

November 6, 2020

Mr. Jeffrey Meyer, Manager
Division of Air Enforcement
Bureau of Air Compliance & Enforcement - Northern
7 Ridgedale Avenue
Cedar Knolls, NJ 07927

Subject: Essex County Resource Recovery Facility
Program Interest (Title V) Number 07736
NEA200001-07736 – Administrative Consent Order
Progress Report #1

Dear Mr. Meyer:

On behalf of Covanta Essex Company and in accordance with the Item #17 under the above referenced Administrative Consent Order (ACO) NEA200001-07736, attached is Progress Report #1 explaining the status of Covanta Essex Company's compliance with the Compliance Schedule required by the ACO.

If you have any questions or need additional information please contact Patricia Earls of my staff at 973-817-7322 or pearls@covanta.com.


Sincerely,



David Blackmore
Facility Manager

Attachments

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this letter and all attached documents and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate, or incomplete information."



David Blackmore
Facility Manager

11/6/20

Date

Covanta Essex Company, PI #07736
Progress Report #1
NEA200001-07736 – Administrative Consent Order, Item #17

A. Identification of Site and Reference to ACO

Covanta Essex Company, PI #07736
Administrative Consent Order (ACO) NEA200001-07736

B. Status of Permitting and Planning Approvals, and any work at the site and progress to date

Status of Permitting and Planning Approvals:

There are currently no permitting or planning approvals pending or in progress related to the requirements of the ACO.

Work at the site and progress to date:

- Consultants have been hired to perform tasks under Phase I a) and Phase I d) of the ACO. Work is expected to begin by November 9, 2020.

Mercury Public Affairs is the independent contractor hired to propose and/or review the existing Public Outreach program for Covanta Essex Company. The Mercury team will be led by Mo Butler who has extensive experience in Newark and with the City's diverse populations. Their team also maintains strong working relationships with the Mayor, the City Council and local non-profits. A copy of the signed contract with Mercury Public Affairs is included as Attachment 1 to this report.

Tetra Tech is the independent contractor hired to develop new protocols or supplements, as necessary, to Covanta's existing waste receipt, inspection and handling protocols. A copy of the executed Purchase Order issued to Tetra Tech for this work is included as Attachment 2 to this report.

- The penalty payment of \$24,400 has been made by check which was submitted along with the invoice to the New Jersey Department of Treasury, Division of Revenue on November 5, 2020. A copy of the check along with the invoice is included as Attachment 3.
- Included as Attachment 4 for review by the Department is a report which summarizes an evaluation to determine if there is a monitor that would provide continuous, accurate and reliable analysis of vapor phase iodine in an industrial environment in the event that iodine gas was generated from iodinated waste in the tipping floor and pit area. This report satisfies the requirements under Phase I d)ii of the ACO.

C. Difficulties or problems encountered during the reporting period, and actions taken to rectify any difficulties or problems

There have been no difficulties encountered during this reporting period.

D. Activities planned for the next reporting period

Activities planned for the next reporting period are as follows:

- Mercury Public Affairs, the independent contractor hired to propose and/or review the existing Public Outreach program for Covanta Essex Company, will commence their review.
- Tetra Tech, the independent contractor hired to develop new protocols or supplements, as necessary, to Covanta's existing waste receipt, inspection and handling protocols, will commence their review. Findings from their review will be used to develop and/or revise procedures and protocols, including requirements listed under Phase I d)i through d)v, which will be submitted to the Department for review. These will also be incorporated into the final mitigation plan required to be submitted after the procedures and protocols have been approved by the Department.
- Covanta Essex Company will provide detailed estimates of all emissions associated with the purple plumes including, but not limited to, iodine and other associated acid gases, and the methodologies used to estimate the amount and duration of the emissions. These emissions will be used in the air quality modeling and risk assessment tasks referenced below.
- Covanta will submit for DEP approval a written protocol that is prepared by AECOM, an independent third party environmental consultant, to the Bureau of Evaluation and Planning that is consistent with a) Technical Manual 1002 Guidance on Preparing an Air Quality Modeling Protocol and b) Technical Manual 1003 Guidance on Preparing Risk Assessment for Air Contaminant Emissions. Upon approval of the protocol, AECOM will conduct the modeling and risk assessment consistent with the protocol approval.
- Covanta will develop a report on efforts undertaken to identify the formation of purple plumes at the facility located in Lancaster PA and operated by Covanta Lancaster, Inc. The report shall include information that explains the formation of purple plumes, including the estimated iodine feed rate that may lead to the formation of a purple plume.

E. The required and actual completion dates for each item required by this ACO

See the table, included as Attachment 5 to this report, that lists action items required by the ACO along with required due dates and actual completion dates where applicable.

F. An explanation of any non-compliance with the compliance schedule

There are no instances of non-compliance with the schedule.

G. Evaluation of all corrective measures implemented to date

Covanta Essex Company continues to implement Community Outreach efforts and enhanced tipping floor inspection procedures in order to prevent iodinated waste from being combusted in the boilers. The successful identification of the source of the iodinated waste believed to have caused the purple plume events in 2019 through April of 2020, and subsequent permanent re-direction of that waste to another non-Covanta disposal facility, has resulted in no further purple plume opacity events at Covanta Essex Company since April 7, 2020.

Attachment 1



CONSULTING SERVICES AGREEMENT

Covanta Essex Company ("Client") hereby enters into this Consulting Services Agreement ("Agreement") effective as of November 2, 2020 ("Effective Date") to retain **Mercury Public Affairs LLC**, a limited liability company having a business address at 200 Varick Street, Suite 600, New York, New York 10014-4809 ("Consultant"), as an independent contractor to perform the services described herein.

1. The Services. Client and Consultant agree that Client hereby retains Consultant to render consulting services to the Client as specified on Schedule 1 attached hereto. In addition, subject to any limitations set forth on Schedule 1, Consultant will provide such other reasonable consulting services as the parties shall mutually agree to in writing (together with the consulting services identified on Schedule 1, the "Services") during the Term (as described below).
2. Payment Terms. Client and Consultant agree that Consultant is entitled to receive and Client shall pay the fees and expenses set forth on Schedule 2, which is incorporated at this point, and which may be modified from time to time as mutually agreed to in writing. Payment in full of fees and expenses shall be made to Consultant within thirty (30) days after an invoice is rendered. For ongoing fees and expenses, Client will be billed on the 1st of every month unless the Agreement begins mid month. In such cases, all expenses will be due in full as billed and all fees will be billed on a prorated basis in the first and last month of the Agreement. In the event that Client does not pay such invoices within the specified timeframe, Consultant may suspend provision of Services until payment is made. All payments made by Client shall be without deduction or offset.
3. Term. The Term of this Agreement shall begin on the Effective Date and will continue in effect until December 31, 2020 (the "Term"). The Term of this Agreement may continue on a month to month basis thereafter, if mutually agreed upon by both parties in writing.
4. Client Contact. Client shall designate to Consultant, from time to time in writing, the primary contact for reporting and billing purposes. Contacts are identified on Schedule 3. Consultant shall keep the primary contact for reporting purposes regularly informed as to the status of the performance of the Services in accordance with this consulting Agreement.
5. Independent Contractor Status. Consultant agrees that it is an independent contractor and not an agent or employee of Client and Consultant will not hold itself out as such an agent or employee. Consultant has no authority or responsibility to enter into any contracts on behalf of Client.
6. Confidential Information/Trade Secrets. During the course of the performance of the Services, Consultant may have access to, have disclosed to it, or otherwise obtain information which

Client identifies in writing or through labeling as being of a confidential and/or proprietary nature (the "Confidential Information"). Consultant shall use such Confidential Information solely in performance of its obligations under this Agreement. Information shall not be deemed confidential if such information is: (i) already known to Consultant free of any restriction at the time it is obtained, (ii) subsequently learned from an independent third party free of any restriction; or (iii) available publicly.

7. Non-Exclusive/Performance. Client hereby acknowledges and agrees that Consultant shall, during the Term and thereafter, be entitled to perform and render services or conduct operations of a nature similar or dissimilar to the services or operations performed for Client under this Agreement on behalf of itself or other entities in the same or similar business as Client and nothing contained herein shall preclude Consultant from doing so. Notwithstanding anything contained in this Section 7 to the contrary, Consultant represents and warrants that throughout the Term it will devote such personnel and resources in the performance of the Services as it deems reasonably necessary to perform such Services hereunder diligently and conscientiously.

8. Indemnification. Each party shall indemnify and hold harmless the other party, its principals, employees, officers and agents, (collectively, the "Indemnified Parties") from and against any and all liabilities, losses, claims, demands, actions, judgments, costs and expenses including but not limited to attorney's fees, arising out of or resulting from any negligence, gross negligence or willful misconduct by the indemnifying party, its employees, officers, directors and agents.

Mechanics of Indemnity. Each party's indemnification obligations set forth herein are conditioned upon the Indemnified Parties: (i) giving prompt written notice of any claim, action, suit or proceeding for which the Indemnified Parties are seeking indemnity; (ii) granting control of the defense and settlement of the action to the indemnifying party; and (iii) reasonably cooperating with the indemnifying party with respect to the defense of the action. Notwithstanding the foregoing, the Indemnified Parties may, at their option and expense, participate in the defense or settlement of any claim, action, suit or proceeding covered by this Section 8.

9. Publicity. Client shall not use Consultant's name, logo, trademarks or service marks in any advertising, publicity releases, or any other materials without Consultant's prior written approval.

10. Assignment. Neither party shall assign this Agreement or otherwise transfer, subcontract or delegate any of its rights and/or obligations hereunder without the prior written consent of the other and any attempt to do so will be void.

11. Notices. Any notice or other communication required or which may be given hereunder will be in writing and either delivered personally or mailed, by certified or registered mail, postage prepaid, or sent via facsimile or email, and will be deemed given when so delivered personally or if sent via facsimile, to a facsimile number designated below with receipt thereof confirmed electronically, or if mailed, 72 hours after the time of mailing as follows:

If to Consultant:

Mercury Public Affairs LLC
509 Guisando de Avila, Suite 100
Tampa, Florida 33613
Attention: Bibi Rahim
Telephone: 813-908-1380
Fax: 813-969-0368
Email: DASAccounting@mercuryllc.com

If to Client:

Covanta Essex Company
183 Raymond Blvd
Newark, NJ 07105
Attention: David Blackmore
Telephone: (973) 344-0900
Email: dblackmore@covanta.com

Either party may change the persons and address to which notices or other communications are to be sent to it by giving written notice of any such change in the manner provided herein for giving notice.

12. Governing Law. This Agreement shall be governed by and construed in accordance with the Laws of the State of New York applicable to agreements negotiated, executed and performed entirely within the State of New York, without regard to its conflicts of laws rules.
13. No Liability of Consultant. Consultant shall bear no liability to Client for loss or damage in connection with advice or assistance by Consultant given in good faith performance of the Services.
14. Dispute Resolution. All disputes arising out of or in connection with this Agreement shall be adjudicated in a court of competent jurisdiction located in New York County, New York. Client hereby irrevocably consents to and submits to the personal jurisdiction of such courts and waives any defense in the nature of forum non conveniens or like claim related thereto. Without limiting the foregoing, each party acknowledges that it is hereby waiving any right to have any such dispute resolved by jury trial.

The prevailing party in any legal proceeding in connection with this Agreement shall have the right to require the non-prevailing party in such proceeding to make payment to and reimburse the prevailing party for the entire amount of the legal fees and related expenses which the prevailing party shall have incurred in connection with the commencement, prosecution or defense of such proceeding and the trier of fact in such proceeding shall as a component of any judgment or award make an award to the prevailing party of such legal fees and expenses. The prevailing party shall be that party which shall have prevailed on a majority, but not necessarily all, of the material issues which were adjudicated in such proceeding.

15. General.

- (a) No amendments or modifications shall be binding upon either party unless made in writing and signed by both parties.

- (b) This Agreement constitutes the entire agreement between the parties and supersedes all previous agreements, promises, proposals, representations, understandings, and negotiations, whether written or oral, between the parties respecting the subject matter hereof.
- (c) In the event any one or more of the provisions of this Agreement shall for any reason be held to be invalid, illegal or unenforceable, the remaining provisions of this Agreement shall be unimpaired, and the invalid, illegal or unenforceable provision shall be replaced by a provision which, being valid, legal and enforceable, comes closest to the intention of the parties underlying the invalid, illegal, or unenforceable provision.
- (d) This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together will constitute one and the same instrument.
- (e) The parties hereto agree to perform any further acts and to execute and deliver any further documents which may be reasonably necessary or appropriate to carry out the purposes of this Agreement.
- (f) The section headings contained in this Agreement are inserted for convenience of reference only and will not affect the meaning or interpretation of this Agreement.
- (g) Notwithstanding any provision to the contrary in this Agreement, in no event shall Consultant be liable to Client (whether for damages, indemnification or any other claim) for an amount greater than the amount of compensation (and not reimbursement for expenses) actually paid to Consultant by Client for the Services.

SCHEDULE 1

Services

Mercury Public Affairs, LLC will provide strategic consulting and management services specific to issues facing the Client in the areas of government relations.

It is expressly agreed and understood that the Services under this contract shall not include any lobbying activities (federal, state or local) whatsoever.

SCHEDULE 2

Compensation

For consulting services identified in Schedule 1, Client will compensate Mercury Public Affairs, LLC the following:

❖ [REDACTED] project fee.

In addition, Client agrees to reimburse Consultant for reasonable and customary expenses actually incurred and properly documented in providing the Services. Such expenses over \$500.00 will be incurred only with the prior written approval of the Client.

Reasonable and customary expenses per paragraph two (2) of the Agreement shall be billed and paid monthly in the same manner as compensation. However, regardless of and in addition to said monthly billing of expense, in certain circumstances, such as expense incurred or to be incurred by travel or other expense, said circumstances to be determined within the sole discretion of the Consultant, the Consultant may elect to require the Client to pay for, directly and in advance, said expense prior to Consultant being obligated to undertake said travel, expense, or other obligation.

SCHEDULE 3

Contact Information

Covanta Essex Company
183 Raymond Blvd
Newark, NJ 07105
Attention: David Blackmore
Telephone: (973) 344-0900
Email: dblackmore@covanta.com

Invoices should be sent to the following:

Email: covanta.invoices@submit.transcepta.com

Attachment 2



Powering Today Protecting Tomorrow

Purchase Order

Covanta Essex Company
 183 Raymond Blvd.
 Newark NJ 07105
 United States

DISPATCHED		DISPATCH VIA PRINT	
Purchase Order ESSEX-0000066129	Date 11/03/2020	Revision	Page 1
Payment Terms Net 60	Freight Terms No Freight Costs	Ship Via NO FREIGHT	
Buyer Argenziano, Joe JARGENZIANO@COVANTAENERGY.COM	Phone 973/817-7715	Fax	Currency USD

Vendor:0000070314
 Tetra Tech EBA INC Canada
 115, 200 RIVERCREST DRIVE EAST
 CALGARY AB T2C 2X5
 Canada
 (Ph)

Ship To: Covanta Essex, NJ
 183 Raymond Blvd.
 Newark NJ 07105
 United States

Attention: See Detail
 Below

Bill To: 183 Raymond Blvd.
 Newark NJ 07105
 United States

Tax Exempt? N

Tax Exemptions or Form:

Replenishment Option: Standard

Line-Sch	VND Item/Description	Mfg ID Mfg Part#	Cov Part#	Quantity	UOM	PO Price	Extended Amt	Due Date
1 - 1	TE- Consulting services by Tetra Tech to review waste receiving and all procedures related to identifying Iodine in waste required by ACO issued by NJDEP							11/09/2020

Attention: Earls, Patricia
 Ann

Work Order# 0000017139 Task# 1

Schedule Total



Purchase Order

Covanta Essex Company
 183 Raymond Blvd.
 Newark NJ 07105
 United States

DISPATCHED		DISPATCH VIA PRINT	
Purchase Order	Date	Revision	Page
ESSEX-0000066129	11/03/2020		2
Payment Terms	Freight Terms	Ship Via	
Net 60	No Freight Costs	NO FREIGHT	
Buyer	Phone	Fax	Currency
Argenziano, Joe	973/817-7715		USD
JARGENZIANO@COVANTAENERGY.COM			

Vendor:0000070314
 Tetra Tech EBA INC Canada
 115, 200 RIVERCREST DRIVE EAST
 CALGARY AB T2C 2X5
 Canada
 (Ph)

Ship To: Covanta Essex, NJ
 183 Raymond Blvd.
 Newark NJ 07105
 United States

Attention: See Detail
 Below

Bill To: 183 Raymond Blvd.
 Newark NJ 07105
 United States

Tax Exempt? N

Tax Exemptions or Form:

Replenishment Option: Standard

Line-Sch	VND Item/Description	Mfg ID Mfg Part#	Cov Part#	Quantity	UOM	PO Price	Extended Amt	Due Date
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INVOICE REQUIREMENTS

Company has automated systems in place to ensure timely and accurate invoice processing, assuming the invoice meets the below requirements. Invoices that do not may be rejected or payment may be blocked and/or delayed. All invoices are required to be submitted through the automated system unless an exception is granted by the Company.

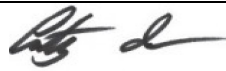
Invoice Data Requirements

- 1) Registration: Register at <http://connect.transcepta.com/covanta> and Transcepta will then contact you with further instructions
- 2) PO number – limit one PO per invoice. Valid Covanta Purchase Order Number (5 digit leading alpha/numeric combinations, optional hyphen, 10 total digits), example 55OGI-0000012345.
- 3) Bill to Company Name and Address in the exact format specified in the attached link below.
<http://connect.transcepta.com/assets/pdf/CovantaInvoicingRequirements.pdf>
- 4) Payment date is based on the date the invoice is accepted into the electronic portal, not the date on the Supplier invoice.
- 5) Line items on the invoice must exactly match the line items on the purchase order. Do not include any line items that were not part of the PO. This includes item substitutions. A change order is required in order to invoice any additional/different items.
- 6) Payment amount must not exceed the total purchase order amount. Change orders are required to submit invoices that exceed the total purchase order amount.
- 7) Purchase order number must be referenced on all corresponding credit memos.

Covanta Accounts Payable Call Center: internalpayrequests@covanta.com or 844-217-0648
 Transcepta Technical Support: support@transcepta.com

Total PO Amount XXXXXXXXXX USD

Please sign acknowledgement below and return to buyer



Anthony Ioanna
Regional Procurement Mgr

SERVICES/GOODS PURCHASE CONDITIONS

- 1. Definitions.** Order means this Purchase Order which shall include documentation referenced in or attached to the Order. Purchaser is the Covanta affiliate named in the Order. Seller is the named Supplier or Contractor as appropriate. Facility means the Waste to Energy Facility or other Covanta entity operated by Purchaser. Client means the agency, authority or other entity for whom Company is purchasing, is constructing, servicing or operating the Facility. Goods means articles, items, parts, chemicals, materials, machinery, equipment, supplies, consumables and other tangibles. Services means the activity described in the order and includes Goods, technology, design, engineering, consultation, manufacturing, transport, supervision, labor, installation, testing, repairs, maintenance or other activity.
- 2. Agreement/Conformance/Changes.** Seller sells and Purchaser buys the Goods and/or Services for the price, and upon the terms, described in the Order effective when executed by Purchaser and Seller. The Order constitutes the entire agreement superseding all prior communications, oral or written. Unless expressly modified in the Order, a contract of sale or engagement will result solely upon these Purchase Conditions. Goods and Services shall conform strictly to the description, scope, plans, specifications or other instructions of Purchaser. Purchaser shall have the right to inspect the Services while performed and the Goods at any stage. Goods shall be new, of the best quality, free from fault and defect and in conformance with Purchaser's requirements. No deviations or substitutes will be permitted without the express written agreement of Purchaser. Purchaser shall have the right to reject non-conforming or defective Goods and Services. Rejected Goods shall be removed promptly upon notification, at Seller's expense including transportation. Seller shall bear risk of loss of rejected Goods. Purchaser shall also have the right to change the requirements of the Order. If any such change increases the price, or affects delivery or schedule, Seller shall notify Purchaser of any adjustment within ten (10) days of receipt of such change or any adjustment shall be waived. A change shall become effective upon delivery to Seller of a Change Order executed by Purchaser.
- 3. Delivery/Title.** Timely delivery of goods and performance of Services is critical to avoid substantial loss. Therefore, time is of the essence. In the event of potential delay in delivery of Goods or performance of Services, Seller shall immediately notify Purchaser in writing and undertake to reduce or overcome the delay by all reasonable means. Goods delivered late may be rejected or returned at Seller's risk and expense unless Purchaser has authorized late delivery in writing. Unexcused delays in delivery or performance shall entitle the Purchaser to remedies available under applicable law and to obtain replacement goods and services and to recover by offset or otherwise the difference between the cost of such replacement goods and services and price agreed plus any other damages permitted by applicable law. Seller shall ship F.O.B. Purchaser's stated destination. Delivery shall be made at Purchaser's receiving area. All containers shall bear gross, tare and net weights. Packing slips with order numbers, part number and quantity shall be enclosed with each shipment of Goods. Preparation, packaging, transportation, insurance or taxes are included in the price unless otherwise stated in the Order. Title shall pass to Purchaser (or third party stipulated by Purchaser) on the earlier of payment or receipt of Goods; provided that prior to the receipt of Goods at point of destination, risk of loss shall be borne by Seller. Nothing herein shall limit Purchaser's interest in the Goods.
- 4. Payment.** All payments will be subject to progress. Seller shall invoice in accordance with the terms of the Order unless stated otherwise. Approved invoices will be paid as per the payment term of Net 60 upon receipt and inspection of the Goods or completion of Services after receipt of invoice. No charges of any kind related to Seller's performance shall be paid or reimbursed unless specified in the Order or Change Order. Pricing is not subject to escalation. Invoices for Services on a time and material basis shall be accompanied by time sheets or other cost supporting documentation. Purchaser shall not be obligated to make final payment unless all deliverables intended to accompany the Order, including spare parts lists, catalogues, operating instruction manuals, drawings, reports, certifications, etc. are received. Payment shall not be construed as acceptance of Goods or Services, but shall constitute a release of Purchaser from any claims by or through Seller. Except as otherwise stated, the price includes all taxes or other governmental levies on the performance, manufacture, sales, supply, storage, transportation or delivery of the Goods or Services. Seller shall bear foreign exchange risks. For the term of this Agreement and for 24 months following the last day of the term, Seller will provide the Company with such access to review and audit, and copies of, such documents, records and information as the Company may reasonably request to verify that amounts invoiced to the Company are properly payable hereunder.
- 5. Warranty.** For a minimum period of 24 months from receipt of Goods and/or completion of Services, Seller warrants that Goods and/or Services are in accordance with industry standards and the instructions, specifications, drawings and other description, are new, of good quality, design and workmanship, free of defects, fit and sufficient for the purpose intended. Without cost or expense to Purchaser, Seller shall promptly re-perform, repair or replace any deficient Goods or Services. Warranties shall not be "pass through", provided, however, that any warranties provided by any subcontractors or suppliers in connection with the Goods or Services shall be assignable to the benefit of Purchaser's Client who shall be entitled to enforce them directly. If Seller has performed any engineering or design work with respect to Goods, or has participated in the selection of Goods, Seller warrants

that such work was properly accomplished in accordance with industry standards and that the results are suitable for the purpose intended. Seller shall not be liable for damage or deterioration due to normal wear and tear, abuse or failure of Purchaser to follow operating, maintenance or other instructions of Seller.

6. Cancellation. Purchaser may cancel or terminate the Order at any time for convenience or cause. If for convenience, Seller shall be paid for Goods delivered and accepted or Services satisfactorily performed to the date of termination. If for cause, any balance due Seller for Goods delivered and accepted, or Services performed before the date of termination shall be adjusted by the total price of the Goods and/or Services less (a) amounts previously paid to Seller, (b) the cost incurred by Purchaser in effecting cover by acquiring substitute Goods or completing the Services and (c) any other damages caused by Seller's failure to perform hereunder. If the adjustment results in a net amount owing to Purchaser, Seller shall promptly remit such amount. With respect to Goods in inventory or in process of manufacture, Purchaser shall have the right to remove all or a portion thereof from the premises of Seller upon payment or promise to pay as herein provided. Under no circumstances shall Seller be entitled to anticipated profit or revenue for Goods or Services not actually furnished or performed.

7. Indemnity. Seller shall adequately insure, defend, protect, indemnify, and hold Purchaser and its affiliates of any tier, Client, their employees and agents, harmless from any and all claims and liability including expenses and attorney's fees arising from Seller's performance or non-performance, for injuries to, and/or death of, any and all persons, and for loss of and/or damage to property arising in whole or in part out of the performance of Order including negligence, willful acts of, or breach by Seller or for any claim of infringement of any patent or other third party proprietary rights. Seller assumes responsibility for any injury or loss incurred by its employees or agents while on Purchaser's premises (except i.e. caused by Purchaser's gross negligence) and the compliance with all of Purchaser's rules and regulations particularly those relating to safety and health.

8. Insurance Seller shall be insured on an occurrence basis for: (a) Commercial General Liability, including products and completed operations in the minimum amount of \$1,000,000 per occurrence; (b) Workers Compensation and Employer's Liability, as required by law in the state where work is performed; (c) Comprehensive Automobile Liability applicable to all vehicles (owned or hired) brought on-site with a minimum combined single limit of \$1,000,000 per occurrence; (d) Excess, umbrella form, liability with a minimum limit of \$2,000,000 per occurrence, excess of (a), (b, Employers Liability) and (c). If applicable, additional professional indemnity and/or pollution legal liability coverage shall provide a minimum of \$5,000,000 per occurrence and, if claims made form, be maintained for a period of three years following completion of services. Subrogation rights are hereby waived against Purchaser and Client and their insurers. Where the Order involves the performance of services at the Facility, Seller shall also designate company and its client as Additional Insureds on coverages (a), (c), and (d). Seller shall furnish certificates evidencing the required coverage at the time of execution of the Order and provide that 30 days prior written notice be given to Purchaser in the event of any material change.

9. Liens and Claims. Seller shall pay timely all costs of performance. Seller waives, and shall not permit any party directly or acting through Seller, to place a lien, charge, form of trust, or other encumbrance on the interests of Purchaser or its Client. If a lien or other encumbrance attaches to any such interests, Seller promptly shall procure its release at its expense. Purchaser may withhold payment pending receipt of evidence in form and substance satisfactory to Purchaser that such liens, claims and encumbrances have been discharged.

10. Health/Safety/Work Area Cleanliness. For Services performed at the Facility, Purchaser, its employees, subcontractors, vendors and agents shall abide strictly by all Facility, OSHA, state and local laws, rules and regulations and shall maintain at all times a safe and clean work area and environment. Unsafe conditions and accidents shall be reported promptly to Facility manager.

11. Confidentiality/Publicity. Data, drawings, specifications, financial, technical and business information, trade secrets, know-how, techniques and any other information whatsoever furnished directly or indirectly, in writing or otherwise, to Seller pursuant to the Order is strictly confidential, shall be used solely in fulfilling the Order or performing Services and not duplicated or disclosed to others, used in whole or in part for any other purpose or become in any way the property of Seller. Seller shall not release any information concerning the Order to the public, press, official body or any third party or permit audio or visual recordings to taping, photographs or allow visitors to Purchaser's or its Client's premises or advertised without the written consent of Purchaser.

12. Law/Severability/Waiver. The Order shall be governed by the laws of the state in which the Goods or Services are delivered or performed and, with respect to the sale of Goods, by the Uniform Commercial Code to the extent adopted in that state. Seller shall comply with all applicable laws, rules, regulations, ordinances, permits, industry codes, of any governmental entity

having jurisdiction, including safety, health, non-discrimination laws and standards. If any provision hereof is determined invalid, illegal or unenforceable, the parties shall make good faith efforts to modify this Order to implement the intent. The remaining provisions shall be valid and enforceable to the fullest extent permitted by law. No provision hereof shall be deemed waived without Purchaser's express written agreement. Failure of Purchaser to demand strict performance in one instance shall not be deemed to waive Purchaser's right to insist on strict performance in any other instance.

13. Relationship/Assignment. Nothing herein creates a fiduciary, employment, partnership, joint venture or agency relationship between the parties or Client. This Order is not entered into for the benefit of, nor any rights granted to, any other party not mentioned herein. The Order may be assigned by Purchaser to any party without the consent of Seller provided that assignee accepts and agrees in writing to discharge all of Purchaser's obligations hereunder. The Order and any monies due hereunder may not be assigned by Seller without prior written consent of Purchaser.

14. This contractor and subcontractor shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5 (a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, protected veteran status or disability.

Notwithstanding any other provision of this Purchase Order or any other agreement, Contractor agrees that Covanta may [without any increase in the price under this Purchase Order] suspend or delay any of the work covered by this Purchase Order if Covanta deems such suspension or delay necessary or advisable as a result of the novel coronavirus pandemic.

Attachment 3

Enforcement - Air

COPY

NJEMS Bill ID
000000217125800

Program Interest ID	Type of Notice	Billing Date	Due Date	Amount Due
07736	Original (Non-Initial)	10/26/2020	11/25/2020	\$24,400.00

For name and/or address change, check

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Covanta Energy, LLC
Covanta Essex Company
445 South Street
Morristown NJ 07960

COPY

Date Nov/03/2020

Pay Amount \$24,400.00***

TWENTY-FOUR THOUSAND FOUR HUNDRED AND XX/100 DOLLAR

PAY TO THE ORDER OF
TREASURER, STATE OF NEW JERSEY
NJ DEPARTMENT OF TREASURY
DIVISION OF REVENUE
P.O. BOX 417
TRENTON, NJ 08646-0417

Authorized Signature

Enforcement - Air

Program Interest COVANTA ESSEX CO 183 RAYMOND BLVD Newark, NJ 07105 07736	Type of Notice Original (Non-Initial)		Amount Due \$24,400.00
	Billing Date 10/26/2020	Due Date 11/25/2020	NJEMS Bill ID 000000217125800

SUMMARY	
Total Amount Assessed	\$24,400.00
Amount Received Before Installment Plan (If installment plan is allowed)	\$0.00
Amount Transferred to Installment Plan	\$0.00
Installment Amount	\$0.00
Total Amount Credited	\$0.00
Total Amount Debited (Other Than Amounts Assessed)	\$0.00
Total Amount Due	\$24,400.00

Cut Here

Enforcement - Air

NJEMS Bill ID
000000217125800

Program Interest ID 07736	Type of Notice Original (Non-Initial)	Billing Date 10/26/2020	Due Date 11/25/2020	Amount Due \$24,400.00
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COVANTA ESSEX CO
 ATTN: PATRICIA EARLS
 183 RAYMOND BLVD
 Newark, NJ 07105

NJ DEPARTMENT OF TREASURY
 DIVISION OF REVENUE
 PO BOX 417
 TRENTON, NJ 08646-0417

Enforcement - Air

Program Interest	Type of Notice	Amount Due
COVANTA ESSEX CO 183 RAYMOND BLVD Newark, NJ 07105 07736	Original (Non-Initial)	\$24,400.00
	Billing Date	Due Date
	10/26/2020	11/25/2020
		NJEMS Bill ID
		000000217125800

Assessments

Start - End Dates:	Activity:	Assessment Type:	Status:	Amount:
10/21/2020 - 10/21/2020	NEA 200001	PENALTY	Open (Pending Payment)	\$24,400.00
			Total Amount Assessed:	\$24,400.00

Total Amount Credits:

Attachment 4

November 6, 2020

Mr. Jeffrey Meyer
Manager
Division of Air Enforcement
Bureau of Air Compliance and Enforcement – Northern
7 Ridgedale Avenue
Cedar Knolls, NJ 07927

Subject: Condition (d)ii of Phase I, Section B of Administrative Consent Order EA ID# 200001-07736

Mr. Meyer;

The Administrative Consent Order (“ACO”) entered into by Covanta Essex Company (“Covanta Essex”) with the Commissioner of the New Jersey Department of Environmental Protection (“Department”) included Condition (d)ii of Phase I of Section B compliance Schedule as follows;

As a potential measure for enhancing COVANTA’s iodine waste inspection/interception protocols, Iodine monitors shall be evaluated for their potential effectiveness to monitor vapor phase iodine. The evaluation shall be submitted within thirty (30) calendar days of the effective date of this ACO.

The attached report is provided to the Department to fulfill this condition of the ACO. The report summarizes an evaluation to determine if there is a monitor that would provide continuous, accurate and reliable analysis of vapor phase iodine in an industrial environment in the event that iodine gas was generated from iodinated waste in the tipping floor and pit area. Covanta Essex firmly believes that effective plume mitigation begins with the effective waste management strategies that would prevent delivery of iodinated waste to Covanta Essex.

Sincerely,



David Blackmore
Facility Manager

1.0 Introduction

The Administrative Consent Order (“ACO”) entered into by Covanta Essex Company (“Covanta Essex”) with the Commissioner of the New Jersey Department of Environmental Protection (“the Department”) included Condition (d)ii of Phase I of Section B Compliance Schedule as follows;

As a potential measure for enhancing Covanta’s iodine waste inspection/interception protocols, iodine monitors shall be evaluated for their potential effectiveness to monitor vapor phase iodine. The evaluation shall be submitted within thirty (30) calendar days of the effective date of this ACO.

2.0 Background

Covanta Essex (“the Facility”) had multiple events in 2018/2019 where a colored plume was recorded as opacity at or above the Operating Permit limit of 10% on a 6-minute block average basis. The plume was described as having a pinkish color with varying degrees of intensity. Iodine has known chemical and physical properties including;

- Solid iodine exists as a black crystalline solid with a melting point of 113.7 C (236.7 °F) and a boiling point of 184.3 °C (363.7 °F).
- It forms a purple vapor at high enough concentrations

The melting and boiling point illustrate that iodine in a waste will rapidly convert to a gas phase when exposed to elevated temperatures on the grate of a mass burn unit. Additional technical literature documents that pure iodine will convert from a liquid or solid to a vapor at room temperature, however iodine bound to a chemical compound would not evolve at room temperature.

The only way for a monitor to identify the presence of vapor phase iodine would be if;

- Solid iodine converted to gas phase, or
- Vapors result from a spill/leak of aqueous phase iodine.

Solid phase iodine has commercial value and is not expected to be discarded as waste and included in a waste delivery. An iodine monitor would only have potential for identifying iodine gas that may result from the spill or leak or breakage of a container of liquid iodine and/or liquid iodine-based compounds.

3.0 Sources of Iodine

Iodine can be present in waste as either a solid or liquid. For example, iodine can be a component of a solid pharmaceutical product (potassium iodide pills and levothyroxine tablets), a fungicidal product, or an agricultural chemical compound. In an aqueous phase, iodine is present in pharmaceutical products such as povidone iodine solution used to fight infection. Vapor phase

iodine could only exist at the Facility if a capsule/ampule containing aqueous iodine was broken or if a larger vessel such as a pail or drum was delivered to the Facility and ruptured or spilled. Examples of iodinated waste are provided below.

Product	Iodine weight %	Typical	Commercial Packaging
Povidone iodine solution	70	Vials in Packaging	Yes
Povidone iodine solution	70	Bottle	Yes
Potassium iodide	60	Solid pills	Yes
Levothyroxine sodium	60	Tablets	Yes
3-iodo-2-propynyl butylcarbamate	Variable	Powder or liquid	No

These wastes and any others that contain iodine are not approved for delivery to Covanta Essex and Covanta Essex would not knowingly accept a delivery of these or related materials that contain iodine.

4.0 Evaluation Methodology

The evaluation included three steps;

1. Identification of operating conditions in the tipping hall of the Facility and the best location for obtaining a continuous and representative air sample.
2. Identification and evaluation of commercially available monitors with operating experience in a power plant environment or other comparable workplace environment with relatively high dust loadings, diesel exhaust and a wide range of temperature.
3. Comparison of the work environment in the tipping hall of the Facility with I₂ analyzer capabilities and determine long-term viability of iodine monitors.

4.1 Step 1 – Identify operating conditions and parameters for effective use of a monitor.

The Essex Facility operates 24/7/365 unless there is a rare unscheduled outage where all 3 units are offline. Waste deliveries occur 24 hours per day, six days a week (Mon-Sat) with waste stockpiled in the pit. There are at least two sources of emissions in the tipping hall that must be considered when evaluating the potential of a commercially available iodine monitor to continuously sample air in the tipping floor and pit area and provide accurate results;

1. Trucks emit diesel particulate and combustion gases that can interfere with analyzer results.
2. Deposition of waste from the trucks into the pit by a front-end loader and movement of MSW in the pit by the refuse crane as part of the MSW mixing process will also generate solid and gas phase fugitive emissions that can interfere with the sampling mechanism of a monitor.

The total estimated particulate concentration in the tipping floor and pit area is 1 to 2 milligrams per cubic meter based on a general survey of air quality in these locations. Gaseous emissions

have not been quantified however they would include conventional combustion gases from diesel engines (NO_x, CO and particulate) and trace organic compounds and other gases from components in the MSW.

The air in the tipping hall and pit area is in constant motion due to fans pulling air from those areas up to the vents located above each of the furnace charging hoppers. That draft effectively moves air and associated odors, particulate matter and other gases to the vents where that air is then used in the furnace combustion process. Attachment 1 provides photographs that depict current conditions including the physical orientation from the tipping floor to the vent and the MSW stored in between those two elevations.

Measurement of iodine gas on the tipping floor is not recommended because air will rise in elevation due to the draft created by the fans pulling air through vents located above the charging hoppers. Therefore, there is not a representative sample location on the tipping floor for detecting any discrete release.

Based on a review of facility operations, the only potential locations that would provide an air sample on a continuous basis is at the elevation above the charging hoppers and in the ductwork that conveys that air to the combustion process. Both locations were considered as possible locations at the Facility for an iodine monitor for the following reasons:

- Hot air rises and iodine vapors would behave in the same manner,
- The draft in the tipping hall would direct iodine vapors from any location to the vent area, and;
- The ductwork would provide access to the same air but in a more confined zone.

4.2 Step 2 - Commercially Available Iodine Monitors

The following evaluation focuses on commercially demonstrated fixed instruments.

“Commercially Demonstrated” for this purpose means a monitor that has been proven to be capable of continuously monitoring and providing accurate and reliable measurements of iodine gas in environmental conditions typical of those encountered in the tipping hall of the Facility. A monitor that generates “false positive” indications of iodine from interference with combustion products from diesel engines (NO_x, CO, particulate and other organic emissions) and other gases and particulate from MSW is not considered to be commercially demonstrated because false positives would not help identify the presence of iodinated waste and I₂ gas..

The monitor and its sample system must also be able to work in an environment with constant air flow that can vary between below freezing and above 100 F. Induced air flow from the forced air fans pulling air from the tipping hall to the combustion system creates a high velocity condition near the vent and area above the hoppers in order to ensure that a negative pressure is present throughout the tipping hall. The estimated face velocity at the vent inlet is approximately 23 feet per second at each of the three vents – one per each MWC.

There are two types of monitors on the market which can be used to monitor iodine vapor in ambient air i.e, fixed monitors and portable monitors. Fixed gas monitors are stationary devices

that include a sample system, analyzer and transmitter that provide continuous monitoring for the presence of a gas or gasses at a fixed location. Portable monitors are hand-held devices which allow for monitoring in different areas without having to disconnect and reconnect wires. This evaluation only considered fixed monitors at an elevation above the charging hopper.

The selection criteria of a potential continuous iodine monitor focused on a fixed system that would include a continuous gas sampling system, filter, analyzer and signal transmitter. Fixed monitors use two different air sampling mechanisms to increase exposure of the analyzer to air containing the sample: 1) a dedicated sample system with a probe, filter and pump and 2) a device that uses diffusion (passive flow) of air through a static filter.

A survey of iodine monitors was conducted by directly contacting manufacturer representatives. Manufacturers are considered independent experts because their companies and employees have expertise in assessing if their instrument is compatible with a specific environment, and they provide warranties for the long-term viability of that instrument to work within its warranty. A list of the manufacturers contacted, and a high-level survey of their capabilities is summarized as a table in Attachment 2. As a general note, there are many manufacturers with devices that measure gas phase iodine using radioactive principles however those technologies were not considered for this situation because the facility is already equipped with radiation detectors on each of the inbound and outbound scales that would detect radioactive material including iodinated radioactivity in the refuse truck before it reaches the tipping floor.

In summary, while there is a wide range of suppliers who advertise the availability of monitors/analyzers for iodine, there is not a proven system for iodine gas in our working environment. In regard to fixed monitors, there is a gas phase analyzer with potential to identify iodine as one of many gas phase components however there is a known interference with diesel combustion gases that would lead to “false positives”. This would be a situation where the analyzer would indicate iodine gas even if it was not present.

4.3 Step 3 - Assessment of Viability of Iodine Monitoring at the Facility

The technical potential of a continuous I₂ monitor focused on a fixed system that would include a gas sample system, filter, analyzer and signal transmitter. Portable analyzers were not considered because they would only be useful for spot checks on the tipping floor.

Fixed monitors use two different air sample mechanisms to promote exposure of the analyzer to air – a dedicated sample system with a probe, filter and pump or a device that uses diffusion of air thru a static filter. Both types were considered for installation at either the vertical wall above the charging hopper or in the ductwork conveying air to the combustion system. Manufacturers and/or system suppliers were contacted as independent experts on this topic because they are ultimately accountable for the performance of their equipment and they have the most relevant firsthand knowledge of equipment capabilities and relevant examples. Permanent iodine monitors are typically designed for clean room or light commercial/industrial environments. Based on the review, the following field condition issues have been identified that can adversely impact the long-term operation of iodine monitors at the Facility:

1. The air quality at the elevation above the charging hopper is a dusty environment with considerable air movement. This location is not presently used for any similar purpose and is not reasonably accessible.
2. Diesel engines are one contributor to solid particulate and gaseous emissions in the tipping hall. Dumping and mixing MSW on the floor and in the pit is another source of solid and gas phase emissions. The estimated particulate concentration in the tipping hall is 1 to 2 milligrams per cubic meter based on a general survey of air quality in these locations. The gaseous emissions have not been quantified however they would include organic emissions from diesel engines and others from components in the MSW.
3. Permanent iodine monitors are designed for clean room or light commercial/industrial environments. These devices are not designed for the conditions above the charging hopper with dust and air velocity being two challenging parameters.

Information from manufacturers of iodine monitors has identified;

- There are not any examples of where this equipment has been used in a similar situation.
- Combustion and/or other gases can create interference and/or false positive indication of the presence of iodine gas.
- The velocity in the ductwork would not work with a static device using diffusion of air.

This evaluation has not demonstrated the availability of a commercially available iodine monitor for the environment in the tipping floor and pit areas.

5.0 Summary and Conclusion

Continuous and accurate monitoring of iodine as I_2 is not considered to be a practical and effective component of Covanta Essex's comprehensive waste management strategy to prevent iodine emissions from the Facility because there are not commercially demonstrated monitors that can provide continuous, accurate and reliable results for the conditions in the tipping hall and storage pit areas. Gaseous I_2 would only be present in the tipping hall from a spill of liquid iodine and/or liquid iodine-based compounds on the floor of the tipping hall or in the waste pit. The only location where air could be sampled for continuously is on the vertical wall at an elevation above the charging hopper, high above the floor level of the tipping hall and the pit or in the ductwork that conveys air to the combustion process where a monitor would be difficult to maintain. Information from manufacturers of iodine analyzers has not demonstrated that a fixed I_2 analyzer would provide continuous and accurate information in an environment characterized by dusty ambient air containing diesel exhaust and moving at a relatively rapid velocity to keep the building operating under negative pressure. Furthermore, there is a high likelihood of monitored data resulting in false positive readings due to the presence of other gases. This report has been reviewed by an independent third party, Tetra Tech, who agrees with these findings and conclusion.

Attachment 1. Covanta Essex Tipping Hall Photos

Photo # 1. Partial length of bunker with charging hoppers on the right. Vents are against wall in upper right hand corner. Photo # 2 provides a closeup with additional references.

Photo illustrates bunker with waste filled to typical levels which is below the height of the charging hoppers. Gases would be moving in a vertical direction towards the vents.



Photo # 2. Close up view of the furnace charging hoppers in relation to the air intake vents.

A monitor located on the vertical wall near the intake vents would have the best chance of being exposed to air with gas phase iodine, including iodine released in the tipping hall, however the environment at this elevation is dusty, can be very hot in summer (over 100 F) and gas will include combustion gas from diesel engines.

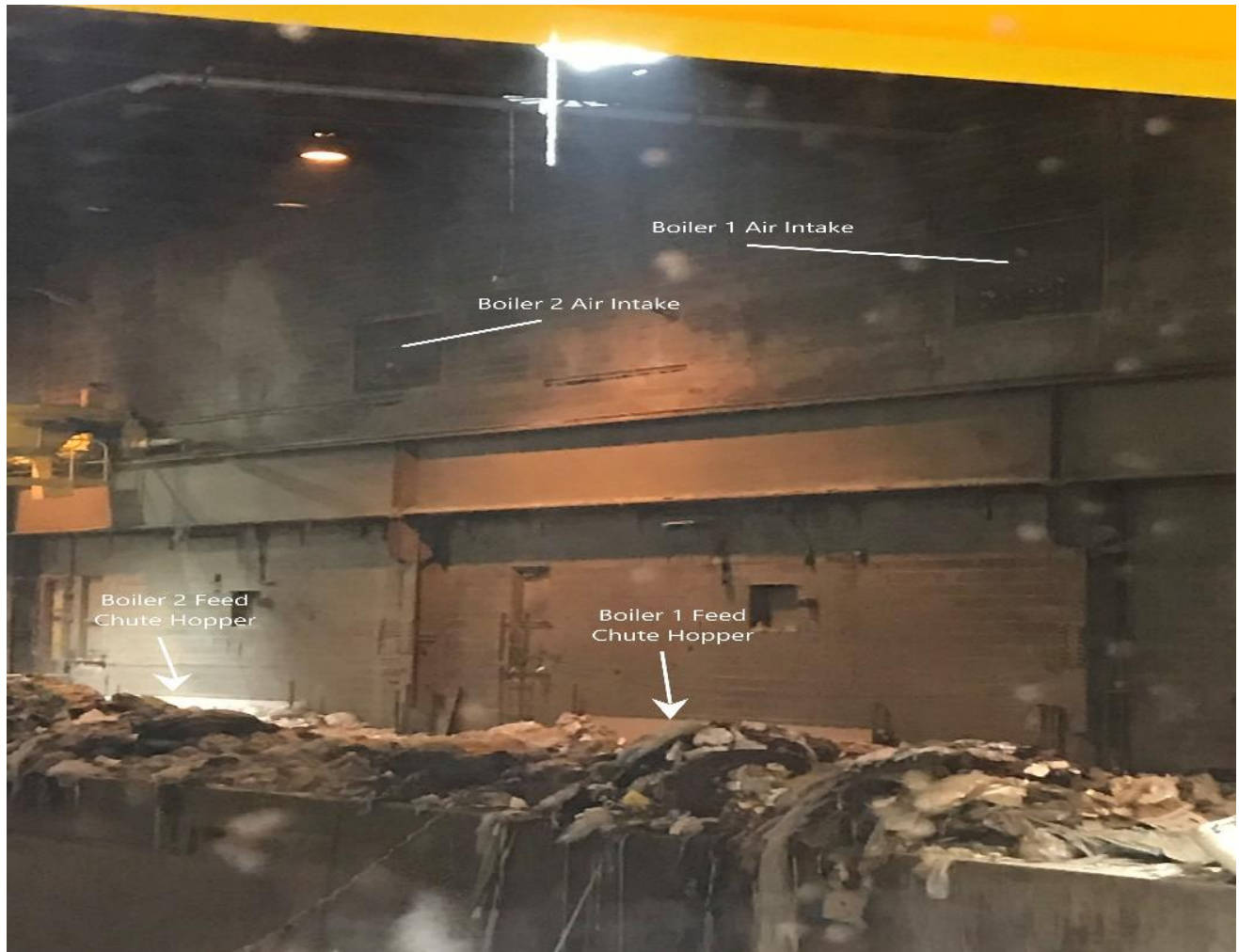


Photo # 3. View from tipping floor illustrates vertical nature of vent relative to tipping floor, pit and charging hopper. Any gas from those areas is drawn to the vent. Monitor located below the vent would have potential to be exposed to all gases including iodine gas.



Attachment 2. List of Manufacturers Contacted

(Excludes Monitors Used for Detecting Radioactive Iodine)

Reference information for Covanta Essex Review					
Manufacturer	Product	Technology	Comments on Technology	I ₂ monitor (Y/N)	Commercially Demonstrated ¹
Analytical Technology, Inc.	F12-D	Electrochemical Gas Sensors	Designed for Hazardous Area Applications Static Diffusion System Detect Iodine Up to 20 ppm NO ₂ and Other Gases Can Give False Positive Readings	Yes	No
MSA	Altair io360	Electrochemical X-Cell Sensors	Only Measures O ₂ , CO, Combustible Gases & H ₂ S 60-day Battery Life Used for Monitoring Along Fencelines and Confined Spaces	No	No
Industrial Scientific	Ventis MX-4	Dual Sensor Technology With Software Algorithm	Diffusion or Pumped Sampling Only Monitors LEL, CO, H ₂ S and O ₂	No	No
RKI instruments	GD 70-D	Uses ESU Type Electrochemical	Detect Iodine Up to 1 ppm Gas Interferences From CO, CO ₂ , and NO ₂ Requires regular filter change	Yes	No
Witt Gas	MAPY 4.0	Zirconia and Electrochemical Cells.	Only monitors for O ₂ , CO ₂ , helium, hydrogen and methane. Used in food industry and medical applications.	No	No
TG Technical Services	Draeger Tube System D-G	Single Gas Tube That Change Color Upon Reaction	Uses Hand Pump to Spot Check for Leaks Detects Iodine From 0.1-5 ppm	Yes	No

¹. “Commercially Demonstrated” for this purpose means a monitor that has been proven to be capable of continuously monitoring and providing accurate and reliable measurements of iodine gas in environmental conditions typical of those encountered in the tipping hall of the Facility. A monitor that generates “false positive” indications of iodine from interference with combustion products from diesel engines (NO_x, CO, particulate and other organic emissions) and other gases and particulate from MSW is not consider to be commercially demonstrated because false positives would not help identify the presence of iodinated waste and I₂ gas.

Attachment 5

Covanta Essex Company ACO Requirements

Requirement	Description	Deadline	Required Due Date	Actual Completion Date
Phase I a)	COVANTA ESSEX COMPANY (“COVANTA”) shall hire an independent public relations consultant or other similarly qualified consultant to develop a formal public outreach program and/or review and supplement as necessary, COVANTA’s existing program if one either formally or informally exists. A plan, detailing the program, shall be developed and shall include, but not be limited to, procedures to provide timely updates on any operational upsets that result in permit excursions, periodic notifications to local community groups, including electronic and other agreed to forms of communication and the establishment of a website link. COVANTA shall reach out to local community groups to determine notification schedules and deliverables for purposes of planning and program development.	Within 30 calendar days of effective date of ACO	11/9/2020	11/6/2020
Phase I b)	The plan and program shall also provide that COVANTA conduct a community outreach event to communicate with local community groups on a bi-annual basis.	Bi-annual	TBD	
Phase I c)	COVANTA shall complete and submit the plan to the Department for comment.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I c)	Within fourteen (14) calendar days after addressing any modifications to the plan, COVANTA shall initiate the planned program.	Within 14 calendar days of addressing NJDEP comments on Community Outreach plan	TBD	
Phase I d)	COVANTA shall hire an independent waste operations consultant to review and develop new protocols or supplement as necessary, COVANTA’s existing waste receipt, inspection and handling protocols. Protocols shall include but are not limited to items listed below under Phase I d)i through v.	Within 30 calendar days of effective date of ACO	11/9/2020	11/6/2020
Phase I d)i	Procedures to increase education and outreach to all customers and haulers via direct communications with responsible entities and printed messaging on all invoice bills regarding acceptable/prohibited waste types.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I d)ii	Specific procedures to address iodinated wastes including methodologies to identify potential generators/sources of these wastes, development of proactive steps to ensure these wastes are not included in the waste streams coming to the facility and inspection/interception protocols to ensure these waste types are not processed through the facility.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I d)ii	As a potential measure for enhancing COVANTA’s iodine waste inspection/interception protocols, iodine monitors shall be evaluated for their potential effectiveness to monitor vapor phase iodine. The evaluation shall be submitted to the Bureau of Air Monitoring within thirty (30) calendar days of the effective date of this ACO.	Within 30 calendar days of effective date of ACO	11/9/2020	11/6/2020

Requirement	Description	Deadline	Required Due Date	Actual Completion Date
Phase I d)ii	If the Department deems that the monitors are effective in monitoring vapor phase iodine, the monitors shall be installed, in accordance with Department review and approval, within 60 calendar days of such approval.	Within 60 calendar days of effective date of ACO	12/8/2020	
Phase I d)iii	Installation of Digital Cameras at appropriate locations throughout the facility to monitor waste streams being tipped in the transfer house and being conveyed into the boilers. The Digital Cameras should have recording capability and data retention that can record for 30 days.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I d)iv	Additional dedicated training to employees responsible for 1) monitoring truck deliveries and unloading and 2) operating the grapples used to mix waste in the pit and transfer waste from the pit to the feed hopper for each boiler, to train the employees to identify inappropriate waste material.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I d)v	Enhanced employee training program to ensure compliance with COVANTA's Solid Waste and Air Permits, applicable Best Management Practices, and procedures for identifying and preventing iodine from entering the Facility.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I e)	Within ninety (90) calendar days of the effective date of this ACO, excepting the Iodine monitor evaluation noted in d)ii. above, COVANTA shall provide the protocols and procedures outlined above for Department comment.	Within 90 calendar days of effective date of ACO	1/7/2021	
Phase I e)	Within fourteen (14) calendar days after addressing any modifications to the protocols and procedures, COVANTA shall implement same. COVANTA is encouraged to proactively implement any enhanced protocols and procedures outlined above prior to the required 90-day due date	Within 14 calendar days of addressing NJDEP comments on Waste Receipt, Inspection and Handling protocols	TBD	
Phase II a)	Identification and estimation of air pollutant emissions and the air dispersion modeling of the impacts of the identified purple plumes shall be performed by an independent third party, and reports containing the air dispersion modeling results shall be submitted to the Department detailing the estimated potential health impacts associated with the purple plume events. Modeling shall include the impact of iodine associated acid gases with an estimation of emissions. Modeling reports shall be provided to the DEP by a qualified thirdparty modeling expert acceptable to the Bureau of Evaluation and Planning.	Within 45 days of protocol approval	TBD	
Phase II a)1.	Prior to conducting and modeling or health risk assessment COVANTA ESSEX COMPANY shall provide detailed estimates of all emissions associated with the purple plumes including, but not limited to, iodine and other associated acid gases and, the methodologies used to estimate the amount and duration of the emissions within 45 calendar days of the Effective Date of this ACO.	Within 45 calendar days of effective date of ACO	11/23/2020	

Requirement	Description	Deadline	Required Due Date	Actual Completion Date
Phase II a)2.	Within 90 calendar days of the Effective Date of this ACO but prior to conducting and modeling or health risk assessment COVANTA ESSEX COMPANY shall submit a written protocol that is prepared by an independent third party for DEP approval to the Bureau of Evaluation and Planning that is consistent with a) Technical Manual 1002 Guidance on Preparing an Air Quality Modeling Protocol b) Technical Manual 1003 Guidance on Preparing Risk Assessment for Air Contaminant Emissions.	Within 90 days of effective date of ACO	1/7/2021	
Phase II a)3.	Once reviewed and approved by the Department, an independent third party shall conduct the modeling and risk assessment consistent with the protocol approval and submit results within 45 calendar days of Department approval.	Within 45 calendar days of protocol approval		
Phase II a)4.	If upon completion of DEP's review of the modeling and risk assessment identified in Phase 2, Paragraph a.3 of this ACO, there are verified findings that the emission of the purple plumes caused a non-negligible health impact (See NJDEP Division of Air Quality Technical Manual 1003) to the public, Covanta shall disclose the findings to the public. In doing so, Covanta is encouraged to include posting the findings on its website. Covanta will disclose the non-negligible health impact within 5 days of receiving the verified findings.	Within 5 days of receiving non-negligible health impact results	TBD	
Phase II b)	A mitigation plan shall be submitted to the Department for inclusion into COVANTA ESSEX COMPANY's Solid Waste and Title V permits. The mitigation plan shall consider findings from the evaluation of waste generators and how tipping floor procedures can be adjusted to improve a visual assessment of waste deliveries. Upon approval, the mitigation plan shall be referenced in the pending Title V Operating Permit renewal (BOP170001) under review by the Department and shall be incorporated into the renewal of the current Solid Waste Facility Permit (RRF190001) which expires February 23, 2021.	Plan shall be submitted upon approval by the Department of the protocols and procedures required to be submitted under Phase I e) within 90 days of effective date of ACO	TBD	
Phase II c)	COVANTA ESSEX COMPANY shall provide a written report detailing efforts made at the facility located in Lancaster PA and operated by Covanta Lancaster, Inc. The report shall include information that explains the formation of purple plumes including the estimated iodine feed rate where the creation of a plume event has been made.	Within 60 calendar days of effective date of ACO	12/8/2020	
Item 14	All reports submitted to the Department shall be made available on COVANTA ESSEX COMPANY's website within one week of being submitted to the Department. This requirement shall exclude the report required and identified in Phase II, paragraph c.	Within 1 week of submittal of any required report to NJDEP.	TBD	

Requirement	Description	Deadline	Required Due Date	Actual Completion Date
Item 17	<p>COVANTA ESSEX COMPANY shall submit progress reports to the Department by the first calendar day of every other month beginning 30 calendar days from the Effective Date of this ACO. Each report shall explain the status of COVANTA ESSEX COMPANY's compliance with the Compliance Schedule required by this ACO and shall include, but not be limited to, the following:</p> <p>A. identification of the site and reference to this ACO;</p> <p>B. the status of permitting and planning approvals, and any work at the site and progress to date;</p> <p>C. difficulties or problems encountered during the reporting period, and actions taken to rectify any difficulties or problems;</p> <p>D. activities planned for the next reporting period;</p> <p>E. the required and actual completion dates for each item required by this ACO;</p> <p>F. an explanation of any non-compliance with the compliance schedule; and</p> <p>G. evaluation of all corrective measures implemented to date.</p>	First calendar day of every month beginning 30 calendar days from the effective date of ACO.	11/9/2020	11/6/2020
Item 18	<p>In settlement of the violations cited in the above findings, COVANTA ESSEX COMPANY shall pay a penalty of \$24,400 (Twenty Four Thousand, Four Hundred Dollars) by check made payable to the "Treasurer, State of New Jersey" and remitted to the Division of Revenue at the address stated on the enclosed invoice(s) within thirty (30) calendar days of the Effective Date of this ACO.</p>	Within 30 calendar days of effective date of ACO	11/9/2020	11/5/2020