



COVANTA BRISTOL, INC.
170 Enterprise Drive
Bristol, CT 06010
Tel 860 589 6470
Fax 860 583 3398

April 27, 2023

Central Permit Processing Unit
CT Department of Energy & Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
ATTN: Mr. David Lariviere

Re: Covanta Bristol, Inc\ Bristol Resource Recovery Facility
Minor Modification Application of New Source Review Permit
NSR Permits P-026-0026 and P-026-0027

Dear Mr. David Lariviere,

Covanta Bristol, Inc (Covanta) is pleased to submit the enclosed New Source Review Permit Minor Modification Applications for the Bristol Resource Recovery Facility. This package includes the Minor Modification Application of New Source Review Permit Form (DEEP-NSR-APP-200MM) and associated attachments.

Should additional information or detail be necessary, please feel free to contact me at 978-697-6547.

Sincerely,

George Drew
Regional Environmental Director

Enclosure

cc: Gary Pierce, Covanta

Sergio Alio, Covanta

J. Achey, Covanta

**Covanta Bristol, Inc.
Bristol Resource Recovery Facility
170 Enterprise Drive, Bristol, CT 06010**

**Minor Modification Application of
New Source Review Permit**

NSR Permits P-026-0026 and P-026-0027

Request to Process Biomedical Waste



April 2023

Covanta Bristol, Inc

Biomedical Waste NSR Permit Minor Modification Application

Application Narrative

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Section 1 - Introduction

Section 1.1- Purpose of Application

The purpose of this Minor Modification Application of New Source Review Permits Nos. P-026-0026 and P-026-0027 (“the Application”) is to obtain authorization from the Connecticut Department of Energy and Environmental Protection (“CTDEEP”) for the processing of biomedical waste (“BMW”) by combustion with energy recovery at the Covanta Bristol, Inc./Bristol Resource Recovery Facility (“Bristol Facility” or “Facility”) located at 170 Enterprise Drive, Bristol, CT. The Application consists of two (2) completed Form DEEP-NSR-APP-200MM Permit Application for a Minor Modification of an Existing New Source Review Permit, one per each NSR permit, and this introduction/project narrative and supporting documentation. Covanta has applied for Construction and Operation of a Solid Waste Facility Permit(s) from the Waste Engineering and Enforcement Division of CTDEEP, and those applications are under review. The applications demonstrate that the Bristol Facility can successfully and safely process BMW in a manner protective of public health.

This Application seeks to modify New Source Review Permits Nos. P-026-0026 and P-026-0027 for the Bristol Facility by adding biomedical waste as an additional waste that can be processed in the municipal waste combustor (MWC) units at the Facility, in conjunction Waste Engineering and Enforcement Division solid waste approvals being requested concurrently. New Source Review Permits Nos. P-026-0026 and P-026-0027 are contained in **Appendix B** of the Application.

Covanta Bristol, Inc is proposing to implement this BMW program at the Bristol Facility to satisfy the need for safe, sustainable BMW disposal for CT Healthcare. Program benefits will include reduced BMW transportation and disposal costs for the CT Healthcare industry, and increased funding for the local Bristol community in accordance with an executed host agreement.

Covanta’s BMW program has been well established for over 30 years. The BMW program includes a rigorous compliance assurance program for waste profiling, waste acceptance criteria, and BMW facility site audits to ensure shipments of BMW meet specifications. Operating, maintenance, contingency and training plans have been developed and implemented at three (3) of Covanta’s existing resource recovery facilities located in Marion County, Oregon, Lake County, Florida and Huntsville, Alabama. Covanta’s resource recovery facilities are designed with combustion controls and air pollution control technology that destroy pathogens and ensure no increase in emissions result from the combustion of municipal solid waste (MSW) together with BMW.

Section 1.2 - Facility Overview

The Bristol Facility began commercial operation in May 1988 on an 18.2-acre site in Bristol, CT. It includes 2 large MWCs which are permitted to process a total of 716 tons per day (TPD) of solid waste per day and generate 16.3 megawatts of renewable energy, with most being sold to Eversource Energy. The Bristol Facility is owned and operated by Covanta Bristol Inc. with an agreement serving 14 Communities that are members of the Bristol Resource Recovery Policy Board.

The Bristol Facility is equipped with two 358 ton-per-day water wall furnaces using Martin® GmbH reverse-reciprocating grates and ash handling systems. Each of the 2 units is equipped with state-of-the-art air pollution control equipment including a selective noncatalytic reduction ammonia injection system for the control of oxides of nitrogen, a semi-dry flue gas scrubber in which lime is injected for acid gas control, an activated carbon injection system for the control of mercury and organic substances and a pulse jet fabric filter for secondary control of acid gases, organics and particulate. The combustion units are also equipped with continuous emissions monitoring systems to ensure that the Facility's emissions profile is consistently well below applicable emission standards.

Section 1.3 – Application Organization

This introduction/project narrative provides the CT DEEP with reasonable assurance that the combustion of BMW with municipal solid waste (MSW) at the Bristol Facility will be in accordance with applicable laws and rules and in a manner that is protective of public health. Following this introduction in **Section 1**, **Section 2** presents completed Forms DEEP-NSR-APP-200MM for the project. A detailed description of the process operations at the Bristol Facility is provided in **Section 3**. A description of air emissions with and without the combustion of BMW with MSW is presented in **Section 4**. A discussion of design and operating factors which provide assurance that the proposed combustion of BMW together with MSW will be conducted effectively and safely is presented in **Section 5**. **Section 6** contains proposed revisions to New Source Review Permits Nos. P-026-0026 and P-026-0027 to allow for operation of the proposed BMW program. The benefits of the proposed project are discussed in **Section 7**. **Section 8** provides documentation of Covanta's environmental justice and public participation program related to the Bristol BMW program. **Appendix A** contains an BMW Addendum to the Operations and Maintenance Manual for the Bristol Facility. New Source Review Permits Nos. P-026-0026 and P-026-0027 for the Bristol Facility are contained in **Appendix B**. **Appendix C** provides a description of the proposed mercury monitoring system for the Facility. Letters of Support for the proposed project from the City of Bristol to the CTDEEP dated April 14, 2020, and October 14, 2020, are contained in **Appendix D**.

Section 2 – Forms DEEP-NSR-APP-200MM

This section of the Application contains completed Forms DEEP-NSR-APP-200MM, Minor Modification Application of New Source Review Permit, one for each of the two (2) NSR permits P-026-0026 and P-026-0027.



**Connecticut Department of
Energy & Environmental Protection**
Bureau of Air Management
Engineering & Enforcement Division

Minor Modification Application for an Existing New Source Review Permit

This form is to be used for a New Source Review permit minor modification as described in [RCSA section 22a-174-2a\(e\)](#). Submit one application form for each permit to be modified.

Complete this form in accordance with CGS section 22a-174, RCSA sections 22a-174-1, 2a and 3a and the [instructions](#) (DEEP-NSR-INST-200MM) to ensure the proper handling of your application. Print or type unless otherwise noted. You must submit the fee along with this form.

| |
|--|
| CPPU USE ONLY |
| App #: _____ |
| Doc #: _____ |
| Check #: _____ |
| Program/EI/App Type: Air Engineering/NSR/Minor Modification |

Questions? Visit the [Air Permitting](#) web page or contact the Air Permitting Engineer of the Day at 860-424-4152.

| | | | |
|-----------------------------------|-----------------------|----------------------------------|----------|
| Applicant Name | Covanta Bristol, Inc. | | |
| Town Where Site is Located | Bristol, CTI | Existing Town-Permit Nos. | 026-0026 |

Part I: Fee Information

There are two options available for payment. **Option 1:** Submit the full permit minor modification fee of \$1,750.00 or \$3,250.00, which includes the \$940.00 application fee, with this application form. This option will shorten the permit process. For less than major emitting equipment, the full fee is \$1,750.00. For major emitting equipment, the full fee is \$3,250.00. **Option 2:** Submit only an application fee of \$940.00 with this application form and be billed the balance of the permit minor modification fee at a later date.

The fee for municipalities is 50% of the above listed rate. The application will not be processed until DEEP receives the application fee. The fee shall be paid by check or money order to the Department of Energy and Environmental Protection.

| | | |
|--|--|---|
| Fee Type (Check One Only) | Option 1 | <input type="checkbox"/> Permit Minor Modification fee = \$1,750 [#195 + #207] (< major emitting equipment) <input checked="" type="checkbox"/> Permit Minor Modification fee = \$3,250 [#195 + #206] (major emitting equipment) |
| | Option 2 | <input type="checkbox"/> Application fee only = \$940 [#195] (Permit fee balance will be billed later.) |
| Municipality (Any Town, City or Borough) | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, 50% discount | |

Part II: Applicant Information

- J) If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the applicant's name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)
- J) If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).
- J) If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the [Request to Change Company/Individual Information](#) to the address indicated on the form. If there is a change in name of the entity holding a DEEP license or a change in ownership, contact the Office of Planning and Program Development (OPPD) at 860-424-3003. For any other changes you must contact the specific program from which you hold a current DEEP license.

| 1. APPLICANT INFORMATION | | | | | |
|---|--|--|---|-----------------|-------|
| Applicant Name | Check at least one: <input checked="" type="checkbox"/> equipment owner <input checked="" type="checkbox"/> equipment operator <i>The applicant must be either the owner or operator of the equipment.</i> | | | | |
| Mailing Address | 140 Enterprise Drive | | | | |
| City/Town | Bristol | State | CT | Zip Code | 06010 |
| Business Phone No. | 860-589-6470 | Extension No. | | | |
| Contact Person | George Drew | | | | |
| Title | Regional Environmental Director | | | | |
| Email | gdrew@covanta.com | | | | |
| | By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes. | | | | |
| Applicant Type | <input checked="" type="checkbox"/> business entity <input type="checkbox"/> municipality <input type="checkbox"/> individual <input type="checkbox"/> federal agency <input type="checkbox"/> state agency <input type="checkbox"/> tribal | | | | |
| | If a business entity: | Business Type | <input checked="" type="checkbox"/> corporation <input type="checkbox"/> limited liability company <input type="checkbox"/> limited partnership <input type="checkbox"/> limited liability partnership <input type="checkbox"/> statutory trust <input type="checkbox"/> Other: | | |
| | | Secretary of the State Business ID No. | 0164349 <input type="checkbox"/> Check here if your business is NOT registered with the Secretary of State's office. | | |
| | | <i>This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)</i> | | | |
| Applicant's Interest in Property at which the Proposed Activity is to be Located | <input checked="" type="checkbox"/> site owner <input type="checkbox"/> option holder <input type="checkbox"/> lessee <input type="checkbox"/> easement holder <input type="checkbox"/> Other: | | | | |
| Are there co-applicants? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes", attach additional sheet(s) with the required information as above. | | | | |

Part II: Applicant Information (continued)

| 2. PRIMARY CONTACT FOR DEPARTMENTAL CORRESPONDENCE AND INQUIRIES (if different than the applicant) | | | | |
|--|---|---------------|--|----------|
| Name | same as Applicant | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes. | | | | |
| 3. EQUIPMENT OWNER OR EQUIPMENT OPERATOR (only complete if applicant is not both equipment owner and operator) | | | | |
| Name | Check one: <input type="checkbox"/> equipment owner <input type="checkbox"/> equipment operator | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| 4. ENGINEER(S) OR CONSULTANT(S) EMPLOYED OR RETAINED TO ASSIST IN PREPARING THIS APPLICATION (if different than the applicant) | | | | |
| Name | same as Applicant | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| Service Provided | | | | |

Check here if additional sheets are necessary. Label and attach them to this sheet.

Part III: Permit Modification Information

| | | | | | |
|--|------------------------------------|--------------|----|-----------------|-------|
| 1. SITE NAME AND LOCATION | | | | | |
| Name of Site | Bristol Resource Recovery Facility | | | | |
| Street Address or Location Description | 140 Enterprise Drive | | | | |
| City/Town | Bristol | State | CT | Zip Code | 06010 |
| 2. EXISTING PERMIT NO. | Permits P-026-0026 | | | | |
| 3. DESCRIPTION OF MODIFICATION | | | | | |
| <p>Include a description of the proposed modification, the basis for such modification, any proposed monitoring procedures, any increase in potential emissions resulting from the proposed modification, and an identification of all regulatory, statutory, or otherwise applicable requirements that would become applicable as a result of such modification.</p> <p>The proposed minor modification will allow the Applicant to receive and process biomedical waste by incineration with energy and metals recovery at the Bristol Resource Recovery Facility. The basis for the proposed modification is Covanta's success in processing biomedical waste in municipal waste combustors at three (3) of its other existing resource recovery facilities. There will be no increase in potential emissions as a result of the proposed modification and no regulatory, statutory or otherwise applicable requirement that would become applicable as a result of the proposed modification. As part of the proposed project, Covanta will install equipment to continuously monitor and record mercury emission from the facility.</p> | | | | | |

Note: Pursuant to RCSA section 22a-174-2a(e)(3)(C), a permittee may implement the modifications proposed in the minor permit modification application no less than 21 days after filing a complete application with the commissioner. The permittee shall comply with the terms and conditions of the proposed modified permit and the terms and conditions of the existing permit that are not being modified, until the commissioner issues or denies the proposed modified permit.

Part IV: Attachments

Check the applicable box below for each attachment being submitted with this application form. All referenced forms may be accessed electronically, in WORD and PDF versions, on the [Air Emissions Permits](#) webpage. Check all that apply.

| If any of the following are true... | Attach... | Required? | Attached |
|---|--|-----------------|-------------------------------------|
| Permit is being modified | Marked up copy of the current NSR permit noting proposed changes Use redline to delete language and uppercase font to add proposed new language. | Required | <input checked="" type="checkbox"/> |
| Source is being moved to another location on the premises | Site Plan showing the exact location of the stack(s), the latitude and longitude of the stack(s), all boundary lines of the property and measurements, and the horizontal distance from the stack base to the nearest property line; and | If Applicable | <input type="checkbox"/> |
| | A completed CTMASC spreadsheet , or equivalent, to demonstrate compliance with RCSA section 22a-174-29, Hazardous Air Pollutants. | | <input type="checkbox"/> |
| Burner is being replaced | <i>Fuel Burning Equipment Form</i> (DEEP-NSR-APP-202) | If Applicable | <input type="checkbox"/> |
| Control equipment is being added | <i>Air Pollution Control Equipment Form</i> (DEEP-NSR-APP-210) | If Applicable | <input type="checkbox"/> |
| Stack parameters are being changed | <i>Stack Parameters Form</i> (DEEP-NSR-APP-211) | If Applicable | <input type="checkbox"/> |

Part IV: Attachments (continued)

| If any of the following are true... | Attach... | Required? | Attached |
|---|--|---------------|--------------------------|
| A change is made to the operation of the source (e.g., production or fuel usage increase/decrease, etc.), resulting in changed emissions | <i>Unit Emissions Form</i> (DEEP-NSR-APP-212) | If Applicable | <input type="checkbox"/> |
| Allowable emissions in the current permit are based on older versions of AP-42 emission factors | <i>Unit Emissions Form</i> (DEEP-NSR-APP-212) Recalculate the emissions using the most current AP-42 emission factors. | If Applicable | <input type="checkbox"/> |
| If the source was issued a permit to operate before March 1, 1986, compliance with RCSA section 22a-174-29 Tables 2 and 3 of the Hazardous Air Pollutants regulations shall be demonstrated | A completed CTMASC spreadsheet , or equivalent, to demonstrate compliance with Tables 2 and 3 of the RCSA section 22a-174-29, Hazardous Air Pollutants . | If Applicable | <input type="checkbox"/> |
| Allowable emissions for a pollutant, previously limited by a BACT/LAER determination are increased | <i>Analysis of Best Available Control Technology (BACT) Form</i> (DEEP-NSR-APP-214a) | If Applicable | <input type="checkbox"/> |
| Emissions for any pollutant are increased. | <i>Ambient Air Quality Analysis Form</i> (DEEP-NSR-APP-218) | If Applicable | <input type="checkbox"/> |
| If any parameter (e.g., hourly emissions, stack height, exhaust gas flow rate, property line distance), previously modeled, is changed | Ambient Air Quality Analysis Form (DEEP-NSR-APP-218) | If Applicable | <input type="checkbox"/> |
| If the source is located at a Major Stationary Source and emissions from the premises will increase due to the minor modification | Premises Information Form (DEEP-NSR-APP-217) | If Applicable | <input type="checkbox"/> |
| | Major Modification Determination Form (DEEP-NSR-APP-213) | | <input type="checkbox"/> |

Part V: Applicant Certification


The authorized representative **and** the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute.

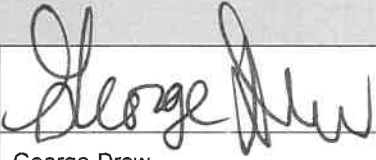
I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

"I certify, in accordance with RCSA section 22a-174-2a(e)(3)(B)(II), that the proposed minor permit modification meets all regulatory, statutory, or applicable requirements identified in the subject application."

APPLICANT:

| | | | |
|--|---|-------------|---------|
| Signature of Applicant |  | Date | 4.26.23 |
| Name of Applicant (print or type) | Sergio Allio | | |
| Title (if applicable) | Facility Manager | | |

PREPARER:

| | | | |
|---|--|-------------|---------|
| Signature of Preparer |  | Date | 4-26-23 |
| Name of Preparer (print or type) | George Drew | | |
| Title (if applicable) | Regional Environmental Director | | |

Note: Please submit the completed Application Form, Fee, and all Attachments to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

A notice of permit application is **not** required for a permit minor modification application.



**Connecticut Department of
Energy & Environmental Protection**
Bureau of Air Management
Engineering & Enforcement Division

Minor Modification Application for an Existing New Source Review Permit

This form is to be used for a New Source Review permit minor modification as described in [RCSA section 22a-174-2a\(e\)](#). Submit one application form for each permit to be modified.

Complete this form in accordance with CGS section 22a-174, RCSA sections 22a-174-1, 2a and 3a and the [instructions](#) (DEEP-NSR-INST-200MM) to ensure the proper handling of your application. Print or type unless otherwise noted. You must submit the fee along with this form.

| |
|--|
| CPPU USE ONLY |
| App #: _____ |
| Doc #: _____ |
| Check #: _____ |
| Program/EI/App Type: Air Engineering/NSR/Minor Modification |

Questions? Visit the [Air Permitting](#) web page or contact the Air Permitting Engineer of the Day at 860-424-4152.

| | | | |
|-----------------------------------|-----------------------|----------------------------------|----------|
| Applicant Name | Covanta Bristol, Inc. | | |
| Town Where Site is Located | Bristol, CT | Existing Town-Permit Nos. | 026-0027 |

Part I: Fee Information

There are two options available for payment. **Option 1:** Submit the full permit minor modification fee of \$1,750.00 or \$3,250.00, which includes the \$940.00 application fee, with this application form. This option will shorten the permit process. For less than major emitting equipment, the full fee is \$1,750.00. For major emitting equipment, the full fee is \$3,250.00. **Option 2:** Submit only an application fee of \$940.00 with this application form and be billed the balance of the permit minor modification fee at a later date.

The fee for municipalities is 50% of the above listed rate. The application will not be processed until DEEP receives the application fee. The fee shall be paid by check or money order to the Department of Energy and Environmental Protection.

| | | |
|--|--|---|
| Fee Type (Check One Only) | Option 1 | <input type="checkbox"/> Permit Minor Modification fee = \$1,750 [#195 + #207] (< major emitting equipment) <input checked="" type="checkbox"/> Permit Minor Modification fee = \$3,250 [#195 + #206] (major emitting equipment) |
| | Option 2 | <input type="checkbox"/> Application fee only = \$940 [#195] (Permit fee balance will be billed later.) |
| Municipality (Any Town, City or Borough) | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes, 50% discount | |

Part II: Applicant Information

- J) If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, the applicant's name shall be stated **exactly** as it is registered with the Secretary of State. Please note, for those entities registered with the Secretary of State, the registered name will be the name used by DEEP. This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)
- J) If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).
- J) If there are any changes or corrections to your company/facility or individual mailing or billing address or contact information, please complete and submit the [Request to Change Company/Individual Information](#) to the address indicated on the form. If there is a change in name of the entity holding a DEEP license or a change in ownership, contact the Office of Planning and Program Development (OPPD) at 860-424-3003. For any other changes you must contact the specific program from which you hold a current DEEP license.

| 1. APPLICANT INFORMATION | | | | | |
|---|--|--|---|-----------------|-------|
| Applicant Name | Check at least one: <input checked="" type="checkbox"/> equipment owner <input checked="" type="checkbox"/> equipment operator <i>The applicant must be either the owner or operator of the equipment.</i> | | | | |
| Mailing Address | 140 Enterprise Drive | | | | |
| City/Town | Bristol | State | CT | Zip Code | 06010 |
| Business Phone No. | 860-589-6470 | Extension No. | | | |
| Contact Person | George Drew | | | | |
| Title | Regional Environmental Director | | | | |
| Email | gdrew@covanta.com | | | | |
| | By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes. | | | | |
| Applicant Type | <input checked="" type="checkbox"/> business entity <input type="checkbox"/> municipality <input type="checkbox"/> individual <input type="checkbox"/> federal agency <input type="checkbox"/> state agency <input type="checkbox"/> tribal | | | | |
| | If a business entity: | Business Type | <input checked="" type="checkbox"/> corporation <input type="checkbox"/> limited liability company <input type="checkbox"/> limited partnership <input type="checkbox"/> limited liability partnership <input type="checkbox"/> statutory trust <input type="checkbox"/> Other: | | |
| | | Secretary of the State Business ID No. | 0164349 <input type="checkbox"/> Check here if your business is NOT registered with the Secretary of State's office. | | |
| | | <i>This information can be accessed at the Secretary of State's database (CONCORD). (www.concord-sots.ct.gov/CONCORD/index.jsp)</i> | | | |
| Applicant's Interest in Property at which the Proposed Activity is to be Located | <input checked="" type="checkbox"/> site owner <input type="checkbox"/> option holder <input type="checkbox"/> lessee <input type="checkbox"/> easement holder <input type="checkbox"/> Other: | | | | |
| Are there co-applicants? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes", attach additional sheet(s) with the required information as above. | | | | |

Part II: Applicant Information (continued)

| 2. PRIMARY CONTACT FOR DEPARTMENTAL CORRESPONDENCE AND INQUIRIES (if different than the applicant) | | | | |
|--|---|---------------|--|----------|
| Name | same as Applicant | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject application. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes. | | | | |
| 3. EQUIPMENT OWNER OR EQUIPMENT OPERATOR (only complete if applicant is not both equipment owner and operator) | | | | |
| Name | Check one: <input type="checkbox"/> equipment owner <input type="checkbox"/> equipment operator | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| 4. ENGINEER(S) OR CONSULTANT(S) EMPLOYED OR RETAINED TO ASSIST IN PREPARING THIS APPLICATION (if different than the applicant) | | | | |
| Name | same as Applicant | | | |
| Title | | | | |
| Company/Individual Name | | | | |
| Mailing Address | | | | |
| City/Town | | State | | Zip Code |
| Business Phone No. | | Extension No. | | |
| Email | | | | |
| Service Provided | | | | |

Check here if additional sheets are necessary. Label and attach them to this sheet.

Part III: Permit Modification Information

| | | | | | |
|--|------------------------------------|--------------|----|-----------------|-------|
| 1. SITE NAME AND LOCATION | | | | | |
| Name of Site | Bristol Resource Recovery Facility | | | | |
| Street Address or Location Description | 140 Enterprise Drive | | | | |
| City/Town | Bristol | State | CT | Zip Code | 06010 |
| 2. EXISTING PERMIT NO. | Permit P-026-0027 | | | | |
| 3. DESCRIPTION OF MODIFICATION | | | | | |
| <p>Include a description of the proposed modification, the basis for such modification, any proposed monitoring procedures, any increase in potential emissions resulting from the proposed modification, and an identification of all regulatory, statutory, or otherwise applicable requirements that would become applicable as a result of such modification.</p> <p>The proposed minor modification will allow the Applicant to receive and process biomedical waste by incineration with energy and metals recovery at the Bristol Resource Recovery Facility. The basis for the proposed modification is Covanta's success in processing biomedical waste in municipal waste combustors at three (3) of its other existing resource recovery facilities. There will be no increase in potential emissions as a result of the proposed modification and no regulatory, statutory or otherwise applicable requirement that would become applicable as a result of the proposed modification. As part of the proposed project, Covanta will install equipment to continuously monitor and record mercury emission from the facility.</p> | | | | | |

Note: Pursuant to RCSA section 22a-174-2a(e)(3)(C), a permittee may implement the modifications proposed in the minor permit modification application no less than 21 days after filing a complete application with the commissioner. The permittee shall comply with the terms and conditions of the proposed modified permit and the terms and conditions of the existing permit that are not being modified, until the commissioner issues or denies the proposed modified permit.

Part IV: Attachments

Check the applicable box below for each attachment being submitted with this application form. All referenced forms may be accessed electronically, in WORD and PDF versions, on the [Air Emissions Permits](#) webpage. Check all that apply.

| If any of the following are true... | Attach... | Required? | Attached |
|---|--|-----------------|-------------------------------------|
| Permit is being modified | Marked up copy of the current NSR permit noting proposed changes Use redline to delete language and uppercase font to add proposed new language. | Required | <input checked="" type="checkbox"/> |
| Source is being moved to another location on the premises | Site Plan showing the exact location of the stack(s), the latitude and longitude of the stack(s), all boundary lines of the property and measurements, and the horizontal distance from the stack base to the nearest property line; and | If Applicable | <input type="checkbox"/> |
| | A completed CTMASC spreadsheet , or equivalent, to demonstrate compliance with RCSA section 22a-174-29, Hazardous Air Pollutants. | | <input type="checkbox"/> |
| Burner is being replaced | <i>Fuel Burning Equipment Form</i> (DEEP-NSR-APP-202) | If Applicable | <input type="checkbox"/> |
| Control equipment is being added | <i>Air Pollution Control Equipment Form</i> (DEEP-NSR-APP-210) | If Applicable | <input type="checkbox"/> |
| Stack parameters are being changed | <i>Stack Parameters Form</i> (DEEP-NSR-APP-211) | If Applicable | <input type="checkbox"/> |

Part IV: Attachments (continued)

| If any of the following are true... | Attach... | Required? | Attached |
|---|--|---------------|--------------------------|
| A change is made to the operation of the source (e.g., production or fuel usage increase/decrease, etc.), resulting in changed emissions | <i>Unit Emissions Form</i> (DEEP-NSR-APP-212) | If Applicable | <input type="checkbox"/> |
| Allowable emissions in the current permit are based on older versions of AP-42 emission factors | <i>Unit Emissions Form</i> (DEEP-NSR-APP-212) Recalculate the emissions using the most current AP-42 emission factors. | If Applicable | <input type="checkbox"/> |
| If the source was issued a permit to operate before March 1, 1986, compliance with RCSA section 22a-174-29 Tables 2 and 3 of the Hazardous Air Pollutants regulations shall be demonstrated | A completed CTMASC spreadsheet , or equivalent, to demonstrate compliance with Tables 2 and 3 of the RCSA section 22a-174-29, Hazardous Air Pollutants . | If Applicable | <input type="checkbox"/> |
| Allowable emissions for a pollutant, previously limited by a BACT/LAER determination are increased | <i>Analysis of Best Available Control Technology (BACT) Form</i> (DEEP-NSR-APP-214a) | If Applicable | <input type="checkbox"/> |
| Emissions for any pollutant are increased. | <i>Ambient Air Quality Analysis Form</i> (DEEP-NSR-APP-218) | If Applicable | <input type="checkbox"/> |
| If any parameter (e.g., hourly emissions, stack height, exhaust gas flow rate, property line distance), previously modeled, is changed | Ambient Air Quality Analysis Form (DEEP-NSR-APP-218) | If Applicable | <input type="checkbox"/> |
| If the source is located at a Major Stationary Source and emissions from the premises will increase due to the minor modification | Premises Information Form (DEEP-NSR-APP-217) | If Applicable | <input type="checkbox"/> |
| | Major Modification Determination Form (DEEP-NSR-APP-213) | | <input type="checkbox"/> |

Part V: Applicant Certification


The authorized representative **and** the individual(s) responsible for actually preparing the application must sign this part. An application will be considered insufficient unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute.

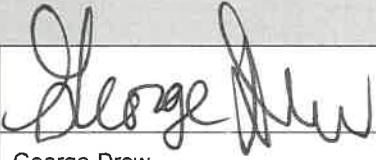
I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text."

"I certify, in accordance with RCSA section 22a-174-2a(e)(3)(B)(II), that the proposed minor permit modification meets all regulatory, statutory, or applicable requirements identified in the subject application."

APPLICANT:

| | | | |
|--|---|-------------|---------|
| Signature of Applicant |  | Date | 4.26.23 |
| Name of Applicant (print or type) | Sergio Allio | | |
| Title (if applicable) | Facility Manager | | |

PREPARER:

| | | | |
|---|--|-------------|---------|
| Signature of Preparer |  | Date | 4-26-23 |
| Name of Preparer (print or type) | George Drew | | |
| Title (if applicable) | Regional Environmental Director | | |

Note: Please submit the completed Application Form, Fee, and all Attachments to:

CENTRAL PERMIT PROCESSING UNIT
 DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
 79 ELM STREET
 HARTFORD, CT 06106-5127

A notice of permit application is **not** required for a permit minor modification application.

Section 3 – Project Description

3.1 – Operation and Management Plan for the Biomedical Waste Project

An O&M Plan Addendum for the management of BMW at the Bristol Facility is contained in **Appendix A** of the Application. The purpose of the O&M Plan Addendum is to 1) present the equipment and operational procedures that will be used to process BMW at the facility, 2) specify the environmental controls and safety measures that will be used to comply with applicable regulatory standards and definitions, and 3) describe the training of personnel handling BMW on hazard recognition and risk mitigation. The O&M Plan for BMW was developed based upon Operating Plans at the other Covanta facilities combusting BMW as well as the information contained in this Application for the Bristol facility. The O&M Plan is focused on the safe handling and processing of BMW to ensure compliance with all safety, health, and environmental regulations. Covanta reserves the right to reject any shipment of BMW deemed unsafe for processing. The site-specific O&M Plan for the Bristol Facility will be finalized after receipt of any comments from CT DEEP and will then be resubmitted within six (6) months of the first firing of BMW at the Facility.

3.2 – Biomedical Waste Feed System (WFS)

An automated, computer-controlled waste feed system (WFS) will be used to transfer BMW from the BMW/Special Waste Processing Area directly to the MWC units' waste feed chutes. This system is designed to minimize potential worker contact with the waste material. This controlled process has dedicated resources and trained personnel who process this waste. **Figures 3.2.1 - 3.2.5** depict the WFS and show components of the BMW flow path within the Facility.

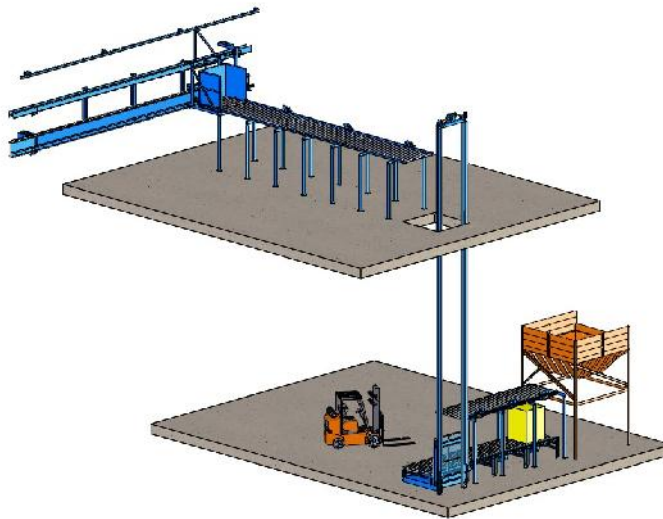


Figure 3.2.1 - Automated Waste Feed System

The forklift will load the WFS bins from the BMW\Special Waste Processing area onto the WFS Tipping Floor Supply Transfer conveyor, located at tipping floor grade. This conveyor will then convey and transfer bins onto the WFS Vertical Lift.



**Figure 3.2.2 - WFS conveyors at tipping floor grade elevation.
Example of forklift loading WFS Tipping Floor Supply Transfer conveyor.**

The Vertical Lift system will vertically lift the WFS bin from the tipping floor elevation to the charging floor elevation.

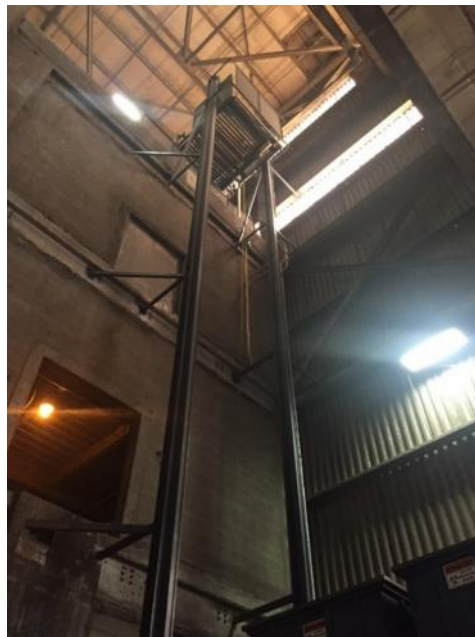


Figure 3.2.3 - WFS Vertical Lift Unit to transport full & empty WFS bins

At the charging deck level, the elevator will feed onto the horizontal Charging Deck Transfer Conveyors. These elevated conveyors allow for sequenced shuttling of full and empty WFS bins back and forth.

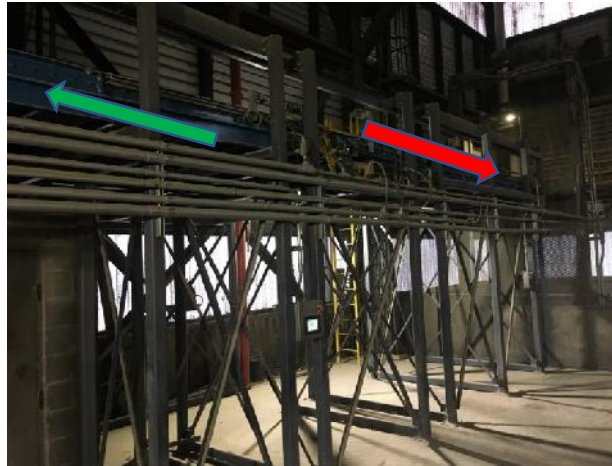


Figure 3.2.4 - WFS Charging Deck Transfer Conveyor to move full & empty WFS bins

The charging deck conveyor loads the WFS bin onto the WFS dumper mechanism which transports the WFS bin and drops the waste into the selected MWC feed chute.

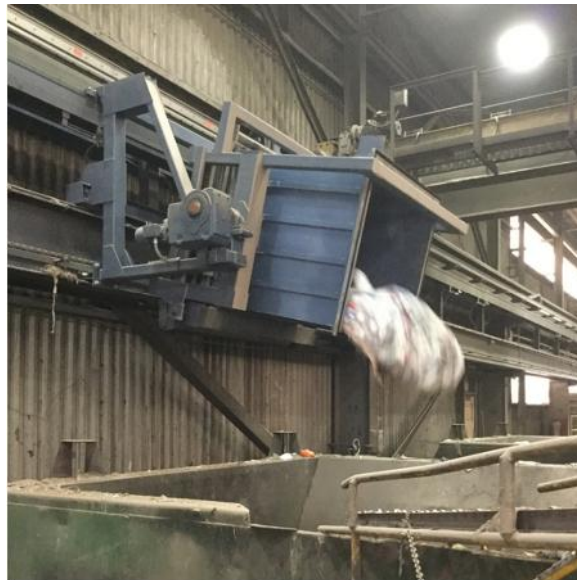


Figure 3.2.5 - WFS Dumping mechanism feeding MWC feed chute

Once in the feed chute, the BMW will mix with MSW and feed by gravity down into the MWC furnace feed table that is integral to each MWC Unit. From the feed table, the waste will be hydraulically pushed into the combustion chamber.

3.3 – MWC Waste Combustion System

The MWC units at the Bristol Facility utilize Martin® GmbH combustion. **Figure 3.3.1** depicts the major components of the Martin® GmbH combustion system as listed below:

1. Waste feed hopper
2. Feeder
3. Reverse-reciprocating grate
4. Ash discharger
5. Furnace
6. Air preheater
7. Primary Underfire air supply
8. Secondary Overfire air supply
9. Roof camera

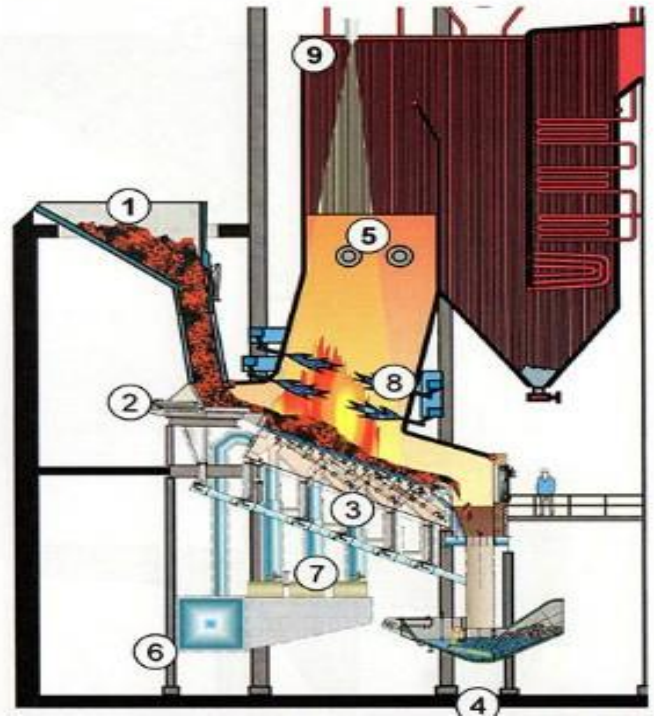


Figure 3.3.1 – MWC Waste Combustion System

3.4 – Air Pollution Control System

The APC equipment for both MWC Units 1 and 2 consists of a Selective NonCatalytic Reduction (SNCR) aqueous ammonia injection system, activated carbon injection system (ACI), spray dry absorber (SDA), and a fabric filter (FF) baghouse. The combustion zone of each boiler is equipped with auxiliary fuel (natural gas) burners to control combustion during periods of start-up, shutdown and malfunction/transient conditions. Continuous emission monitors (CEM) are installed in the outlet ducts of the boiler economizer and induced draft fan (post FF) before the flue gas exits out the stack.

The APC system for each combustion unit includes the following technologies:

1. SNCR: This process involves the injection of aqueous ammonia into the furnace of the boilers to react with the NO_x formation to drive the reaction from NO_x to molecular nitrogen (N₂), carbon dioxide (CO₂), and water (H₂O). The system consists of transfer pumps, piping, metering instruments and injection lances.

2. ACI: The ACI system is used for mercury and dioxin/furan control. The system pneumatically injects activated carbon into the flue gas ductwork downstream of the boiler economizer. The mercury molecules attach to the carbon particles and then are removed from the flue gas downstream in the fabric filter baghouse.
3. SDA: The SDA uses a liquid lime slurry reagent to remove acid gases including sulfur dioxide (SO₂), hydrochloric acid (HCl), and hydrogen fluoride (HF), from the flue gas. It employs injection nozzles for spraying lime slurry into the flue gas stream. The lime slurry mixes with the flue gas in the SDA vessel to remove acid gases. The waste formed in the acid gas removal process is dry and is capable of being readily collected in the baghouse.
4. FF: A pulse jet type baghouse is provided. The FF removes particulates from the combustion process including the fly ash from the furnace, lime and carbon injected into the gas stream and pollutants they remove.

Air emissions from the Covanta Bristol Facility and the Covanta Lake County Facility, with and without co-firing BMW, are presented in Section 4 of this Application to demonstrate that firing BMW with MSW does not impact emission controls.

3.5 – Covanta Bristol Special Waste/BMW Processing Rate

Covanta Bristol is currently permitted to receive and process 716 TPD of MSW and Special Waste as authorized by the Department, for an annual limit of 261,340 tons. The Special Waste Disposal Approval (SWDA) allows Covanta Bristol to accept and process no more than 57 TPD of special waste, averaged over the course of one week, and receive no greater than 114 tons of special waste on any given day. Covanta intends to include BMW as part of this special waste processing limit. The 57 TPD of special waste, including BMW, represents a maximum feed ratio of 8% special waste. All special waste and BMW loads must be scheduled. Weights of scheduled special waste and BMW trucks will be used to calculate a feed rate for the day to ensure permit conditions discussed above are met. The operators will load the MWC feed hoppers, alternating between loads of MSW, BMW, and special waste, to provide a consistent waste feed stream to the furnaces.

Section 4 – Air Emissions

Section 4.1 – Emissions from the Covanta Bristol Facility

The Covanta Bristol Facility (Facility) operates under a Title V Operating Permit (026-0055-TV) and New Source Review Permits (026-0027 and 026-0027) issued by the CT DEEP. The Facility is subject to applicable air regulatory requirements under Section 22a-174 of the RCSA, including Section 22a-174-38 for MWCs. The MWCs at the Bristol Facility are regulated as Large Existing MWCs in accordance with Title 40 of the Code of Federal Regulations (CFR) Part 60, Subpart Cb (Emission Guidelines and Compliance Times for Large MWCs That are Constructed on or Before September 20, 1994).

Under 40 CFR Part 60, Subpart Ce (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators), MWCs subject to 40 CFR 60, Subpart Cb are exempt from being subject to 40 CFR 60, Subpart Ce (See, 40 CFR 60.32e(e)). Thus, the addition of BMW to the MSW streams processed by the Bristol Facility will not change the federal requirements which apply to the MWC units under 40 CFR 60.

The Bristol Facility is equipped with state-of-the-art waste combustion technology including Martin GmbH Stoker Combustion Control systems, combustion air preheaters, and auxiliary natural gas burners to provide for effective burnout of waste. The technologies used to control air emissions from the Facility include Selective Non-Catalytic Reduction Systems (SNCR) ammonia injection systems for reducing the emissions of NO_x, Activated Carbon Injection Systems (ACI) for minimizing mercury and dioxin/furan emissions control, Spray Dryer Absorber (SDA) lime injection systems for neutralizing acidic gas emissions (i.e., SO₂, HCl, and HF), and Fabric Filters (FFs) for capturing particulate emissions.

As shown in **Table 4.1** below, all these technologies combine to demonstrate emission levels below regulatory and permitted emission limits.

| Table 4.1 Covanta Bristol Emissions | | |
|--|---|--|
| Pollutant | MWC Cb Based Limits (@ 7% O₂) | 2019-2022 Emission Averages |
| Particulate Matter (PM) | 25 mg/dscm | 4 |
| Cadmium (Cd) | 35 µg/dscm | 1 |
| Lead (Pb) | 400 µg/dscm | 11 |
| Mercury (Hg) | 28 µg/dscm | 3 |
| Hydrogen Chloride (HCl) | 29 ppmdv | 11 |
| Dioxins/Furans (PCDD/PCDF) | 30 ng/dscm | 2 |

Acronyms: mg = milligrams, µg = micrograms, ng = nanogram, dscm = dry standard cubic meter, ppmdv = parts per million by volume, dry. Test results are in units identified by the emission limit.

Section 4.2 – MSW/BMW Combustion Emissions

The waste components and characteristics of BMW are very similar to MSW. Combusting BMW in MWCs is permitted at Covanta’s Marion County Facility located in Brooks, Oregon, Covanta’s Huntsville facility located in Huntsville, Alabama, and Covanta’s Lake County Facility located in Okahumpka, Florida.

The Covanta Bristol, Marion, Huntsville and Lake Facilities incorporate the Martin GmbH combustion control technology and have similar air quality control systems which include Selective Non-Catalytic Reduction (SNCR) ammonia injection systems for reducing the emissions of NOx, Activated Carbon Injection systems (ACI) for minimizing Hg and dioxin/furan emissions, semi-dry lime scrubber systems and pulse jet Fabric Filter (FF) baghouses for secondary control of acid gases, organics, and particulate.

The BMW program envisioned for the Bristol Facility will most closely resemble the program at the Covanta Lake County Facility. The Lake County Facility is the most recent of Covanta’s facilities to be permitted (2019) to combust BMW in MWCs. This allowed the design and operation of the Lake County Facility to incorporate the years of experience gained from BMW operation of the Marion County and Huntsville facilities.

Annual compliance stack testing of the MWC units at the Covanta Lake County Facility was undertaken during the period 2019 - 2023 while co-combusting MSW and BMW at rates of 9-10% BMW content and as high as 18% BMW content (2022). The average results of all emission tests conducted while co-combusting MSW with BMW are presented below in **Table 4.2**. This table shows that when the Facility is combusting BMW, results are below the permitted emission limits.

| Table 4.2 – Lake County Test Results | | |
|---|-------------------------------|---|
| Pollutant | Permit Limit (@ 7% O2) | 2019-2023 Emission Averages (with BMW) |
| PM | 25 mg/dscm | 1 |
| Cd | 35 µg/dscm | 0.5 |
| Pb | 400 µg/dscm | 6 |
| Hg | 50 µg/dscm | 2 |
| HCl | 29 ppmdv | 5 |
| PCDD/PCDF | 30 ng/dscm | 0.8 |

Acronyms: mg = milligrams, µg = micrograms, ng = nanogram, dscm = dry standard cubic meter, ppmvd = parts per million by volume, dry. Test results are in units identified by the emission limit.

Conclusions

Importantly, testing at other Covanta facilities has indicated no impact to permitted emission rates as a result of BMW combustion. The test results from Lake County support this conclusion that compliance with permitted emission limits can be consistently achieved during co-combustion of BMW with MSW. Additionally, the testing further documents the emission controls in place at the Covanta Bristol Facility consistently achieve emission rates far below regulatory and permitted emission levels.

It is reasonable to expect that air emissions from the Bristol Facility will be unaffected by the co-combustion of up to 8% BMW with MSW.

Section 5 – Reasonable Assurance

Section 5.1 - Purpose of Section 5

The purpose of this section is to provide supporting information to reasonably assure the CTDEEP that the proposed treatment and disposal of BMW at the Bristol Facility will be accomplished in a manner protective of public health. This reasonable assurance is based upon plans, test results, installation of control equipment, or other information, that demonstrate that the construction, expansion, modification, operation, or activity of the installation will not discharge, emit, or cause pollution in contravention of CTDEEP's standards or rules.

The proposed program of BMW processing at the Bristol Facility will most closely resemble the program being implemented at Covanta's Lake County Facility.

Section 5.2 - Special Waste Processing Rate

As discussed in Section 3.5, Covanta will limit the amount of BMW and other special wastes processed at the Bristol Facility to: 1) 8% by weight of the total amount of waste received at the Facility, 2) 57 TPD on a weekly average basis, and 3) no more than 114 tons on any given day. To provide reasonable assurance of on-going compliance with these special waste processing limits, Covanta will continue to comply with the recordkeeping requirements contained in the PTO and the SWDA for the Bristol Facility. All special waste loads must be scheduled. Weights of scheduled special waste trucks will be used to calculate a feed rate for the day to ensure permit conditions are met.

The operators will load the MWC feed hoppers, alternating between loads of MSW and special waste to provide a consistent waste feed stream to the furnace. The volume of the automatic feed system will be designed to prevent overcharging, thereby assuring the complete combustion of the waste.

Section 5.3 - QA/QC Program to Ensure Shipments Meet Specifications

A robust QA/QC program has been established to minimize risk and ensure that all shipments of BMW to Covanta WTE sites meet specifications.

Components of the QA/QC program include:

- J Completion of a Material Characterization Form (MCF).
- J Submission of extensive supplemental operational and generator related information for BMW approval.
- J The execution of a BMW-specific service agreement which also includes a provision allowing Covanta to inspect any upstream BMW generator of our customer.
- J Customer site audits consisting of an initial audit, a recertification audit and corrective action site audit if required.
- J QA/QC inspections occur at the Covanta WTE facility for BMW load deliveries.

-) Discrepancies identified during load inspections are reported to the customer. Reports are used to identify a root cause of the discrepancy and implementation of corrective action.

Section 5.4 – Emissions Monitoring

5.4.1 Continuous Emissions Monitoring Systems

The Facility is equipped with a state-of-the-art Continuous Emissions Monitoring System (CEMS) to continuously extract and analyze exhaust gases to monitor for complete combustion, including the following compounds: carbon monoxide (CO), sulfur dioxide (SO₂), oxides of nitrogen (NO_x), oxygen (O₂) and carbon dioxide (CO₂). As part of the approval of the proposed Bristol BMW Program, Covanta will install and operate equipment to monitor mercury emission from the Facility. Details of the proposed mercury monitoring system are presented in **Appendix C** of this Application. The CEMS system is calibrated using prescribed USEPA QA/QC procedures. Measurements made by the individual gas analyzers are transmitted to a Data Acquisition System (DAS) where they are calculated into the appropriate averaging periods.

5.4.2 - Annual Stack Testing

The Facility is required to conduct an annual compliance test (or “stack test”) to demonstrate compliance with the emissions limits imposed by 40 CFR 60, Subpart Cb and the CTDEEP. The following pollutants are sampled and analyzed using methods prescribed by the Title V operating permit and the underlying regulations: particulate matter (PM), dioxins/furans (PCDD/PCDF), hydrogen chloride (HCl), lead (Pb), cadmium (Cd), and mercury (Hg). Covanta will ensure that BMW is being combusted during the annual compliance test.

Section 5.5 - Design Parameters

5.5.1 - Combustion Conditions

The Covanta facilities at which BMW is combusted together with MSW must maintain proper combustion zone temperatures whenever BMW is being combusted. As necessary, air preheaters and or auxiliary burners are utilized to maintain this proper temperature.

5.5.2 - Air Lock System

The mechanically fed waste combustion units incorporate an air lock system to prevent opening the unit to the room environment. The waste feed chute and the ash dischargers ensure the furnace is sealed from the outside at both the waste inlet and residue outlet.

Section 5.6 - Operating Practices

Covanta will implement several operating practices to ensure that firing BMW with MSW at the Bristol Facility will be conducted in a safe and compliant manner. A list of these practices includes the following:

5.6.1 - Best Management Practices

To ensure good mixing with MSW, operators shall use best management practices when combusting BMW together with MSW as defined in the BMW Training Plan (see Section 5.10) and the Covanta Bristol BMW SOP.

5.6.2 - MWC Unit Startup, Shutdown, and Malfunction Procedures

The firing of BMW will not be done during startup or shutdown periods of an MWC unit. Units must be online for a minimum of 4 hours and have stable combustion before feeding BMW. All air preheater coils will be in operation prior to starting the feed of BMW to an MWC unit and will be operated continuously during the combustion of BMW. The introduction of BMW to a unit shall not begin until the proper furnace combustion temperature is attained. All APC equipment and CEM equipment will be operational and functioning properly prior to the introduction of BMW to a unit. If a malfunction occurs, BMW feed will cease and not restart until the malfunction has been rectified.

Section 5.7- BMW Feed System

An automated hopper feed system will be constructed to transfer BMW from the tipping floor directly to the waste feed chutes of MWC Units 1 and 2.

Section 5.8 - Good Combustion Practices

All the combustibles in the BMW placed into the furnace must be completely combusted prior to removal from the furnace for further processing, such as ash handling and landfilling. The Bristol Facility will continue to operate utilizing the Good Combustion Practices included in 40 CFR 60, Subparts Cb/Eb including CO limits, steam flow limits and fabric filter inlet temperature limits.

Section 5.9 - Emission Standards and Limitations

The emission standards for Emission Units Nos. 001 & 002, MWC Unit Nos. 1 & 2, contained in the Permits for the Facility are not changed under this project.

Section 5.10 - Training Program

Training is an essential component of the Covanta BMW program and mitigates the risk of exposure to any of the hazards associated with the processing of BMW. Initial operator training will be conducted by a competent individual for any employee who will be working directly with BMW prior to performing the functions of this job. Recurrent training will be provided on an annual basis.

Operators of the Bristol Facility have been trained in accordance with the Municipal Waste Combustor Operator Training Program developed by the USEPA in support of improving the air pollution control practices at MWCs. The USEPA was required to develop a model state training and certification program for solid waste incinerator operators under Title 111 of Section 129 of the Clean Air Amendments of 1990. In accordance with State of Connecticut regulations, all chief and shift operators are required to be certified by the Commissioner. Operators must satisfactorily complete an operator training course conducted by the Commissioner.

Given the potentially infectious characteristics of some BMW, it is important that facility operators be properly trained and qualified prior to any combustion of BMW at the Facility. Although the federal Hospital, Medical and Infectious Waste Incinerator (HMIWI) rules do not apply to the MWC units co-fired combustors at the Facility, Covanta asserts that the training requirements of 40 CFR 60.53c(c) for HMIWI are appropriate for inclusion in a training program for combusting BMW at any of its facilities.

At least 90 days prior to any combustion of BMW at the Bristol Facility, Covanta will submit to CT DEEP a comprehensive training program that covers the following topics required by 40 CFR 60.53c(c) that includes, at a minimum, the following provisions:

- (a) 24 hours of training with facility staff on the following subjects:
 - (i) Environmental concerns, including pathogen destruction and types of emissions;
 - (ii) Basic combustion principles, including products of combustion;
 - (iii) Operation of the type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;
 - (iv) Combustion controls and monitoring;
 - (v) Operation of air pollution control equipment and factors affecting performance;
 - (vi) Methods to monitor pollutants and equipment calibration procedures;
 - (vii) Inspection and maintenance of the waste handling equipment, combustion equipment, air pollution control devices, and continuous emission monitoring systems;
 - (viii) Actions to correct malfunctions or conditions that may lead to malfunction;
 - (ix) Ash characteristics and handling procedures;
 - (x) Applicable Federal, State, and local regulations;
 - (xi) Work safety procedures;
 - (xii) Pre-startup inspections; and
 - (xiii) Recordkeeping requirements.
- (b) Distribution of reference material to the attendees covering the course topics.
- (c) An examination designed and administered by the instructor given to trainees to ensure they have been properly trained.

The training program which includes the Best Management Practices (BMPs) for the handling, storage and co-firing of BMW at the Facility will be submitted to the agency 90 days prior to the first firing of BMW in the MWC units. The training program and BMPs will be kept onsite and made available for inspection upon request.

Section 6 – Proposed Revisions of Bristol NSR Permits

Covanta operates the Bristol Facility under New Source Review Permits P-026-0026 and P-026-0027 which are contained in **Appendix B**. Implementation of the proposed Bristol BMW Program will necessitate revisions to the both existing New Source Review Permits P-026-0026 and P-026-0027 as proposed below.

NEW SOURCE REVIEW PERMITS TO CONSTRUCT AND OPERATE A STATIONARY SOURCE P-026-0026 and P-026-0027

PART II. OPERATIONAL CONDITIONS

A. Operational Parameters

1. MWC

a. Materials Charged:

- i. Municipal Solid Waste (MSW) as defined and restricted in CGS §22a-207 et seq. and any applicable Bureau of Waste Management permit.*
- ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most current approved Special Waste Disposal Authorization(s) issued pursuant to CGS§22a-208y.*

Propose to add to both permits:

“iii. Biomedical waste in accordance with the Permittee’s applicable CT DEEP Solid Waste Permits to Operate”

PART V. MONITORING, REPORTING AND RECORD KEEPING REQUIREMENTS:

A. Monitoring

Propose to add to both permits:

“As proposed in the Permittee’s solid waste applications to CT DEEP for the combustion of biomedical wastes, the Permittee shall submit the details of the mercury monitoring equipment and systems it proposes to install and operate at the Facility within 120 days of the starting date of processing BMW.”

Section 7 – Benefits of the Bristol BMW Program

The proposed addition of BMW to the list of wastes that can be processed at the Bristol Facility will provide many benefits to biomedical waste generators and the local community. These benefits are described below as follows:

Capacity: The proposed Covanta Bristol program can provide much needed BMW disposal capacity for Connecticut healthcare facilities and the Northeastern United States. In Connecticut, it is estimated that approximately 20 million pounds of BMW is generated per year. Currently, there is no thermal treatment option for “incinerate only” medical waste within the State of Connecticut. All “incinerate only” medical waste generated by Connecticut regional healthcare facilities and other industries must have their waste transported hundreds of miles across multiple state lines to incineration facilities in Maryland, Ohio, and North Carolina.

Having an effective BMW processing program at Covanta’s Bristol Facility would reduce disposal costs and risks for Connecticut healthcare facilities by eliminating the need to transport their medical waste long distances to disposal facilities which frequently experience service interruptions.

Safety: Covanta has the highest level of safety in the BMW industry. Its facilities are part of OSHA’s Voluntary Protection Program (VPP) and have standard operating and safety procedures specific to receiving and processing BMW.

Reliability: By having two (2) MWC units at the Bristol Facility permitted to combust BMW with MSW, the proposed project will provide consistent capacity to the marketplace by minimizing the risk of service interruptions that are common at medical waste incinerators in today’s BMW waste market.

Sustainability: Covanta is the only company in the United States that can supply steam and electricity and recycle metal from processing BMW. The implementation of the proposed project will result in a reduction in greenhouse gas emissions from the long-haul transport of BMW from the Northeast to its alternative disposal locations.

Host Community benefits: The proposed Covanta Bristol BMW program will provide a benefit to the “host community” from the proposed expansion of operations at the facility. The City of Bristol supports this proposed project and its benefits and has agreed to a new host benefit agreement specific to this proposed project. Letters of support for the proposed project from the City of Bristol to CTDEEP are contained in **Appendix D**.

Experience: Covanta has over 30 years of experience and knowledge processing BMW at three (3) of its existing WTE facilities, knowledge that will be transferred to the proposed program at the Bristol Facility.

Section 8 – Environmental Justice and Public Participation

8.1- Executive Summary

In 2017, Covanta attended pre-application meetings with CT DEEP to review the project to add biomedical waste to the list of wastes approved for processing at the Covanta Bristol, Inc Resource Recovery Facility (RRF).

In 2018, an EJ Public Participation Plan (EJPPP) was developed and submitted by Covanta and subsequently approved by CT DEEP for the project.

In accordance with the approved EJ plan, Covanta conducted outreach with CT DEEP Air Quality, Material Management, and EJ staffs, with the Covanta Bristol RRF's employees, with the city of Bristol mayor's office and city council, and with the public through a public meeting held in February 2019.

A Final Report on the EJ PPP implementation was submitted in May 2019 by Covanta to DEEP detailing all the steps taken to inform the public in accordance with the approved EJPP plan.

Since that time, additional meaningful public participation steps have been conducted with Bristol citizen groups and citizens from surrounding towns; with CT environmental justice groups and CT and national environmental groups, with the new city of Bristol Mayor's office and new city of Bristol city council members, and with CT state legislators representing the Bristol area.

An addendum to the 2019 EJ PPP Final report was submitted to DEEP in 2022 detailing the supplemental EJ public participation activities that have been performed from 2019-2022. With the submittal of that EJ PPP Addendum, Covanta requested CT DEEP to issue approval on the EJ PPP Final Report.

8.2 - Supplemental EJ Meaningful Public Participation Activities

In September 2020, Covanta had inquired about obtaining DEEP approval for its EJ PP plan submitted in April 2019.

In October 2020, DEEP provided Covanta with contact information for environmental groups that had become interested in Covanta's project and wanted to obtain more information.

8.2.1 - Additional Engagement with EJ Groups

In November 2020, Covanta engaged Ms. Sharon Lewis, Connecticut Coalition for Environmental Justice, and three additional participants representing the Conservation Law Foundation, League of Conservation Voters and Citizens Campaign for the Environment. They explained in this meeting that their coalition also included the zero-waste group.

During this meeting, Covanta explained the Bristol project and was provided with questions from this group. The meeting was constructive, and the topics discussed included emissions, truck

traffic, and plastics in the waste stream. It was also recommended that another public meeting be held on the project.

In December 2020, Covanta provided follow-up answers back to Sharon Lewis and her group's questions and a second zoom meeting was held with various environmental citizen groups that Sharon Lewis had organized including:

- CT League of Conservation Voters
- Clean Water Action
- Conservation Law Foundation
- Energy Justice Network
- CT Citizens for the Environment
- Sierra Club
- Connecticut Coalition for Environmental Justice

Topics and questions included: Covanta, the Bristol Facility, waste to energy technology, the biomedical waste project being proposed, ambient air monitoring in CT, facility emissions, experience at other Covanta WtE facilities co-combusting BMW with MSW, Bristol community support activities and outreach by Covanta. The meeting was very constructive and a good dialogue. Covanta was able to answer most questions. It was discussed that the remaining questions would be covered in more detail in the application to be submitted.

In January 2021, a follow-up call was held with Covanta and these groups and Covanta shared specific data in response to questions raised in the December 2020 meeting. During that meeting, one of the participants raised the idea of an additional level of emissions monitoring, similar to what is being considered at Covanta's Onondaga, NY facility. Covanta was asked whether it would commit to install a similar additional level of mercury monitoring capability. Covanta agreed to this request and agreed to provide that request in the air quality permit modification that will be submitted.

In March 2021, Covanta submitted its solid waste applications for this project to CT DEEP. However, prior to this submission to DEEP, Covanta re-engaged the community and environmental groups including Sharon Lewis and provided them with an advanced copy of the applications for their review.

8.2.2 - Additional Engagement with the Public - Public Meeting July 14, 2021

In June 2021, DEEP was notified that Covanta had continued its engagement with the environmental and EJ groups including Sharon Lewis. A second public participation meeting was organized with the environmental groups and residents of Bristol for July 14, 2021.

To provide outreach for this meeting, Covanta updated its website and placed the solid waste applications directly on the website for the public to download and review. Covanta surveyed the neighborhoods surrounding the facility as well as population census blocks and mailed out over 660 notices to every address within ½ mile of the facility including daycare and adult care centers, condos, townhouses, single families and neighborhoods. Where a neighborhood was potentially divided by the ½ mile radius, Covanta included the additional homes to make sure no one was excluded.

Environmental groups and public officials were emailed and invited to the meeting as well. Social media was also utilized by the environmental groups including Facebook group to publicize the meeting.

On July 14, 2021, at 6:00 p.m., Covanta hosted a second public participation meeting regarding its biomedical waste solid waste applications. The meeting was held via Zoom due to Covid 19 safety concerns and lasted 177 minutes. 81 people registered for the meeting and 61 people attended.

The meeting was well attended and had many diverse parties being represented including: CT environmental justice groups, national, state and local environmental citizens groups, residents of Bristol, representatives from city of Bristol municipal government, CT DEEP, and local CT media reporters.

Covanta presented a power point presentation that detailed the project being proposed and then opened up the meeting to questions. 53 questions were asked on the meeting.

In August 2021, the Bristol Residents for Clean Air group, submitted 94 questions in writing via DEEP to Covanta regarding the July meeting.

In October 2021, Covanta provided back to DEEP and Bristol Residents for Clean Air group, a response document. In this document, Covanta provided comprehensive responses to every question posed by this group.

8.2.3 - Additional Public Participation Meetings on the Project

Additional public outreach meetings were held for the public to learn about the Bristol BMW project in Bristol and surrounding towns. These meetings were organized by Senator Henri Martin, Thirty-First Senate District. Covanta attended these meetings and provided information on the project to residents including members of Bristol Residents for Clean Air and answered questions that were raised. Meetings were held as follows:

-) November 23, 2021, at Plymouth Town Hall
-) December 21, 2021, at Plainville Public Library
-) February 3, 2022, at Southington Town Hall and
-) March 3, 2022, at Bristol Public Library

8.3 - Evaluation of EJ PPP Regulatory Requirements

In 2018, the EJ PPP was developed in accordance with the regulatory requirements in place at that time. This EJ PPP was subsequently approved by CT DEEP and then implemented by Covanta.

In 2020, the EJ requirements were revised to provide meaningful participation by the public.

Covanta has reviewed these requirements and has detailed to CT DEEP how its efforts have met current EJ requirements.

8.4 - Removal of City of Bristol from Distressed Communities List

It should be noted that in September 2021, the Bristol community was removed from the CT List of Distressed Communities by CT DEEP. Thus, EJ Public participation plans are no longer applicable to this project.

8.5 - Conclusion

In 2018, an EJ PPP was submitted by Covanta and approved by CT DEEP for the project. In accordance with the approved plan, Covanta conducted outreach with CT DEEP Air Quality, Material Management, and EJ staff, with the facility's employees, with city of Bristol Mayor's office and city council, with the public through a public meeting held in February 2019. A Final Report on the EJPPP was submitted in May 2019 by Covanta to DEEP detailing all the steps taking to inform the public in accordance with the approved plan.

Since that time, additional meaningful public participation steps have been conducted with the new city of Bristol Mayor's office and new city council members, with state legislators representing the Bristol area, with CT state environmental justice groups, CT and national environmental groups, Bristol citizen groups, and surrounding town citizens meetings.

Covanta has provided thorough information and details on the project, has provided responses to the public's questions and concerns, and has volunteered to provide enhanced emissions monitoring at the request of the public.

This project has been covered in local print media and on social media and Covanta has been willing to provide feedback to any questions asked on the project.

In 2021, City of Bristol was removed from CT List of Distressed communities and thus, EJ PPP are no longer a requirement for this project.

Covanta believes additional outreach will occur once the Department issues the Notice of Tentative Determination and we look forward to working with DEEP and the public on answering any questions or concerns.

ATTACHMENT A of Form DEEP-NSR-APP-200MM

Applicant - Covanta Bristol, Inc.

Implementation of the proposed Bristol BMW Program will necessitate revisions to the existing NSR permits as described in Section 6 of the Application. Attachment A to the Application contains marked up pages of NSR Permits Nos. P-026-0026 and P-026-0027 with proposed edits as required by Permit Form DEEP-NSR-APP-200MM.

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. GENERAL DESCRIPTION

A. Municipal Waste Combustor (MWC)

Major components include a Martin Reverse Acting Stoker Grate, a Waterwall Furnace and a Water-tube Boiler System with Natural Gas-fired Auxiliary Burner System designed to combust Municipal Solid Waste (MSW).

B. FLAKT Dry Gas Scrubber/Baghouse System

Major components and sub-systems include lime additive preparation, storage and feed system; spray dryer scrubber (SDS) for acid gas control; baghouse and solids handling system. The SDS includes an atomizer to finely atomize and mix the lime additive with the flue gas.

C. Selective Non-catalytic Reduction (SNCR) System

The principal components of the SNCR system include a 10,000 gallon aqueous ammonia storage tank, ammonia pump skid, carrier water pump skid, a purge air system and injection nozzles. There are ammonia detectors that alarm both locally and in the control room as well as eyewash stations.

D. Mercury Emissions Control (MEC) System

The MEC System includes a pneumatic feed system that injects dry activated carbon into the existing flue gas ductwork downstream of the economizer of each Municipal Waste Combustor (MWC). The system consists of two independent carbon injection trains, each dedicated to one of the MWCs. The carbon injection trains are fed from a common carbon storage silo. Each carbon injection train includes a surge bin, gravimetric feeder, blower, eductor, piping, wiring and other process controls.

The common storage silo has two outlet hoppers to ensure each carbon injection train is independently fed and controlled.

Propose to add to both permits:
"iii. Biomedical waste in accordance with the Permittee's applicable CT DEEP Solid Waste Permits to Operate"

PART II. OPERATIONAL CONDITIONS

A. Operational Parameters

1. MWC
 - a. Materials Charged:
 - i. Municipal Solid Waste (MSW) as defined and restricted in CGS §22a-207 et seq. and any applicable Bureau of Waste Management permit.
 - ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most current approved Special Waste Disposal Authorization(s) issued pursuant to CGS §22a-208y.
 - b. Maximum Facility-wide MSW Processing Rate (tons per year): 261,340 ¹
 - c. Maximum Facility-wide Annual Average Steam Production (lb/hr): 83,000
 - d. Maximum demonstrated MWC steam production shall be 110% of the maximum MWC steam production (highest 4-hour arithmetic average) measured during the most recent annual performance test for dioxin/furan emissions for which compliance with the dioxin/furan emission limit was achieved.

Propose to add to both permits: "As proposed in the Permittee's solid waste applications to CT DEEP for the combustion of biomedical wastes, the Permittee shall submit the details of the mercury monitoring equipment and systems it proposes to install and operate at the Facility within 120 days of the starting date of processing BMW."

| | | | |
|--|--------------|--|--|
| Steam Load | 4 hour block | | |
| Particulate Control Device Inlet Temperature | 4 hour block | | |
| Furnace Temperature | 4 hour block | | |
| Overfire and Underfire Air Flowrate | 4 hour block | | |
| Activated Carbon Injection Rate | 8 hour block | | |

¹ - Or a 75% reduction by weight or volume, whichever is less stringent.

2. The Permittee shall install and operate continuous emission monitoring systems to monitor opacity, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen and record the output of each system in accordance with RCSA §22a-174-38(k).
4. ~~3.~~ The Permittee shall install and operate continuous monitoring systems for measuring and recording steam load (i.e., steam flow meter), total combined overfire and underfire air, furnace temperature, pressure drop across air pollution control devices, particulate control device inlet temperature, SDS reagent application pressures/flowrates and the powdered activated carbon injection rate, as estimated from the screw feeder speed indicator.
5. ~~4.~~ CEM equipment may not be available for one or more of the following: H₂SO₄, VOC and SDS reagent specific gravity. Installation of this equipment will not be required at this time. At the commissioner's discretion, this CEM equipment will be installed and operated when and if acceptable CEM equipment become available within six months of receipt of notification from the commissioner.
6. ~~5.~~ All CEM equipment and recorders shall be installed, operated, calibrated, tested and maintained in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60, Appendices B and F and RCSA §22a-174-38(j).

B. Record Keeping

1. The Permittee shall make and keep records of all CEM data required in Part V.A of this permit.
2. The Permittee shall keep records of the monthly and consecutive 12 month quantity of the MSW combusted. The consecutive 12 month quantity of materials combusted shall be determined by adding the current month's quantity to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
3. The Permittee shall calculate and record the monthly and consecutive 12 month PM, SO₂, NO_x, VOC, CO and Pb emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.
4. The Permittee shall make and keep records of all performance tests conducted to determine compliance with the dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, ammonia, H₂SO₄, fluorides and PAH emission limits.
5. The Permittee shall make and keep records of all performance tests conducted to determine compliance with any pollutant emission rate or operational parameter, if such tests are required by the commissioner.
6. The Permittee shall make and keep records for operator training in accordance with RCSA §22a-

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

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A. Municipal Waste Combustor (MWC)

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Major components and sub-systems include lime additive preparation, storage and feed system; spray dryer scrubber (SDS) for acid gas control; baghouse and solids handling system. The SDS includes an atomizer to finely atomize and mix the lime additive with the flue gas.

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The MEC System includes a pneumatic feed system that injects dry activated carbon into the existing flue gas ductwork downstream of the economizer of each Municipal Waste Combustor (MWC). The system consists of two independent carbon injection trains, each dedicated to one of the MWCs. The carbon injection trains are fed from a common carbon storage silo. Each carbon injection train includes a surge bin, gravimetric feeder, blower, eductor, piping, wiring and other process controls.

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b. Maximum Facility-wide MSW Processing Rate (tons per year): 261,340¹

c. Maximum Facility-wide Annual Average Steam Production (lb/hr): 83,000

d. Maximum demonstrated MWC steam production shall be 110% of the maximum MWC steam production (highest 4-hour arithmetic average) measured during the most recent annual performance test for dioxin/furan emissions for which compliance with the dioxin/furan emission limit was achieved.

Propose to add to both permits:

“iii. Biomedical waste in accordance with the Permittee’s applicable CT DEEP Solid Waste Permits to Operate”

Propose to add to both permits: "As proposed in the Permittee's solid waste applications to CT DEEP for the combustion of biomedical wastes, the Permittee shall submit the details of the mercury monitoring equipment and systems it proposes to install and operate at the Facility within 120 days of the starting date of processing BMW."

| | | | |
|--|--------------|--|--|
| Steam Load | 4 hour block | | |
| Particulate Control Device Inlet Temperature | 4 hour block | | |
| Furnace Temperature | 4 hour block | | |
| Overfire and Underfire Air Flowrate | 4 hour block | | |
| Activated Carbon Injection Rate | 8 hour block | | |

1 - Or a 75% reduction by weight or volume, whichever is less stringent.

2. The Permittee shall install and operate continuous emission monitoring systems to monitor opacity, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen and record the output of each system in accordance with RCSA §22a-174-38(k).
- 4 3. The Permittee shall install and operate continuous monitoring systems for measuring and recording steam load (i.e., steam flow meter), total combined overfire and underfire air, furnace temperature, pressure drop across air pollution control devices, particulate control device inlet temperature, SDS reagent application pressures/flowrates and the powdered activated carbon injection rate, as estimated from the screw feeder speed indicator.
- 5 4. CEM equipment may not be available for one or more of the following: H₂SO₄, VOC and SDS reagent specific gravity. Installation of this equipment will not be required at this time. At the commissioner's discretion, this CEM equipment will be installed and operated when and if acceptable CEM equipment become available within six months of receipt of notification from the commissioner.
- 6 5. All CEM equipment and recorders shall be installed, operated, calibrated, tested and maintained in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60, Appendices B and F and RCSA §22a-174-38(i).

B. Record Keeping

1. The Permittee shall make and keep records of all CEM data required in Part V.A of this permit.
2. The Permittee shall keep records of the monthly and consecutive 12 month quantity of the MSW combusted. The consecutive 12 month quantity of materials combusted shall be determined by adding the current month's quantity to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
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4. The Permittee shall make and keep records of all performance tests conducted to determine compliance with the dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, ammonia, H₂SO₄, fluorides and PAH emission limits.
5. The Permittee shall make and keep records of all performance tests conducted to determine compliance with any pollutant emission rate or operational parameter, if such tests are required by the commissioner.
6. The Permittee shall make and keep records for operator training in accordance with RCSA §22a-

APPENDIX A

BMW O&M Manual Addendum

**BIOMEDICAL WASTE ADDENDUM
TO THE
OPERATION AND MANAGEMENT PLAN**

**BIOMEDICAL WASTE OPERATIONS
COVANTA BRISTOL, INC.
170 ENTERPRISE DRIVE
BRISTOL, CT**

**PREPARED BY:
Gary Pierce
Covanta
Environmental Manager**

REVIEWED BY:

**Jeffery Pope, PE
Burns & McDonnell**

**February 2021
Rev: 01/25/23**

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A. PURPOSE

This Biomedical Waste Addendum to the Operations and Management Plan (BMW Addendum) has been prepared to supplement the existing Operations and Management (O&M) Plan for the Covanta Bristol Inc. (Covanta) Bristol Resource Recovery Facility (Bristol Facility). This BMW Addendum address changes associated with the treatment and disposal of biomedical waste (BMW) at the Bristol Facility.

B. OPERATION

1. Types and Quantities of Waste

The Bristol Facility is currently permitted to receive and process 716 tons per day (TPD) of municipal solid waste (MSW) and special waste as authorized by the Connecticut Department of Energy and Environmental Protection (CT DEEP), for an annual limit of 261,340 tons. Special Waste Disposal Authorization 01701245-SWDA (SWDA) allows the Bristol Facility to accept and process no more than 57 TPD of special waste, averaged over the course of one week, and receive no greater than 114 tons of special waste on any given day.

Covanta will include BMW as part of the existing special waste processing limit. The ratio of 57 TPD special waste to 716 TPD of total waste represents a maximum feed ratio of 8% special waste, including BMW, to 92% authorized MSW.

Acceptable BMW

The following are examples of non-hazardous BMW streams accepted by the Bristol Facility:

- BMW that is untreated waste generated during the administration of medical care or the performance of medical research involving humans or animals;
- Infectious Waste;
- Pathological Waste; and
- Chemotherapy Waste.

Specific examples of acceptable BMW include, but are not limited to, used and unused sharps, blood and bodily fluids, microbiological waste, renal dialysis waste, surgical waste, pathological material, non-hazardous pharmaceutical waste commingled with sharps, and trace chemotherapy waste, which result from the administration of healthcare services.

Unacceptable BMW

The following BMW streams are not accepted by Covanta Bristol:

1. United States Environmental Protection Agency (USEPA) hazardous pharmaceutical waste;
2. Human fetal tissue;
3. Human remains;
4. Large amounts of free-flowing liquids;
5. Radioactive materials;
6. Bulk pathological waste;
7. Bulk chemotherapeutic waste; and

8. Formaldehyde, iodine, or other preservative agents.

2. Sources of Waste

Most BMW will come from BMW service providers who service large quantity generators of BMW such as hospitals. BMW service providers typically have a fleet of trucks for route-based collection of BMW where the BMW is then transported to permitted transfer stations, consolidated, and loaded onto transfer trailers for transportation to Covanta facilities. BMW from medical wholesalers and distributors, in the form of unused sharps, vaccines, and medical devices that are not fit for distribution into the supply chain, can be transported directly to the Bristol Facility. BMW from small quantity generators, including doctors, veterinarians, and dentists, along with BMW from post-consumer sources, is normally transported to a transfer station or consolidation site before being shipped to the Bristol Facility.

3. Daily Operations

A flow diagram which depicts the proposed receipt and processing of BMW at the Bristol Facility is found in Attachment 1. Depending upon availability, BMW drivers may be instructed to back up directly to one of the two loading docks to be located on the west side of the tipping floor building. In most cases, the driver will instead be sent to the designated BMW/Special Waste Truck Staging areas. The driver will be directed to park the trailer in an open parking slot and unhook the full trailer from the tractor. The driver will then be directed to connect to an empty trailer and exit the facility. Trailers will be refrigerated units to ensure BMW is maintained in a non-putrescent state.

Covanta's staff will use a yard jockey truck to move full trailered loads from the staging area to the unloading docks as the docks become open. Empty trailers will also be moved out of the loading docks using the yard jockey truck and will be relocated to the truck staging area.

Trained staff with the proper personal protection equipment will perform the unloading of the trucks/trailered loads and loading of the Waste Feed System (WFS). The PPE worn by staff for off-loading includes hard hat, safety glasses, hearing protection, steel or composite safety boots, reflective clothing/vests and Cut level/puncture resistant gloves. The PPE does not depend on the category of BMW, rather universal precautions are taken for all types of BMW.

Shipments of BMW will be unloaded by forklift and staged near the BMW/Special Waste Processing Area and WFS Tipping Floor Supply Transfer conveyor, awaiting to be loaded.

Figures 1 through 9 below depict the movement of BMW through the Bristol Facility. Note, photos are for representation only and show similar equipment to that which will be used at the Bristol Facility. See Attachment 1 for final Engineering Design plans.

BMW that arrives in reusable totes will be removed from the truck/trailer, and then emptied from the tote into a 4-sided enclosed WFS Bin using the forklift (Figure 1). The 4-sided WFS Bins will be fabricated from ASTM A36 carbon steel that are seam welded and measure 60" x 60" x 72" high. The loaded WFS bin will then be staged or stored as described above. The empty totes will be loaded back into trucks/trailers for return to customer.



Figure 1 - Contents of the reusable totes dumped into the 4-sided fully enclosed WFS bin.

The unpalletized (non-reusable containers) BMW shipments will be manually unloaded from the trailer into 3-sided WFS Bins (Figures 2 and 3). The 3-sided bins will be fabricated from ASTM A36 carbon steel and measure 60" x 60" x 72" high. Forklifts will be used to move the WFS bins to the automated WFS or temporary storage in the BMW/Special Waste Processing Area.



Figure 2 - Un-palletized boxed BMW is loaded into 3-sided WFS bins within trailer



Figure 3 - Example of 3-sided WFS bins

After BMW has been removed from the trailer, the yard-jockey will relocate the empty trailer to the staging/drop area. The next full trailer of BMW material will be brought to the loading dock.

Covanta proposes to construct an automated, computer-controlled WFS to transfer BMW from the BMW/Special Waste Processing Area directly to the municipal waste combustor (MWC) units' waste feed chutes (Figure 4). The system will be designed to minimize potential worker contact with the waste material. This controlled process will have dedicated resources and trained personnel who process this waste. The figures below depict the waste feed system and show components of the BMW flow path within the Facility. Detailed drawings of the BMW WFS can be found in Attachment 1.

The forklift will load the WFS bins from the BMW/Special Waste Processing area onto the WFS Tipping Floor Supply Transfer conveyor, located at tipping floor grade. This conveyor will then load the WFS Vertical Lift (Figures 5 and 6).

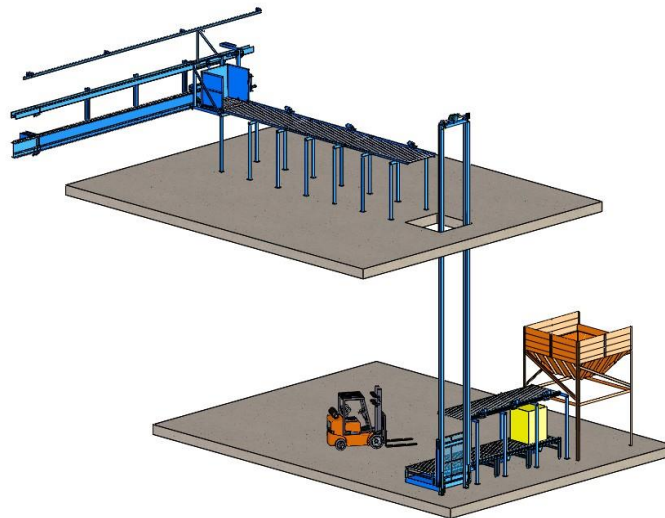


Figure 4 - Automated Waste Feed System



**Figure 5 - WFS conveyors at tipping floor grade elevation.
Figure 6 - Example of forklift loading the upper Tipping Floor Supply Transfer conveyor.**

The Vertical Lift system will vertically lift the WFS bin from the tipping floor elevation to the charging floor elevation (Figure 7).



Figure 7 - WFS Elevator Unit to transport full & empty WFS bins

At the charging deck level, the elevator will feed onto the horizontal Charging Deck Transfer Conveyors (Figure 8). These elevated conveyors allow for sequenced shuttling of full and empty WFS bins back and forth.

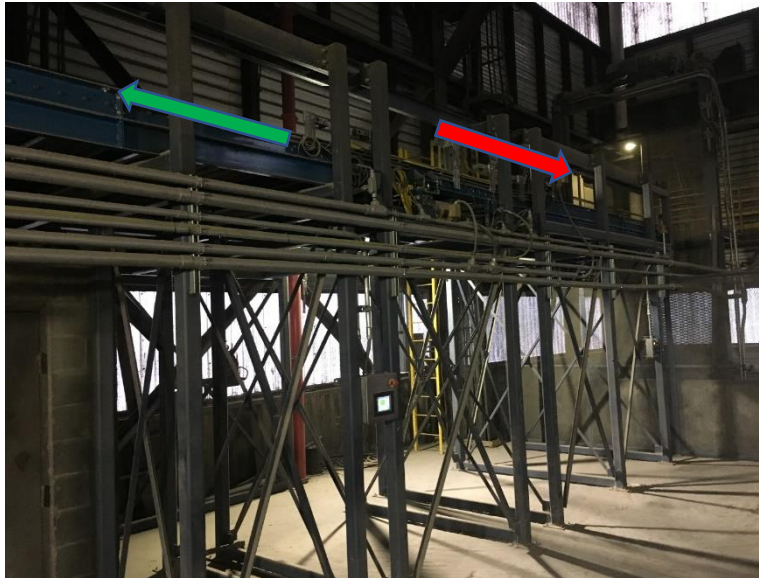


Figure 8 - WFS Charging Deck Transfer Conveyor to move full & empty WFS bins

The charging deck conveyor loads the WFS bin onto the WFS dumper mechanism which transports the WFS bin and drops the waste into the selected MWC feed chute (Figure 9).



Figure 9 - WFS Dumping mechanism feeding MWC feed chute

Once in the feed chute, the BMW will mix with MSW and feed by gravity down into the MWC furnace feed table that is integral to each MWC Unit. From the feed table, the waste will be hydraulically pushed into the combustion chamber.

The empty WFS bin will then return on these same conveyors and Vertical Lift back down to the tipping floor elevation. Once at tipping floor elevation, the empty bin will be transferred from the Lift onto the WFS Bin Tipping Floor Return Conveyor. The forklift will remove the empty bins from the Return conveyor to the BMW/Special Waste Processing area and the cycle repeats.

4. Periodic Inspections

BMW will be incorporated into the established inspection program the Facility has for its existing operations. Trained staff at the Facility will perform thorough quality assurance/quality control (QA/QC) inspections on BMW shipments using a prescribed Covanta QA/QC inspection form. This form may be in a paper or an electronic format. The QA/QC inspection form is used to document that the proper paperwork is accompanying the load, including the Covanta BMW Load Certification document and Medical Waste Tracking form. The QA/QC inspection form is also used to document the condition of the load and any discrepancies identified.

Additionally, QA/QC inspectors will verify that BMW load meets Regulations of Connecticut State Agency (RCSA) Section 22a-209-15 (b) (4) for proper waste packaging, (7) for proper BMW labels, and (8) for proper Generator and Transporter information markings.

5. Procedures for Managing Unacceptable BMW

Covanta has implemented a QA/QC program for BMW customers to minimize the likelihood of unacceptable waste being received by the Facility (see paragraph B.9 for additional information). Each customer shipment must be accompanied by a Covanta BMW Load Certification certifying the deliver contains only BMW as defined with the Waste Disposal Agreement in affect with the customer, contains no Unacceptable Waste as defined in the Agreement, and is not subject to regulations as hazardous waste under RCRA.

Discrepancies identified during load inspections will be reported to the customer. Reports will identify the root causes of discrepancies and requisite corrective actions to prevent future issues. Discrepancies may trigger load rejections, customer suspensions and customer corrective action site audits in addition to those periodically conducted by Covanta.

6. Measuring Waste

Upon arriving at the Facility, each vehicle will be weighed at the scale house located just inside of the security gate. BMW waste vehicles will be scanned for radioactivity at the scale house. A scale record will include the source (name of the hauler or cartage firm), origin, date, time, and quantity (tons) of the BMW.

7. Storage

BMW will be stored in designated BMW storage locations such that is does not become mixed with other waste and is only accessible to authorized persons. BMW will be stored in enclosed trailers in the BMW truck staging areas or in bins located in the BMW Waste Processing Area within the tipping building. The estimated cubic yards of BMW storage in these areas is as follows: Truck Trailers – 1,040 cubic yards and BMW Processing Area – 267 cubic yards.. A sign displaying the universal biohazard symbol will be posted in BMW storage areas.

BMW will not be stored at the Facility for longer than 72 hours which will allow it to be combusted throughout holiday weekends.

8. Process Capacity

The Facility is not requested any changes to its existing processing capacity or special waste processing capacity. Covanta proposes to include BMW as part of its existing special waste processing capacity.

The SWDA allows Covanta Bristol to accept and process no more than 57 TPD of special waste, averaged over the course of one week, and receive no greater than 114 tons of special waste on any given day. See paragraph B.1. for additional information.

9. Quality Assurance/Quality Control Program

Covanta's QA/QC program adheres to a rigorous and documented process. The process begins with a conference call with the prospective customer to gather information about the company, its customers and their waste materials, packaging requirements, waste containers and other details.

Next, the prospective customer must complete a Material Characterization Form (MCF) for Covanta approval. This process informs a customer about supplemental requirements concerning source segregation and provides educational materials used at generator sites for waste segregation and packaging, as well as information about training and refresher course programs.

The next step in the process is an initial customer facility site visit by Covanta to review waste receiving, segregation, and repacking requirements and procedures. Any modifications that may be required to meet Covanta specifications, acceptable and unacceptable wastes and a service agreement would be discussed.

Before any BMW can be delivered to the Bristol Facility, all customers must execute a service agreement which includes added safeguards for compliance with our program by allowing Covanta to inspect any upstream customer facility that receives, processes or aggregates BMW to be delivered to a Covanta facility. After any required updates or follow-up visits are completed, all paperwork and the service agreement are submitted to Covanta for final approval.

Customer site audits are conducted by Covanta including a pre-approval audit, regularly scheduled recertification audits and a corrective action site audit, if required.

10. Recycling and Diversion Goals

Connecticut updated its 2006 Solid Waste Management Plan (SWMP) with the 2016 Comprehensive Materials Management Strategy (CMMS). The CMMS focuses primarily on recycling programs, waste conversion and diversion, and corporate stewardship. There are currently limited recycling and corporate materials stewardship options for management of BMW materials. While efforts are underway to holistically develop solutions which achieve these goals, the addition of BMW to the Facility provides a more sustainable solution to BMW management than is presently provided in Connecticut.

BMW generated in Connecticut has limited treatment and management options. Some BMW is treated by autoclaving resulting in a waste material requiring disposal. Other BMW is transported out-of-state for treatment and disposal. For example, BMW is transported to an incinerator in Maryland for proper treatment and disposal. This management solution requires trucks to drive approximately 600 miles roundtrip to transport the BMW from Connecticut to Maryland. The addition of BMW to Covanta's process provides a needed treatment and disposal outlet for BMW management in Connecticut, as well as a more sustainable option of transport as compared to trucking out-of-state.

C. MANAGEMENT

1. Organization Chart

An organization chart is included as Attachment 2.

In accordance with State of Connecticut regulations, all chief and shift operators are required to be certified by the Commissioner. Operators must satisfactorily complete an operator training course conducted by the Commissioner. There is no change to this requirement as a result of the BMW project.

2. Facility Operating Agreements

At this time, there are no subcontractors associated with the BMW project. If a subcontractor is use, Covanta will provide a copy of the facility operating agreement to CT DEEP for review and approval.

3. Operating Hours

There are no changes the operating hours of the Bristol Facility as a result of the BMW project. The Bristol Facility operates 24 hours per day, 7 days per week. Waste is normally received Monday through Saturday and combustion of the waste is conducted 24 hours per day, 7 days per week.

4. Communication Systems

There are no changes to the communication system used as a result of the BMW project. The existing communication system within the Facility will be used for the BMW receipt and processing operation. The system includes the use of plant-wide Gaitronics type paging system and two-way radios. A landline phone system is provided for offices and the control room.

D. PLANNING

A list of permits required to implement the proposed BMW project at the Bristol Facility includes:

1. A Permit for the Construction and Operation of a Solid Waste Facility to receive and process biomedical waste (BMW) by incineration with energy recovery at the Facility;
2. Modification of the current Permit to Operate (PTO) No. 01701072-PO for the Bristol Facility to approve changes to the site plan and the O&M Plan of the Facility;
3. Minor Modification of the CT DEEP Air Quality Permits for the Facility; and
4. Local permits from the City of Bristol. Concurrently with the CT DEEP's review of the application, Covanta will coordinate a meeting with the City of Bristol to review local permits required for the project and initiate the permitting process.

E. RECORDKEEPING

All BMW deliveries to the Bristol Facility will be scheduled in advance. Upon arriving at the Facility, each vehicle will be weighed at the scale house located just inside of the security gate. A scale record will include the source (name of the hauler or cartage firm), origin, date, time, and quantity (tons) of the BMW. A Pre-Shipment Notification form provided with each individual delivery will also be signed as the certification of disposal/destruction of the waste. A signed copy of this form will be provided to the driver and another copy will be kept at the Facility for recordkeeping.

Each customer shipment must be accompanied by a Covanta BMW Load Certification document. On the Load Certification document, the customer certifies that the delivery accompanying the Certification contains only Biomedical Medical Waste, as defined in the Waste Disposal Agreement in effect with the customer, contains no Unacceptable Waste as defined in the Agreement and is not subject to regulations as hazardous waste under RCRA.

Additionally, Covanta will ensure that a Medical Waste Tracking form that meets RCSA 22a-209-15(h), Appendix I, accompanies the load. BMW deliveries will not be offloaded until all required shipment documents, including the Covanta BMW Load Certification, are signed and received at the Facility.

Trained staff at the Facility will perform thorough QA/QC inspections on BMW shipments using a prescribed Covanta QA/QC inspection form. This form may be in a paper or an electronic format. The QA/QC inspection form is used to ensure that the proper paperwork is accompanying the load, is used to document the condition of the load, and is used to document any discrepancies. Additionally, QA/QC inspectors will verify that BMW load meets RCSA Section 22a-209-15 (b) (4) for proper waste packaging, (7) for proper BMW labels, and (8) for proper Generator and Transporter information markings.

The existing system used for the collection and maintenance of information required for quarterly reporting to CT DEEP will continue to be used.

F. MAINTENANCE

Existing daily clean-up and maintenance procedures will be used at the Facility, including the BMW storage and processing areas. Existing contracts and agreements pertaining to maintenance of the Facility and equipment will be reviewed and will either be updated to include the BMW processing area and equipment or a new contract may be established. The BMW project will use existing roads at the Facility. Signs will be posted directing BMW traffic to the BMW staging areas.

G. ENVIRONMENTAL CONTROLS

1. Dust, Odor, and Vector Nuisance Control

The Facility will continue to employ the existing procedures and equipment used for the control of nuisances (e.g., dust, odors, and vectors) at the Facility. BMW will be received securely packaged and maintained in a non-putrescible state. As such, it is not anticipated the addition of BMW to the Facility's operations will contribute to nuisances. Trucks parked in staging areas will be kept locked until such time as they are relocated to the dock for unloading.

The Facility will maintain existing protocols for responding to complaints or requests received by the Facility.

2. Leaks and Spills

Vehicles used to transport BMW must have a spill kit which conforms with the requirements at RCSA 22a-209-15 e (8). The required content of the spill kit includes absorbent material, disinfectant, bags, seals and labels, protective apparel, a fire extinguisher, a high-intensity flashlight and a first-aid kit. A spill kit which meets the specifications of RCSA 22a-209-15 will also be located at the Bristol Facility on the west side of the process area. In addition to the spill kit, the Facility will maintain a storage unit to segregate tools only to be used in the BMW Process Area.

3. Truck Idling

The Facility will comply with the provisions of RCSA 22a-174-18(b)(3) with respect to vehicle idling times.

4. Inspections and Audits

The Facility conducts inspections and audits with respect to environmental and permit requirements as part of its existing operations. Additional procedures to conduct inspections and audits associated with BMW are discussed in this BMW Addendum.

H. TRAFFIC

The facility plan has been updated to show new traffic patterns proposed for the BMW project. See engineering drawing in Attachment 1. The BMW project will use existing roadways and driveways.

I. EQUIPMENT

The following equipment will be used with the BMW project:

- Forklift;
- 3-sided bins;
- 4-sided enclosed bins;
- Automated WFS; and
- Yard jockey truck.

Cut sheets, attached to the Application, provide a description of the fixed and mobile equipment proposed for use with the BMW project. Actual equipment selection may vary and will be determined during Construction bidding for the project. Additional information can be found on the engineering drawings found in Attachment 1.

Routine maintenance and inspection of equipment for the BMW project will be completed in accordance with Covanta's procedures.

J. FIRE CONTROL

The Bristol Facility has an established fire control system that covers the tipping building areas, as well as the outdoor areas. As part of the detailed design of the BMW project, the existing fire suppression system in the BMW Processing Area will be evaluated to determine if it is sufficient as-is or if modifications need to be made, as per the most current state, local and National Fire Protection Association codes. Additionally, during this phase of the design process, a fire suppression system for the proposed equipment annex will be evaluated and designed to those same standards.

K. EMERGENCIES

1. Planned and Unplanned Outages

As required by its current PTO, the Bristol Facility has established provisions for the diversion of waste deliveries away from the Facility, as well as the transfer of waste out of the Facility during planned and unplanned outages. For planned outages, BMW shipment schedule will be revised, as necessary. For unplanned outages, BMW deliveries would first attempt to be rescheduled with customers. If the shipment cannot be rescheduled, the shipment can be diverted to alternate BMW processing facilities. Covanta has obtained a letter agreement to divert BMW shipments to its Huntsville, AL or Lake County FL Facilities. A copy of the Letter Agreement is provided in Attachment C. Agreements with other BMW processing facilities will be provided to the CT DEEP for review prior to use.

2. Emergency Events

The Bristol Facility is required under its current PTO to provide expeditious notification to the CT DEEP of emergency incidents or other significant disruptive occurrences. Covanta will continue to provide notifications with regards to the proposed BMW project.

The Bristol Facility has an established Facility Emergency Action Plan (EAP) that is used in the event of an emergency event such as fire, medical or explosion including, but not limited to, response procedures, coordination with local medical, police and fire protection. For the BMW

project, the existing emergency response procedures will be used. Additionally, the EAP will be updated to include spill response procedure for BMW.

L. SAFETY

1. Safety Procedures and Training

Pursuant to RCSA 22a-209-4(b)(2)(B)(iv), the Bristol Facility has an established health and safety program meeting Occupational Safety and Health Administration (OSHA) standards for its existing operations, which includes safety procedures and training programs implemented at the Bristol Facility.

Operators of the Bristol Facility have been trained in accordance with the Municipal Waste Combustor Operator Training Program developed by the USEPA in support of improving the air pollution control practices at MWCs. The USEPA was required to develop a model state training and certification program for solid waste incinerator operators under Title 111 of Section 129 of the Clean Air Amendments of 1990. In accordance with State of Connecticut regulations, all chief and shift operators are required to be certified by the Commissioner. Operators must satisfactorily complete an operator training course conducted by the Commissioner.

Given the potentially infectious characteristics of some BMW, it is important that facility operators be properly trained and qualified prior to any combustion of BMW at the Facility. Although the federal Hospital, Medical and Infectious Waste Incinerator (HMIWI) rules do not apply to the MWC units co-fired combustors at the Facility, Covanta asserts that the training requirements of 40 CFR 60.53c(c) for HMIWI are appropriate for inclusion in a training program for combusting BMW at any of its facilities.

At least 90 days prior to any combustion of BMW at the Bristol Facility, Covanta will submit to CT DEEP for approval, a comprehensive training program that covers the following topics required by 40 CFR 60.53c(c) that includes, at a minimum, the following provisions:

- (a) 24 hours of training with facility staff on the following subjects:
 - (i) Environmental concerns, including pathogen destruction and types of emissions;
 - (ii) Basic combustion principles, including products of combustion;
 - (iii) Operation of the type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;
 - (iv) Combustion controls and monitoring;
 - (v) Operation of air pollution control equipment and factors affecting performance;
 - (vi) Methods to monitor pollutants and equipment calibration procedures;
 - (vii) Inspection and maintenance of the waste handling equipment, combustion equipment, air pollution control devices, and continuous emission monitoring systems;
 - (viii) Actions to correct malfunctions or conditions that may lead to malfunction;
 - (ix) Ash characteristics and handling procedures;
 - (x) Applicable Federal, State, and local regulations;
 - (xi) Work safety procedures;
 - (xii) Pre-startup inspections; and
 - (xiii) Recordkeeping requirements.

- (b) Distribution of reference material to the attendees covering the course topics.
- (c) An examination designed and administered by the instructor given to trainees to ensure they have been properly trained.

Changes resulting from this BMW project will be reviewed by the Bristol Facility during its Facility Change Notification review process, and then will be added to the Facility's training programs, including new mobile equipment operations and automated WFS operations.

The training program which includes the Best Management Practices (BMPs) for the handling, storage and co-firing of BMW at the Facility will be submitted to the agency 90 days prior to the first firing of BMW in the MWC units. The training program and BMPs will be kept onsite and made available for inspection upon request.

2. Signs

The traffic route and staging areas for BMW trucks is separate from the traffic route for employees and visitors to the Facility as shown in Drawing C-100 (Attachment 1). Signs will be posted directing BMW traffic to the BMW staging area.

M. FINANCIAL ASSURANCE INSTRUMENT

The Bristol Facility maintains a financial assurance instrument and provides annual updates for its current operations. This financial assurance instrument will be updated and submitted to CT DEEP within 180 days after solid waste and air quality final approvals for BMW have been obtained.

ATTACHMENT 1
ENGINEERING DRAWINGS

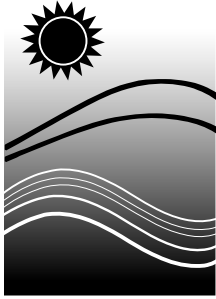
ATTACHMENT 2
ORGANIZATON CHART

ATTACHMENT 3
LETTER OF AGREEMENT

APPENDIX B

NSR Permit P-026-0026

NSR Permit P-026-0027



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

**BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

| | |
|---------------------------------|--|
| Owner/Operator | Covanta Bristol, Inc. |
| Address | 170 Enterprise Drive, Bristol, CT 06010 |
| Equipment Location | 170 Enterprise Drive, Bristol, CT 06010 |
| Equipment Description | One 358 TPD Ogden Martin Systems, Martin Reverse Acting Stoker Grate, Waterwall Furnace, Water-Tube Boiler System Rated at 50 MMBtu/hr (MWC Unit #1) |
| Town-Permit Numbers | 026-0026 |
| Premises Number | 202 |
| Stack Number | 01 |
| Modification Issue Date | April 20, 2020 |
| Prior Permit Issue Dates | August 29, 2010 October 11, 2006 May 26, 1989 |
| Expiration Date | None |

Tracy R. Babbidge

for Betsey C. Wingfield
Deputy Commissioner

4/20/2020

Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. GENERAL DESCRIPTION

A. Municipal Waste Combustor (MWC)

Major components include a Martin Reverse Acting Stoker Grate, a Waterwall Furnace and a Water-tube Boiler System with Natural Gas-fired Auxiliary Burner System designed to combust Municipal Solid Waste (MSW).

B. FLAKT Dry Gas Scrubber/Baghouse System

Major components and sub-systems include lime additive preparation, storage and feed system; spray dryer scrubber (SDS) for acid gas control; baghouse and solids handling system. The SDS includes an atomizer to finely atomize and mix the lime additive with the flue gas.

C. Selective Non-catalytic Reduction (SNCR) System

The principal components of the SNCR system include a 10,000 gallon aqueous ammonia storage tank, ammonia pump skid, carrier water pump skid, a purge air system and injection nozzles. There are ammonia detectors that alarm both locally and in the control room as well as eyewash stations.

D. Mercury Emissions Control (MEC) System

The MEC System includes a pneumatic feed system that injects dry activated carbon into the existing flue gas ductwork downstream of the economizer of each Municipal Waste Combustor (MWC). The system consists of two independent carbon injection trains, each dedicated to one of the MWCs. The carbon injection trains are fed from a common carbon storage silo. Each carbon injection train includes a surge bin, gravimetric feeder, blower, eductor, piping, wiring and other process controls.

The common storage silo has two outlet hoppers to ensure each carbon injection train is independently fed and controlled.

PART II. OPERATIONAL CONDITIONS

A. Operational Parameters

1. MWC

a. Materials Charged:

- i. Municipal Solid Waste (MSW) as defined and restricted in CGS §22a-207 et seq. and any applicable Bureau of Waste Management permit.
- ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most current approved Special Waste Disposal Authorization(s) issued pursuant to CGS §22a-208y.

b. Maximum Facility-wide MSW Processing Rate (tons per year): 261,340 ¹

c. Maximum Facility-wide Annual Average Steam Production (lb/hr): 83,000

d. Maximum demonstrated MWC steam production shall be 110% of the maximum MWC steam production (highest 4-hour arithmetic average) measured during the most recent annual performance test for dioxin/furan emissions for which compliance with the dioxin/furan emission limit was achieved.

2. Auxiliary Burner System Fuel Type: Natural Gas
3. Particulate Control Device Inlet Temperature: The Permittee shall not cause or allow such unit to operate at a temperature, measured at each particulate control device inlet, more than 17 degrees centigrade, based on a 4-hour arithmetic average, above the maximum demonstrated particulate control device temperature measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved. [RCSA §22a-174-38(g)(1)]
4. Unit Load: The Permittee shall not cause or allow such unit to operate at a municipal waste combustor unit load greater than 110% of the maximum demonstrated 4-hour average municipal waste combustor unit load, based on a 4-hour arithmetic average, measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved. Municipal waste combustor unit load shall be measured by a steam flow meter. [RCSA §22a-174-38(g)(2)]
5. Notwithstanding Parts II.A.3 and 4 of this permit, the Permittee may, during the annual dioxin/furan emissions performance test and for two weeks prior to such test, allow temperatures and unit load in excess of the limits, found in Parts II.A.3 & 4 of this permit. Should the unit be operated at such excess temperatures and load, the owner or operator shall not again be allowed to operate at such excess temperatures and load during that test period without the approval of the commissioner should the annual dioxin/furan emission performance test be postponed. [RCSA §22a-174-38(g)(3)]
6. Carbon Injection: During operation of the MWC unit, the carbon injection system operating parameter(s) that is the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) shall be averaged over a block 8-hour period, and the 8-hour block average shall equal or exceed the level(s) documented during the performance tests specified in RCSA §22a-174-38(i).
7. Notwithstanding RCSA §22a-174-38(g)(5), during the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for the average mass carbon feed rate if the provision of RCSA §22a-174-38(g)(4) are met.

¹- Adjusted for pit inventory and other waste not processed through the MWC

B. Equipment Design Specifications

1. MWC
 - a. Design MSW Charge Rate: 14.89 tons/hr, 358 tons/day ¹
 - b. Maximum Design Heat Input Heat (MMBtu/hr): 134.2
 - c. Nominal Design Heat Input Rate (MMBtu/hr): 122
 - d. Grate Dimensions (ft): 26.43L x 13.65W
 - e. Nominal Unit Steam Production (lb/hr): 75,500
 - f. Steam Temperature at Super-Heater Outlet (°F): 800-845
 - g. Steam Pressure at Super-Heater Outlet (psig): 835-880
 - h. Feedwater Temperature (°F): 250
 - i. Gas Temperature Leaving Economizer (°F): 415-450

2. Auxiliary Burner System
 - a. Fuel Type: Natural Gas
 - b. Maximum Design Fuel Firing Rate (cf/hr): 50,000
 - c. Maximum Design Heat Capacity of Chamber (MMBtu/hr): 50

¹- (Based on original Reference Fuel Heating Value of 4500 Btu/lb, current estimate is 5174 Btu/lb)

C. Control Equipment Design Specifications

1. SDS
 - a. Inlet Gas Flow Rate (10³ acfm): 75.0 ¹
 - b. Inlet Gas Temperature (°F): 425-450 ¹
 - c. Pressure Drop (in H₂O): 4 ¹
2. Baghouse
 - a. Exit Gas Flow Rate (10³ acfm): 67.1 ¹
 - b. Exit Gas Temperature (°F): 270-280 ¹
 - c. Pressure Drop (in H₂O): 10 ¹
 - d. Bag Area per Compartment (ft²): 7150
 - e. Pressure Drop Across Each Compartment (in H₂O): 6 ¹
 - f. Total Pressure Drop Across the Baghouse (in H₂O): 5.0-10.0 ¹
 - g. Minimum Number of Compartments in Service at Any Time: 3
 - h. Air to Cloth Ratio: 3.7:1
3. SNCR System
 - a. Design Control Efficiency (%): 50 ¹
 - b. Maximum Reagent Injection Rate (gal/hr): 60
 - c. Typical Reagent Injection Rate Range (gal/hr): 10-13 ¹
4. MEC System
 - a. Minimum Design Control Efficiency (%): 85
 - b. Maximum Carbon Injection Rate (lb/hr): 40
 - c. Typical Carbon Injection Rate Range (lb/hr): 12-15 ¹
 - d. Carbon Characteristics: 95% @ 325 mesh, 8% moisture
 - e. Silo Size (ft³): 3300
 - f. Surge Bin Vent Filter Area (ft²): 216
 - g. Surge Bin Vent Filter Flow Rate (acfm): 675 ¹

¹- This is a typical value or range, which is subject to change during the course of normal operation.

D. Stack Parameters

1. Minimum Stack Height (ft): 292
2. Minimum Stack Exit Diameter (inches): 56
3. Minimum Distance from Stack to Nearest Property Line (ft): 95

PART III. OPERATION AND MAINTENANCE REQUIREMENTS

- A.** The Permittee shall not cause or allow the plant to be operated at any time unless a certified chief

operator or shift operator is physically present at the plant. [RCSA §22a-174-38(h)(1)]

- B. Operators shall be certified by the commissioner under section 22a-231-1 of the Regulations. [RCSA §22a-174-38(h)(2)]
- C. All chief operators and shift operators must satisfactorily complete an operator training course conducted by the commissioner pursuant to RCSA §22a-174-38(h)(3). The operators shall be trained in the operation and maintenance of both the fuel burning and pollution control equipment.
- D. The Permittee shall maintain an Operating and Maintenance (O&M) Manual that shall be updated on a yearly basis. [RCSA §22a-174-38(h)(4)]
- E. The Permittee shall establish a training program to review the O&M Manual with each person who has responsibilities affecting the operation of the plant. The training program shall be repeated on an annual basis for each person. [RCSA §22a-174-38(h)(5)]
- F. Operation of this facility shall comply with all applicable state and federal air pollution control regulations. Except as explicitly altered elsewhere in this permit, all the requirements of the New Source Performance Standards (40 CFR Part 60) shall be applicable to the MWC to the extent that they would be applicable to any other unit subject to the Standards of Performance for Incinerators (40 CFR Part 60, Subpart Cb). Specifically, the various notification, testing, monitoring, and record keeping provisions of 40 CFR Part 60, Subpart A are applicable to the MWC.
- G. Operation on MSW during any start-up period is not allowed without the air pollution control systems working.
- H. Additional tests may be required if any pollutant emission rate or operational parameter is identified as not being in compliance with any permit condition.

PART IV. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

A. Table 1 - Mass Emission Limits

Compliance with the mass emission limits (lb/hr, TPY) shall be based on compliance with the corresponding concentration permit limits (ppmvd, mg/dscm, etc.). The mass emission rates (lb/hr, TPY) are considered representative of actual operating conditions and are based on the average stack gas volumetric flow rates from stack tests performed from 1996 to 2000. The actual mass emission rates will vary depending on actual exhaust flow.

| Criteria Pollutants | lb/hr ^{1,4} | TPY ² |
|------------------------------|-----------------------------|-------------------------|
| PM | 2.8 | 24.5 |
| SO ₂ ³ | 8.6 | 75.6 |
| NO _x | 25.6 | 256 |
| VOC | 5.3 | 46.3 |
| CO | 13.0 | 114 |
| Pb | 0.05 | 0.40 |

| Non-Criteria Pollutants ⁵ | lb/hr ¹ | Other Emission Limit |
|---|--------------------|--|
| Sulfuric Acid (H ₂ SO ₄) | 2.48 | 0.02 lb/MMBtu |
| HCl ³ | 4.92 ⁴ | |
| Total Fluorides | 0.01 | |
| Polynuclear Aromatic Hydrocarbons (PAH) | 6.0e-5 | |
| Dioxin Emissions ⁶ | 2.16e-7 | 1.95 ng/Nm ³ @ 12% CO ₂ ⁷ |
| Arsenic | 3.42e-4 | |
| Cadmium (Cd) | 1.43e-4 | |
| Chromium | 2.00e-4 | |
| Copper | 5.87e-4 | |
| Manganese | 5.33e-4 | |
| Mercury (Hg) ³ | 1.57e-4 | |
| Nickel | 5.17e-5 | |
| Zinc | 1.14e-2 | |
| Ammonia | | 20 ppmvd @ 7% O ₂ |

¹ – Hourly limits for MWC Unit #1

² – Total annual emissions for MWC Units #1 and 2 (Permit Nos. 026-0026 and 026-0027) combined

³ - These pollutants allow for a percent reduction in emissions as an alternative to the emission limit (the least stringent applies). The percent reductions for each pollutant are given in Part IV.B of this permit.

⁴ - Based on 29,900 dscfm (68°F) and the corresponding pollutant concentration, except for VOC, which is based on 30,231 dscfm @ 12% CO₂. These flow rates are the average values from the dioxin and metals stack tests of this unit from 1996-2000. These values are considered representative of actual operation, subject to change during the course of normal operation.

⁵ - The non-criteria pollutant emission rates are considered representative of typical operating conditions and may vary up to, but not exceed the more stringent of the MASC value or RCSA §22a-174-38 concentration limits, where applicable. The lb/hr emission rates for dioxin⁶ and metals are actual emissions from the 11/00 stack test. The lb/hr emission rates for H₂SO₄, total fluorides and PAHs are from the original stack test.

⁶ - As defined in RCSA §22a-174-1.

⁷ - Original permit's BACT limit.

B. Table 2 - RCSA §22a-174-38 Limits

Compliance with the following emission limits shall be verified in accordance with RCSA §22a-174-38.

| Pollutant | mg/dscm @ 7% O ₂ | ppmvd @ 7% O ₂ |
|---------------------------|-----------------------------|---------------------------|
| PM | 25 | |
| SO ₂ | | 29 ¹ |
| NO _x | | 120 ² |
| CO | | 100 ³ |
| Pb | 0.400 | |
| Cd | 0.035 | |
| Hg | 0.028 ⁴ | |
| HCl | | 29 ⁵ |
| Dioxin/Furan ⁶ | 0.00003 | |

- ¹ - Based on a 24-hour daily geometric average or 75% reduction by weight or volume, whichever is less stringent
- ² - Based on a 24-hour daily average. Lower limit than required by RCSA §22a-174-38 (150 ppmvd @ 7% O₂) per August 29, 2010 permit modification.
- ³ - Based on a 4-hour block arithmetic average
- ⁴ - Or 85% reduction by weight, whichever is less stringent
- ⁵ - Or 95% reduction by weight or volume, whichever is less stringent
- ⁶ - As defined in RCSA §22a-174-38

1. Concentration emission limits shall be corrected to 7% O₂ unless the Permittee submits information to the Department, in accordance with RCSA §22a-174-38(c), justifying correction to an equivalent % CO₂ and receives the commissioner's written approval.
2. Dioxin/furan emissions shall be corrected to both 7% O₂ and 12% CO₂. This is required as the BACT limit of the original permit was corrected to 12% CO₂ and the limit contained in RCSA §22a-174-38 corrects to 7% O₂.
3. In the event that particulate matter, cadmium, lead, mercury, dioxin/furan or hydrogen chloride emissions from this MWC exceed the respective emission limits, as determined through stack testing compliance data, the Permittee shall immediately initiate corrective action to re-attain compliance with this limit.

C. Hazardous Air Pollutants

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA §22a-174-29.
[STATE ONLY REQUIREMENT]

D. Opacity

Maximum opacity, 10 percent, 6-minute arithmetic average, as determined by continuous opacity monitoring.

E. Beryllium

If municipal solid waste consisting, in part, of beryllium containing waste from a foundry, extraction plant or propellant plant, is burned in this MSW incinerator, at any time, the provisions of 40 CFR Part 61, Subpart C shall apply.

PART V. MONITORING, REPORTING AND RECORD KEEPING REQUIREMENTS

A. Monitoring

1. The Permittee shall comply with the CEM requirements as set forth in RCSA §22a-174-4. CEM shall be required for the following pollutant/operational parameters and enforced on the following basis:

| Pollutant/Operational Parameter | Averaging Times | Emission Limit | Units |
|---------------------------------|------------------------|-----------------|---------------------------|
| Opacity | six minute block | 10% | |
| SO ₂ | 24 hour geometric mean | 29 ¹ | ppmvd @ 7% O ₂ |
| NO _x | 24 hour daily average | 120 | ppmvd @ 7% O ₂ |
| CO | 4 hour block | 100 | ppmvd @ 7% O ₂ |
| O ₂ | 1 hour block | | |

| | | | |
|--|--------------|--|--|
| Steam Load | 4 hour block | | |
| Particulate Control Device Inlet Temperature | 4 hour block | | |
| Furnace Temperature | 4 hour block | | |
| Overfire and Underfire Air Flowrate | 4 hour block | | |
| Activated Carbon Injection Rate | 8 hour block | | |

¹ - Or a 75% reduction by weight or volume, whichever is less stringent.

2. The Permittee shall install and operate continuous emission monitoring systems to monitor opacity, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen and record the output of each system in accordance with RCSA §22a-174-38(k).
3. The Permittee shall install and operate continuous monitoring systems for measuring and recording steam load (i.e., steam flow meter), total combined overfire and underfire air, furnace temperature, pressure drop across air pollution control devices, particulate control device inlet temperature, SDS reagent application pressures/flowrates and the powdered activated carbon injection rate, as estimated from the screw feeder speed indicator.
4. CEM equipment may not be available for one or more of the following: H₂SO₄, VOC and SDS reagent specific gravity. Installation of this equipment will not be required at this time. At the commissioner's discretion, this CEM equipment will be installed and operated when and if acceptable CEM equipment become available within six months of receipt of notification from the commissioner.
5. All CEM equipment and recorders shall be installed, operated, calibrated, tested and maintained in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60, Appendices B and F and RCSA §22a-174-38(j).

B. Record Keeping

1. The Permittee shall make and keep records of all CEM data required in Part V.A of this permit.
2. The Permittee shall keep records of the monthly and consecutive 12 month quantity of the MSW combusted. The consecutive 12 month quantity of materials combusted shall be determined by adding the current month's quantity to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
3. The Permittee shall calculate and record the monthly and consecutive 12 month PM, SO₂, NO_x, VOC, CO and Pb emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.
4. The Permittee shall make and keep records of all performance tests conducted to determine compliance with the dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, ammonia, H₂SO₄, fluorides and PAH emission limits.
5. The Permittee shall make and keep records of all performance tests conducted to determine compliance with any pollutant emission rate or operational parameter, if such tests are required by the commissioner.
6. The Permittee shall make and keep records for operator training in accordance with RCSA §22a-

174-38(k)(2).

7. The Permittee shall monitor the carbon mass feed rate for the carbon injection system and manual feed. The Permittee shall make and keep records for the carbon injection system in accordance with RCSA §22a-174-38(k)(11)].
8. The Permittee shall keep records of the daily hours of operation, in which periods of startup, shutdown and malfunction are distinguished.
9. The Permittee shall keep all records required by this permit for a period of no less than five years and shall submit such records to the commissioner upon request.

C. Reporting

1. The Permittee shall submit reports to the commissioner of all required performance tests.
2. The Permittee shall submit a quarterly report to the commissioner within 30 days following the end of the each calendar quarter. Each quarterly report shall include the information required in RCSA §22a-174-38(l)(2).
3. The Permittee shall report all CEM data to the commissioner on a quarterly basis in accordance with RCSA §22a-174-38(l).
4. The Permittee shall provide written notification to the commissioner within 72 hours of the time at which the Permittee receives information regarding performance test results indicating that any particulate matter, opacity, cadmium, lead, mercury, dioxin/furan, hydrogen chloride or fugitive ash emission levels exceed the applicable pollutant emission limits or standards defined in RCSA §22a-174-38.

PART VI. STACK EMISSION TEST REQUIREMENTS

- A.** Stack emission testing shall be performed in accordance with the Emission Test Guidelines available on the DEEP website at www.ct.gov/deep/stacktesting.
- B.** The Permittee shall conduct an annual performance test for dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, and ammonia at least once per calendar year. Such annual test shall be conducted no less than nine calendar months and no more than 15 calendar months following the previous performance test in accordance with RCSA §22a-174-38(i)(2).
- C.** The Permittee shall conduct periodic performance testing for H₂SO₄, Total Fluorides, PAH and NH₄ every five years from the date of the previous such performance test.
- D.** The commissioner may require the Permittee to conduct additional performance tests if any pollutant emission rate or operational parameter is identified as not being in compliance with any permit condition.

PART VII. EQUIPMENT STARTUP, SHUTDOWN AND MALFUNCTION

- A.** The emission limits from RCSA §22a-174-38(c), as specified in Part IV.B Table 2 above, shall apply at all times except during periods of startup, shutdown, or malfunction as specified in RCSA §22a-174-38(c)(11):
 1. For determining compliance with an applicable carbon monoxide emissions limit, if a loss of boiler

water level control or a loss of combustion air control is determined to be a malfunction, the duration of the malfunction period shall be limited to 15 hours per occurrence. Otherwise, the duration of each startup, shutdown or malfunction period shall be limited to three hours per occurrence;

2. For the purpose of compliance with the opacity emission limits, during each period of startup, shutdown or malfunction, the opacity limits shall not be exceeded during more than five 6-minute arithmetic average measurements;
 3. During periods of startup, shutdown, or malfunction, monitoring data shall be excluded from calculations of compliance with the Part IV.B Table 2 emission limits but shall be recorded and reported in accordance with subsections (k) and (l) of RCSA §22a-174-38; and
 4. During a loss of boiler water level control or a loss of combustion air control malfunction period, a diluent cap of fourteen percent for oxygen or five percent for carbon dioxide may be used in the emissions calculations for sulfur dioxide and nitrogen oxides as specified in RCSA §22a-174-38(i)(3).
- B.** In addition to complying with the requirements of RCSA §22a-174-7, the Permittee shall also comply with the following conditions:
1. Except as otherwise provided in this permit or in RCSA §22a-174-38, the Permittee shall only be allowed to operate this MWC during shutdown of air pollution control equipment when there is a malfunction of such air pollution control equipment and as allowed under RCSA §22a-174-7(b). The period for which the facility will be allowed to operate during shutdown of the air pollution control equipment shall not exceed the burnout of the MWC's charge at the time of the shutdown of the air pollution control equipment.
 2. No MSW may be charged into the hopper following a shutdown of the air pollution control equipment until after the air pollution control equipment has been put back on-line.
 3. In the event of a malfunction of this unit's SDS system, the baghouse must function properly and be adequately protected from the MWC's combustion gases.
 4. None of the conditions in this part shall exempt the Permittee from compliance with any other condition of this permit, with any emission limit established in this permit, or with any applicable state or federal regulation.

PART. VIII. PREMISES REQUIREMENTS

- A.** The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA §22a-174-23.
[STATE ONLY REQUIREMENT]
- B.** The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA §22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]
- C.** The Permittee shall institute and comply with the following conditions at all times:
1. Sufficient wind-sheltered storage capacity for refuse, residual particulates and bottom ash on site and provision for landfill disposal of same shall be maintained for operation of refuse handling

systems, in the event of a strike, malfunction of air pollution control equipment or other interruption.

2. Paved vehicular traffic areas of the plant site.
3. Transfer, storage and transportation at and from the plant site, of materials collected from the boiler grates and the air pollution control equipment must be done in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
4. A clean up program on the plant site, whereby, at least once per day, any refuse or other materials which may become airborne, will be collected.
5. Positive measures must be taken and maintained to assure that the public does not have uncontrolled access to any portion of this premises. On site modeling of this source has not been performed. Public access to the site must be restricted on the chance that there may be non-compliant on site emission impacts.
6. The Permittee shall be in compliance with the requirements of RCSA §22a-174-18(c), requirements which pertain to the control of fugitive dust emissions.

PART IX. ENFORCEMENT CONSIDERATIONS

- A. An enforcement protocol will be updated and maintained by the Permittee. The protocol shall address the relationship between CEM equipment, the limitations imposed by this permit, including, but not limited to, averaging times, emission rates and operating parameters and the actions to be undertaken by Permittee and the Department in the event that exceedances occur or are anticipated to occur.
- B. Pursuant to RCSA §22a-6b-602(f)(1), the Permittee is hereby advised of its liability for assessment of civil penalties for any violation of the terms of this permit.
- C. Notwithstanding any other provision of this permit, for the purpose of determining compliance or establishing whether a Permittee has violated or is in violation of any permit condition, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information.

PART X. SPECIAL REQUIREMENTS

The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times. (Applicable if checked)

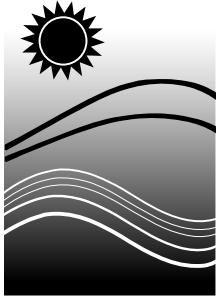
40 CFR Part 60, Subpart A Cb

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

PART XI. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

- B.** Any representative of the DEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C.** This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D.** This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.
- E.** Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F.** Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G.** Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- H.** The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.
- I.** Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Enforcement Division; Bureau of Air Management; Department of Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

**BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

| | |
|---------------------------------|--|
| Owner/Operator | Covanta Bristol, Inc. |
| Address | 170 Enterprise Drive, Bristol, CT 06010 |
| Equipment Location | 170 Enterprise Drive, Bristol, CT 06010 |
| Equipment Description | One 358 TPD Ogden Martin Systems, Martin Reverse Acting Stoker Grate, Waterwall Furnace, Water-Tube Boiler System Rated at 50 MMBtu/hr (MWC Unit #2) |
| Town-Permit Numbers | 026-0027 |
| Premises Number | 202 |
| Stack Number | 02 |
| Modification Issue Date | April 20, 2020 |
| Prior Permit Issue Dates | October 11, 2006 May 26, 1989 |
| Expiration Date | None |

Tracy R. Babbidge

for

Betsey C. Wingfield
Deputy Commissioner

4/20/2020

Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. GENERAL DESCRIPTION

A. Municipal Waste Combustor (MWC)

Major components include a Martin Reverse Acting Stoker Grate, a Waterwall Furnace and a Water-tube Boiler System with Natural Gas-fired Auxiliary Burner System designed to combust Municipal Solid Waste (MSW).

B. FLAKT Dry Gas Scrubber/Baghouse System

Major components and sub-systems include lime additive preparation, storage and feed system; spray dryer scrubber (SDS) for acid gas control; baghouse and solids handling system. The SDS includes an atomizer to finely atomize and mix the lime additive with the flue gas.

C. Selective Non-catalytic Reduction (SNCR) System

The principal components of the SNCR system include a 10,000 gallon aqueous ammonia storage tank, ammonia pump skid, carrier water pump skid, a purge air system and injection nozzles. There are ammonia detectors that alarm both locally and in the control room as well as eyewash stations.

D. Mercury Emissions Control (MEC) System

The MEC System includes a pneumatic feed system that injects dry activated carbon into the existing flue gas ductwork downstream of the economizer of each Municipal Waste Combustor (MWC). The system consists of two independent carbon injection trains, each dedicated to one of the MWCs. The carbon injection trains are fed from a common carbon storage silo. Each carbon injection train includes a surge bin, gravimetric feeder, blower, eductor, piping, wiring and other process controls.

The common storage silo has two outlet hoppers to ensure each carbon injection train is independently fed and controlled.

PART II. OPERATIONAL CONDITIONS

A. Operational Parameters

1. MWC

a. Materials Charged:

- i. Municipal Solid Waste (MSW) as defined and restricted in CGS §22a-207 et seq. and any applicable Bureau of Waste Management permit.
- ii. Special waste as defined in RCSA §22a-209-1 and in accordance with the Permittee's most current approved Special Waste Disposal Authorization(s) issued pursuant to CGS §22a-208y.

b. Maximum Facility-wide MSW Processing Rate (tons per year): 261,340 ¹

c. Maximum Facility-wide Annual Average Steam Production (lb/hr): 83,000

d. Maximum demonstrated MWC steam production shall be 110% of the maximum MWC steam production (highest 4-hour arithmetic average) measured during the most recent annual performance test for dioxin/furan emissions for which compliance with the dioxin/furan emission limit was achieved.

2. Auxiliary Burner System Fuel Type: Natural Gas
3. Particulate Control Device Inlet Temperature: The Permittee shall not cause or allow such unit to operate at a temperature, measured at each particulate control device inlet, more than 17 degrees centigrade, based on a 4-hour arithmetic average, above the maximum demonstrated particulate control device temperature measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved. [RCSA §22a-174-38(g)(1)]
4. Unit Load: The Permittee shall not cause or allow such unit to operate at a municipal waste combustor unit load greater than 110% of the maximum demonstrated 4-hour average municipal waste combustor unit load, based on a 4-hour arithmetic average, measured during the most recent performance test for dioxin/furan emissions for which compliance with the dioxin/furan emissions limit was achieved. Municipal waste combustor unit load shall be measured by a steam flow meter. [RCSA §22a-174-38(g)(2)]
5. Notwithstanding Parts II.A.3 and 4 of this permit, the Permittee may, during the annual dioxin/furan emissions performance test and for two weeks prior to such test, allow temperatures and unit load in excess of the limits, found in Parts II.A.3 & 4 of this permit. Should the unit be operated at such excess temperatures and load, the owner or operator shall not again be allowed to operate at such excess temperatures and load during that test period without the approval of the commissioner should the annual dioxin/furan emission performance test be postponed. [RCSA §22a-174-38(g)(3)]
6. Carbon Injection: During operation of the MWC unit, the carbon injection system operating parameter(s) that is the primary indicator(s) of the carbon mass feed rate (e.g., screw feeder setting) shall be averaged over a block 8-hour period, and the 8-hour block average shall equal or exceed the level(s) documented during the performance tests specified in RCSA §22a-174-38(i).
7. Notwithstanding RCSA §22a-174-38(g)(5), during the annual dioxin/furan or mercury performance test and the two weeks preceding the annual dioxin/furan or mercury performance test, no limit is applicable for the average mass carbon feed rate if the provision of RCSA §22a-174-38(g)(4) are met.

¹- Adjusted for pit inventory and other waste not processed through the MWC

B. Equipment Design Specifications

1. MWC
 - a. Design MSW Charge Rate: 14.89 tons/hr, 358 tons/day ¹
 - b. Maximum Design Heat Input Heat (MMBtu/hr): 134.2
 - c. Nominal Design Heat Input Rate (MMBtu/hr): 122
 - d. Grate Dimensions (ft): 26.43L x 13.65W
 - e. Nominal Unit Steam Production (lb/hr): 75,500
 - f. Steam Temperature at Super-Heater Outlet (°F): 800-845
 - g. Steam Pressure at Super-Heater Outlet (psig): 835-880
 - h. Feedwater Temperature (°F): 250
 - i. Gas Temperature Leaving Economizer (°F): 415-450

2. Auxiliary Burner System
 - a. Fuel Type: Natural Gas
 - b. Maximum Design Fuel Firing Rate (cf/hr): 50,000
 - c. Maximum Design Heat Capacity of Chamber (MMBtu/hr): 50

¹- (Based on original Reference Fuel Heating Value of 4500 Btu/lb, current estimate is 5174 Btu/lb)

C. Control Equipment Design Specifications

1. SDS
 - a. Inlet Gas Flow Rate (10³ acfm): 75.0 ¹
 - b. Inlet Gas Temperature (°F): 425-450 ¹
 - c. Pressure Drop (in H₂O): 4 ¹
2. Baghouse
 - a. Exit Gas Flow Rate (10³ acfm): 67.1 ¹
 - b. Exit Gas Temperature (°F): 270-280 ¹
 - c. Pressure Drop (in H₂O): 10 ¹
 - d. Bag Area per Compartment (ft²): 7150
 - e. Pressure Drop Across Each Compartment (in H₂O): 6 ¹
 - f. Total Pressure Drop Across the Baghouse (in H₂O): 5.0-10.0 ¹
 - g. Minimum Number of Compartments in Service at Any Time: 3
 - h. Air to Cloth Ratio: 3.7:1
3. SNCR System
 - a. Design Control Efficiency (%): 50 ¹
 - b. Maximum Reagent Injection Rate (gal/hr): 60
 - c. Typical Reagent Injection Rate Range (gal/hr): 10-13 ¹
4. MEC System
 - a. Minimum Design Control Efficiency (%): 85
 - b. Maximum Carbon Injection Rate (lb/hr): 40
 - c. Typical Carbon Injection Rate Range (lb/hr): 12-15 ¹
 - d. Carbon Characteristics: 95% @ 325 mesh, 8% moisture
 - e. Silo Size (ft³): 3300
 - f. Surge Bin Vent Filter Area (ft²): 216
 - g. Surge Bin Vent Filter Flow Rate (acfm): 675 ¹

¹- This is a typical value or range, which is subject to change during the course of normal operation.

D. Stack Parameters

1. Minimum Stack Height (ft): 292
2. Minimum Stack Exit Diameter (inches): 56
3. Minimum Distance from Stack to Nearest Property Line (ft): 95

PART III. OPERATION AND MAINTENANCE REQUIREMENTS

- A.** The Permittee shall not cause or allow the plant to be operated at any time unless a certified chief

operator or shift operator is physically present at the plant. [RCSA §22a-174-38(h)(1)]

- B. Operators shall be certified by the commissioner under section 22a-231-1 of the Regulations. [RCSA §22a-174-38(h)(2)]
- C. All chief operators and shift operators must satisfactorily complete an operator training course conducted by the commissioner pursuant to RCSA §22a-174-38(h)(3). The operators shall be trained in the operation and maintenance of both the fuel burning and pollution control equipment.
- D. The Permittee shall maintain an Operating and Maintenance (O&M) Manual that shall be updated on a yearly basis. [RCSA §22a-174-38(h)(4)]
- E. The Permittee shall establish a training program to review the O&M Manual with each person who has responsibilities affecting the operation of the plant. The training program shall be repeated on an annual basis for each person. [RCSA §22a-174-38(h)(5)]
- F. Operation of this facility shall comply with all applicable state and federal air pollution control regulations. Except as explicitly altered elsewhere in this permit, all the requirements of the New Source Performance Standards (40 CFR Part 60) shall be applicable to the MWC to the extent that they would be applicable to any other unit subject to the Standards of Performance for Incinerators (40 CFR Part 60, Subpart Cb). Specifically, the various notification, testing, monitoring, and record keeping provisions of 40 CFR Part 60, Subpart A are applicable to the MWC.
- G. Operation on MSW during any start-up period is not allowed without the air pollution control systems working.
- H. Additional tests may be required if any pollutant emission rate or operational parameter is identified as not being in compliance with any permit condition.

PART IV. ALLOWABLE EMISSION LIMITS

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

A. Table 1 - Mass Emission Limits

Compliance with the mass emission limits (lb/hr, TPY) shall be based on compliance with the corresponding concentration permit limits (ppmvd, mg/dscm, etc.). The mass emission rates (lb/hr, TPY) are considered representative of actual operating conditions and are based on the average stack gas volumetric flow rates from stack tests performed from 1996 to 2000. The actual mass emission rates will vary depending on actual exhaust flow.

| Criteria Pollutants | lb/hr ^{1,4} | TPY ² |
|------------------------------|-----------------------------|-------------------------|
| PM | 2.8 | 24.5 |
| SO ₂ ³ | 8.6 | 75.6 |
| NO _x | 25.6 | 256 |
| VOC | 5.3 | 46.3 |
| CO | 13.0 | 114 |
| Pb | 0.05 | 0.40 |

| Non-Criteria Pollutants ⁵ | lb/hr ¹ | Other Emission Limit |
|---|--------------------|--|
| Sulfuric Acid (H ₂ SO ₄) | 2.48 | 0.02 lb/MMBtu |
| HCl ³ | 4.92 ⁴ | |
| Total Fluorides | 0.01 | |
| Polynuclear Aromatic Hydrocarbons (PAH) | 6.0e-5 | |
| Dioxin Emissions ⁶ | 2.16e-7 | 1.95 ng/Nm ³ @ 12% CO ₂ ⁷ |
| Arsenic | 3.42e-4 | |
| Cadmium (Cd) | 1.43e-4 | |
| Chromium | 2.00e-4 | |
| Copper | 5.87e-4 | |
| Manganese | 5.33e-4 | |
| Mercury (Hg) ³ | 1.57e-4 | |
| Nickel | 5.17e-5 | |
| Zinc | 1.14e-2 | |
| Ammonia | | 20 ppmvd @ 7% O ₂ |

¹ – Hourly limits for MWC Unit #1

² – Total annual emissions for MWC Units #1 and 2 (Permit Nos. 026-0026 and 026-0027) combined

³ - These pollutants allow for a percent reduction in emissions as an alternative to the emission limit (the least stringent applies). The percent reductions for each pollutant are given in Part IV.B of this permit.

⁴ - Based on 29,900 dscfm (68°F) and the corresponding pollutant concentration, except for VOC, which is based on 30,231 dscfm @ 12% CO₂. These flow rates are the average values from the dioxin and metals stack tests of this unit from 1996-2000. These values are considered representative of actual operation, subject to change during the course of normal operation.

⁵ - The non-criteria pollutant emission rates are considered representative of typical operating conditions and may vary up to, but not exceed the more stringent of the MASC value or RCSA §22a-174-38 concentration limits, where applicable. The lb/hr emission rates for dioxin⁶ and metals are actual emissions from the 11/00 stack test. The lb/hr emission rates for H₂SO₄, total fluorides and PAHs are from the original stack test.

⁶ - As defined in RCSA §22a-174-1.

⁷ - Original permit's BACT limit.

B. Table 2 - RCSA §22a-174-38 Limits

Compliance with the following emission limits shall be verified in accordance with RCSA §22a-174-38.

| Pollutant | mg/dscm @ 7% O ₂ | ppmvd @ 7% O ₂ |
|---------------------------|-----------------------------|---------------------------|
| PM | 25 | |
| SO ₂ | | 29 ¹ |
| NO _x | | 120 ² |
| CO | | 100 ³ |
| Pb | 0.400 | |
| Cd | 0.035 | |
| Hg | 0.028 ⁴ | |
| HCl | | 29 ⁵ |
| Dioxin/Furan ⁶ | 0.00003 | |

- ¹ - Based on a 24-hour daily geometric average or 75% reduction by weight or volume, whichever is less stringent
- ² - Based on a 24-hour daily average. Lower limit than required by RCSA §22a-174-38 (150 ppmvd @ 7% O₂) per August 29, 2010 permit modification.
- ³ - Based on a 4-hour block arithmetic average
- ⁴ - Or 85% reduction by weight, whichever is less stringent
- ⁵ - Or 95% reduction by weight or volume, whichever is less stringent
- ⁶ - As defined in RCSA §22a-174-38

1. Concentration emission limits shall be corrected to 7% O₂ unless the Permittee submits information to the Department, in accordance with RCSA §22a-174-38(c), justifying correction to an equivalent % CO₂ and receives the commissioner's written approval.
2. Dioxin/furan emissions shall be corrected to both 7% O₂ and 12% CO₂. This is required as the BACT limit of the original permit was corrected to 12% CO₂ and the limit contained in RCSA §22a-174-38 corrects to 7% O₂.
3. In the event that particulate matter, cadmium, lead, mercury, dioxin/furan or hydrogen chloride emissions from this MWC exceed the respective emission limits, as determined through stack testing compliance data, the Permittee shall immediately initiate corrective action to re-attain compliance with this limit.

C. Hazardous Air Pollutants

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCSA §22a-174-29.
[STATE ONLY REQUIREMENT]

D. Opacity

Maximum opacity, 10 percent, 6-minute arithmetic average, as determined by continuous opacity monitoring.

E. Beryllium

If municipal solid waste consisting, in part, of beryllium containing waste from a foundry, extraction plant or propellant plant, is burned in this MSW incinerator, at any time, the provisions of 40 CFR Part 61, Subpart C shall apply.

PART V. MONITORING, REPORTING AND RECORD KEEPING REQUIREMENTS

A. Monitoring

1. The Permittee shall comply with the CEM requirements as set forth in RCSA §22a-174-4. CEM shall be required for the following pollutant/operational parameters and enforced on the following basis:

| Pollutant/Operational Parameter | Averaging Times | Emission Limit | Units |
|---------------------------------|------------------------|-----------------|---------------------------|
| Opacity | six minute block | 10% | |
| SO ₂ | 24 hour geometric mean | 29 ¹ | ppmvd @ 7% O ₂ |
| NO _x | 24 hour daily average | 120 | ppmvd @ 7% O ₂ |
| CO | 4 hour block | 100 | ppmvd @ 7% O ₂ |
| O ₂ | 1 hour block | | |

| | | | |
|--|--------------|--|--|
| Steam Load | 4 hour block | | |
| Particulate Control Device Inlet Temperature | 4 hour block | | |
| Furnace Temperature | 4 hour block | | |
| Overfire and Underfire Air Flowrate | 4 hour block | | |
| Activated Carbon Injection Rate | 8 hour block | | |

¹ - Or a 75% reduction by weight or volume, whichever is less stringent.

2. The Permittee shall install and operate continuous emission monitoring systems to monitor opacity, sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO) and oxygen and record the output of each system in accordance with RCSA §22a-174-38(k).
3. The Permittee shall install and operate continuous monitoring systems for measuring and recording steam load (i.e., steam flow meter), total combined overfire and underfire air, furnace temperature, pressure drop across air pollution control devices, particulate control device inlet temperature, SDS reagent application pressures/flowrates and the powdered activated carbon injection rate, as estimated from the screw feeder speed indicator.
4. CEM equipment may not be available for one or more of the following: H₂SO₄, VOC and SDS reagent specific gravity. Installation of this equipment will not be required at this time. At the commissioner's discretion, this CEM equipment will be installed and operated when and if acceptable CEM equipment become available within six months of receipt of notification from the commissioner.
5. All CEM equipment and recorders shall be installed, operated, calibrated, tested and maintained in a manner that demonstrates compliance with siting, performance and quality assurance specifications stated in 40 CFR Part 60, Appendices B and F and RCSA §22a-174-38(j).

B. Record Keeping

1. The Permittee shall make and keep records of all CEM data required in Part V.A of this permit.
2. The Permittee shall keep records of the monthly and consecutive 12 month quantity of the MSW combusted. The consecutive 12 month quantity of materials combusted shall be determined by adding the current month's quantity to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of each month.
3. The Permittee shall calculate and record the monthly and consecutive 12 month PM, SO₂, NO_x, VOC, CO and Pb emissions in units of tons. The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.
4. The Permittee shall make and keep records of all performance tests conducted to determine compliance with the dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, ammonia, H₂SO₄, fluorides and PAH emission limits.
5. The Permittee shall make and keep records of all performance tests conducted to determine compliance with any pollutant emission rate or operational parameter, if such tests are required by the commissioner.
6. The Permittee shall make and keep records for operator training in accordance with RCSA §22a-

174-38(k)(2).

7. The Permittee shall monitor the carbon mass feed rate for the carbon injection system and manual feed. The Permittee shall make and keep records for the carbon injection system in accordance with RCSA §22a-174-38(k)(11)].
8. The Permittee shall keep records of the daily hours of operation, in which periods of startup, shutdown and malfunction are distinguished.
9. The Permittee shall keep all records required by this permit for a period of no less than five years and shall submit such records to the commissioner upon request.

C. Reporting

1. The Permittee shall submit reports to the commissioner of all required performance tests.
2. The Permittee shall submit a quarterly report to the commissioner within 30 days following the end of the each calendar quarter. Each quarterly report shall include the information required in RCSA §22a-174-38(l)(2).
3. The Permittee shall report all CEM data to the commissioner on a quarterly basis in accordance with RCSA §22a-174-38(l).
4. The Permittee shall provide written notification to the commissioner within 72 hours of the time at which the Permittee receives information regarding performance test results indicating that any particulate matter, opacity, cadmium, lead, mercury, dioxin/furan, hydrogen chloride or fugitive ash emission levels exceed the applicable pollutant emission limits or standards defined in RCSA §22a-174-38.

PART VI. STACK EMISSION TEST REQUIREMENTS

- A.** Stack emission testing shall be performed in accordance with the Emission Test Guidelines available on the DEEP website at www.ct.gov/deep/stacktesting.
- B.** The Permittee shall conduct an annual performance test for dioxin/furan, particulate matter, hydrogen chloride, cadmium, lead, mercury, and ammonia at least once per calendar year. Such annual test shall be conducted no less than nine calendar months and no more than 15 calendar months following the previous performance test in accordance with RCSA §22a-174-38(i)(2).
- C.** The Permittee shall conduct periodic performance testing for H₂SO₄, Total Fluorides, PAH and NH₄ every five years from the date of the previous such performance test.
- D.** The commissioner may require the Permittee to conduct additional performance tests if any pollutant emission rate or operational parameter is identified as not being in compliance with any permit condition.

PART VII. EQUIPMENT STARTUP, SHUTDOWN AND MALFUNCTION

- A.** The emission limits from RCSA §22a-174-38(c), as specified in Part IV.B Table 2 above, shall apply at all times except during periods of startup, shutdown, or malfunction as specified in RCSA §22a-174-38(c)(11):
 1. For determining compliance with an applicable carbon monoxide emissions limit, if a loss of boiler

water level control or a loss of combustion air control is determined to be a malfunction, the duration of the malfunction period shall be limited to 15 hours per occurrence. Otherwise, the duration of each startup, shutdown or malfunction period shall be limited to three hours per occurrence;

2. For the purpose of compliance with the opacity emission limits, during each period of startup, shutdown or malfunction, the opacity limits shall not be exceeded during more than five 6-minute arithmetic average measurements;
 3. During periods of startup, shutdown, or malfunction, monitoring data shall be excluded from calculations of compliance with the Part IV.B Table 2 emission limits but shall be recorded and reported in accordance with subsections (k) and (l) of RCSA §22a-174-38; and
 4. During a loss of boiler water level control or a loss of combustion air control malfunction period, a diluent cap of fourteen percent for oxygen or five percent for carbon dioxide may be used in the emissions calculations for sulfur dioxide and nitrogen oxides as specified in RCSA §22a-174-38(i)(3).
- B.** In addition to complying with the requirements of RCSA §22a-174-7, the Permittee shall also comply with the following conditions:
1. Except as otherwise provided in this permit or in RCSA §22a-174-38, the Permittee shall only be allowed to operate this MWC during shutdown of air pollution control equipment when there is a malfunction of such air pollution control equipment and as allowed under RCSA §22a-174-7(b). The period for which the facility will be allowed to operate during shutdown of the air pollution control equipment shall not exceed the burnout of the MWC's charge at the time of the shutdown of the air pollution control equipment.
 2. No MSW may be charged into the hopper following a shutdown of the air pollution control equipment until after the air pollution control equipment has been put back on-line.
 3. In the event of a malfunction of this unit's SDS system, the baghouse must function properly and be adequately protected from the MWC's combustion gases.
 4. None of the conditions in this part shall exempt the Permittee from compliance with any other condition of this permit, with any emission limit established in this permit, or with any applicable state or federal regulation.

PART. VIII. PREMISES REQUIREMENTS

- A.** The Permittee shall not cause or permit the emission of any substance or combination of substances which creates or contributes to an odor beyond the property boundary of the premises that constitutes a nuisance as set forth in RCSA §22a-174-23.
[STATE ONLY REQUIREMENT]
- B.** The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA §22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]
- C.** The Permittee shall institute and comply with the following conditions at all times:
1. Sufficient wind-sheltered storage capacity for refuse, residual particulates and bottom ash on site and provision for landfill disposal of same shall be maintained for operation of refuse handling

systems, in the event of a strike, malfunction of air pollution control equipment or other interruption.

2. Paved vehicular traffic areas of the plant site.
3. Transfer, storage and transportation at and from the plant site, of materials collected from the boiler grates and the air pollution control equipment must be done in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.
4. A clean up program on the plant site, whereby, at least once per day, any refuse or other materials which may become airborne, will be collected.
5. Positive measures must be taken and maintained to assure that the public does not have uncontrolled access to any portion of this premises. On site modeling of this source has not been performed. Public access to the site must be restricted on the chance that there may be non-compliant on site emission impacts.
6. The Permittee shall be in compliance with the requirements of RCSA §22a-174-18(c), requirements which pertain to the control of fugitive dust emissions.

PART IX. ENFORCEMENT CONSIDERATIONS

- A. An enforcement protocol will be updated and maintained by the Permittee. The protocol shall address the relationship between CEM equipment, the limitations imposed by this permit, including, but not limited to, averaging times, emission rates and operating parameters and the actions to be undertaken by Permittee and the Department in the event that exceedances occur or are anticipated to occur.
- B. Pursuant to RCSA §22a-6b-602(f)(1), the Permittee is hereby advised of its liability for assessment of civil penalties for any violation of the terms of this permit.
- C. Notwithstanding any other provision of this permit, for the purpose of determining compliance or establishing whether a Permittee has violated or is in violation of any permit condition, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information.

PART X. SPECIAL REQUIREMENTS

The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times. (Applicable if checked)

40 CFR Part 60, Subpart A Cb

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

PART XI. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

- B.** Any representative of the DEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C.** This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D.** This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.
- E.** Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."
- F.** Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G.** Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- H.** The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.
- I.** Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Enforcement Division; Bureau of Air Management; Department of Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

APPENDIX C

Mercury Monitoring System

Appendix C

Mercury Monitoring System

Covanta has applied for Construction and Operation of a Solid Waste Facility Permit(s) from the Waste Engineering and Enforcement Division of CT DEEP, and those applications are under review. Those applications demonstrate that the Bristol Facility can successfully and safely process BMW in a manner protective of public health. Within those applications, it was noted that Covanta would propose a means of continuously measuring mercury emissions in a subsequent application to modify the air permit(s) for the Facility.

This Application seeks to modify New Source Review Permits Nos. P-026-0026 and P-026-0027 for the Bristol Facility by adding biomedical waste as an additional waste that can be processed in the municipal waste combustor (MWC) units at the Facility, in conjunction with the Waste Engineering and Enforcement Division solid waste approvals being requested concurrently.

Although a specific system and vendor have yet to be selected, Covanta is planning to employ a system of the type it has successfully installed and operates at the Onondaga Resource Recovery Facility located in Jamesville, NY. A sorbent trap type continuous mercury monitoring system is being proposed to be installed at the outlet of each of the two (2) municipal waste combustors at the Facility. Sorbent trap systems are proven in the utility industry with more than 400 units being utilized in the United States for continuous emission monitoring. Sorbent trap type systems are the reference method and how mercury relative accuracy test audits (RATAs) are performed. This type of system is versatile and can measure down to extremely low-level concentrations. The system used at Onondaga County facility was installed in 2021 and has operated reliably with very little downtime.

Provided all approvals to process and receive BMW at the Bristol Facility are received, Covanta will submit the details of the mercury monitoring equipment and systems it proposes to install and operate at the Facility within 120 days of the starting date of processing BMW. The proposal will identify the type of monitor, the manufacturer, its principle of operation, sample transport and conditioning (if applicable), procedures for equipment maintenance, recordkeeping procedures.

APPENDIX D

**City of Bristol
Letters of Support**



ELLEN ZOPPO-SASSU
MAYOR

City of Bristol
RESPICE, ADSPICE, PROSPICE
Look to the Past, Look to the Present, Look to the Future

April 14, 2020

Mr. Robert Isner
Director, Waste Engineering & Enforcement
Connecticut Department of Energy & Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

SUBJECT: Covanta Bristol Solid Waste Disposal Authorization

Dear Mr. Isner:

This letter is sent to encourage DEEP to favorably consider the application by Covanta to receive and process regulated medical waste (RMW) at the Covanta Bristol resource recovery facility. I note here that the City of Bristol has partnered with Covanta for thirty-five years in a successful relationship to responsibly manage waste.

It is our understanding that Covanta has demonstrated to DEEP the limited capacity available to handle these materials, as well as the distance to the facilities permitted in other states. Further, Covanta has experience handling special waste, including RMW. We believe it is vital to public health to have appropriate, local disposal of biomedical waste which could be provided by the Bristol facility, exclusive of human tissue or anatomical organs.

We recognize that Covanta has invested considerable resources into developing their proposal, including a public presentation at the City of Bristol Council Chambers. Thus far, we are not aware of any opposition to the proposal, and Covanta has demonstrated its presence as a community leader and good neighbor. With proper oversight and reporting, we see no reason to reject the RMW component of the company's Solid Waste Disposal Authorization.

Finally, we note the Commissioner's 20 by 20 goals No. 1 – permitting timeframes and No. 18 – opportunities for innovate partnerships, provide guidance for DEEP to expeditiously conduct its review.

Sincerely,

Ellen Zoppo-Sassu
Mayor, City of Bristol

cc: James Belden
Mark Bobman



ELLEN ZOPPO-SASSU
MAYOR

City of Bristol

RESPICE, ADSPICE, PROSPICE

Look to the Past, Look to the Present, Look to the Future

October 14, 2020

Mr. Robert Isner
Director, Waste Engineering & Enforcement
Connecticut Department of Energy & Environmental Protection
79 Elm St.
Hartford, CT 06106-5127

Dear Mr. Isner,

This letter is sent to recognize the tremendous work that Covanta Bristol, Inc. (Covanta) has done as a service provider for the City of Bristol. Covanta has consistently maintained itself as a good neighbor in the 35 years that the City and Covanta have managed the city's waste. It is our intent that this working relationship will continue in the years to come.

The City of Bristol and the 13 other communities which comprise the Bristol Resource Recovery Facility Operating Committee strongly support Covanta's plans to process biomedical waste at the Bristol Resource Recovery Facility (RRF). Throughout all project development and permitting processes, Covanta continues to keep my office and my Public Works Solid Waste team informed and equipped with the critical information that we need to perform our responsibilities and respond to community concerns. Through its Public Participation Plan, which was developed and implemented in 2018-2019, Covanta allowed our community to meaningfully participate in the discussions related to any and all operational changes, and to address any topics surrounding environmental and health related concerns.

The City of Bristol and Covanta have a long-standing agreement which has afforded us financial resources to use to benefit the environment. For example, this host community benefit agreement has allowed the city to:

- Use funds to create our award-winning Outdoor Classroom and Garden programs at our local schools which was recently featured on CPTV;
- Invest in the health and wellbeing of our city through sponsored drug takeback programs in conjunction with the Police Department;
- Launched a diversion program called "Trash to Treasure" to keep large items out of the waste stream. Items in good condition are put aside at the Transfer Station instead of sent for incineration. The items are then brought to the Saturday Farmers Market and given away free to residents.

In November 2018, the agreement was amended to address Covanta's proposed processing of regulated biomedical waste at the Bristol RRF.

In addition to our scope of work at the city level, Covanta has consistently gone above and beyond their expected level of service by participating and supporting the community through:

- Sponsor lower income and minority families through their partnership and continued support of the Bristol Boys and Girls Club
- Support members of our community that were impacted by the pandemic through Covanta's recent donation to the city for COVID relief
- Creating and funding scholarships to promote STEM programs in our schools

As the chief elected official of the City of Bristol, I wish to reiterate our City's support for Covanta and their proposed plan to process regulated biomedical waste at the Bristol RRF as communicated previously to you in my April 14, 2020 letter (Attached). Opposition from the community to Covanta's proposal has not been communicated to us in the 6 months since I sent you that letter. As our local government continues to monitor potential community concerns, we encourage DEEP to favorably consider Covanta's pending permit application and expeditiously conduct its review.

Sincerely,



Mayor Zoppo-Sassu

cc: Ben Gassaway
Mark VanWeelden
Mark Bobman