"/> Private Corporation	<input type="checkbox"/> Syndicate <input type="checkbox"/> Municipal Authority <input type="checkbox"/> Fictitious Name <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Limited Partnership	<input type="checkbox"/> Government Agency <input type="checkbox"/> Joint Venture <input type="checkbox"/> Association <input type="checkbox"/> Other Type of Business, specify below:
--	---	---

**Describe below the type(s) of business activities performed.**

The Delaware Valley Resource Recovery Facility (DVRRF), operated by Covanta Delaware Valley, LP, houses six (6) rotary municipal waste combustors, each having the capacity to generate up to 161,000 lbs of steam/hr. The facility generates approximately 90 net megawatts of electricity per hour for internal use and to be sold on the electrical grid. The ash residue generated from the combustion of the waste is transported to Delaware County's Rolling Hills Landfill located in Berks County, PA, where it is used beneficially as alternative daily cover.

**SECTION B. GENERAL INFORMATION REGARDING "APPLICANT"**

If applicant is a corporation or a division or other unit of a corporation, provide the names, principal places of business, state of incorporation, and taxpayer ID numbers of all domestic and foreign parent corporations (including the ultimate parent corporation), and all domestic and foreign subsidiary corporations of the ultimate parent corporation with operations in Pennsylvania. Please include all corporate divisions or units, (whether incorporated or unincorporated) and privately held corporations. (A diagram of corporate relationships may be provided to illustrate corporate relationships.) Attach additional sheets as necessary.

Unit Name	Principal Places of Business	State of Incorporation	Taxpayer ID	Relationship to Applicant
Covanta Delaware Valley, L.P.	10 Highland Avenue, Chester, PA 19013	N/A	76-0531017	Same

**SECTION C. SPECIFIC INFORMATION REGARDING APPLICANT AND ITS "RELATED PARTIES"**

**Pennsylvania Facilities.** List the name and location (mailing address, municipality, county), telephone number, and relationship to applicant (parent, subsidiary or general partner) of applicant and all Related Parties' places of business, and facilities in Pennsylvania. Attach additional sheets as necessary.

Unit Name	Street Address	County and Municipality	Telephone No.	Relationship to Applicant
Covanta Delaware Valley, LP	10 Highland Avenue, Chester, PA 19013	Delaware County, City of Chester	(610) 497-8150	Covanta Owned & Operated
Covanta Lancaster	1911 River Road, Bainbridge, PA 17502	Lancaster County, Conoy Township	(717) 426-4938	Facility Operator
Covanta Harrisburg	1670 South 19 <sup>th</sup> Street, Harrisburg, PA 17104	Dauphin County, City of Harrisburg	(717) 236-0958	Facility Operator
Covanta Plymouth	1155 Conshohocken Road, Conshohocken, PA 19428	Montgomery County, Plymouth Township	(610) 940-6000	Covanta Owned & Operated
Covanta York	2651 Blackbridge Road, York, PA 17406	York County, Manchester Township	(717) 843-2902	Facility Operator
Covanta 58 <sup>th</sup> Street Transfer Station	2209 South 58 <sup>th</sup> Street, Philadelphia, PA 19143	City of Philadelphia	(215) 729-3770	Covanta Owned & Operated
Covanta Metals Management	500 Middle Drive, Fairless Hills, PA 19030	Bucks County, Falls Township	(215) 295-3792	Covanta Owned & Operated

Provide the names and business addresses of all general partners of the applicant and parent and subsidiary corporations, if any.

Name	Business Address
Covanta ARC, LLC	445 South Street, Morristown, NJ 07960
Covanta Delaware Valley II, LLC	445 South Street, Morristown, NJ 07960

Delaware County Solid Waste Authority	1521 North Providence Road, Media, PA 19063

**List the names and business address of persons with overall management responsibility for the process being permitted (i.e. plant manager).**

<b>Name</b>	<b>Business Address</b>
Larry A. Smith Covanta Delaware Valley, L.P. Facility Manager	10 Highland Avenue, Chester, PA 19013

**Plan Approvals or Operating Permits.** List all plan approvals or operating permits issued by the Department or an approved local air pollution control agency under the APCA to the applicant or related parties that are currently in effect or have been in effect at any time 5 years prior to the date on which this form is notarized. This list shall include the plan approval and operating permit numbers, locations, issuance and expiration dates. Attach additional sheets as necessary.

<b>Air Contamination Source</b>	<b>Plan Approval/ Operating Permit#</b>	<b>Location</b>	<b>Issuance Date</b>	<b>Expiration Date</b>
DVRRF	23-00004	10 Highland Avenue, Chester PA 19013	09/02/2016	09/02/2021 (admin compl)
Covanta Harrisburg	22-05007	1670 South 19 <sup>th</sup> Street Harrisburg, PA 17104	07/31/2012	12/31/2022 (admin compl)
Covanta Lancaster	36-05013	1911 River Road Bainbridge, PA 17502	12/13/2021	01/31/2027
Covanta Plymouth	46-00010	1155 Conshohocken Rd Conshohocken, PA 19428	5/15/2012	11/21/2022 (admin compl)
Covanta York	67-05006	2651 Blackbridge Rd York, PA 17406	01/12/2022	01/31/2027
Covanta Metals Mgmt	09-0236	500 Middle Drive Fairless Hills, PA 19030	05/17/2016	09/11/2022 (extended)

**Compliance Background.** (Note: Copies of specific documents, if applicable, must be made available to the Department upon its request.) List all documented conduct of violations or enforcement actions identified by the Department pursuant to the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. Attach additional sheets as necessary. See the definition of "documented conduct" for further clarification. Unless specifically directed by the Department, deviations which have been previously reported to the Department in writing, relating to monitoring and reporting, need not be reported.

Date	Location	Plan Approval/ Operating Permit#	Nature of Documented Conduct	Type of Department Action	Status: Litigation Existing/Continuing or Corrected/Date	Dollar Amount Penalty
						\$
	See attached					\$
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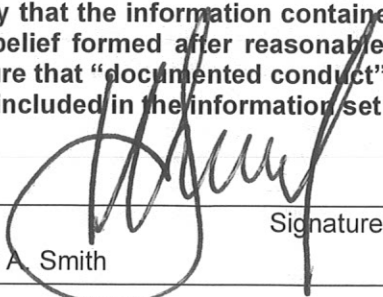
List all incidents of deviations of the APCA, regulations, terms and conditions of an operating permit or plan approval or order by applicant or any related party, using the following format grouped by source and location in reverse chronological order. This list must include items both currently known and unknown to the Department. Attach additional sheets as necessary. See the definition of "deviations" for further clarification.

Date	Location	Plan Approval/ Operating Permit#	Nature of Deviation	Incident Status: Litigation Existing/Continuing Or Corrected/Date
	See attached			

**CONTINUING OBLIGATION.** Applicant is under a continuing obligation to update this form using the Compliance Review Supplemental Form if any additional deviations occur between the date of submission and Department action on the application.

## VERIFICATION STATEMENT

Subject to the penalties of Title 18 Pa.C.S. Section 4904 and 35 P.S. Section 4009(b)(2), I verify under penalty of law that I am authorized to make this verification on behalf of the Applicant/Permittee. I further verify that the information contained in this Compliance Review Form is true and complete to the best of my belief formed after reasonable inquiry. I further verify that reasonable procedures are in place to ensure that "documented conduct" and "deviations" as defined in 25 Pa Code Section 121.1 are identified and included in the information set forth in this Compliance Review Form.

	December 19, 2022
Signature	Date
Larry A. Smith	Name (Print or Type)
Facility Manager	Title

**APCA Compliance History-Delaware Valley**  
**10 Highland Ave Chester, PA 19013**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
10/29/2008	Delco	TV- 23-00004	PADEP	NOV (TVOP-23-00004)	Inspector observed fugitive emissions from the boiler building on two occasions during one day from an off site location.	Operating conditions were investigated and a response was submitted on 11-6-08. An abatement plan was submitted committing to reducing steam load during soot blowing and also to changing out bags in baghouse to Unit 3.	
11/14/2008	Delco	TV- 23-00004	PADEP	Notice of Penalty Assessment	Facility received a Notice of Penalty Assessment for the first quarter 2008 totaling \$8,000. Remaining fines will be assessed once the certification of new CEM monitors are approved.	The facility reached an agreement with the PADEP and signed a consent order in the amount of \$10,577 on February 11, 2008 for 1Q08 and 3Q08 CEMS penalties. This is a partial assessment for the quarter. The remaining files still need to be submitted for	\$ 8,000.00
11/14/2008	Delco	TV- 23-00004	PADEP	Notice of Penalty Assessment	Facility received a Notice of Penalty Assessment for the first quarter 2008 totaling \$0. Remaining fines will be assessed once the certification of new CEM monitors are approved.	No Further Action required.	\$ -
12/18/2008	Delco	TV- 23-00004	PADEP	NOV	Failure to submit a permit renewal application 270 days prior to expiration of current permit.	Previous regulations required submittal 180 days prior to expiration. This rule changed during the term of the current permit, the change was not picked up by the facility. The facility is currently in the process of preparing the application.	
1/12/2009	Delco	TV- 23-00004	PADEP	Notice of Penalty Assessment	Facility received a Notice of Penalty Assessment for the third quarter 2008 totaling \$2,577. Remaining fines will be assessed once the certification of new Cam monitors is approved.	The facility reached an agreement with the PADEP and signed a consent order in the amount of \$10,577 on February 11, 2008 for 1Q08 and 3Q08 CEMS penalties. This is a partial assessment for the quarter. The remaining files still need to be submitted for	\$ 2,577.00
2/17/2009	Delco	TV- 23-00004	PADEP	CACP	1st quarter 2008 and 3rd quarter 2008 CEMS availability violations	Please refer to Notice of Penalty Assessment dated 11-14-08. 1st and 3rd quarter CEMS violations. Penalty Paid.	\$ 10,577.00
3/19/2009	Delco	TV- 23-00004	PADEP	NOV	Violation for 2008 Nickel and Particulate Matter source test exceedances	Response submitted to the state on 4-1-09. The facility will begin supporting Nickel collection programs to remove Nickel from the waste stream.. Also in an attempt to mediate the nickel and Pm problem the facility implemented a higher lime slurry reagent rate.	\$ -
4/28/2009	Delco	TV- 23-00004	PADEP	CACP	4th Quarter 2008 CEMS Violations.	Penalty paid	\$ 1,612.00
5/2/2010	Delco	TV- 23-00004	PADEP	CACP	CEMS violations 1Q09-1Q10	Penalty Paid	\$ 8,576.00
5/6/2011	Delco	TV- 23-00004	PADEP	CACP	Penalty for CEMs availability and excess emissions in 2004	Paid	\$ 33,206.00
5/23/2011	Delco	TV- 23-00004	PADEP	CACP	Penalty for CEMs availability and excess emissions in 2005	Paid	\$ 33,206.00
6/7/2011	Delco	TV- 23-00004	PADEP	CACP	CEMs availability and excess emissions in 2006	Paid	\$ 32,528.00

**APCA Compliance History-Delaware Valley**  
**10 Highland Ave Chester, PA 19013**

**Enforcement Actions**

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Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
7/14/2011	Delco	TV- 23-00004	PADEP	CACP	CEMs availability and excess emissions in 2008	Paid	\$ 19,445.00
7/25/2011	Delco	TV- 23-00004	PADEP	CACP	CEMs availability and excess emissions in 2007	Paid	\$ 26,786.00
9/30/2013	Delco	TV- 23-00004	PADEP	CACP	CEMs availability and excess emissions 2010, 2012, and 2013	Paid	\$ 2,800.00
5/30/2014	Delco	TV- 23-00004	PADEP	CACP	Excess emissions on 7-13-13 & 8-29-13	Paid	\$ 400.00
8/26/2014	Delco	TV- 23-00004	PADEP	CACP	Excess emissions	Paid	\$ 1,300.00
12/28/2015	Delco	TV- 23-00004	PADEP	NOV	Improper record keeping for make-up water conductivity and circulating water conductivity	Closed	-
8/31/2017	Delco	TV- 23-00004	PADEP	CACP	Excess emissions on 2Q14 - 2Q16	Paid	\$ 31,267.00
1/30/2019	Delco	TV- 23-00004	PADEP	CACP	Excess Emissions 3Q2019 & 1Q2017	Paid	\$ 1,250.00
6/17/2020	Delco	TV- 23-00004	PADEP	NOV	Black Plant June 4 & 5	NOV is closed out with the CACP received on 2/11/2021 where monetary penalty associated with the June 4 & 5, 2020 black plant was included.	0 - included in 2/11/21 CACP
2/11/2021	Delco	TV- 23-00004	PADEP	CACP	Operating Permit and 3rd Quarter 2017 through 2nd Quarter 2020 CEMS Violations and June 4 & 5th Black Plant Trip Event.	Paid and Closed	\$ 73,311.00
11/22/2021	Delco	TV- 23-00004	PADEP	CACP	Excess Emissions 3Q20-1Q21	Paid and Closed	\$ 3,146.00

**APCA Compliance History-Plymouth**  
**1155 Conshohocken Road Conshohocken, PA 19428**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
7/15/11	Plymouth	Title V- 46-00010	PADEP	NOV	Exceedance of hexchrome limit on Unit #2 during the Fall 2010 stack test	Response submitted asking for permit change. OPEN	-
2/25/2013	Plymouth	Title V- 46-00010	PADEP	NOV	PADEP inspection conducted on 2/5/13 which noted a spill on 2/3/13. NOV issued.	Closed	-
7/1/2014	Plymouth	Title V- 46-00010	PADEP	NOV	Late submittal of Semi-annual air report	Closed	-
7/3/2014	Plymouth	Title V- 46-00010	PADEP	NOV	Late submission of Semi-Annual Report	Closed	-
7/3/2014	Plymouth	Title V- 46-00010	PADEP	NOV	QR #2 Spill	Closed	-
7/24/2014	Plymouth	Title V- 46-00010	PADEP	NOV	Furnance temperature violations on 6/28/14	Closed	-
12/9/2014	Plymouth	Title V- 46-00010	PADEP	CACP	Refer to NOV dated 7/24/14	Paid and closed	\$1,600
3/6/2015	Plymouth	Title V- 46-00010	PADEP	CACP	CACP and CEMS violation from 2011, Quarters 1 and 4, and 2014, Quarter 4	Fines were reduced to \$1000. CACP Executed on 3.27.15. Paid and closed	\$6,800
6/21/2016	Plymouth	Title V- 46-00010	PADEP	NOV	May 2015 VOC annual test was determined to be invalid by PADEP due to errors by consultant.	Abatement Plan submitted to PADEP. Closed out as part of a CACP issued in October (see below).	-
7/13/2016	Plymouth	Title V- 46-00010	PADEP	NOV	Unauthorized releases of: cooling water discharge; oil release; and an inspection identifying a leaking hydrant.	Response report with event details and remedial actions was submitted to PADEP 8/2/16. No further action required.	-
10/18/2016	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS exceedances for 4Q13, 3Q12 through 2Q14, 3Q15 thru 2Q16 and non-compliance for 2015 VOC stack test	CACP executed and penalty paid. Closed	\$14,024
6/21/2017	Plymouth	Title V- 46-00010	PADEP	NOV	Failure to maintain records for silo pressure drop.	Open	-
6/22/2017	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violation for 3Q16 and 1Q17	Closed	\$2,812
9/8/2017	Plymouth	Title V- 46-00010	PADEP	NOV	Late Submittal of EPA Semi-Annual AQ Report	Open	-
12/7/2017	Plymouth	Title V- 46-00010	PADEP	CACP	Late Submittal of CEMS EDR for 2Q17	Closed	\$2,556
5/14/2018	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violation for 4Q2016 and 3Q-4Q2017	Paid and closed	\$10,607



**APCA Compliance History-Plymouth**  
**1155 Conshohocken Road Conshohocken, PA 19428**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
8/29/2018	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violation for 1Q2018	Closed	\$27,883
4/30/2019	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violation 2Q, 3Q and 4Q 2018	Closed	\$17,514
10/11/2019	Plymouth	Title V- 46-00010	PADEP	NOV	Excess emissions events 1Q, 2Q 2019 and CEMS violations	Closed	\$2,142
10/17/2019	Plymouth	Title V- 46-00010	PADEP	NOV	Emissions caused due to Plant trip	Closed	-
10/24/2019	Plymouth	Title V- 46-00010	PADEP	NOV	Odor complaint	Closed	-
12/23/2019	Plymouth	Title V- 46-00010	PADEP	NOV	Odor complaint	Closed	-
6/24/2020	Plymouth	Title V- 46-00010	PADEP	NOV	Emissions caused due to Plant trip	Closed	-
9/4/2020	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violations, Emission events, and Black Plant event	Closed	\$218,393
9/22/2020	Plymouth	Title V- 46-00010	PADEP	NOV	Odor complaint	Closed	-
11/17/2021	Plymouth	Title V- 46-00010	PADEP	CACP	CEMS violation 4Q20, 1Q21	Closed	\$1,240

**APCA Compliance History-York**  
**2651 Blackbridge Road York, PA 17406**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
7/21/2008	York	Title V-67-05006	PADEP	CACP	Data Availability MWI-1 – CO Data Availability MWI1, 2 &3 - Opacity	None	\$ 1,409.00
6/30/2009	York	Title V-67-05006	PADEP	CACP	Data Availability CO all three units. Coding errors in MWI-1 Furn. Temp & SO2 Red.. Late penalties for corrections.#1 & #3 units opacity data availability.	Got DAS problems corrected. Review data more thoroughly. Submit reports by mid month.	\$ 11,258.00
10/7/2009	York	Title V-67-05006	PADEP	CACP	Data availability for 1Q09	CACP executed and penalty paid	\$ 749.00
12/21/2009	York	Title V-67-05006	PADEP	CACP	Data availability/emission excursions for 2Q09 & 3Q09	CACP executed and penalty paid	\$ 1,302.00
3/24/2010	York	Title V-67-05006	PADEP	CACP	CEMS penalties for 2Q09 and 2Q09	CACP executed and penalty paid.	\$ 1,603
1/17/2018	York	Title V-67-05006	PADEP	CACP	CEMS penalties for 4Q09 and 1Q16	CACP executed and penalty paid.	\$ 9,148
12/5/2019	York	Title V-67-05006	PADEP	Consent Order	CEMS penalties for 2Q2017 - 1Q2018	Closed	\$ 8,561.00
12/16/2019	York	Title V-67-05006	PADEP	Consent Order	CEMS penalties for 2Q2016 - 1Q2017	Paid and closed	\$ 8,396.00
3/10/2022	York	Title V-67-05006	PADEP	CACP	CEMS penalties for 2Q 2018-1Q 2021 and HCl 2018 Exceedance Event	CACP executed and penalty paid.	\$ 21,890.50

**APCA Compliance History-58th Street Transfer Station**  
**2209 South 58th Street Philadelphia, PA 19143**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
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**APCA Compliance History- Fairless Hills**

**Enforcement Actions**      Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
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**APCA Compliance History - Harrisburg**  
**1670 South 19th Street Harrisburg, PA 17104**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
8/25/2009	Harrisburg	NPDES-PAR503508	City of Harrisburg Bureau of Sewage	Letter of Violation	Missed sampling event for May 2009 and exceeded Ni & Zn during June 2009 sampling	Response letter submitted on 9-3-09. OPEN	-
9/15/2010	Harrisburg	-	USEPA	Consent Order	Settlement for sulfuric acid release	Closed	\$6,648
11/23/2011	Harrisburg	NPDES-PAR503508	PADEP	NOV	Stormwater discharges not authorized by permit	Closed	-
11/27/2013	Harrisburg	Title V- 22-05007	PADEP	Consent Order	-	Response letter submitted	\$37,457
4/10/2014	Harrisburg	Title V- 22-05007	PADEP	CACP	-	Closed	\$39,636
12/10/2015	Harrisburg	Title V- 22-05007	PADEP	CACP	Violations in 2nd and 4th quarter of 2014 and 1st quarter in 2015	Closed	\$5,400
11/28/2019	Harrisburg	Title V- 22-05007	PADEP	CACP	Excess emissions in 2Q 2015-1Q 2017	Paid and Closed	\$42,130
2/22/2022	Harrisburg	Title V- 22-05007	PADEP	CACP	Excess emissions in 2Q 2017-1Q 2019	Paid and Closed	\$35,097

**APCA Compliance History - Lancaster County RRF**  
**1911 River Road Bainbridge, PA 17502**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
9/11/2008	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Settlement for excess emission for 3Q07.	Closed	\$2,000.00
9/23/2008	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Settlement for excess emission for 1Q and 2Q 08.	Closed	\$2,634.00
11/17/2008	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Excess emissions for 2Q06	Closed	\$21,800.00
3/31/2009	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Excess emissions/availability penalties for 3Q07 and 1Q08 thru 4Q08	Closed	\$14,800.00
12/22/2009	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Excess emissions for 1Q09	Closed	\$6,600.00
6/9/2010	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	Excess emissions for 3Q09	Closed	\$1,200.00
5/12/2011	Lancaster County RRF, Bainbridge, PA	Title V-36-05013	PaDEP	CACP	CACP for 1Q10 emission exceedances	Closed	\$2,483.00
4/20/2012	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	CACP	SO2 and Opacity excursions	Closed	\$400.00

**APCA Compliance History - Lancaster County RRF**  
**1911 River Road Bainbridge, PA 17502**

**Enforcement Actions**

Including: APCA NOVs; administrative orders; civil penalties; permit or license suspensions; bond forfeiture actions; consent orders, adjudications or decrees; monetary settlements; court proceedings; or convictions concerning Environmental Protection Acts, or a regulation or order or a condition of a permit or license.

Date	Location	Permit/License/ EPA ID #	Issuing Agency	Type of Action	Nature of Violation	Disposition	Dollar Amount of Penalty
6/8/2012	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	NOV	Water samples taken inside building (Covanta lunchroom) came up as a concern.	Faucet aerator was removed and cleaned and water resampled. Samples came back clean.	-
4/5/2018	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	CACP	1Q2010-1Q2017 Excess Emissions, CEMS availability	Closed	\$42,196.00
6/23/2021	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	CACP	CACP for 2Q17-1Q19 emission exceedances	Closed	\$8,700.00
11/15/2021	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	CACP	CACP for 2Q19-4Q20 emission exceedances	Closed	\$2,050.00
11/16/2021	Lancaster County RRF, Bainbridge, PA	Title V- 36-05013	PaDEP	NOV	Missed Residual Chlorine Sampling Event	Closed	-

**SECTION 5**  
**Municipality Notifications and**  
**Receipt Confirmations**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**  
**Permit Number 23-00004**  
**December 2022**



SENT VIA UPS

December 7, 2022

Mr. Kenneth R. Schuster  
Solicitor, City of Chester  
Chester City Hall  
1 Fourth Street  
Chester, PA 19013-4400

Subject: Covanta Delaware Valley, L.P.  
Delaware Valley Resource Recovery Facility (DVERRF)  
Title V Operating Permit No. 23-00004  
Notification of Plan Approval Application

Dear Mr. Schuster:

Covanta Delaware Valley, L.P. (Covanta) is providing this Municipal Notification, pursuant to 25 PA Code Section 127.43a, to inform you that Covanta is submitting a Plan Approval application for the installation of Selective Non-Catalytic Reduction (SNCR) air pollution control technology that will be utilized to reduce Nitrogen Oxide (NOX) emissions at the DVERRF by approximately 17% each year. Implementation of this project will have a significant positive environmental impact on the surrounding community and region. The construction and installation of SNCR is being undertaken pursuant to 25 PA Code Chapter 129 (Additional RACT Requirements for Major Sources of NOX and VOCs for the 2015 Ozone NAAQs, or RACT III).

SNCR will be installed on all six (6) combustor units at the DVERRF located at 10 Highland Avenue, Chester, Delaware County. The units currently operate under Title V Operating Permit No. 23-00004 and Solid Waste Disposal and/or Processing Facility Permit No. 400593, both issued by the PA Department of Environmental Protection (DEP).

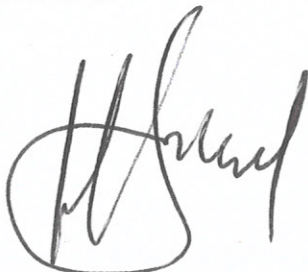
The City of Chester and County of Delaware may make comments to the DEP within thirty (30) days of receipt of this notification. This application will be submitted to the DEP prior to December 31, 2022. The DEP will accept comments from the public on the application. Comments may be submitted to:

Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401  
Attention: Mr. James Rebarchak  
Manager, Air Quality Program

In addition to the written comment period, both Covanta and DEP will hold a public meeting in the first quarter of 2023 to solicit comments and feedback. If you have any questions regarding this matter, please contact me or Kim Bradford at (610) 291-3890.

Sincerely,

Larry A. Smith  
Facility Manager



cc: James Rebarchak (Southeast DEP)  
Justin Surrat (Central DEP)

Janine Tolluch-Reid (Southeast DEP)  
File – Delaware Valley - Title V

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.


**Tracking Number**

1Z1VX778A694213432

**Weight**

0.10 LBS

**Service**

UPS 2nd Day Air®  
with UPS Carbon Neutral 

**Shipped / Billed On**

12/08/2022

**Additional Information**

Adult Signature Required

**Delivered On**

12/09/2022 12:49 P.M.

**Delivered To**

CHESTER, PA, US

**Received By**

PAT

**Left At**

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/12/2022 7:28 P.M. EST



**SENT VIA UPS**

December 7, 2022

Ms. Gina Burritt  
Director, Delaware County Planning Department  
1055 E. Baltimore Pike  
Media, PA 19063

Subject: Covanta Delaware Valley, L.P.  
Delaware Valley Resource Recovery Facility (DVRRF)  
Title V Operating Permit No. 23-00004  
Notification of Plan Approval Application

Dear Ms. Burritt:

Covanta Delaware Valley, L.P. (Covanta) is providing this Municipal Notification, pursuant to 25 PA Code Section 127.43a, to inform you that Covanta is submitting a Plan Approval application for the installation of Selective Non-Catalytic Reduction (SNCR) air pollution control technology that will be utilized to reduce Nitrogen Oxide (NOX) emissions at the DVRRF by approximately 17% each year. Implementation of this project will have a significant positive environmental impact on the surrounding community and region. The construction and installation of SNCR is being undertaken pursuant to 25 PA Code Chapter 129 (Additional RACT Requirements for Major Sources of NOx and VOCs for the 2015 Ozone NAAQs, or RACT III).

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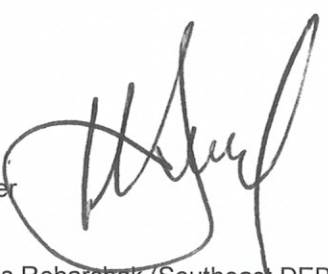
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Norristown, PA 19401  
Attention: Mr. James Rebarchak  
Manager, Air Quality Program

In addition to the written comment period, both Covanta and DEP will hold a public meeting in the first quarter of 2023 to solicit comments and feedback. If you have any questions regarding this matter, please contact me or Kim Bradford at (610) 291-3890.

Sincerely,

Larry A. Smith  
Facility Manager



cc: James Rebarchak (Southeast DEP)  
Justin Surrat (Central DEP)

Janine Tolluch-Reid (Southeast DEP)  
File – Delaware Valley - Title V

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.


**Tracking Number**

1Z1VX778A697955313

**Weight**

0.10 LBS

**Service**

UPS 2nd Day Air®  
with UPS Carbon Neutral 

**Shipped / Billed On**

12/08/2022

**Additional Information**

Adult Signature Required

**Delivered On**

12/09/2022 12:20 P.M.

**Delivered To**

MEDIA, PA, US

**Received By**

DELAWARE COUNTY

**Left At**

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/12/2022 7:31 P.M. EST



**SENT VIA UPS**

December 7, 2022

Dr. Monica Taylor  
Chair, Delaware County Council  
201 West Front Street  
Media, PA 19063

Subject: Covanta Delaware Valley, L.P.  
Delaware Valley Resource Recovery Facility (DVERRF)  
Title V Operating Permit No. 23-00004  
Notification of Plan Approval Application

Dear Dr. Taylor:

Covanta Delaware Valley, L.P. (Covanta) is providing this Municipal Notification, pursuant to 25 PA Code Section 127.43a, to inform you that Covanta is submitting a Plan Approval application for the installation of Selective Non-Catalytic Reduction (SNCR) air pollution control technology that will be utilized to reduce Nitrogen Oxide (NOX) emissions at the DVERRF by approximately 17% each year. Implementation of this project will have a significant positive environmental impact on the surrounding community and region. The construction and installation of SNCR is being undertaken pursuant to 25 PA Code Chapter 129 (Additional RACT Requirements for Major Sources of NOX and VOCs for the 2015 Ozone NAAQs, or RACT III).

SNCR will be installed on all six (6) combustor units at the DVERRF located at 10 Highland Avenue, Chester, Delaware County. The units currently operate under Title V Operating Permit No. 23-00004 and Solid Waste Disposal and/or Processing Facility Permit No. 400593, both issued by the PA Department of Environmental Protection (DEP).

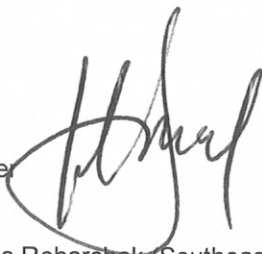
The City of Chester and County of Delaware may make comments to the DEP within thirty (30) days of receipt of this notification. This application will be submitted to the DEP prior to December 31, 2022. The DEP will accept comments from the public on the application. Comments may be submitted to:

Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401  
Attention: Mr. James Rebarchak  
Manager, Air Quality Program

In addition to the written comment period, both Covanta and DEP will hold a public meeting in the first quarter of 2023 to solicit comments and feedback. If you have any questions regarding this matter, please contact me or Kim Bradford at (610) 291-3890.

Sincerely,

Larry A. Smith  
Facility Manager



cc: James Rebarchak (Southeast DEP)  
Justin Surrat (Central DEP)

Janine Tolluch-Reid (Southeast DEP)  
File – Delaware Valley - Title V

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.


**Tracking Number**

1Z1VX778A695067321

**Weight**

0.10 LBS

**Service**

UPS 2nd Day Air®  
with UPS Carbon Neutral 

**Shipped / Billed On**

12/08/2022

**Additional Information**

Adult Signature Required

**Delivered On**

12/09/2022 10:35 A.M.

**Delivered To**

MEDIA, PA, US

**Received By**

DCCH

**Left At**

Inside Delivery

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/12/2022 7:32 P.M. EST



SENT VIA UPS

December 7, 2022

Mr. James Warner  
Interim CEO, Delaware County Solid Waste Authority  
Rose Tree Park – Hunt Club  
1521 North Providence Road  
Media, PA 19063

Subject: Covanta Delaware Valley, L.P.  
Delaware Valley Resource Recovery Facility (DVRRF)  
Title V Operating Permit No. 23-00004  
Notification of Plan Approval Application

Dear Mr. Warner:

Covanta Delaware Valley, L.P. (Covanta) is providing this Municipal Notification, pursuant to 25 PA Code Section 127.43a, to inform you that Covanta is submitting a Plan Approval application for the installation of Selective Non-Catalytic Reduction (SNCR) air pollution control technology that will be utilized to reduce Nitrogen Oxide (NOX) emissions at the DVRRF by approximately 17% each year. Implementation of this project will have a significant positive environmental impact on the surrounding community and region. The construction and installation of SNCR is being undertaken pursuant to 25 PA Code Chapter 129 (Additional RACT Requirements for Major Sources of NOx and VOCs for the 2015 Ozone NAAQs, or RACT III).

SNCR will be installed on all six (6) combustor units at the DVRRF located at 10 Highland Avenue, Chester, Delaware County. The units currently operate under Title V Operating Permit No. 23-00004 and Solid Waste Disposal and/or Processing Facility Permit No. 400593, both issued by the PA Department of Environmental Protection (DEP).

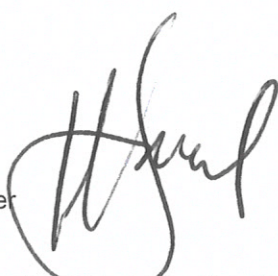
The City of Chester and County of Delaware may make comments to the DEP within thirty (30) days of receipt of this notification. This application will be submitted to the DEP prior to December 31, 2022. The DEP will accept comments from the public on the application. Comments may be submitted to:

Department of Environmental Protection  
Southeast Regional Office  
2 East Main Street  
Norristown, PA 19401  
Attention: Mr. James Rebarchak  
Manager, Air Quality Program

In addition to the written comment period, both Covanta and DEP will hold a public meeting in the first quarter of 2023 to solicit comments and feedback. If you have any questions regarding this matter, please contact me or Kim Bradford at (610) 291-3890.

Sincerely,

Larry A. Smith  
Facility Manager



cc: James Rebarchak (Southeast DEP)  
Justin Surrat (Central DEP)

Janine Tolluch-Reid (Southeast DEP)  
File – Delaware Valley - Title V

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.


**Tracking Number**

1Z1VX778A699708934

**Weight**

0.10 LBS

**Service**

UPS 2nd Day Air®  
with UPS Carbon Neutral 

**Shipped / Billed On**

12/08/2022

**Additional Information**

Adult Signature Required

**Delivered On**

12/09/2022 9:42 A.M.

**Delivered To**

MEDIA, PA, US

**Received By**

FERZETTI

**Left At**

Office

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/12/2022 7:35 P.M. EST



**SECTION 6**  
**Plan Approval Permitting Fee**


**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**

**Permit Number 23-00004**

**December 2022**

## AIR QUALITY FEES FOR NEW PLAN APPROVAL

Company Information				
Federal Tax ID: 76-0531017-1		Firm Name: Covanta Delaware Valley, LP		
Permit # (If any): 23-00004		Facility Name: Covanta Delaware Valley, LP		
Municipality: City of Chester		County: Delaware		
Contact Person Name: Kimberly Bradford		Telephone Number: 610-291-3890		
E-mail: KBRADFORD@COVANTA.COM				
New Plan Approval (The following fees are cumulative.)				
Line #	Check the appropriate boxes below	Type of review requested	Fee 2021 - 2025	Total Fees
1	<input type="checkbox"/>	Base Fee	\$2,500	\$2,500
2	<input type="checkbox"/>	New Source Review, Subchapter E	\$7,500	
3	<input type="checkbox"/>	NSPS/NESHAP /MACT standard A. # of NSPS: <u>0</u> B. # of NESHAP/MACT: <u>0</u> C. Add lines A and B: <u>0</u> D. Maximum applicable standards: <u>3</u> E. Enter smaller of line C or line D: <u>0</u> Multiply line E by \$2,500 and enter the amount in the "Total Fees" column.	\$2,500	\$0
4	<input type="checkbox"/>	Case-by-Case MACT	\$9,500	
5	<input type="checkbox"/>	Prevention of Significant Deterioration (PSD) requirements. Subchapter D	\$32,500	
6	<input type="checkbox"/>	Plantwide Applicability Limit (PAL) for NSR regulated pollutants or PAL for PSD regulated pollutants or both	\$7,500	
7	<input type="checkbox"/>	Risk Assessment Analysis – Inhalation only	\$10,000	
8	<input type="checkbox"/>	Risk Assessment Analysis – Multi-pathway	\$25,000	
Add Lines 1 thru 8 of Total Fees column and write it here. 				\$2,500

**SECTION 7**  
**Addendum A**  
**Source Applicable Requirements**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**  
**Permit Number 23-00004**  
**December 2022**



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY

## Addendum A: Source Applicable Requirements

Describe and cite all applicable requirements pertaining to this source.

**Note:** A Method of Compliance Worksheet (Addendum 1) must be completed for each requirement listed.

Citation Number	Citation Limitation	Limitation Used
25 Pa Code 129.112(f)	110 ppmvd NOx at 7% oxygen	
25 Pa Code 129.115(b)(3)	NOx daily average and data validity	
25 Pa Code 129.115(f)	Recordkeeping requirements	



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY

## Addendum 1 Method Of Compliance Worksheet

### SECTION 1. APPLICABLE REQUIREMENT

<b>Federal Tax Id:</b>	76-0531017	<b>Firm Name:</b>	Covanta Delaware Valley, LP
<b>Plant Code:</b>		<b>Plant Name:</b>	Covanta Delaware Valley / Delaware Valley Resource Recovery

Applicable Requirement for: (please check only one box below)

<input type="checkbox"/>	The entire site	
<input checked="" type="checkbox"/>	A group of sources, Group ID:	Group: LARGE MWC, Source IDS: 101, 102, 103, 104, 105, 106
<input type="checkbox"/>	A single source, Unit ID:	
<input type="checkbox"/>	Alternative Scenario, Scenario Name:	

**Citation #:** 25 Pa Code Chapter 129

**Compliance Method based upon:** ☒ **Applicable Requirement** ☐ **Gap Filling Requirement**

Method of Compliance Type: (Check all that applies and complete all appropriate sections below)

<input checked="" type="checkbox"/> <b>Monitoring</b>	<input type="checkbox"/> <b>Testing</b>	<input checked="" type="checkbox"/> <b>Reporting</b>
<input checked="" type="checkbox"/> <b>Record Keeping</b>	<input type="checkbox"/> <b>Work Practice Standard</b>	

### Section 2: Monitoring

<b>1. Monitoring device type (stack test, CEM, etc.):</b>	Existing Certified CEMS: NOX (ppmvd 7% O2)
<b>2. Monitoring device location:</b>	Existing approved mainstack location (Source ID Nos. 101, 102, 103, 104, 105 & 106)
<b>Describe all parameters being monitored along with the frequency and duration of monitoring each parameter:</b>	
NOX ppmvd@7% oxygen	
<b>3. How will data be reported:</b>	1-Hr NOX emission data will be reported to PADEP 30-days after each quarter via Greenport CEMS DPS Online System

### **Section 3: Testing**

<b>1. Reference Test Method Description:</b>	Not applicable - will utilize existing certified CEMS to demonstrate compliance
<b>2. Reference Test Method Citation:</b>	Not applicable - will utilize existing certified CEMS to demonstrate compliance

### **Section 4: Record Keeping**

**Describe what parameters will be recorded and the frequency of recording:**

NOX CEMS Data

recorded 1-min, 1-hr

avg and 24-hr avg

### **Section 5: Reporting**

**Describe what is to be reported and the frequency of reporting:**

Qtrly, Semi-Annual and

Annual Title Permit

Compliance Report

**1. Reporting start date:** January 1, 2023

### **Section 6: Work Practice Standard**

**Describe any work practice standards:**

### **Addendum 1: Method of Compliance Worksheet (Mandatory)**

To fulfill the requirement for determining compliance with all applicable requirements listed, a method of compliance worksheet must be completed. A separate worksheet must be completed for **each** applicable requirement listed in the application. Duplicate this worksheet as needed.

There are six (6) sections in this worksheet:

- ) Section 1: Applicable Requirement
- ) Section 2: Monitoring
- ) Section 3: Testing
- ) Section 4: Record Keeping
- ) Section 5: Reporting
- ) Section 6: Work Practice Standard

All six sections do not need to be completed. The completion of part or all of these sections will be determined by the applicable compliance method checked in Section 1 of this Addendum. For example, if the compliance method for an existing requirement involves monitoring, reporting, and record keeping, the applicant does not have to complete Sections 3 and 6 relating to "**Testing**" and "**Work Practice Standard**", respectively.

#### **Section 1: Applicable Requirement**

This section cannot be omitted since it will identify the following important information. It will link an applicable requirement to the entire site, to a group of sources, to an individual source, or to an alternative operating scenario. It will also identify the basis and the method of compliance to each applicable requirement. The following questions in this section must be completed.

- ) **Applicable requirement for:** Check the appropriate box. (Only one should be checked).

**The entire site** means the applicable requirement listed in Section 2, "Applicable Requirements for the Entire Site" of the Title V application.

**A group of sources** means for those applicable requirements identify in Section 4, "Source Groups" of the Title V application.

**A single source** is for those requirements listed in this plan approval application relating to the specific type of sources.

**An alternative Operating Scenario** refers to those requirements identified in Addendum 3, "Alternative Operating Scenario".

For group of sources, a single source, or an Operating Scenario, please provide the Group, Source, or Operating Scenario ID accordingly.

- ) **Citation Number:** Give the citation number associated with the applicable requirements.
- ) **Compliance Method based upon:** Check the appropriate box that represents the compliance basis for this applicable requirement. Again, do not check more than one box.

**Applicable Requirement:** This box should be checked when there exists a compliance method in terms of monitoring, testing, and/or related record keeping and reporting for an applicable requirement.

**Gap Filling Requirement:** This box is to be used for cases where the applicable requirement does not contain or require a compliance method. It can also be used for future enhanced monitoring requirements, if applicable.

- ) **Method of Compliance Type:** Check all boxes that are appropriate to this applicable requirement and complete the corresponded sections. For example, if the "Monitoring" and "Reporting" boxes are marked, only Sections 2 and 5 need to be completed.

**Section 2:      *Monitoring***

In this section, provide the type of monitoring device(s) and its location. Also describe all parameters monitored, the frequency, and the duration of monitoring for each monitor in the table provided. Explain how this data will be reported to the Department.

**Section 3:      *Testing***

List the reference test method citation as well as a description of this method in spaces provided.

**Section 4 & 5: *Record Keeping and Reporting***

If one of the compliance methods involve record keeping and reporting requirements, answer the questions as posed.

**Section 6:      *Work Practice Standard***

List or describe any work practice standards used for purposes of determining compliance with the applicable requirements.



**SECTION 8**  
**Drawings, Maps, and Schematics**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**

**Permit Number 23-00004**

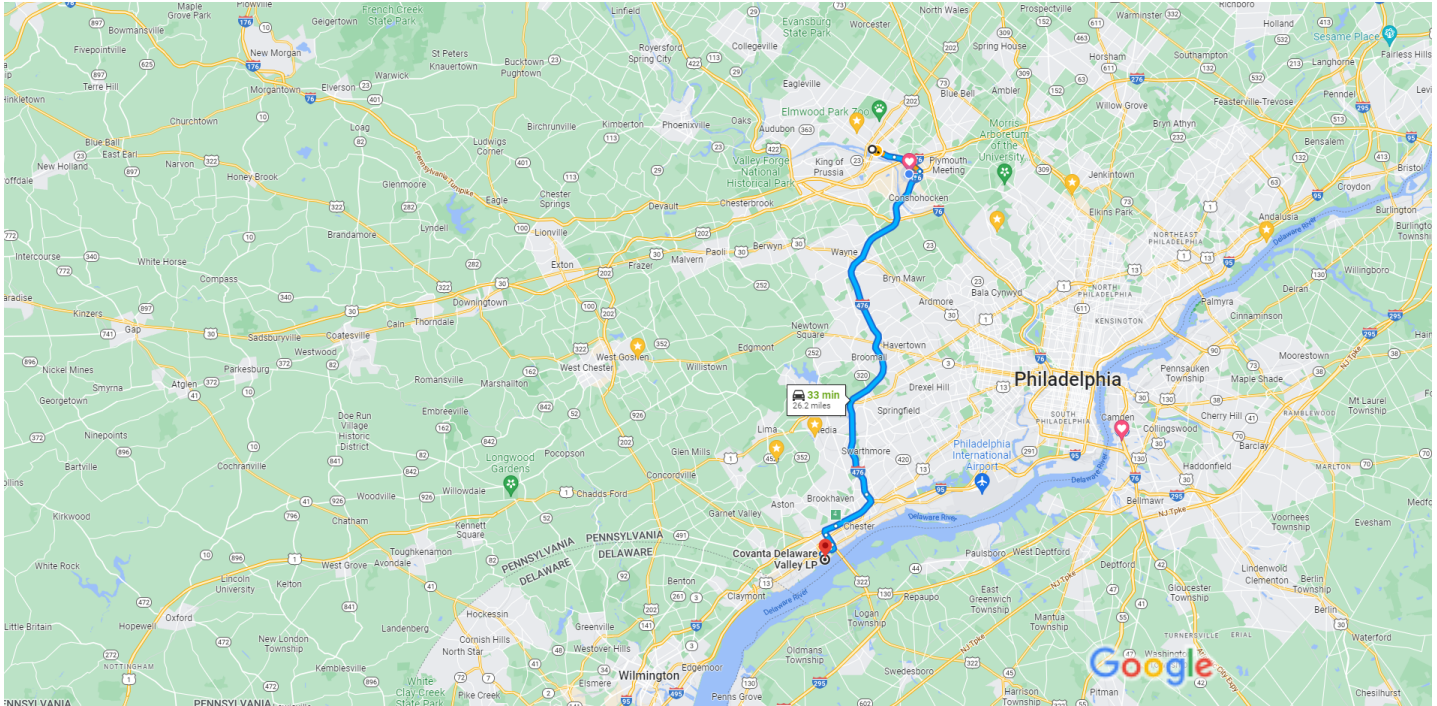
**December 2022**



DEP Southeast Regional Office, 2 E Main St,  
Norristown, PA 19401 to Covanta Delaware Valley LP, 10 Highland Ave,  
Chester, PA 19013

Drive 26.2 miles, 33 min

Directions From PADEP SERO to Covanta Delaware Valley



Map data ©2022 Google 2 mi


DEP Southeast Regional Office  
2 E Main St, Norristown, PA 19401

Get on I-476 S in Plymouth Township


- ↑ 1. Head southeast on E Main St toward Strawberry Alley  
7 min (2.9 mi)
- ↑ 2. Continue onto Ridge Pike  
1.1 mi
- ↑ 3. Turn right to merge onto I-476 S  
1.5 mi
- ↑ 4. Merge onto I-476 S  
0.3 mi

Continue on I-476 S to Chester. Take the PA-291 exit from  
US-322 E


- ↑ 4. Merge onto I-476 S  
23 min (22.4 mi)
- ↑ 5. Merge onto I-476 S  
18.1 mi

-  5. Use the right 2 lanes to merge onto I-95 S toward Chester  


---

 2.5 mi
-  6. Take exit 4 for US-322 E toward New Jersey  

---

 0.8 mi
-  7. Continue onto US-322 E  


---

 0.6 mi
-  8. Take the PA-291 exit toward Chester/Waterfront  



---

 0.4 mi

**Continue on PA-291 W/W 2nd St. Drive to Highland Ave**

-  9. Turn left onto PA-291 W/W 2nd St  

---

 2 min (0.8 mi)
-  10. Turn left onto Highland Ave  
 Destination will be on the right  

---

 0.3 mi

Covanta Delaware Valley LP

10 Highland Ave, Chester, PA 19013

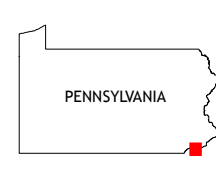
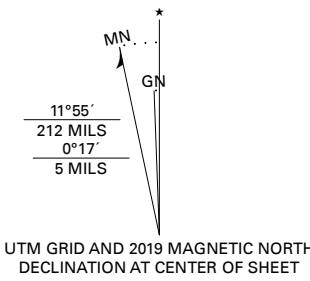




Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84) Projection and  
1 000 meter grid/Universal Transverse Mercator, Zone 18S  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery.....NAIP, July 2015 - December 2017  
Roads.....U.S. Census Bureau, 2016  
Names.....GNIS, 1979 - 2019  
Hydrography.....National Hydrography Dataset, 1899 - 2018  
Contours.....National Elevation Dataset, 2000 - 2017  
Boundaries.....Multiple sources; see metadata file 2017 - 2018  
Wetlands.....FWS National Wetlands Inventory 2007 - 2013



1	2	3
4	5	6
7	8	9

ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
	State Route

MARCUS HOOK, PA, DE, NJ

2019





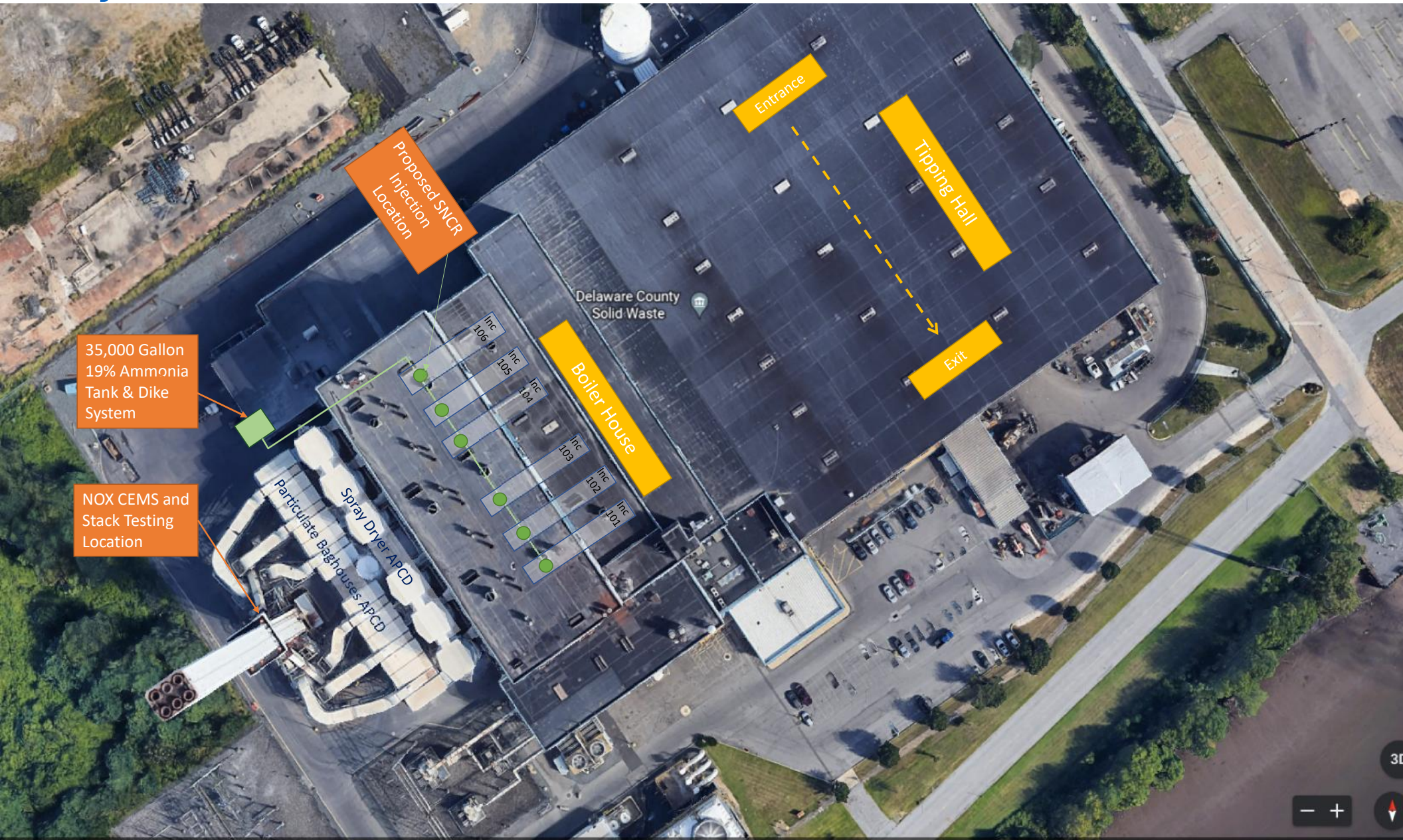
Sustainable Materials Management to Protect Tomorrow

# COVANTA

Section 3 SNCR NOX Project Drawings

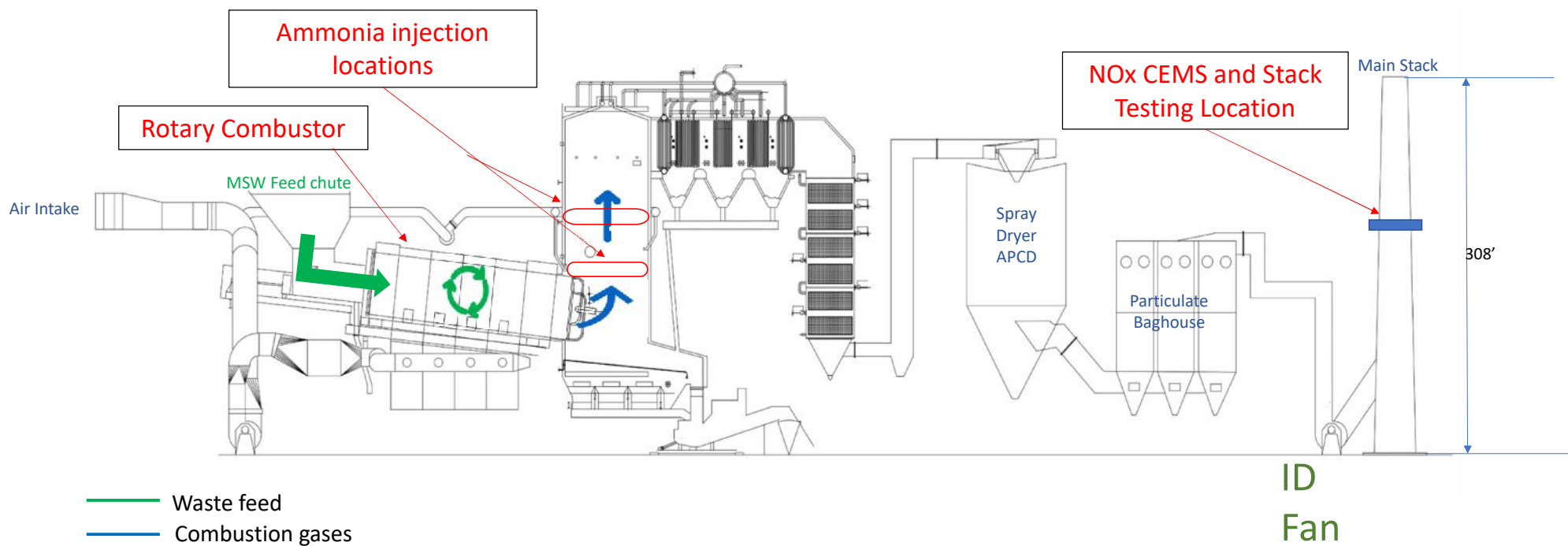


# Project Location Overview



# Covanta Delaware Valley Combustor Side View

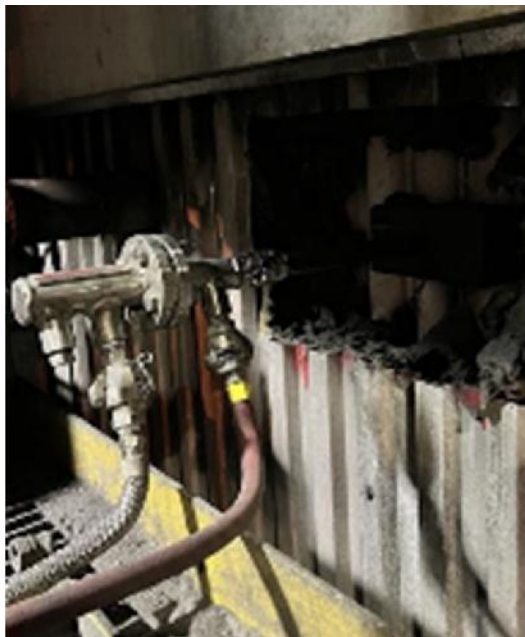
- SNCR Injection



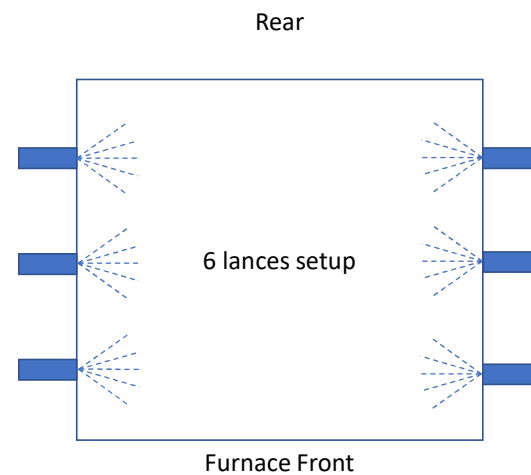


# SNCR Boiler Injection

## Boiler Injection Lance



## Boiler Injection Location





Sustainable Materials Management to Protect Tomorrow

# COVANTA

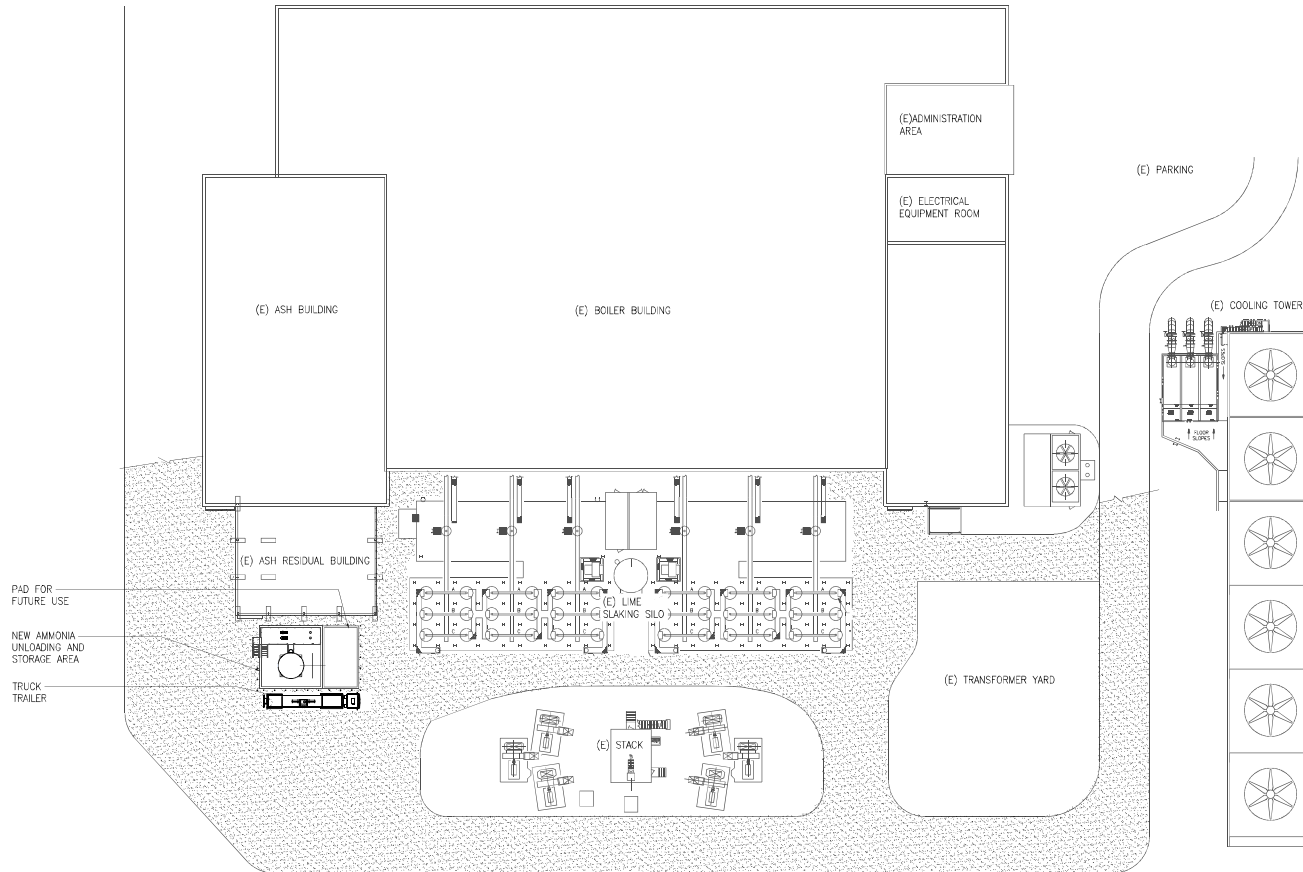
Section 3 Ammonia Storage Tank



PROJECT NORTH

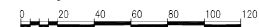


TRUE NORTH



NOTE: (E) DENOTES EXISTING.

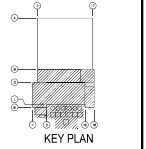
**NOT FOR CONSTRUCTION**  
**PRELIMINARY**



SCALE: 1/32" = 1'-0"

SCALE 384

Drawing Copyright © 2019



COVANTA DELAWARE VALLEY FACILITY CHESTER, PA  
AQUEOUS AMMONIA SNCR RETROFIT

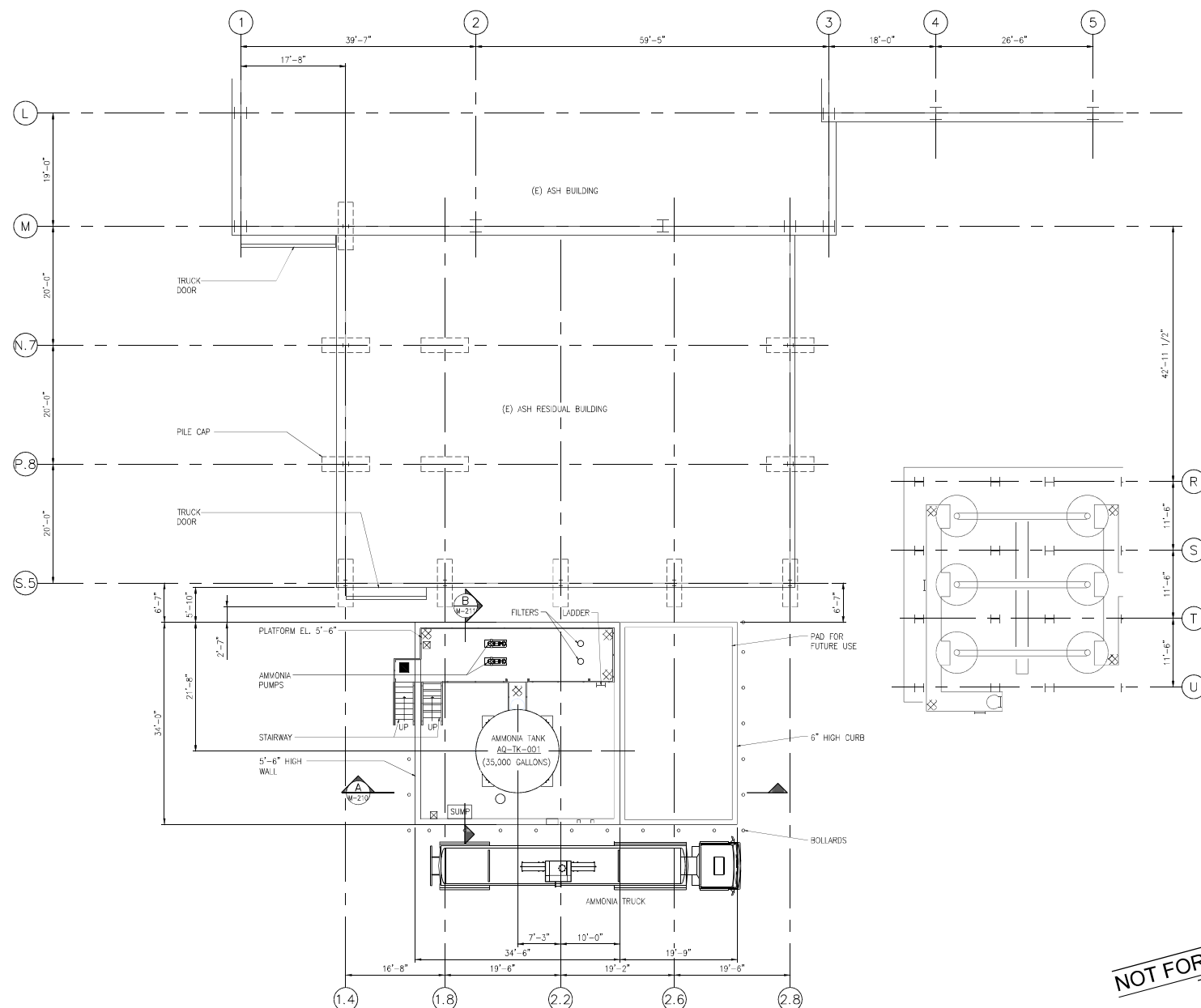
COVANTA DELAWARE VALLEY FACILITY CHESTER, PA  
AQUEOUS AMMONIA SNCR RETROFIT

No.	Revised	Revised	App'd	By	Mod'd
0	ISSUED FOR DEP PERMIT	AJ	CB	12/12/22	
PB	ISSUED FOR REVIEW	AJ	CB	12/12/22	
PA	ISSUED FOR REVIEW	AJ	PP	10/20/22	

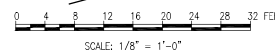
SITE PLAN  
BOILER BUILDING

Designed By:	Drawn By:	Checked By:
AJ	PP	AJ
Issue Date:	Project No:	Scale:
OCT, 2022	77993	1/32"=1'-0"

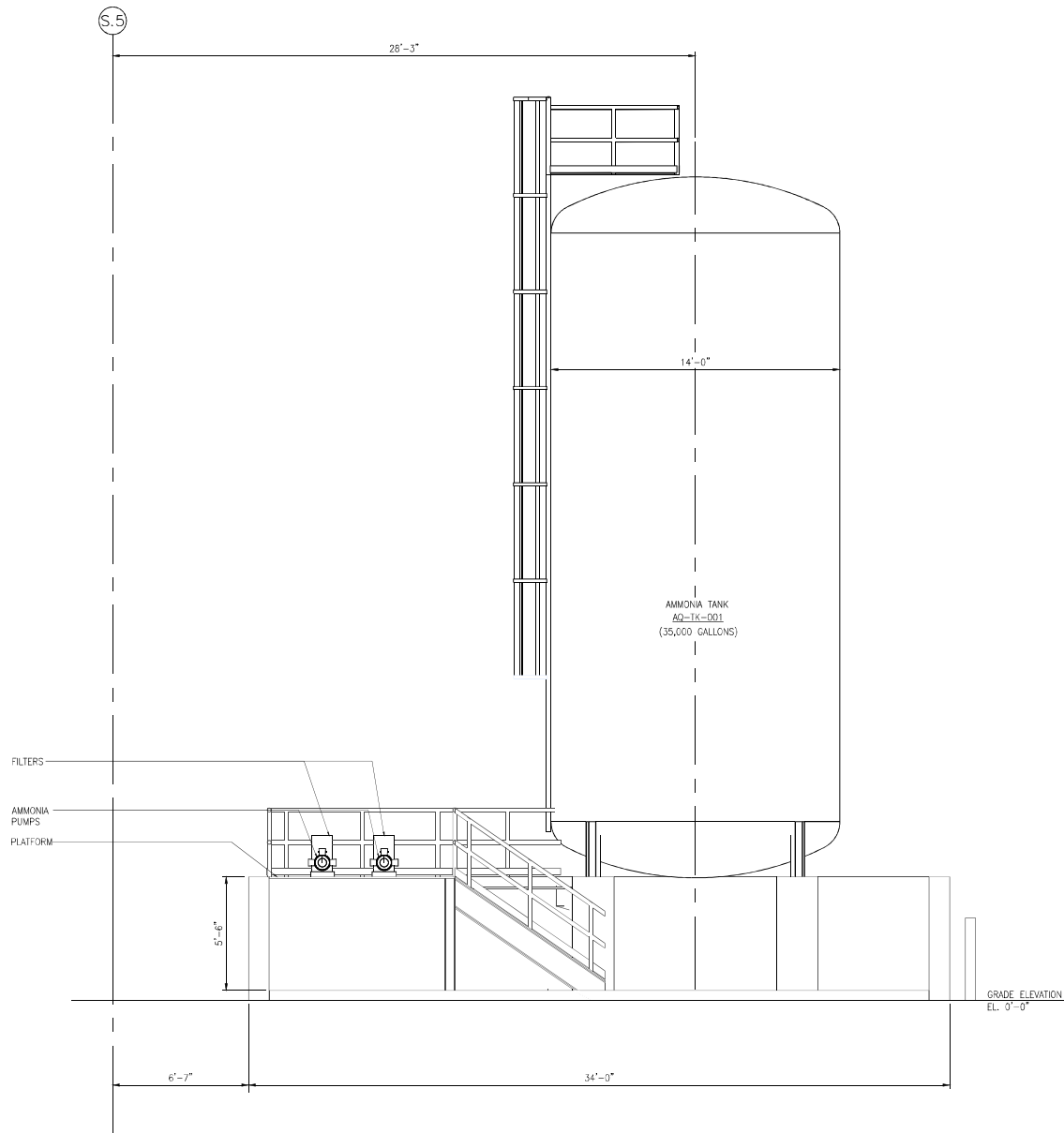
Drawing No.:  
**M-200**



**NOT FOR CONSTRUCTION**  
**PRELIMINARY**

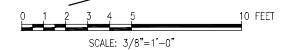






SECTION B  
SCALE: 3/8"=1'-0" M-201

**NOT FOR CONSTRUCTION**  
**PRELIMINARY**



A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE  
GIVEN UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL  
SURVEYOR, ARCHITECT, LANDSCAPE ARCHITECT OR LAND  
SURVEYOR. TO ALTER OR ADD TO THIS PLAN, OR ANY PART THEREOF,  
OR ANY OF THE SAID INSTRUMENTS, IS A VIOLATION OF THE  
ACTING, UNLESS IT IS UNDER THE DIRECTION OF A  
REGISTERED PROFESSIONAL SURVEYOR, ARCHITECT, LANDSCAPE  
ARCHITECT OR LAND SURVEYOR. TO ALTER OR ADD TO THIS  
PLAN, OR ANY PART THEREOF, IS A VIOLATION OF THE  
ACTING, UNLESS IT IS UNDER THE DIRECTION OF A  
REGISTERED PROFESSIONAL SURVEYOR, ARCHITECT, LANDSCAPE  
ARCHITECT OR LAND SURVEYOR. TO ALTER OR ADD TO THIS  
PLAN, OR ANY PART THEREOF, IS A VIOLATION OF THE  
ACTING, UNLESS IT IS UNDER THE DIRECTION OF A  
REGISTERED PROFESSIONAL SURVEYOR, ARCHITECT, LANDSCAPE  
ARCHITECT OR LAND SURVEYOR.

AVANTA DELAWARE VALLEY  
FACILITY CHESTER, PA  
AQUEOUS AMMONIA SNCR  
RETROFIT

Submitted / Revision	App'd	By	MM/DD/YY
ISSUED FOR DEP PERMIT	AJ	CBL	12/12/22
ISSUED FOR DEP PERMIT	AJ	CBL	12/02/22

## GENERAL ARRANGEMENT SECTION VIEWS

Designed By: AJ	Drawn By: PP	Checked By: AJ
Issue Date: Nov. 2022	Project No: 77903	Scale: 3/8"=1'-0"

Drawing No.:  
M-211

**SECTION 9**  
**Ammonium Hydroxide**  
**Safety Data Sheet (SDS)**

**COVANTA**

**Covanta Delaware Valley, LP.**  
**Plan Approval for SNCR APCD Installation**  
**Permit Number 23-00004**  
**December 2022**



**WD Service Company**  
**780 Creek Road**  
**PO Box 147**  
**Bellmawr, NJ 08099**  
**856-931-6100**  
[www.wdserviceco.com](http://www.wdserviceco.com)

## SAFETY DATA SHEET

### Section 1. Identification

Product Name: **Ammonium Hydroxide – 10%-30%**  
Synonyms: Ammonium Hydroxide Solutions, Aqua Ammonia, Aqua Ammonia Solutions, Ammonia Solutions, Ammonia Aqueous, Ammonia Water

CAS REGISTRY NO: 1336-21-6

Supplier: WD Service Company

Corporate Emergency Telephone Number: **800-366-9326**  
24 Hour Emergency Telephone Number: **Chemtrec: 800-424-9300**

Recommended Use: Various Industrial

### Section 2. Hazard(s) Identification

Hazard: Acute Toxicity, Corrosive, Acute Aquatic Toxicity

Classification: Acute Toxicity, Inhalation (Category 4) Note: (1 - Most Severe / 4 - Least Severe)  
Acute Toxicity, Oral (Category 4)  
Skin Corrosion (Category 1B)  
Serious Eye Damage / Irritation (Category 1)  
Acute Aquatic Toxicity (Category 1)

Pictogram:



Signal word: **Danger**

Hazard statements: Harmful if inhaled.  
Harmful if swallowed.  
Causes severe skin burns and eye damage.  
Very toxic to aquatic life.

Precautionary statements: Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection, face protection.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor/physician and seek medical attention for severe exposure or if symptoms persist. Specific treatment, see supplemental first aid instructions in Section 4 (First Aid Measures).  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a poison center/doctor/physician. See supplemental first aid instructions in Section 4 (First Aid Measures).  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower (continued) (minimum of 20 minutes). See supplemental first aid instructions in Section 4 (First Aid Measures).  
IF IN EYES: Immediately call a doctor/physician and seek medical attention. Rinse continuously with water for several minutes (minimum of 20 minutes). Specific treatment, see supplemental first aid instructions in Section 4 (First Aid Measures). Wash contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local, regional, national regulations as applicable. See section 13 (Disposal Considerations).



**NFPA Rating:****HMIS Classification:**

AMMONIUM HYDROXIDE	
HEALTH	3
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	H

**NFPA Numbering System:**

0 = Least Hazardous / 4 = Most Hazardous

**HMIS Hazard Index:**

0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe

### Section 3. Composition / Information on Ingredients

**CHEMICAL NAME:** Ammonium Hydroxide (Ammonium Hydroxide Solutions 10% to 30%)

**CAS REGISTRY NO:** 1336-21-6

**SYNONYMS:** Ammonium Hydroxide Solutions, Aqua Ammonia, Aqua Ammonia Solutions, Ammonia Solutions, Ammonia Aqueous, Ammonia Water.

**CHEMICAL FAMILY:** Inorganic nitrogen compounds.

**COMPOSITION:** Solutions: Anhydrous Ammonia (10% to 30%); Water (90% to 70%); Density: 16° Baume to 26° Baume.

**Ammonia, Anhydrous: CAS # 7664-41-7; Water: CAS# 7732-18-5**

### Section 4. First Aid Measures

IF INHALED: Immediately remove person to fresh air and keep comfortable for breathing. In case of severe exposure or if irritation persists, breathing difficulties or respiratory symptoms arise, seek medical attention. If not breathing, administer artificial respiration. If trained to do so, administer supplemental oxygen, if required.

IF ON SKIN (or hair): Immediately take off all contaminated clothing. Flush skin with copious amounts of tepid water for a minimum of 20 minutes. Do not rub or apply topical, occlusive compounds, such as ointments, certain creams, etc., on affected area. For severe exposure or if irritation persists, seek medical attention. Wash contaminated clothing before reuse.

IF IN EYES: Immediately rinse continuously with copious amounts of tepid water for a minimum of 20 minutes. Eyelids should be held apart and away from eyeball for thorough rinsing. Seek medical attention.

IF SWALLOWED: Rinse mouth. Do not induce vomiting. If conscious, give large amounts of water to drink. May drink orange juice, citrus juice or diluted vinegar (1:4) to counteract ammonia. If unconscious, do not give anything by mouth. Seek medical attention.

**NOTE TO PHYSICIAN:** Respiratory injury may appear as a delayed phenomenon. Pulmonary edema may follow chemical bronchitis. Supportive treatment with necessary ventilation actions, including oxygen, may warrant consideration.

### Section 5. Fire Fighting Measures

**EXTINGUISHING MEDIA:**

Water Spray, Water Fog for escaping ammonia gas.

**SPECIAL FIRE FIGHTING PROCEDURES:**

Must wear protective clothing and a positive pressure SCBA.

Stop flow of liquid if possible.

Use water spray to keep fire-exposed containers cool.

If a portable container (such as a drum, Intermediate Bulk Container [IBC] or trailer) can be moved from the fire area without risk to the individual, do so to prevent the pressure relief valve from discharging or the container from failing.

Stay upwind when containers are threatened.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

When heated, product will give off ammonia vapor, which is a strong irritant to the eye, skin and respiratory tract.

Outdoors, ammonia is not generally a fire hazard. Indoors, in confined areas, ammonia vapors may be a fire hazard, especially if oil or other combustible materials are present.

Combustion may form toxic nitrogen oxides (NO<sub>x</sub>).



## Section 6. Accidental Release Measures

### **GENERAL:**

Only properly trained and equipped persons should respond to an ammonium hydroxide release.

Wear eye, hand and respiratory protection and protective clothing; see Section 8, Exposure Controls / Personal Protection.

Stop source of leak if possible, provided it can be done in a safe manner.

Leave the area of a spill by moving laterally and upwind.

Isolate the affected area. Non-responders should evacuate the area, or shelter in place.

### **SPECIFIC STEPS TO BE TAKEN:**

For a hazardous material release response, Level A and/or Level B ensemble including positive-pressure SCBA should be used. A positive pressure SCBA is required for entry into ammonia atmospheres at or above 300 ppm (IDLH).

Stay upwind and use water spray downwind of container to absorb the evolved gas.

Contain spill and runoff from entering drains, sewers, streams, lakes and water systems by utilizing methods such as diking, containment, and absorption.

## Section 7. Handling and Storage

### **SPECIAL PRECAUTIONS:**

Only trained persons should handle ammonium hydroxide.

Store in cool, dry and well-ventilated areas, with containers tightly closed.

Keep out of direct sunlight and away from heat sources.

Do not use any non-ferrous metals such as copper, brass, bronze, aluminum, tin, zinc or galvanized metals.

Protect containers from physical damage.

Closed storage tanks should be provided with safety relief valves and vacuum breakers as necessary.

### **VENTILATION:**

Local exhaust should be sufficient to keep ammonia vapor below applicable exposure standards.

### **WORKPLACE PROTECTIVE EQUIPMENT:**

Protective equipment should be stored near, but outside of ammonium hydroxide area. Water for first aid, such as an eyewash station and safety shower should be kept available in the immediate vicinity.

## Section 8. Exposure Controls / Personal Protection

### **EXPOSURE LIMITS FOR AMMONIA:** (Vapor)

OSHA	50 ppm,	35 mg / m <sup>3</sup> PEL	8 hour TWA
NIOSH	35 ppm,	27 mg / m <sup>3</sup> STEL	15 minutes
	25 ppm,	18 mg / m <sup>3</sup> REL	10 hour TWA
	300 ppm,	IDLH	
ACGIH	25 ppm,	18 mg / m <sup>3</sup> TLV	8 hour TWA
	35 ppm,	27 mg / m <sup>3</sup> STEL	15 minutes

### **PROTECTIVE EQUIPMENT:**

**EYE/FACE PROTECTION:** Chemical splash goggles should be worn when handling ammonium hydroxide (aqua ammonia). A face shield can be worn over chemical splash goggles as additional protection. Do not wear contact lenses when handling ammonium hydroxide. Refer to 29 CFR 1910.133 for OSHA eye protection requirements.

**SKIN PROTECTION:** Ammonia impervious gloves and clothing (such as neoprene, butyl and Teflon) should be worn to prevent contact during normal operations, such as loading/unloading, transfers, and handling small spills.

Chemical boots can be worn as additional protection.

**RESPIRATORY PROTECTION:** Respiratory protection approved by NIOSH for ammonia must be used when applicable safety and health exposure limits are exceeded. For escape in emergencies, NIOSH approved respiratory protection should be used, such as a full-face gas mask and canisters/cartridges approved for ammonia or SCBA. A positive pressure SCBA is required for entry into ammonia atmospheres at or above 300 ppm (IDLH).

Refer to 29 CFR 1910.134 and ANSI: Z88.2 for OSHA respiratory protection requirements.

**VENTILATION:** Local exhaust should be sufficient to keep ammonia vapor below applicable exposure standards.

**FOR A HAZARDOUS MATERIAL RELEASE RESPONSE:** Level A and/or Level B ensemble including positive-pressure SCBA should be used. A positive pressure SCBA is required for entry into ammonia atmospheres at or above 300 ppm (IDLH).

## Section 9. Physical and Chemical Properties

<b>APPEARANCE AND ODOR:</b>	Colorless liquid with a pungent odor.
<b>ODOR THRESHOLD:</b>	2 - 5 ppm
<b>SOLUBILITY IN WATER:</b>	Miscible
<b>SPECIFIC GRAVITY OF VAPOR (air = 1):</b>	0.596 at 32 °F
<b>WEIGHT (per gallon):</b>	7.46 pounds to 7.99 pounds
<b>EVAPORATION RATE (water = 1):</b>	Similar
<b>PH:</b>	13+
<b>FORMULA:</b>	NH <sub>4</sub> OH (NH <sub>3</sub> + H <sub>2</sub> O)
<b>MOLECULAR WEIGHT:</b>	35.05 (NH <sub>4</sub> OH)
<b>VISCOSITY:</b>	1.7 40 °F (26% solution)
<b>PARTITION COEFFICIENT:</b>	Not applicable.
<b>DECOMPOSITION TEMPERATURE:</b>	Not applicable.
<b>FLAMMABILITY:</b>	
<b>FLASHPOINT:</b>	Not applicable.
<b>FLAMMABLE LIMITS OF AMMONIA VAPOR IN AIR:</b>	LEL/UEL 16% to 25% (listed in the <i>NIOSH Pocket Guide to Chemical Hazards</i> 15% to 28%).
<b>AUTO-IGNITION TEMPERATURE (ammonia vapors):</b>	1,204 °F (If catalyzed). 1,570 °F (If un-catalyzed).

### SOLUTION-SPECIFIC PHYSICAL DATA:

	20.5° Baume	25° Baume	26° Baume
<b>AMMONIA PERCENTAGE:</b>	18.5% to 19.5%	26.5% to 27.5%	29.4% to 30.0%
<b>WATER PERCENTAGE:</b>	81.5% to 80.5%	73.5% to 72.5%	70.6 % to 70.0%
<b>SPECIFIC GRAVITY (water = 1):</b>	0.9309 to 0.9278 at 60 °F	0.9060 to 0.9030 at 60 °F	0.8974 to 0.8957 at 60 °F
<b>APPROXIMATE BOILING POINT:</b>	120 °F at 14.7 psia	88 °F at 14.7 psia	84.9 °F at 14.7 psia
<b>VAPOR PRESSURE:</b>	3.9 psia at 60 °F	6.9 psia at 60 °F	9.1 psia at 60 °F
<b>APPROXIMATE FREEZING POINT:</b>	-31 °F	-89 °F	-110 °F

## Section 10. Stability and Reactivity

### **REACTIVITY:**

Avoid ammonium hydroxide contact with chemicals such as mercury, chlorine, iodine, bromine, silver oxide or hypochlorites; they can form explosive compounds. Ammonia reacts with strong oxidizers, acids, halogens (including chlorine bleach), and salts of silver, zinc, copper, and other heavy metals.

### **CHEMICAL STABILITY:**

Stable under normal ambient conditions of temperature and pressure.  
Will not polymerize.

### **POSSIBILITY OF HAZARDOUS REACTIONS:**

Ammonium hydroxide will react exothermically with acids.  
Ammonia vapors are released when heated.

### **CONDITIONS TO AVOID:**

Avoid ammonium hydroxide contact with chlorine, which forms a chloramine gas, which is a primary skin irritant and sensitizer.

### **INCOMPATIBLE MATERIALS:**

Ammonium hydroxide has a corrosive reaction with galvanized surfaces, copper, brass, bronze, aluminum alloys, mercury, gold and silver.

### **HAZARDOUS DECOMPOSITION PRODUCTS:**

Ammonia will be liberated if heated. Hydrogen will be released on heating ammonia above 450 °C (842 °F).

## Section 11. Toxicological Information

**Potential health effects:** Ammonia is an irritant and corrosive to the skin, eyes, respiratory tract and mucous membranes. May cause severe chemical burns to the eyes, lungs and skin. Skin and respiratory related diseases could be aggravated by exposure. The extent of injury produced by exposure to ammonia depends on the duration of the exposure, the concentration of the liquid or vapor and the depth of inhalation.

**Exposure Routes:** Inhalation (vapors), skin and/or eye contact (vapors, liquid), ingestion (liquid).

## Section 11. Toxicological Information (Continued)

### Symptoms of acute exposure:

**Inhalation:** Acute exposure to vapor may result in severe irritation of the respiratory tract. May cause dyspnea (breathing difficulty), wheezing, chest pain, bronchospasm, pink frothy sputum, pulmonary edema or respiratory arrest. Respiratory injury may appear as a delayed phenomenon. Pulmonary edema may follow chemical bronchitis.

**Eyes:** Vapors may cause irritation. Effects of direct contact may range from irritation and lacrimation (tearing) to severe corrosive injury and blindness.

**Skin:** Irritation, corrosive burns, blister formation (vesiculation) may result. Contact with liquid may produce caustic burns.

**Ingestion:** May cause corrosion to the mouth, throat, esophagus and stomach with perforation and peritonitis. Extreme exposure may result in death from spasm, inflammation or edema.

**Chronic Exposure:** Repeated exposure to ammonia may cause chronic irritation of the eyes and respiratory tract.

### Toxicity:

LC<sub>50</sub> - 5131 mg/m<sup>3</sup> (7338 ppm) to 11,592 mg/m<sup>3</sup> (16,600 ppm), 60 minute exposure, Rat.

LD<sub>50</sub> - 350 mg / kg (Oral / Rat).

Not listed in the National Toxicology Program (NTP).

Not recognized by OSHA as a carcinogen.

Not listed as a carcinogen by the International Agency for Research on Cancer (IARC monograph).

Germ cell mutagenicity information is not available. Reproductive toxicity information is not available.

## Section 12. Ecological Information

Ammonia is harmful to aquatic life at very low concentrations. Notify local health and wildlife officials and operators of any nearby water intakes upon contamination of surface water.

### Toxicity:

Terrestrial plants: LOEC = 3-250 ppm NH<sub>3</sub>.

Aquatic plants: LOEC = 0.5-500 mg NH<sub>3</sub>-N/L.

Acute toxicity to invertebrates: 48 h LC<sub>50</sub> = 2.94 mg un-ionized NH<sub>3</sub>-N/L.

Chronic toxicity to invertebrates: NOEC = 0.163- 0.42 mg un-ionized NH<sub>3</sub>/L.

Acute toxicity to fish: 96-h: LC<sub>50</sub>= 0.09 – 3.51 mg un-ionized NH<sub>3</sub>/L.

Chronic toxicity to fish: NOEC=0.025-1.2 mg un-ionized NH<sub>3</sub>/L.

**Environmental Fate Information:** Ammonia dissipates relatively quickly in ambient air and rapidly returns to the soil via combination with sulfate ions or washout by rainfall. Ammonia strongly adsorbs to soil, sediment particles and colloids in water under aerobic conditions. Biodegradation of ammonia to nitrate occurs in water under aerobic conditions resulting in a biological oxygen demand (BOD).

**Persistence/Degradability:** Biodegradable in soil. Ozonation in the air. Soluble in water.

**Bioaccumulative Potential:** Not applicable.

**Mobility in Soil:** No additional information available.

**Other Adverse Effects:** No additional information available.

## Section 13. Disposal Considerations

Dispose of unused contents/container in accordance with local/regional/national regulations as applicable.

Listed as hazardous substance under Clean Water Act (CWA) (40 CFR 116.4 and 40 CFR 117.3).

Classified as hazardous waste under Resource Conservation and Recovery Act (RCRA) (40 CFR 261.22 Corrosive #D002) if disposed of in original form. Suitably diluted product may be utilized as fertilizer on agricultural land.

For hazardous waste regulations information call the RCRA Hotline (800) 424-9346, or visit the US EPA website.

## Section 14. Transport Information

### US Department of Transportation

HAZARD CLASS: 8 (Corrosive Material)

PROPER SHIPPING DESCRIPTION: UN2672, Ammonia Solutions, 8, PG III, RQ

PLACARD: Corrosive



IDENTIFICATION NUMBER:

UN 2672

## Section 14. Transport Information (Continued)

### ENVIRONMENTAL HAZARDS:

IMDG, Known Marine Pollutant: No

United Nations Model Regulations, Environmentally Hazardous: No

## Section 15. Regulatory Information

The material is subject to the reporting requirements of Section 304, Section 312 and Section 313, Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR 372.

Under Section 313, as of June 30, 1995, this material is reportable with the following qualifications: 10% of total aqueous ammonia is reportable as Ammonia (CAS #: 7664-41-7) under this listing.

Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Section 103, any environmental release of this chemical equal to or over the reportable quantity of 1,000 pounds (as NH<sub>4</sub>OH) must be reported promptly to the National Response Center, Washington, D.C. (1-800-424-8802).

Toxic Substances Control Act (TSCA): This material and its components are listed in the TSCA Inventory.

EPA Hazard Categories – Immediate: Yes; Delayed: No; Fire: No; Sudden Release: No; Reactive: No

Clean Air Act – Section 112(r): Material is listed under EPA's Risk Management Program (RMP), 40 CFR Part 68 at concentrations greater than 20% and storage/process amounts greater than the Threshold Quantity (TQ) of 20,000 pounds of contained ammonia (CAS #: 7664-41-7).

The chemical is listed under Department of Homeland Security regulation 6 CFR Part 27, Chemical Facility Anti-Terrorism Standards at storage / process amounts greater than the threshold quantity of 20,000 pounds (ammonia concentration 20% or greater).

OSHA (Occupational Safety & Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200. This material is subject to Process Safety Management requirements of 29 CFR 1910.119 if maintained on-site, including storage and process, in quantities of 15,000 pounds or greater (>44% ammonia by weight).

## Section 16. Other Information

Preparation Information: Revision Date May 1, 2015  
Replaces all previously dated versions.

Prepared by: HJS

Revisions to this Safety Data Sheet have been created to comply with the requirements of the OSHA Hazard Communication Final Rule issued in 2012 (HazCom 2012).

### Acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists

ANSI: American National Standards Institute

CAS: Chemical Abstracts Service

CFR: Code of Federal Regulations

DHS: Department of Homeland Security

DOT: Department of Transportation

EPA: Environmental Protection Agency

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

IDLH: Immediately Dangerous to Life or Health

IMDG: International Maritime Dangerous Goods

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

PPM: Parts Per Million

RCRA: Resource Conservation and Recovery Act

REL: Recommended Exposure Limit

SCBA: Self Contained Breathing Apparatus

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TWA: Time Weighted Average

### Disclaimer:

The information, data, and recommendations in this safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. To the best of our knowledge, the information, data, and recommendations set forth herein are believed to be accurate. We make no warranties, either expressed or implied, with respect thereto and assume no liability in connection with any use of such information, data, and recommendations. Judgements as to the suitability of the information contained herein for the party's own use or purposes are solely the responsibility of that party. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product.