COVANTA
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Covanta Essex Company
183 Raymond Blvd
Newark, NJ 07105
Tel 973 344 0900

November 19, 2020

Mr. Anthony Fontana
Bureau Chief, Bureau of Solid Waste Permitting
Division of Solid and Hazardous Waste
New Jersey Department of Environmental Protection
Mail Code 401-02C
401 E. State Street
Trenton, NJ 08625-0420

Re: **Covanta Essex Company**
Essex County Resource Recovery Facility
Facility ID Number: 133546
Solid Waste Operating Permit Renewal Application

Dear Mr. Fontana:

Covanta Essex Company hereby submits this application for the renewal of the Solid Waste Operating Permit No. RRF190001 which expires on February 23, 2021. The application is being submitted as required within 90 days of the expiration date of the current permit. Enclosed is one original and two copies of the application.

The application fee of $140,661.00 will be submitted under separate cover.

Thank you for your consideration of this matter. If you any questions concerning the Application, please contact Patricia Earls at (973) 817-7322.

Sincerely,

David Blackmore
Facility Manager

cc: P. Earls – Covanta Essex
K. Beccia – NJDEP (Letter only via Email)
R. Gandhi – NJDEP (Letter only via Email)

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ESSEX COUNTY RESOURCE RECOVERY FACILITY

SOLID WASTE FACILITY PERMIT RENEWAL APPLICATION

November 2020

Prepared By:

Covanta Essex Company
183 Raymond Blvd.
Newark, New Jersey

Essex County Resource Recovery Facility
Solid Waste Facility Permit Renewal Application
November 2020

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1.0 INTRODUCTION

1.1 Brief History of Facility Development and the Solid Waste Facility Permit

The Essex County Resource Recovery Facility ("ECRRF" or "the Facility") is a nominal 2700-ton per day (TPD) Energy-from-Waste (EfW) facility situated on a 25.7-acre site in the Ironbound Section of Newark, New Jersey. The ECRRF is located in an industrial-zoned area in relatively close proximity to the New Jersey Turnpike and Newark Liberty International Airport. Generally speaking, the facility site is bordered by the Passaic River to the north, the New Jersey Turnpike to the east, Raymond Boulevard and the Pulaski Skyway to the south and Blanchard Street to the west.

The Facility is nominally owned by the Port Authority of New York and New Jersey (the Port Authority) and beneficially owned by Covanta Essex Company under a Service Agreement and site lease, each with the Port Authority. Covanta Essex Company operates and maintains the Facility as specified in the Service Agreement between Covanta Essex Company and the Port Authority.

Construction of the Facility began in 1986 and waste processing began with "first burn" in November of 1990. Commercial operation commenced in February of 1991. At its inception, the ECRRF was a joint enterprise between Essex County, the Port Authority and American Ref-Fuel Company of Essex County ("Ref-Fuel") conceived and designed to serve the long-term disposal needs of the twenty-two (22) municipalities comprising Essex County and the surrounding region.

Ref-Fuel operated and maintained the facility pursuant to the initial service contract with the Port Authority, which directed the delivery of all *processible* waste generated within Essex County to the ECRRF for processing during the

Service Agreement's term. The initial Service Agreement was consistent with the State's policy at the time to attain self-sufficiency through in-state disposal of solid waste and preceded the successful challenges to "flow control" of municipal solid waste.

In 1992, Essex County created the Essex County Utilities Authority (ECUA) to oversee/manage all aspects of waste management within Essex County. In 1993, Essex County and the New Jersey Department of Environmental Protection (NJDEP) approved ECUA to be the entity responsible for the implementation/oversight of the Essex County Solid Waste Management Plan.

Essex County's solid waste management strategy as executed by ECUA was revised in the late 1990s in response to the successful challenge to flow control that ruled that flow control discriminated against interstate commerce (Atlantic Coast Demolition and Recycling, Inc. v. Board of Chosen Freeholders of Atlantic County (1997). After the Atlantic County decision, ECUA entered into voluntary contracts (10-year contracts beginning in 2000) with some Essex County municipalities, the County (for County-related facilities), other quasi-governmental agencies and certain commercial transporters servicing the County to provide for disposal of processible waste at the ECRRF. In lieu of voluntary contracts, other Essex County municipalities' waste was directed for processing to one of two New Jersey transfer stations for subsequent transport to out-of state disposal sites as a result of participating in a non-discriminatory bidding process.

In accordance with a 10-year Waste Disposal Agreement between the ECUA and the Port Authority that commenced in 2000, the ECUA was obligated to deliver 350,000 TPY to the ECRRF. The Port Authority (through its ECRRF vendor) was obligated to maintain and operate the ECRRF and accept and process all processible waste delivered to the ECRRF on behalf of the ECUA. Ref-Fuel was the Port Authority's vendor responsible for the operation and maintenance of the ECRRF from 1990 through June of 2005.

On June 24, 2005, Covanta Energy Corporation completed the acquisition of the waste-to-energy (WTE) and related businesses of American Ref-Fuel Holding Corporation. In accordance with this transition, American Ref-Fuel Company of Essex was renamed Covanta Essex Company. The renamed Covanta Essex Company continued operation and maintenance of the ECRRF pursuant to the existing Solid Waste Facility Permit by employees of Covanta Essex Company (formerly of Ref-Fuel of Essex).

The 10-year contract between ECUA and the Port Authority expired on January 31, 2010 and was extended via an agreement with a term of February 1, 2010 through January 31, 2015.

In 2012, Covanta Essex Company, the Port Authority and the Department of Sanitation for New York City (DSNY) entered into a series of agreements. Effective January 1, 2013 the Service Agreement between the Port Authority and Covanta Essex provides that all waste and service revenues, and energy sales are earned directly by Covanta Essex, and all capital expenditures and operating expenses are the responsibility of Covanta Essex. The lease agreement for the site has been extended to 2032 with a renewal option through 2052. The Port Authority has also entered into a 20-year waste agreement with the DSNY under which the DSNY will continue to utilize about half of the Facility's disposal capacity.

Under the current contract with ECUA, there is no guaranteed delivery tonnage, but Covanta Essex is obligated to accept up to 370,000 TPY of Type 10 Municipal Waste (household, commercial and institutional waste) generated in Essex County.

The ECRRF was issued its initial Certificate of Approved Registration and Engineering Design Approval (CAREDA) by the New Jersey Department of

Environmental Protection (NJDEP) on December 10, 1985 (Registration No. 0714XISP01), allowing construction to commence. As previously indicated, the ECRRF began processing waste with "first burn" in November of 1990. A CAREDA Renewal Application was submitted on September 6, 1990, as required, at least ninety (90) days prior to the December 10, 1990 expiration date of the existing permit.

On January 14, 1994, American Ref-Fuel submitted a separate application requesting a major modification to the solid waste permit that would allow an increase in the annual throughput limit from 914,325 tons per year (TPY) to 985,500 TPY.

The renewed/modified Solid Waste Facility (SWF) Operating Permit was subsequently issued on November 17, 1995. The 1995 Solid Waste Facility Permit Renewal included a permit condition which maintained the annual throughput limit of 914,325 TPY, with a provision to allow the requested increase to 985,500 TPY, as proposed by the Permittee in the January 14, 1994 permit modification application, pending further review and NJDEP approval. The annual throughput limit increase to 985,500 TPY was approved on September 30, 1997.

Other, minor modifications approved and implemented during the 1995 through 2000 permit term were installation of the carbon injection system for control of mercury, installation of the selective non-catalytic reduction (SNCR) system for control of nitrogen oxides, installation of a storm water collection/reuse system, modifications to the ferrous/ash conveyors, installation of a new ferrous removal process and construction of a modular office building, approved in August 1995, August 1998, June 1997, May 1997, September 1998 and October 1998, respectively.

The SWF operating permit issued November 17, 1995 was due to expire on November 17, 2000. On July 21, 2000 (transmittal cover letter dated July 11, 2000), the ECRRF submitted a Solid Waste Facility Permit Renewal Application. The applicant submitted additional information on October 12, 2000. NJDEP determined the application to be administratively complete on November 13, 2000, which triggered the permit shield. Facility operation continued under the expired permit, while technical review of the application was being conducted.
The Final SWF Permit Renewal (Facility ID No. 133546, Permit No. RRF000001) was issued on August 16, 2006 for a 5-year period.

On November 19, 2007, Covanta Essex Company notified both the Division of Air Quality and the Bureau of Landfill and Hazardous Waste Permitting of NJDEP (letter dated November 19, 2007 to David Olsen, Bureau of Operating Permits, NJDEP) of its intention to install the Covanta LN™ (Low NO_X) technology in one of the Facility's boilers in order to evaluate its effectiveness in reducing nitrogen oxide (NO_X) emissions pursuant to the applicable Environmental Improvement Pilot Test provisions in N.J.A.C. 7:27-22.1. In correspondence dated December 6, 2007, the Air Division deemed the request to be a 7-Day Notice Change and approved it as such. The Bureau of Solid Waste indicated that if the Air Division approved the project that no action by the Bureau of Solid Waste was necessary at the time, but that if the installation were to become permanent, that the Facility would be required to submit the affected Operations & Maintenance Manual chapters and affected facility drawings (if any) for review and approval (letter received December 12, 2007). The Covanta LN™ process was installed in Unit #1 in May of 2008. In the subsequent May 2011 Solid Waste Facility Permit Renewal Application, Covanta Essex proposed to install the Covanta LN™ technology in Units #2 and #3 by June of 2011 and to then utilize this technology on a permanent basis in all three units to reduce NO_X emissions.

On October 30, 2009, the U.S. Environmental Protection Agency (EPA) published a rule for the mandatory reporting of greenhouse gases (GHG) (also referred to as 40 CFR Part 98) from large GHG emissions sources in the United States. Implementation of 40 CFR Part 98 is referred to as the Greenhouse Gas Reporting Program (GHGRP). In order to comply with the requirements of the GHGRP, the ECRRF installed carbon dioxide (CO_2) and flow monitors for continuous monitoring of these constituents. The Facility also began the process of upgrading/replacing the existing CEMS monitors/system with new equipment at this time.

The 5-year Solid Waste Facility Permit was due to expire on August 16, 2011. A timely renewal application was submitted on May 13, 2011, which proposed the permanent installation of the Covanta LN™ technology in all three municipal waste combustors and the upgrade of the CEM Monitors/System.

Minor modifications that were approved by NJDEP and implemented at the ECRRF during the period when the solid waste facility permit renewal application was being reviewed (May 13, 2011 through February 23, 2016) were installation of the Covanta LN™ technology for additional NO_X control in Units 2 and 3 and permanent use of the technology in all three (3) units (approved May 2011), certification of the upgraded CEMS Monitors/System (approved June 23, 2011), ferrous metals system upgrades and installation of the non-ferrous metals recovery system (approved September 4, 2010) and approval to accept and process Type 25 (Animal and Food Processing Waste) approved in May 11, 2015.

One (1) minor modification was approved by NJDEP on October 3, 2013 prior to issuance of the current permit on February 23, 2016, but was not fully implemented until November 2016 (after the current permit was issued on February 23, 2016). This minor modification was the replacement of the electrostatic precipitators with baghouses on all three (3) combustion trains.

The renewed Solid Waste Facility Permit (Facility ID No. 133546, Permit No. RRF 190001) was issued on February 23, 2016.

The following minor technical reviews or minor modifications were requested and approved during the current permit term:

- On September 20, 2017, Covanta Essex Company submitted an application to gain approval to remove the phosphoric acid fly ash treatment system;
- On June 28, 2018, Covanta Essex Co. submitted an application to NJDEP for a minor modification to gain approval to make changes to the pugmill system for fly ash treatment;
- On August 15, 2018, Covanta Essex requested approval to modify the metals recovery system to replace the existing NF-230-SC vibrating screen and the existing vibrating pan feeder NF-400-FD with a new screen and MSB conveyor;
- On November 1, 2018, Covanta Essex requested approval to expand the tipping floor office; and
- On April 15, 2019, Covanta Essex submitted a requested approval to install an access platform underneath the A and B pugmill fly ash silos to replace a temporary scaffold platform.

These changes are addressed in *Sections 3.2, Previously Approved Changes to the Facility Design* of this application. The installation of baghouses on all three (3) combustion trains to replace the electrostatic precipitators is also summarized in this section. Although this project was approved prior to issueance of the current permit in October of 2013, it was not completed until November 2016.

The current Solid Waste Facility Permit is due to expire on February 23, 2021. This Solid Waste Facility Permit renewal application is being submitted in a timely manner in November of 2020.

1.2 Format For Permit Renewal

This document constitutes the 2020 SWF Permit Renewal Application. In preparing this application, Covanta Essex Company followed the submission requirements outline prepared by the New Jersey Department of Environmental Protection (NJDEP) Division of Solid and Hazardous Waste Management (DSHWM). A copy of this outline entitled "Large-Scale Thermal Destruction Facilities: Guidelines for the Preparation of an Application for the Renewal of a Solid Waste Facility Permit" (October 2005 Revision) is provided in Appendix A.

Consistent with the above-referenced guidance document provided by the Department, this application includes an updated registration statement, an updated engineering design for the Facility, updated Operations and Maintenance (O&M) Manual text, a discussion of the status of the updated disclosure statement required pursuant to N.J.A.C. 7:26-16.6; and comparative environmental impact analyses, as applicable, including the required summary/assessment of operational data during the current permit term.

There were no major permit modifications requested or implemented during the current permit term.

As summarized in the previous section, during the current permit term the following previously approved minor modifications and/or design changes were implemented:

- Removal of the phosphoric acid fly ash treatment system;
- Minor modifications to the pugmill system for fly ash treatment;
- A replacement in-kind modification to the metals recovery system.
- Expansion of the tipping floor office; and

- Installation of an access platform underneath the A and B pugmill flyash silos.

These changes, as well as the replacement of the ESPs with baghouses (as discussed above) are addressed in *Section 3.2* of this document providing information on previously-approved design changes made during the current permit term and are reflected, as applicable, in the current drawing list contained in the list of *Approved Applications, Drawings and Associated Documents* in the existing Solid Waste Facility Permit, as well as in the current O&M Manual Sections, as applicable, on-file with the NJDEP, Division of Solid and Hazardous Waste.

No permit modifications or design changes are being requested as part of this Solid Waste Facility Permit Renewal Application.

The O&M Manual currently on-file with NJDEP includes the design changes that were approved and implemented during the current permit term. Changes to the O&M Manual to reflect updated information have been incorporated into the applicable sections of the revised O&M Manual as discussed in Section 4.2, *Proposed Changes to the O&M Manual* of this Permit Renewal Application. Revised O&M Manual text is included in the renewal application as Appendix B.

Actual operations data, as collected by the permittee, is provided for the period of operation from January 2015 to September 2020[1] in *Section 6.0, Changes in Environmental Impacts from Facility Operations* and *Section 7.0, Additional Facility Operating Data*.

[1] Data is included for five (5) full calendar years (2015 – 2019), since the Essex Facility's annual throughput limit for waste receipt is based on a calendar year. Therefore, waste delivery data and other operating data provided is consistent with these five (5) calendar year periods. In addition, data is provided for January 2020 through September 2020 since the application is being submitted in November of 2020.

2.0 UPDATED REGISTRATION STATEMENT

The updated registration statement, *Solid Waste Facility Application Form* with Attachment A, *Corporate Data*, Attachment B, *List of Current Facility Permits* and Attachment C, *Project Site Location Map* are provided on the following pages.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLID AND HAZARDOUS WASTE MANAGEMENT PROGRAM
P.O. BOX 414 401 E. STATE STREET
TRENTON, NEW JERSEY 08625-0414
TELEPHONE: 609-984-6985 TELECOPIER: 609-633-9839
http://www.state.nj.us/dep/dshw

SOLID WASTE FACILITY APPLICATION FORM

PLEASE PRINT OR TYPE

1A. **Applicant/Owner:** *Covanta Essex Company* Telephone: *(862) 345-5000*

Permanent Legal Address: *445 South Street*

City: *Morristown* State: *NJ* Zip Code: *07960*

Federal Tax I.D #: *76-0174143*

1B. **Applicant/Operator:** *Covanta Essex Company* Telephone: *(973) 344-0900*

Permanent Legal Address: *183 Raymond Boulevard*

City: *Newark* State: *NJ* Zip Code: *07105*

1C. **Co-permittee:** *N/A* Telephone:

Permanent Legal Address:

City: State: Zip Code:

2. **Location of Work:**

Name of Facility: *Essex County Resource Recovery Facility (ECRRF)*

Address (Street/Road): *183 Raymond Boulevard*

Lot #: *28, 30, Parts of: 20, 34, 36, 40, 50, 52, 60, 60A, 80; 92, Parts of: 18, 29, 32, 35A, 80A, 90*

Block #: *5000 and 5001*

Municipality: *Newark* County: *Essex*

NJEMS Preferred ID #: *133546*

SW Facility ID #: *133546*

EPA ID #: *NJD986629004*

3. **Professional Engineer:**

Name: *Michael E. Van Brunt* N.J. License P.E. #: *24GE04482000*

Name of Firm: *Covanta Energy, Inc.*

Address: *445 South Street*

City: *Morristown* State: *NJ* Zip Code: *07960*

Telephone: *(862)-345-5279*

4. **Application Type:** (Circle applicable letter)

A. Initial Solid Waste Facility (SWF) Permit
B. Existing SWF Annual Update
C. SWF Permit Modification (check here ____ if expansion)
D. SWF Permit Renewal √
E. SWF Transfer of Ownership
F. Closure/Post-Closure Plan
G. Disruption Approval
H. Other – describe here _____

5. **Facility Type:** (Circle all that apply)

A. Sanitary Landfill
B. Incinerator/Resource Recovery Facility √
C. Transfer Station
D. Transfer Station/Materials Recovery Facility
E. Intermodal Container Facility
F. Compost
G. Other – describe here *Energy-from-Waste* √

6. **Waste Types:** (Circle all types of waste requested for acceptance at this facility by numbers.)[CHECK]

10.	Municipal Waste √	27.	Dry Industrial Waste √
12.	Dry Sewage Sludge	27A.	Asbestos Containing Waste
13.	Bulky Waste	27I.	Incinerator Ash/Ash Containing Waste
13C.	Construction and Demolition Waste	72.	Bulk Liquid and Semi-Liquid
23.	Vegetative Waste √	73.	Septic Tank Clean-Out Wastes
25.	Animal and Food Processing Waste √	74.	Liquid Sewage Sludge
	Treated Regulated Medical Waste		Untreated Regulated Medical Waste

7. **Facility Life and Capacity:**

	YEARS	TONS	CUBIC YARDS
A. Currently Permitted/Authorized	50	*985,500 TPY*	
B. Proposed in this Application	*N/A*		

8. **Utility Regulation: [[[CHECK]]]**

A. Is (will) this facility (be) Public √ or Sole Source? (circle one)

B. Certificate of Public Convenience & Necessity (CPCN) # *SW8517*

USE ADDITIONAL PAPER, IF REQUIRED, IN ORDER TO GIVE FULL AND COMPLETE DISCLOSURES TO THE FOLLOWING ITEMS.

9. **Type of Organization**: (Circle appropriate letter.) [[CONFIRM]]

A. Proprietorship	D. Municipal Government	G. Authority
B. Partnership √	E. County Government	H. Federal
C. Corporation	F. State Government	X. Other

10. **Organization Data:**

A. **PARTNERSHIP DATA** - State the name and address of each partner, including silent or limited, and their interest:

NAME	ADDRESS	PORTION OF INTEREST
Covanta Essex, LLC	*445 South Street, Morristown, NJ 07950*	*99%*
Covanta Essex II, LLC	*445 South Street, Morristown, NJ 07950*	*1%*

Registered in State: *N/A* County: *N/A*

Date of Filing: *March 21, 1984*

Agent's Name: *The Corporation Trust Company*

Street Address: *1209 Orange Street* Telephone: *(302) 658-7581*

City: *Wilmington* State: *DE* Zip Code: *19801*

B. CORPORATE DATA

Date of Incorporation: *N/A*
Agent's Name:
Street Address: Telephone
City: State: Zip Code:

Corporate Officers:

OFFICIAL TITLE	NAME	BUSINESS ADDRESS
See Attachment A		

Directors:

NAME	RESIDENCE	TERM OF OFFICE
See Attachment A		

Identify below any individual, corporation or other business organization having ownership or a controlling interest in the applicant. If applicable, the chain of ownership or control should be traced to the main parent company.

NAME: *NA*
ADDRESS:
NATURE OF CONTROL:

NAME:
ADDRESS:
NATURE OF CONTROL:

NAME:
ADDRESS:
NATURE OF CONTROL:

NAME:
ADDRESS:
NATURE OF CONTROL:

NAME:_____
ADDRESS:_____
NATURE OF CONTROL:_____

Principal Security Holders and Voting Power. Identify owner(s) of all securities in the applicant corporation having more than ten (10) percent of value.

NAME	ADDRESS	TYPE OF SECURITIES*	NUMBER OF VOTES
NA			

*(Common stock, Preferred stock, etc.)

11. Other Permits Applied for or Obtained (SEE ATTACHMENT B)
APPLICATION STATUS

PERMIT TYPE (Use additional sheets if necessary)	**N.A.**	**Pending**	**Approved**	**Date Applied for or Project Number**
A. CAFRA.....	*X*			
B. Waterfront Development.....			*X*	*84-0447-1*
C. Tidal or Coastal Wetlands.....	*X*			
D. Freshwater Wetlands Permit.....	*X*			
E. Freshwater Wetlands Transitional Area Waiver (after July 1,1989).....	*X*			
F. Stream Encroachment....			*X*	*15391*
G. Water Quality Certificate (Section401).....	*X*			
H. Open Water Fill.....	*X*			
I. Tidelands (Riparian) Grant, Lease or License.....			*X*	
J. Divert Surface Waters for Private Use.....	*X*			
K. Temporary Water Lowering.....	*X*			
L. Sewer Systems: Collectors, Pump Station, etc....			*X*	*90-4880-4*
M. Underground Storage Tanks.....			*X*	*See Attachment B*
N. Hazardous Waste Permits (Specify).....	*X*			
O. Air Quality Permits....			*X*	*See Attachment B*
P. Delaware and Raritan Canal Review Zone "Certificate of Approval".....	*X*			
Q. Pinelands Certificate.....	*X*			

R. Green Acres Program Review.....	*X*			
S. Other State Agencies' Permits.....			*X*	*See Attachment B*
T. Federal Permits.....			*X*	*FAA-84-AEA-0830-0E*

Brief Description of the Proposed Project and Intended Use:

Solid Waste Facility Operating Permit Renewal Application for the Essex County Resource Recovery Facility, an existing 2700 TPD Energy-from-Waste facility serving the post-recycling refuse disposal needs of Essex County and the surrounding region. The heat energy generated during the combustion of refuse is converted to electricity for plant use and exported to the grid operated by PJM. Ferrous and non-ferrous metals are separated from the ash residue stream for recycling. This is a routine 5-year permit renewal. There were no major permit modifications requested or implemented during the current permit term. No permit modifications are being requested as part of this application.

12. **Certifications:**

APPLICANT'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit or vehicle registration for which I may be seeking approval or now hold.

David Blackmore
Print/Type Applicant/Owner Name

Signature of Applicant/Owner

11/19/20
Date

Facility Manager
Title

David Blackmore
Print/Type App./Operator Name

Signature of Applicant/Operator

11/19/20
Date

Facility Manager
Title

Print/Type Co-Applicant Name

Signature of Co-Applicant

Date

Title

PROPERTY OWNER'S CERTIFICATION

I hereby certify that _____*NA*_____

Property Owner's Name

is the owner of the property upon which the proposed work is to be done. This endorsement is certification that the owner grants permission for the conduct of the proposed activity and authorizes that staff of DEP may conduct on-site inspections as necessary for the review of this application.

In addition, the aforementioned property owner shall certify:

1. Whether any work is to be done within an easement -

   Yes _____ (Initial) No _____ (Initial)

2. Whether any part of the entire project will be located within property belonging to the State of New Jersey -

   Yes _____ (Initial) No _____ (Initial)

3. Whether any part of the entire project will be located within property belonging to a municipality or county -

   Yes _____ (Initial) No _____ (Initial)

_____

_____

_____

Type or Print Name and Address of Owner
if different from Item 1 on Page 1

_____ _____

Date Signature of Owner

C. APPLICANT'S AGENT

I, _____*NA*_____ and/or _____,

(Applicant/Owner) (App./Operator or Co-Permittee)

authorize to act as my agent/representative in all matters pertaining to my application the following person:

Name:_____

Title:_____

Firm:_____

Address:_____

City:_____ State:_____ Zip Code:_____

Telephone:_____

Occupation/Profession:_____

_____
(Signature of Applicant/Owner)

_____
(Signature of Applicant/Operator)

_____
(Signature of Co-permittee)*

AGENT'S CERTIFICATION

Sworn before me this _____ day of _____I agree to serve as agent for the above-mentioned applicant

_____ _____
Notary Public (Signature of Agent)

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I hereby certify that the engineering plans, specifications and engineer's reports applicable to this project comply with the current rules and regulations of the State Department of Environmental Protection with the exceptions as noted.

Michael E. Van Brunt
Signature of Engineer

Michael E. Van Brunt
Print or Type Name

Sr. Director, Sustainability
Position

Covanta Energy
Name of Firm

19 November 2020
Date

PROFESSIONAL ENGINEER'S/ARCHITECT'S EMBOSSED SEAL

Doc: SWF App Form 10/08

4/96

ATTACHMENT A
CORPORATE DATA

Covanta ARC LLC*
Delaware

Management Structure

Management Name	Title	Title Role
Bily, Kirkland J.	Assistant Secretary	Officer
Caraccio, Daniel	Vice President & General Manager	Officer
Collins, Patricia M	Assistant Secretary	Officer
Dorlon, Daniel	Vice President	Officer
Gregan, Timothy H.	Vice President - Regional Operations Manager	Officer
Grizzetti, James	Vice President - Risk Management	Officer
Helgeson, Bradford John	Executive Vice President & Chief Financial Officer	Officer
Hickey, Thomas	Vice President	Officer
Howe, A. Bradley	Assistant Secretary	Officer
Ranger, Michael	President & Chief Executive Officer	Officer
Kenyon, Thomas L.	Senior Vice President, Deputy General Counsel and Secretary	Officer
Koltis, Thomas J.	Assistant Secretary	Officer
Reilly, James	Vice President & Treasurer	Officer
Sandner, Richard J	Vice President & General Manager	Officer
Simpson, Timothy John	Executive Vice President and General Counsel	Officer
Taddeo, Paola	Vice President - Tax	Officer
Tammi, Nancy	Assistant Secretary	Officer
Veenhof, Derek	Executive Vice President & Chief Operating Officer	Officer
Walker, John	Vice President - Regional Operations Manager	Officer

*Covanta Essex Company is a general partnership and it has no officers or directors. The general partner, Covanta ARC, LLC signs on its behalf.

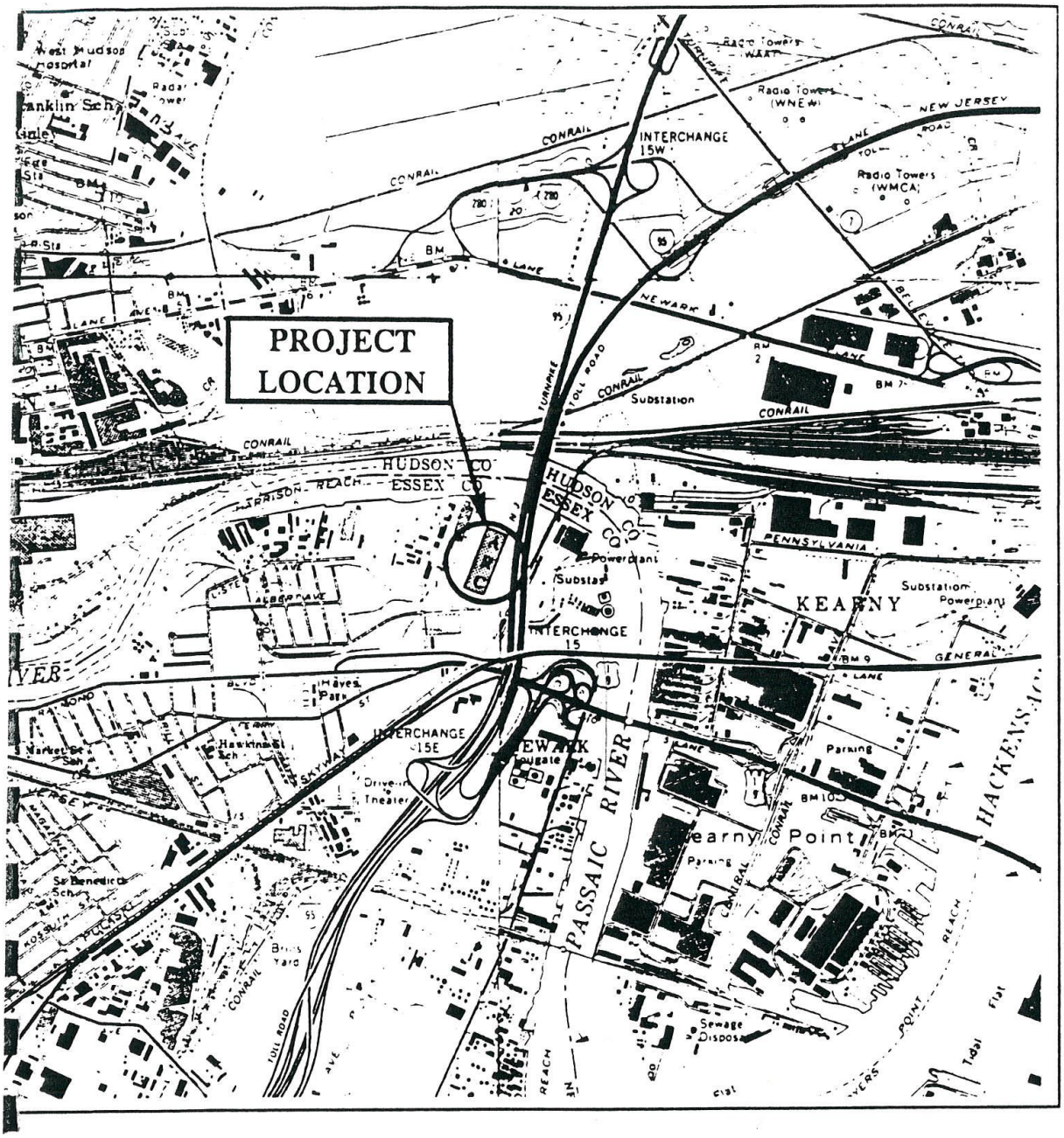
ATTACHMENT B

Essex County Resource Recovery Facility
List of Current Operating Permits

(Referenced to Item 11 of the SWF Updated Registration Statement)

Permit Type	Project/Permit Number	Status
NJDEP Solid Waste Facility Permit	ID#: 133546 Permit#: RRF190001 Approved/(Renewal - this Application)	Expires: February 23, 2021 Renewal Application (this document submitted in a timely manner at least 90 days prior to the expiration date). Current permit remains in effect if timely and complete application has been submitted.
NJDEP Air Pollution Control Operating Permit (Title V)	Permit#: BOP190001 PI# 07736	Renewal application was submitted on October 2, 2017 and is currently under review. Current permit remains in effect since timely and complete application has been submitted.
NJPDES Storm Water Discharge Permit	NJPDES Permit#: NJ0055247 PI ID# 46057	Effective: 2/1/2020 Expires: 1/31/2025
NJDEP Underground Storage Tank Systems Registration Certification	Facility ID#: 021822 Registration Activity ID#: 190001	Approval Date: 5/15/2019 Expires: 12/31/2020 A timely UST Registration Certification renewal application was submitted on 10/15/20.
City of Newark Fire Department Hazardous Materials Facility Permit	Permit #: 194 E	Date of Issuance: 10/18/15 Date of Expiration: 10/18/20 The renewal application was submitted in a timely manner and the Facility is awaiting the renewed permit
Discharge Prevention Containment & Countermeasure/ Discharge Cleanup & Removal (DPCC / DCR) Plan	071402277002	Status: The renewal of the DPCC/DCR Plan was approved on July 8, 2020 and is effective through April 7, 2022

Attachment C
Site Location Map



LOCATION PLAN

FIGURE 1

3.0 UPDATED ENGINEERING DESIGN AND SITE MODIFICATIONS

3.1 Current CAREDA Design

The design of record includes all drawings that were submitted to the NJDEP Bureau of Resource Recovery as part of the renewal of the Certificate of Approved Registration and Engineering Design Approval (CAREDA) for the ECRRF and subsequent approved modifications.

The list in Table 3.1-1 below includes the drawings that were approved and incorporated into the ECRRF's Solid Waste Facility Permit during the current permit term as listed in the *Approved Application, Drawings and Associated Documents* list contained in the current permit. These drawings include those that reflect the most recent design changes including modification to the pugmill system for fly ash treatment, modifications to the metals recovery system (including the installation of a new vibrating screen and MSB conveyor), enlargement of the tipping room booth (tipping floor office), installation of an access platform underneath A and B pugmill fly ash silos, as well as the finalized as-built drawings for the baghouses (the baghouse project was approved prior to the issuance of the current permit and completed in November of 2016). The design changes/minor permit modifications that occurred after the issuance of the current permit are discussed below in Section 3.2.

The following is the list of design drawings for the ECRRF (provided in Table 3.1-1, below) that are on record with the NJDEP Bureau of Resource Recovery as listed in the Facility's current Solid Waste Facility Permit.

Table 3.1-1

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
A-1	Tipping Room Booth Enlargement at: Covanta Essex Company	Rev. 1, 4/9/19
C-1	Site Access Road – Existing Conditions	10/11/88
C-2	Site Access Road – Existing Conditions	10/11/88
C-3	Site Access Road – Horizontal Alignment Plan (1 of 2)	10/11/88
C-4	Site Access Road – Horizontal Alignment Plan (2 of 2)	2/10/89
C-11	Site Access Road – Grading and Drainage Plan	Rev 1, 10/28/89
C-12	Site Access Road – Grading and Drainage Plan	Rev 1, 2/10/89
C-13	Site Access Road – Roadway Cross Sections	Rev 1, 10/28/88
C-28	Site Access Road – Signing and Striping Plan (1 of 2)	Rev 1, 10/28/90
C-29	Site Access Road – Signing and Striping Plan (2 of 2)	Rev 1, 2/10/90
C-1A, DPCC Project	Fuel Storage Area Demolition and Site Plan	Rev 3, 2/25/98
C-2, DPCC Project	Carbon Silo Area Existing Conditions and Site Plan	Rev 3, 2/25/98
C-3, DPCC Project	Project Miscellaneous Details	Rev 2, 2/18/98
C-4, DPCC Project	Project Miscellaneous Details	Rev 2, Not dated

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Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
CIE-810 (B Pugmill)	Metals Improvement Project Lighting Plan	Rev. 0, 12/19/18
D-0 (B Pugmill)	Removal & Modification Notes & Legend	Rev. 3, 12/17/1
D-1 (B pugmill)	Removal & Modification Overall Plan	Rev. 3, 12/17/18
D-2 (B pugmill)	Removal & Modification Sections “A-A” & “B-B”	Rev 3, 12/17/18
D-3 (B pugmill)	Removal & Modification Section “C-C”	Rev. 2, 12/17/18
D-15505-1-60-M	Tertiary Air System Upgrade Tie-in to Existing Secondary Air General Arrangement (Sheet 1 of 2), Process Equipment/Barron Industries	Rev. 2, 3/17/08
D-15505-1-60-M	Tertiary Air System Upgrade Tie-in to Existing Secondary Air General Arrangement (Sheet 2 of 2), Process Equipment/Barron Industries	Rev. 2, 3/17/08
E-21005.00-C-001	Site Plan	Rev E, 8/14/2014
E1A-0020-01B (B Pugmill)	Code Compliance Analysis Egress Plan	Rev C, 12/19/18
ECS-1797 (B Pugmill)	Structural Notes I	Rev. 1, 1/3/19
ECS-1798 (B Pugmill)	Structural Notes II	Rev. 1, 1/3/19
ECS-1799 (B Pugmill)	Framing Plans	Rev. 3, 1/3/19
ECS-1800 (B Pugmill)	Sections	Rev. 2, 1/3/19
ECS-1801 (B Pugmill)	Phase 2 Erection Plans	Rev. 3, 1/3/19
ECS-1802 (B Pugmill)	Phase 2 Sections & Details	Rev. 2, 1/3/19
ECS-1803 (B Pugmill)	Typical Details I	Rev. 1, 1/3/19
ECS-1804 (B Pugmill)	Typical Details II	Rev. 1, 1/3/19
ECS-1805 (B Pugmill)	Typical Details III	Rev. 1, 1/3/19

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Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
ECSC-0111	Site Plot Plan	Rev. P[2], 4/17/12
ECSC-0130	Final Grading and Drainage Plan (Sheet 1 of 3)	Rev 13, 5/28/99
ECSC-0131	Final Grading and Drainage Plan (Sheet 2 of 3)	Rev 11, 9/3/97
ECSC-0132	Final Grading and Drainage Plan (Sheet 3 of 3)	Rev 11, 9/3/97
ECSC-0135	Final Grading and Drainage Details (Sheet 1)	Rev 6, 10/20/92
ECSC-0136	Final Grading and Drainage Details (Sheet 2)	Rev 8, 10/20/92
ECSC-0160	Sanitary Pipe Plan	Rev 4, 5/11/99
EIE-0001	Symbols, Legends & General Notes	Rev 4, 7/24/92
EIE-0100	Main One Line Diagram	Rev 7, 7/24/92
EIE-0101	4160V MCC One Line Diagram	Rev 5, 7/24/92
EIM-0002	General Arrangement Plan at EL. 11'-2"	Rev 5[3], 7/2/12
EIM-0003	General Arrangement Plan at EL. 29'-2"	Rev 7[4], 7/2/12
EIM-0004	General Arrangement Plan at EL. 49'-6"	Rev 3[5], 11/9/93
EIM-0005	General Arrangement Plan at Elevations 79'-8¼", 79'-11", 80'-1", 84'-10", 87'-6", and 101'-1"	Rev 3, 11/9/93
EIM-0005A	Miscellaneous Boiler Platforms	Rev 4, 11/9/93
EIM-0006	General Arrangement Sections A-A, B-B & C-C	Rev 11[6], 7/2/12
EIM-0101	Flow Diagram Main Steam and Dump Steam Systems	Rev 8, 9/22/92

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[2] ECSC-0111, Revision P dated 4/17/12 (listed on p. 14 of 20 of the current Essex Solid Waste Facility Permit) supersedes ECSC-0111, Rev. N dated 5/11/99 (listed on page 12 of 20 of the current Essex Solid Waste Facility Permit).
[3] EIM-0002, Revision 5 dated 7/2/12 (listed on p. 14 of 20 of the current Essex Solid Waste Facility Permit) supersedes EIM-0002, Rev. 3 dated 11/9/93 (listed on page 7 of 20 of the current Essex Solid Waste Facility Permit).
[4] EIM-0003, Revision 7 dated 7/2/12 (listed on p. 14 of 20 of the current Essex Solid Waste Facility Permit) supersedes EIM-0002, Rev. 7 dated 10/1/04 (listed on page 12 of 20 of the current Essex Solid Waste Facility Permit).
[5] EIM-0005 dated 8/31/12 (listed on page 15 of 20 of the current Essex Solid Waste Facility Permit) supersedes EIM-0005 Rev 3 dated 11/9/93 (listed on page 7 of 20 of the current Essex Solid Waste Facility Permit).
[6] EIM-0006, Revision 11 dated 7/2/12 (listed on p. 14 of 20 and page 15 of 20 of the current Essex Solid Waste Facility Permit) supersedes EIM-0006, Rev. 9 dated 9/30/04 (listed on page 12 of 20 of the current Essex Solid Waste Facility Permit).

Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
EIM-0102	Flow Diagram Extraction Steam and Auxiliary Steam Systems	Rev 8, 9/22/92
EIM-0103	Flow Diagram Feedwater System	Rev 8, 11/29/93
EIM-0104	Flow Diagram Condensate and Make-up Water Systems	Rev 7, 11/29/92
EIM-0105	Flow Diagram Closed Loop Cooling Water System	Rev 6, 11/29/93
EIM-0106	Flow Diagram Fuel Oil & Diesel Generator Piping	Rev 7, 9/22/92
EIM-0107	Flow Diagram Instrument & Plant Air Systems	Rev 8, 11/29/93
EIM-0108	Flow Diagram Heater Vents & Drain Systems	Rev 6, 9/24/92
EIM-0110	Flow Diagram Blowdown and Drains	Rev 8, 9/24/92
EIM-0111	Flow Diagram Turbine Drains & Miscellaneous Vents & Drains	Rev 5, 11/29/93
EIM-0115	Flow Diagram - Raw, Demineralized &Wastewater Systems	Rev 11, 5/11/99
EIMP-0002	Plumbing & Drainage Symbol List, Schedule, General Notes & Details	Rev 12, 8/20/98
EIMP-0003	Plumbing Drainage & F.P. Symbol List, Schedule &Details	Rev 11, 11/10/93
EIMP-0100	Fire Protection Flow Diagram	Rev 7, 12/23/92
EIMP-0101	Potable Water, Sanitary & Oily Waste Flow Diagram	Rev 7, 5/11/99
EIMP-1402	Plumbing Drainage & Fire Protection El. 11'-2"	Rev 9, 11/10/93
EIMP-2000	Plumbing & Drainage Misc. Bldgs., Plans, Details & Diagrams	Rev 7, 12/23/92
EIMP-2200	Yard Piping – Plumbing, Drainage, Fire Protection & Potable Water	Rev 14, 8/20/98
EIMP-2201	Yard Piping – Plumbing, Drainage, Fire Protection & Potable Water	Rev 10, 11/10/93
EIMP-2202	Yard Piping – Plumbing, Drainage, Fire Protection & Potable Water	Rev 8, 11/10/93
EISC-0012	As Drilled Boring Location Plan	Rev F, 10/22/92
ES-LN-001	Low NO_X Modification Tube Opening Details, Covanta Essex	Rev. 0, 2/11/08
ES-LN-002	Low NOX Modification Tube Opening Assembly, Covanta Essex	Rev. 1, 2/12/08

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Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
ESS-S-029	Boiler Building Horizontal Brace Alteration for New 36" Square Air Duct nrNR Col Line Tp Elevation 49'-6", Covanta Operations Engineering	Rev 0, 2/21/08
F-009	Expanded Permit Application Heat Balance – Case I	Rev. 2, 3/13/95
F-010	Expanded Permit Application Heat Balance – Case II	Rev 2, 3/13/95
F-011	Water Balance Case I	Rev 2, 7/22/96
F-012	Water Balance Case II	Rev 2, 7/22/96
F-013	Process Flow Diagram Mass Balance (Sheet 1 of 2)	Rev 1, 8/5/95
F-013	Process Flow Diagram Mass Balance (Sheet 2 of 2)	Rev 1, 8/5/95
G-0 (B Pugmill)	Metals Improvement Project Cover Sheet	Rev. 0, 12/17/18
G-1	Storm Water Capture/Retention System Site Plan	Rev 0, 7/31/97
G-2	Storm Water Capture/Retention System Plans & Sections	Rev 0, 7/31/97
G-3	Storm Water Capture/Retention System Details	Rev 0, 7/31/97
G-4	Site Access Road - Location Plan, Abbreviations, General Notes & Legends	10/11/88
GA-1 (B pugmill)	Metals Improvement Project General Arrangement	Rev 4. 12/17/18
GA-2 (B pugmill)	Metals Improvement Project Enlarged Plan 1 @ 610-CV Head	Rev. 4, 12/17/18
M-1	Storm Water Capture/Retention System Pump Structure No. 1 Area Plan – Mechanical	Rev 0, 7/31/97
M-2	Storm Water Capture/Retention System Pump Structure No. 1 Area Sections – Mechanical	Rev 0, 7/31/97
M-3	Storm Water Capture/Retention System Pump Structure No. 2 Area Plan – Mechanical	Rev 0, 7/31/97
M-4	Storm Water Capture/Retention System Pump Structure No. 2 Area Sections and Detail – Mechanical	Rev 0, 7/31/97
M-5	Storm Water Capture/Retention System Manhole Sections and Details – Mechanical	Rev 0, 7/31/97
M210	General Arrangement Plan El 811-1"	Rev 7, 12/5/16
M211	General Arrangement Section C-C	Rev 13, 4/10/17
PM-1 (B Pugmill)	Metals Improvement Project Section "A-A" and "D-D"	Rev. 3, 12/17/18

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Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
PM-2 (B Pugmill)	Metals Improvement Project Section "B-B" & "C-C"	Rev 0, 12/17/18
PM-3 (B Pugmill)	Metals Improvement Project Section "E-E"	Rev. 3, 12/17/18
PM-4 (B Pugmill)	Metals Improvement Project Section "F-F" & Enlarged Plan 2	Rev. 2, 12/17/18
S-1	Site Access Road – Conrail Bridge over Access Road – Plan, Longitudinal Section and Structural General Notes	Rev. 1, 10/28/88
S-1, DPCC Project	Project - Fuel Storage Area Roof Framing Plan, Sections & Details	Rev 3, 3/20/98
S1	Notes, Anchor Bolts & Drawing List [Pugmill A & B fly ash silo access platforms]	Rev. 1, 6/25/19
S2	Pugmill Part Plans at el29'-2" and 53'-3" [Pugmill A & B fly ash silo access platforms]	Rev. 1, 6/25/19
S3	Pugmill Sections & Details [Pugmill A & B fly ash silo access platforms]	Rev. 1, 6/25/19
S4 (A Pugmill)	Pug Mill Sections and Details	Rev D, 1/31/19
S5 (A Pugmill)	HTK 350 – Fly Ash Conditioning System	Rev D, 1/31/19
S6 (A Pugmill)	14" Dia Knife Gate	Rev. D, 1/31/19
S7 (A Pugmill)	Pugmill Erection Drawing	Rev D, 1/30/19
S8 (A Pugmill)	Pugmill Shop Drawings	Rev D, 1/30/19
S9 (A Pugmill)	Pugmill Shop Drawings	Rev. C, 1/30/19
S10 (A Pugmill)	Duct Opening Steel Shop Drawing	Rev. D, 1/31/19
S11 (A Pugmill)	Chute 1 & 2 Shop Drawings	Rev. D, 1/31/19
SK-100494	Plot Plan Ammonia Storage Tank	Rev 0, 10/4/94
W1016R	Fly Ash Immobilization Flow	Rev 4, 4/28/05
90237-00	Standard Legend	Rev 1, 1/13/95
90237-01	Thermal DeNO$_X$ System P & ID (Sheet 1 of 2)	Rev 6, 1/24/95

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Table 3.1-1 -- Continued

Current CAREDA Drawings of Record

Drawing Number	Drawing Title	Rev. No./Date
90237-01	Thermal DeNO$_X$ System P & ID (Sheet 2 of 2)	Rev 6, 1/13/95
90237-02	Thermal DeNO$_X$ System Piping – Boiler Area (Sheet 1 of 2)	Rev 2, 1/13/95
90237-02	Thermal DeNO$_X$ System Piping – Boiler Area (Sheet 2 of 2)	Rev 2, 1/13/95
90237-03	Thermal DeNO$_X$ System Ammonia Tank	Rev 2, 1/13/95
90237-04	Thermal DeNO$_X$ System Ammonia Tank (Pumps) Piping Details (Sheet 1 of 2)	Rev 4, 1/13/95
90237-04	Thermal DeNO$_X$ System Ammonia Tank (Pumps) Piping Details (Sheet 2 of 2)	Rev 4, 1/13/95
90237-05	Thermal DeNO$_X$ System Pumps	Rev 1, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid General Arrangement for Boiler 2 & 3 (Sheet 1 of 6)	Rev 4, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid General Arrangement (Sheet 2 of 6)	Rev 4, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid Support for Boiler 2 & 3 (Sheet 3 of 6)	Rev 4, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid General Arrangement for Boiler 1 (Sheet 4 of 6)	Rev 4, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid Support for Boiler 1 (Sheet 5 of 6)	Rev 4, 1/13/95
90237-06	Thermal DeNO$_X$ System Ammonia Control Skid General Arrangement for Boiler 1 (Sheet 6 of 6)	Rev 4, 1/13/95
90237-07	Thermal DeNO$_X$ System Plot Plan	Rev 1, 1/13/95
90237-08	Thermal DeNO$_X$ System Headers	Rev 2, 1/13/95
90237-09	Thermal DeNO$_X$ System Injector Assembly	Rev 3, 1/13/95
90237-10	Thermal DeNO$_X$ System Flex Hose Assembly	Rev 3, 1/13/95
90237-11	Thermal DeNO$_X$ System Vaporizers	Rev 1, 1/13/95
90237-101	Ammonia Storage System Power and Instrument Wiring Diagram	Rev 4, 1/13/95
90237-102	Thermal DeNO$_X$ System Field Wiring Diagram	Rev 2, 1/24/95
674001	P&ID Combustion Air Blower #1, Covanta Operation Engineering	No Rev #, No Date
1214011-F	Metals Recovery Project Process Flow Diagram	Rev 0, 7/2/12

3.2 Previously Approved Changes to the Facility Design

Design changes that were made after the current Solid Waste Facility Permit issuance date of February 23, 2016 (Essex County Resource Recovery Facility, NJDEP Solid Waste Facility Permit, ID No. 133546, Permit #RRF190001) that were approved during the current permit term are summarized below. Also summarized below is one (1) design change (the fabric filter baghouse upgrade project) that was approved prior to issuance of the current permit, but was not fully implemented until after the current permit issuance date. In accordance with the NJDEP Guidelines, summary information includes: the date of request; description, reason and environmental impact of the change; NJDEP Findings (Major or Minor); date of NJDEP approval of the proposed changes; and date of implementation of the change.

3.2.1 Fabric Filter Baghouse Upgrade Project

Date of the Request

On October 3, 2013, Covanta Essex submitted an application to NJDEP, Division of Solid and Hazardous Waste, Bureau of Solid Waste Permitting to obtain approval to replace the ECRRF's electrostatic precipitators (ESPs) with fabric filter baghouses on all three (3) combustion trains.

Description of and Reason for Change

Covanta Energy entered into an agreement with NJDEP, Division of Air Quality in April 2012 to replace the three existing ESPs with new fabric filter baghouses in order to reduce particulate matter and hazardous air pollutant (HAP) metal emissions.

The MSW combustors are subject to existing New Source Performance Standards (NSPS) and New Jersey Administrative Code (N.J.A.C.) regulations which impose emission limitations, work practice requirements, and emission testing conditions. The fabric filter upgrade project was a minor modification to the ECRRF's Title V Air Operating Permit pursuant to N.J.A.C. 7:27-22.23.

The Facility's previous ESPs on each of the three (3) combustion trains were replaced with pulse-jet fabric filter baghouses. Each baghouse consists of 10 compartments, each containing 304 Poly Phenylene Sulfide (PPS) (generic 'Ryton') bags with a Polytetrafluoroethylene (PTFE) (generic 'Gortex') laminate coating. PPS felt bags are more robust than traditionally used fiberglass bags and are a more effective filtration media. The PTFE laminate provides improved filtration for all particle sizes and facilitates cleaning of the filter bags.

A second advanced filtration feature of the baghouse design is the use of side inlet manifolds to introduce the combustion gas into the baghouse compartments. The dust laden gas enters the baghouse modules through a side inlet manifold, slows down, changes direction, and passes through the filter bags from the outside to the inside of the bag. Inlet of the gas stream at the side of the modules, rather beneath the bags, provides for better distribution of the flue gas and reagent along the entire length of the filter bags, thus providing more effective utilization of the bag filter area. This results in a more uniform filter cake which promotes more effective abatement of emissions. The mechanics of turning and slowing the gas results in some of the dust falling directly into the hopper with less potential for re-entrainment. The remainder is deposited on the outside of the filter bags.

Advanced pulse-jet baghouse cleaning technology is also part of the new baghouse design. To keep system draft pressure drop at an acceptable level, the filter bags are periodically cleaned of some of the collected material. The baghouse cleans the bags using a high volume, medium pressure pulse of compressed air directed into the clean interior of the bags from their top ends, which are open. The compressed air

pulse, opposite to the direction of gas flow, expands the bag which causes some of the collected filter cake on the outside of the bag to fall into the hopper below. The high volume, medium pressure pulse provides uniform cleaning of the bags along their entire length. Each baghouse module remains on line during the cleaning cycle. All operations associated with fabric filter cleaning are controlled automatically or manually through the DCS. On-line cleaning provides a more stable ID fan operation and subsequent stable combustion than cleaning by removing entire modules from service for cleaning (off-line cleaning). It also provides for a more consistent filter cake and thus improved filtration.

The ID fans for each combustion train were increased in size and capacity and some structural reinforcing to the existing municipal waste combustion trains including ductwork was completed, as well.

Environmental Impact of the Change

The ECRRF is required to meet new or lower (more restrictive) emission standards for particlulate matter, PM10, PM2.5, lead, cadmium, mercury, arsenic, beryllium, chromium and nickel.

Solid and Hazardous Waste Management Program's Finding

On October 3, 2013, the minor modification request was approved. The Bureau of Solid Waste indicated that if the Air Division approved the project that no action by the Bureau of Solid Waste was necessary at the time, but the Facility would be required to submit the affected Operations & Maintenance Manual chapters and affected facility drawings for review and approval.

Date of Program's Approval

As indicated above, the minor modification request was approved on October 3, 2013. On May 18, 2017, NJDEP, Division of Solid and Hazardous Waste, Bureau of

Solid Waste Permitting modified the ECRRF's Solid Waste Facility Permit to acknowledge the receipt and approval of the O&M Manual changes and as-built drawings reflecting the previously approved baghouse installation project.

Date of Design Change Implementation

The baghouse installations were completed between November 2015 and November 2016.

3.2.2 Removal of the Phosphoric Acid Fly Ash Treatment

Date of the Request

On September 20, 2017, Covanta Essex submitted an application to NJDEP, Division of Solid and Hazardous Waste, Bureau of Solid Waste Permitting to obtain approval to discontinue the use of phosphoric acid for flyash conditioning.

Description of and Reason for Change

At the time the ECRRF was constructed (construction commenced 1986), there was limited process knowledge regarding ash residue characterization and a very limited database of Toxicity Characteristic Leaching Procedure (TCLP) results for combined ash residue. Therefore, the utilization of phosphoric acid an ash conditioner was included in the ECRRF's process. The phosphoric acid was stored in a 6,000-gallon aboveground storage tank and was pumped to the pugmill system where it was added to the Facility's fly ash. The conditioned fly ash and the bottom ash were combined further downstream and the combined ash residue stored in a storage bunker in the Ash Residue Storage Building prior to transport to a licensed landfill for disposal.

Over the last three decades, waste-to-energy facilities have conducted regular and in some cases numerous and extensive characterizations of the combined ash residue

including regular TCLP testing. Therefore, Covanta Energy has a large database of TCLP results for many of its facilities that do not use phosphoric acid as an ash conditioner. Based on this database and accumulated process knowledge, Covanta Essex determined that the used of phosphoric acid to condition the fly ash at the ECRRF was unnecessary. Therefore, Covanta Essex submitted the application dated September 20, 2017 to obtain approval to discontinue use of phosphoric acid.

Once NJDEP approval was obtained, as described below, the ECRRF discontinued use of phosphoric acid. The 6,000-gallon storage tank was emptied. The tank was left in place, but rendered out of service as defined under N.J.A.C. 7:1E-1.6 .

Environmental Impact of the Change

Discontinuing the use of phosphoric acid eliminates a health and safety hazard from the facility since phosphoric acid is no longer required to be handled and stored at the ECRRF, thereby eliminating the potential for leaks and spills or other accidents involving phosphoric acid. As discussed in the following paragraph and Section 6.3.11 below, subsequent to the removal of the phosphoric acid fly ash treatment, the toxicity chrarcteristic leaching procedure (TCLP) results for the Facility's combined ash residue continue to demonstrate the non-hazardous characterization of the ash residue.

Solid and Hazardous Waste Management Program's Finding

Prior to approval of the permanent discontinuation of use of the phosphoric acid for fly ash treatment, NJDEP required Covanta Essex to provide the Department three (3) months of TCLP ash test results demonstrating the non-hazardous determination of the ash residue without the phosphoric acid fly ash treatment. The use of the phosphoric acid to treat the fly ash was discontinued in December of 2017. On 3/22/18, a minor modification of the Facility's Solid Waste Facility Permit was approved acknowledging the permanent removal of the phosphoric acid fly ash treatment and associated O&M Manual changes.

Date of Program's Approval

As indicated above, a minor modification of the ECRRF's Solid Waste Facility Permit was approved on March 22, 2018 acknowledging the permanent removal of the phosphoric acid fly ash treatment and associated O&M Manual changes.

Date of Design Change Implementation

The temporary cessation of phosphoric acid to treat the fly ash was approved by NJDEP in December of 2017 in order for Covanta Essex to test the ash residue for three (3) months without phosphoric acid treatment of the fly ash demonstrating that the ash residue was non-hazardous (using the TCLP results). On 3/22/18, a minor modification of the Facility's Solid Waste Facility Permit was approved acknowledging the permanent cessation of phosphoric acid fly ash treatment and associated O&M Manual changes.

3.2.3 Modifications to the Pugmill System for Fly Ash Treatment

Date of the Request

On June 28, 2018, Covanta Essex Company submitted an application to NJDEP, Division of Solid and Hazardous Waste, Bureau of Solid Waste Permitting to obtain approval to make modifications to the Facility's pugmill system for fly ash treatment.

Description of and Reason for Proposed Change

The pugmill system for flyash storage included a replacement of the "B" side pug mill mixer and re-location of the "B" side pug mill mixer to a new location in the Metal Recovery area. In the pug mill's new location, a service platform was installed to allow better access for maintenance and service of the process equipment.

Two of the existing conveyors for transferring the flyash from the B storage silo to the "B" side pug mill mixer have been replaced with two new enclosed screw conveyors that will minimize dusting in the area making it a cleaner operation. In addition, the "A" side pug mill mixer was replaced with the same type of mixer that was installed on the "B" side. The new mixer for the "A" side was installed in the same location as the existing mixer.

The reasons for the pugmill system modifications were to improve metal recovery system performance, reliability and serviceability.

Environmental Impact of the Change

The modifications to the pugmill system for fly ash storage and treatment described above do not change any of the environmental impacts previously evaluated in the Facility's Environmental Impact Study (EIS). The system modifications do not involve the increased consumption or addition of any hazardous materials, generate any additional wastes, wastewater, or emissions, or result in an increase in water consumption. The system has enabled the ECRRF to increase the quality of metals recovered for subsequent recycling.

Solid and Hazardous Waste Management Program's Finding

On 7/2/19 a minor modification of the Facility's Solid Waste Facility Permit was issued to reflect the modifications to the pugmill system, associated O&M Manual changes and as-built drawings.

Date of Program's Approval

As indicated above, on 7/2/19 a minor modification of the Facility's Solid Waste Facility Permit was issued to reflect the modifications to the pugmill system, associated O&M Manual changes and as-built drawings.

Date of Design Change Implementation

The B pugmill mixer modification was implemented as of 6/28/18 and the A pugmill mixer modification was implemented on 12/22/18.

3.2.4 Modifications to the Metals Recovery System

Date of the Request

On August 15, 2018, Patricia Earls, New Jersey Environmental Manager, requested approval on behalf of Covanta Essex Company via e-mail to Tom Byrne and Kimberly Beccia of NJDEP's Bureau of Solid Waste Permitting, Division of Solid and Hazardous Waste to modify the ECRRF's metals recovery system.

Description of and Reason for Proposed Change

Modifications were made to the metals recovery system including the installation of a new vibrating screen and MSB conveyor.

The existing vibrating screen (NF-230-SC) was replaced with a new, more robust design from the same manufacturer (Joest). The operation and function of the new screen is the same as the original vibrating screen. The structural steel surrounding the vibrating screen was reinforced with gusset plates under each of the supporting legs.

The existing vibrating pan feeder (NF-400-FD) which feeds the second Eddy Current Separator (ECS) NF-410-ECS was replaced with an MSB (belt conveyor with a magnetic head pulley). Prior to installation of the MSB, magnetic material that is now removed by the MSB remained in the ash residue entering the eddy current separator. This magnetic material is now removed by the MSB prior to the ash residue crossing the ECS resulting in improved performance of the ECS.

These changes were made to the metals recovery system to improve metal recovery system performance, reliability and serviceability. The new vibrating screen is a more robust design and the removal of magnetic material by MSB conveyor prior to ash going to ECS improves performance of ECS.

Environmental Impact of the Change

The modifications to the metals recovery system described above do not change any of the environmental impacts previously evaluated in the Facility's Environmental Impact Study (EIS). The system modifications do not involve the increased consumption or addition of any hazardous materials, generate any additional wastes, wastewater, or emissions, or result in an increase in water consumption.

Solid and Hazardous Waste Management Program's Finding

On September 4, 2018, Kimberly Beccia, Environmental Engineer, Bureau of Solid Waste Permitting, NJDEP, approved the requested modification via email as a replacement in-kind. On 9/10/19, the as-built drawings and O&M Manual changes to reflect the modifications to the metals recovery system including the installation of a new vibrating screen and MSB conveyor were incorporated into the ECRRF Solid Waste Facility Permit as a minor technical review.

Date of Program's Approval

As indicated above, on September 4, 2018, Kimberly Beccia, Environmental Engineer, Bureau of Solid Waste Permitting, NJDEP, approved the requested modification via email as a replacement in-kind. Subsequently, on 9/10/19, the as-built drawings and O&M Manual changes to reflect the modifications to the metals recovery system including the installation of a new vibrating screen and MSB conveyor were incorporated into the ECRRF Solid Waste Facility Permit as a minor technical review.

Date of Design Change Implementation

The implementation of the metals system recovery project was December 11, 2018.

3.2.5 Expansion of the Tipping Floor Office

Date of the Request

On 11/1/18, Patricia Earls, New Jersey Environmental Manager, requested approval on behalf of Covanta Essex Company via email to expand the Tipping Floor Office.

Description of and Reason for Proposed Change

The Tipping Floor Office located at ground level on the North end of the Tipping Floor provides the Tipping Floor Attendant a sheltered area on the Tipping Floor to observe tipping floor operations, complete paperwork and store supplies. The Tipping Floor Office space was increased by extending the office space 10 feet out beyond the original location of the front wall prior to the expansion.

The Tipping Floor Office expansion project was completed in order to provide the Tipping Floor Attendant an increased view of floor traffic via both better line-of-site and access to the tipping floor camera system. This provides the attendant increased opportunity to conduct work tasks in a sheltered environment out of the line of fire from objects and trucks creating a safer work environment for the employee.

Environmental Impact of the Change

The expansion of the Tipping Floor office does not change any of the environmental impacts previously evaluated in the Facility's Environmental Impact Study (EIS). This office expansion does not involve the increased consumption or addition of any

hazardous materials, generate any additional wastes, wastewater, or emissions, or result in an increase in water consumption.

Solid and Hazardous Waste Management Program's Finding

The Tipping Floor Office expansion project was approved to proceed by an email from NJDEP dated November 15, 2018.

Date of Program's Approval

As indicated above, the Tipping Floor Office expansion project was approved to proceed by an email from NJDEP dated November 15, 2018. Subsequently, on October 21, 2019, the as-built drawings for the Tipping floor office expansion were incorporated into the ECRRF Solid Waste Facility Permit as a minor technical review.

Date of Design Change Implementation

The Tipping Floor Office Expansion project was completed on 1/7/19.

3.2.6 Installation of Access Platform for Pugmill Fly Ash Silos

Date of the Request

On 4/15/19, Covanta Essex requested approval from NJDEP via email to replace the temporary scaffold platform with a permanent access platform for the pugmill fly ash silos.

Description of and Reason for Proposed Change

A platform was installed underneath the A and B pugmill flyash silos that provides access to the slide gates at the bottom of the silos to allow for inspections and maintenance. This access platform replaced a temporary scaffold platform.

The reason for the replacement of the temporary scaffold platform with the access platform was to provide permanent and safe access to the slide gates at the bottom of the silos for regular inspections and maintenance.

Environmental Impact of the Change

The installation of the access platform does not change any of the environmental impacts previously evaluated in the Facility's Environmental Impact Study (EIS). This installation of the access platform does not involve the increased consumption or addition of any hazardous materials, generate any additional wastes, wastewater, or emissions, or result in an increase in water consumption.

Solid and Hazardous Waste Management Program's Finding

Installation of the access platform for the pugmill fly ash silos was approved by NJDEP via email on May 1, 2019.

Date of Program's Approval

Approval was received from NJDEP via email on May 1, 2019. Subsequently, on October 21, 2019, the as-built drawings for the installation of the platform were incorporated into the ECRRF Solid Waste Facility Permit as a minor technical review.

Date of Design Change Implementation

The design change was implemented on May 15, 2019.

3.3 Design Changes Made After the Current Permit Issuance Date, that Have Not Been Approved by the Program

There were no significant changes to the Permit-approved design that have not been previously approved by the Program that were implemented during the current permit term.

3.4 Design Changes Being Proposed as Part of Permit Renewal Application

Covanta Essex Company is not proposing any design changes to the ECRRF as part of this Solid Waste Facility Permit Renewal Application.

4.0 UPDATED OPERATIONS AND MAINTENANCE MANUAL

4.1 Approved Operations and Maintenance Manual

A copy of the approved Operations and Maintenance Manual for the ECRRF is on file with the NJDEP, Solid and Hazardous Waste Management Program. The O&M Manual on-file with NJDEP includes updated sections provided during the current permit term to reflect the previously approved design changes discussed in Section 3.2 above and includes the following submittals:

- September 20, 2017 submittal of revised O&M Manual Volume II, SD-21 and Volume IV, OP-21 approved in permit modification on 3/22/18 acknowledging the removal of the phosphoric acid fly ash treatment and the associated O&M changes.

- April 8, 2019 submittal of the revised Sections of the O&M Manual Volume II, SD-21 and Volume IV, OP-21 for the pugmill system modifications approved in the 7/2/19 permit modification to reflect changes to the pugmill system and associated O&M changes.

- December 11, 2018 submittal of revised O&M Manual Volume II, SD-22 and Volume IV, OP-22 approved in the 9/10/19 permit modification that approved the modifications to the metals recovery system and associated O&M changes.

4.2 Proposed Changes to the Operations and Maintenance Manual

As indicated above, the updated O&M Manual Sections reflecting the physical modifications and design changes that were implemented during the current permit term were previously submitted to and approved by NJDEP and are currently on file at NJDEP, Division of Solid and Hazardous Waste.

Section API-9 of Volume IX of the O&M Manual has been revised to update the facility security system description to better describe the current system in place. The revised section of the O&M Manual is provided in Appendix B of this application.

Section API-11 of Volume IX of the O&M Manual has been revised for this Solid Waste Facility Permit Renewal Application, as necessary to incorporate the current requirements under the NJPDES Stormwater Discharge Permit, NJPDES Permit#: NJ0055247 that was issued on December 12, 2019 and effective February 1, 2020, to make the information in the document current and to incorporate administrative changes including current personnel, contact information and permit numbers. The revised section of the O&M Manual is provided in Appendix B of this application.

5.0 DISCLOSURE STATEMENT

Covanta Essex Company holds a current, valid A-901 license from the State of New Jersey to operate a resource recovery facility. Covanta Essex Company (formerly American Ref-Fuel Company of Essex County) received notice on January 7, 1991 from the State of New Jersey that it was in compliance with the A-901 licensing requirements. Covanta files the required Annual Updates every year by November 1st. These updated documents are on-file with the State. An amendment to the Disclosure Statement is not required at this time in accordance with N.J.A.C. 7:26-16.6, because the information contained in the most recent Annual Update filing is current. In addition, Covanta Essex holds a Certificate of Public Convenience and Necessity (CPCN #SW8517).

Furthermore, an overview of the Notices of Violation/Enforcement Actions received for all permits during the entire operational period under review, January 2015 through September 2020, for this SWF Permit renewal is included in Appendix C.

6.0 CHANGES IN ENVIRONMENTAL IMPACTS FROM FACILITY OPERATIONS

There were no major permit modifications issued or implemented during the current permit term. Therefore, the following sections provide a comparison of operational data collected during the current permit term (January 2015 through September 2020[7]) with the projections of the Facility impacts that were contained in the ECRRF's Environmental Impact Statement (EIS), the applicable regulatory limit, the most recent environmental impact assessment, where applicable (i.e., where an updated projection or analysis was performed after the original EIS in a subsequent permit renewal or permit modification application) and/or with data collected during the previous permit renewal review period.

Based on a comparison of the operational data provided below, Covanta Essex Company certifies that there have been no significant changes in the operation of the Essex County Resource Recovery Facility.

6.1 SOLID WASTE PLANNING

6.1.1. Population of Service Area

The Essex County Resource Recovery Facility receives and processes waste primarily from Essex County and New York, with relatively smaller amounts of waste received from surrounding counties, some other states and of international origin (see tables 6.1-4 through 6.1-10, which are discussed in Section 6.1.3 below). Population data is provided for Essex County in order to view population trends in the primary service area for solid waste planning purposes. Since the Essex County Resource Recovery Facility is part of a network of solid waste collection, transfer, storage and waste disposal entities comprising the Essex

[7] Data is included for five (5) full calendar years (2015 – 2019), since the Essex Facility's annual throughput limit for waste receipt is based on a calendar year. Therefore, waste delivery data and other operating data provided is consistent with these five (5) calendar year periods. In addition, data is provided for January 2020 through September 2020 since the application is being submitted in November of 2020.

County Solid Waste Management Plan, future solid waste planning must consider the role of the Facility within a dynamic, multi-facility system.

The total estimated population of Essex County for 2019 is 798,975[8]. The total population of Essex County from the respective census data in 1980, 1990, 2000 and 2010 was 851,304, 778,206, 793,633 and 783,969, respectively (Source: U.S. Census Bureau, State & County QuickFacts). The US Census Bureau estimates that Essex County's population increased 1.9% from 2010 through 2019 based on the April 1, 2010 base estimate and the July 1, 2019 base estimate[9] (2020 estimates were not yet available on the US Census Bureau's Website). The US Census Bureau estimated the population of Essex County to be 797,434 in 2015[10]. The population of Essex County increased incrementally (0.2%) over the current review period from 2015-2019 (based on data available at the time of writing).

In summary, the population of the primary service area of the Essex County Resource Recovery Facility has not increased appreciably either during the current review period (0.2% increase from 2015 -2019) or from 2010 through 2019 (1.9% increase). These population trends are relevant for future solid waste planning in Essex County. The amount of waste received and processed at the facility is limited by the short-term limits (4-hour block average steam flow limit) and the relatively longer-term limit (annual throughput limit), regardless of population trends and waste generation rates in the service area.

6.1.2 Service Area Recycling Rates

Tables 6.1-1, 6.1-2 and 6.1-3 present Essex county recycling rates for 2015, 2016 and 2017, respectively, as published by NJDEP Bureau of Recycling and Planning[11]. Data is not yet available for 2018 and 2019. Essex County recycled

[8] https://www.census.gov/quickfacts/fact/table/essexcountynewjersey/PST045219
[9] https://www.census.gov/quickfacts/fact/table/essexcountynewjersey/PST045219
[10] https://data.census.gov/cedsci/all?q=Population%20of%20Essex%20County,%20New%20Jersey%20in%202015
[11] https://www.nj.gov/dep/dshw/recycling/stats.htm

37%, 34% and 29% of MSW generated during 2015, 2016 and 2017, respectively, compared to a New Jersey statewide recycling rate of 42% of the MSW generated for the 2015-2017 period (average rate for the three (3) years). Essex County recycled 58%, 52% and 51% of total waste stream in 2015, 2016 and 2017, respectively, compared to a statewide rate of 61% of the total waste generated during the 2015-2017 period (average rate for the three (3) years).

The ECRRF contributes to the County's, and thus the State's recycling rates by recovering and average of 21,633 TPY of ferrous metals (average for 2015-2019 period) and an average of 3,455 TPY of non-ferrous metals (average for 2015-2019 period) from the ash residue for recycling, conducting regular screening of incoming waste delivery vehicles to ensure that significant quantities of recyclables are not being delivered to the Facility (upon identification of designated recyclable material in excess of the threshold specified in the District Recycling Plan, the material is rejected and the District Recycling Coordinator is notified in writing) and conducting on-site collection of recyclables generated by the Facility including paper, glass bottles, plastic bottles and aluminum cans for subsequent recycling. The Facility also separates the following internally-generated wastes for storage and subsequent recycling pursuant to State and Federal Universal Waste Regulations: spent mercury-containing lamps, lead-acid batteries and electronic waste (E-waste).

New Jersey's statewide goal of 50% of the municipal solid waste generated and 60% of the total waste stream remains in effect.

6.1.3 Solid Waste Sources

Data on tons of waste delivered to the Essex County Resource Recovery Facility (ECRRF) by county of origin was compiled from the NJDEP Solid Waste Facility Monthly Disposal and Materials Recovery Reports for the ECRRF (prepared

monthly by the ECRRF and submitted to NJDEP) for the period of January 2015 through September 2020.[12]

The majority of waste processed at the ECRRF during the 2015 – 2019 review period was generated in Essex County (37.1%) and New York City (47.2%). Waste delivery data by County of Origin for the 2015-2019 review period is summarized in Table 6.1-11. Relatively smaller quantities of waste processed originated in other New Jersey Counties (7.4%) and from international sources (1.8%)[13]. In addition, 6.8% of the waste delivered to the ECRRF during this review period was delivered from transfer stations and material recovery facilities located in New Jersey Counties (Bergen, Essex, Middlesex, Passaic and Somerset), New York City and Connecticut (only on two (2) occasions during the review period). This waste stream is reported as a separate category designated "Transfer Stations" in Tables 6.1-4 through 6.1-10. This Transfer Station category in the County of Origin Tables provided herein includes waste that comes to the ECRRF from "Facilities classified as transfer stations and/or materials recovery facilities (TS/MRF) that are incapable of accurately reporting flow of each waste type by county and municipality of origin to the final destination facility…"[14]

Consistent with the current review period (2015-2019), the majority of waste processed at the ECRRF during the previous permit renewal review period (2006-2010) was generated in Essex County (40.8%) and New York City (53.1%). Relatively smaller quantities of waste processed at the ECRRF during the previous review period (2006-2010) originated in other New Jersey Counties (5.6%), some other states (0.1%) and were of international origin (0.4%).

[12] Data is included for five (5) full calendar years (2015 – 2019), since the Essex Facility's annual throughput limit for waste receipt is based on a calendar year. Therefore, waste delivery data and other operating data provided is consistent with these five (5) calendar year periods. In addition, data is provided for January 2020 through September 2020 since the application is being submitted in November of 2020.

[13] The USDA operates special facilities for the inspection of international imports of seeds, plants, animals and animal products arriving at international airports and shipping ports. APHIS waste is handled as part of the facility's Special Waste Program for waste that the USDA has determined requires assured destruction.

[14] New Jersey Department of Environmental Protection, Division of Hazardous and Solid Waste, Solid Waste Facility Monthly Disposal and Materials Recovery Report, Note at top of County of Origin Table(s), Part 2a.

Also consistent with the 2015-2019 data, the majority of waste received at the ECRRF during the period of January 2020 through September of 2020 (see Table 6.1-10) was generated in Essex County (38.3%) and New York City (41.8%) with smaller quantities originating in other New Jersey Counties (10.1%) and from international sources (0.8%). 9.0% of the waste delivered to the ECRRF during the period of January 2020 – September 2020 was delivered from transfer stations located in Bergen, Essex, Hudson and Passaic Counties.

Table 6.1-4, Table 6.1-5, Table 6.1-6, Table 6.1-7 and Table 6.1-8 summarize waste delivered by county or state of origin for each month during 2015, 2016, 2017, 2018 and 2019, respectively. Table 6.1-9 provides waste delivery data by county or state of origin for the January 2020 – September 2020 period. Table 6.1-10 summarizes waste delivered annually by county or state of origin for the 2015-2019 review period, as well as providing 5-year totals and area of origin as percentage of the total for the 5-year period.

Solid waste received annually by the ECRRF according to NJDEP waste types is summarized in Table 6.1-11 for the period from 2015 through 2019, and is discussed in Section 6.1.6 below. Tables 7.0-8 through 7.0-13 provide waste delivered by type for each month in 2015, 2016, 2017, 2018, 2019 and January – September 2020, respectively.

Table 6.1-1
2015 Recycling Rates by County in New Jersey

2015 GENERATION, DISPOSAL AND RECYCLING RATES IN NEW JERSEY (Tons)									
COUNTY	POPULATION	GENERATION	DISPOSAL			RECYCLING			
		Disposal and Recycling					MSW %	Total Recycled w/Add-ons	Total % Recycled
	2011		MSW	Non-MSW	TOTAL	MSW			
Atlantic	274,549	856,803	201,715.26	91,452.34	293,167.60	147,896.04	42%	563,635.84	66%
Bergen	905,116	2,120,107	601,387.82	322,730.34	924,118.16	541,521.40	47%	1,195,988.54	56%
Burlington	448,734	1,027,123	288,431.13	121,278.22	409,709.35	255,934.58	47%	617,413.53	60%
Camden	513,657	1,301,709	366,968.36	244,669.98	611,638.34	234,829.74	39%	690,070.43	53%
Cape May	97,265	427,051	87,640.27	87,008.93	174,649.20	78,042.97	47%	252,401.47	59%
Cumberland	156,898	438,985	95,705.51	68,733.61	164,439.12	138,020.33	59%	274,546.36	63%
Essex	783,969	1,550,683	412,443.75	240,567.52	653,011.27	241,279.84	37%	897,671.46	58%
Gloucester	288,288	830,557	188,560.69	153,801.87	342,362.56	235,470.04	56%	488,194.06	59%
Hudson	634,266	1,293,229	377,136.44	142,807.72	519,944.16	209,049.57	36%	773,285.03	60%
Hunterdon	128,349	292,478	71,343.84	35,316.63	106,660.47	59,083.13	45%	185,817.93	64%
Mercer	366,513	851,386	234,342.07	117,285.32	351,627.39	196,992.75	46%	499,759.10	59%
Middlesex	809,858	4,096,685	534,183.03	231,785.81	765,968.84	440,335.10	45%	3,330,715.83	81%
Monmouth	630,380	1,618,882	405,500.71	245,520.87	651,021.58	343,734.78	46%	967,860.50	60%
Morris	492,276	1,173,413	278,521.68	118,120.61	396,642.29	292,194.66	51%	776,770.57	66%
Ocean	576,567	1,399,791	387,930.85	225,167.84	613,098.69	248,368.95	39%	786,692.06	56%
Passaic	501,226	1,376,340	469,836.65	225,318.32	695,154.97	213,967.93	31%	681,185.27	49%
Salem	66,083	196,628	36,135.59	78,394.61	114,530.20	36,065.06	50%	82,097.46	42%
Somerset	323,444	1,039,260	250,589.60	137,149.97	387,739.57	112,754.72	31%	651,520.56	63%
Sussex	149,265	272,294	71,457.58	27,093.55	98,551.13	48,609.65	40%	173,743.16	64%
Union	536,499	1,477,747	351,738.26	211,131.66	562,869.92	210,218.31	37%	914,876.61	62%
Warren	108,692	181,535	54,726.39	25,728.70	80,455.09	29,220.20	35%	101,080.32	56%
TOTAL	8,791,894	23,822,686	5,766,295	3,151,064	8,917,360	4,313,590	43%	14,905,326	63%

MSW recycled includes all paper and beverage containers, anti-freeze, lead acid (auto) batteries, tires, motor oil, brush, grass, leaves, consumer electronics, food waste, dry cell batteries, other glass, other plastic and textiles when they are generated by a non-industrial generator. 10% of total metal has been included as non-industrial. Street sweepings are no longer counted as a recyclable due to their management as a BUD. (NJAC 7:26A-1.3)

NOTES: Totals subject to rounding.

Last Updated on 12/12/2017 By CLoftus & MDreisbach

Source: https://www.nj.gov/dep/dshw/recycling/stat_links/2015disposalrates.pdf

Table 6.1-2
2016 Recycling Rates by County in New Jersey

2016 GENERATION, DISPOSAL AND RECYCLING RATES IN NEW JERSEY (Tons)									
COUNTY	POPULATION	GENERATION	DISPOSAL			RECYCLING			
		Disposal and Recycling					MSW %	Total Recycled w/Add-ons	Total % Recycled
	2015 Estimate		MSW	Non-MSW	TOTAL	MSW			
Atlantic	274,026	799,059	202,841.84	104,886.88	307,728.72	165,087.13	45%	491,330.30	61%
Bergen	930,310	2,080,589	547,655.88	310,222.48	857,878.37	581,846.80	52%	1,222,710.35	59%
Burlington	450,236	1,065,834	279,801.49	118,245.51	398,047.00	226,192.56	45%	667,787.13	63%
Camden	511,145	1,222,343	352,260.83	269,477.25	621,738.08	218,909.47	38%	600,604.91	49%
Cape May	95,404	420,480	94,302.59	88,475.48	182,778.07	77,267.31	45%	237,702.06	57%
Cumberland	155,744	433,650	88,366.75	68,483.87	156,850.62	161,936.90	65%	276,799.37	64%
Essex	792,586	1,693,094	421,613.13	396,998.24	818,611.37	218,906.26	34%	874,482.26	52%
Gloucester	291,286	824,446	171,876.56	136,119.96	307,996.52	235,021.87	58%	516,449.39	63%
Hudson	668,526	1,554,980	371,387.13	140,802.80	512,189.93	196,671.41	35%	1,042,790.46	67%
Hunterdon	125,708	295,199	65,246.87	32,824.47	98,071.34	51,459.70	44%	197,127.92	67%
Mercer	371,101	926,036	217,767.42	108,559.84	326,327.26	222,375.52	51%	599,708.98	65%
Middlesex	831,852	2,554,438	526,831.53	215,532.55	742,364.08	408,273.53	44%	1,812,073.91	71%
Monmouth	627,532	1,590,094	344,346.49	256,943.21	601,289.69	380,582.08	52%	988,804.33	62%
Morris	498,215	1,200,997	257,535.37	107,308.22	364,843.59	290,735.30	53%	836,153.23	70%
Ocean	586,166	1,275,644	363,073.53	208,425.86	571,499.40	241,589.01	40%	704,144.61	55%
Passaic	507,204	1,633,441	414,934.11	279,507.41	694,441.52	194,070.32	32%	938,999.63	57%
Salem	64,504	225,932	32,264.41	44,145.79	76,410.20	26,263.26	45%	149,521.77	66%
Somerset	331,686	794,400	230,717.12	129,128.98	359,846.09	124,910.89	35%	434,554.18	55%
Sussex	144,694	260,051	71,731.51	29,573.52	101,305.03	59,165.25	45%	158,746.38	61%
Union	550,436	1,645,970	338,107.54	232,819.27	570,926.81	158,573.77	32%	1,075,042.84	65%
Warren	107,095	170,020	51,533.84	21,976.25	73,510.09	25,351.59	33%	96,510.15	57%
TOTAL	8,915,456	22,666,698	5,444,196	3,300,458	8,744,654	4,265,190	44%	13,922,044	61%

MSW recycled includes all paper and beverage containers, anti-freeze, lead acid (auto) batteries, tires, motor oil, brush, grass, leaves, consumer electronics, food waste, dry cell batteries, other glass, other plastic and textiles when they are generated by a non-industrial generator. 10% of total metal has been included as non-industrial. Street sweepings are no longer counted as a recyclable due to their management as a BUD. (NJAC 7:26A-1.3)

NOTES: Totals subject to rounding.

Last Updated on 8/13/2018 By CLoftus & MDreisbach Source: https://www.nj.gov/dep/dshw/recycling/stat_links/2016disposalrates.pdf

Table 6.1-3 2017 Recycling Rates by County in New Jersey

2017 GENERATION, DISPOSAL AND RECYCLING RATES IN NEW JERSEY (Tons)									
COUNTY	POPULA-TION	GENERATION	DISPOSAL			RECYCLING			
	2018 Estimate	Disposal and Recycling	MSW	Non-MSW	TOTAL	MSW	MSW %	Total Recycled w/Add-ons	Total % Recycled
Atlantic	265,429	653,098	201,967.73	102,052.95	304,020.68	142,841.86	41%	349,077.25	53%
Bergen	936,692	2,124,494	579,384.13	360,228.10	939,612.23	513,133.60	47%	1,184,881.51	56%
Burlington	445,384	1,052,537	307,324.34	124,275.57	431,599.91	226,058.97	42%	620,937.27	59%
Camden	507,078	1,261,181	327,710.59	271,114.81	598,825.40	195,638.67	37%	662,355.98	53%
Cape May	92,560	526,224	107,664.69	88,980.60	196,645.29	80,545.17	43%	329,578.91	63%
Cumberland	150,972	512,352	95,915.24	76,928.09	172,843.33	135,797.49	59%	339,508.98	66%
Essex	799,767	1,636,703	425,210.63	372,637.25	797,847.88	170,068.86	29%	838,855.37	51%
Gloucester	291,408	844,325	186,204.96	142,251.52	328,456.48	199,302.82	52%	515,868.19	61%
Hudson	676,061	1,330,619	404,222.94	156,409.50	560,632.44	150,705.17	27%	769,986.70	58%
Hunterdon	124,714	270,793	69,562.47	41,962.40	111,524.87	61,075.69	47%	159,268.60	59%
Mercer	369,811	906,277	239,952.68	103,355.10	343,307.78	176,621.38	42%	562,969.44	62%
Middlesex	829,685	2,937,187	555,361.80	239,687.21	795,049.01	394,482.13	42%	2,142,137.88	73%
Monmouth	621,354	1,928,731	407,946.01	296,468.97	704,414.98	360,111.99	47%	1,224,316.40	63%
Morris	494,228	1,244,464	275,270.26	133,603.77	408,874.03	292,115.82	51%	835,589.93	67%
Ocean	601,651	1,378,696	397,304.21	219,498.07	616,802.28	230,238.01	37%	761,893.32	55%
Passaic	503,310	1,467,436	427,699.81	288,961.46	716,661.27	192,017.38	31%	750,775.14	51%
Salem	62,607	276,728	37,029.42	52,515.28	89,544.70	31,085.02	46%	187,183.59	68%
Somerset	331,164	801,878	220,583.24	151,836.96	372,420.20	81,374.83	27%	429,457.44	54%
Sussex	140,799	271,519	75,682.57	35,009.95	110,692.52	61,150.34	45%	160,826.39	59%
Union	558,067	1,745,309	365,850.57	207,506.53	573,357.10	141,074.08	28%	1,171,951.96	67%
Warren	105,779	211,132	57,819.42	23,954.16	81,773.58	18,049.84	24%	129,357.99	61%
TOTAL	**8,908,520**	**23,381,684**	**5,765,668**	**3,489,238**	**9,254,906**	**3,853,489**	**40%**	**14,126,778**	**60%**

MSW recycled includes all paper and beverage containers, anti-freeze, lead acid (auto) batteries, tires, motor oil, brush, grass, leaves, consumer electronics, food waste, dry cell batteries, other glass, other plastic and textiles when they are generated by a non-industrial generator. 10% of total metal has been included as non-industrial.
Street sweepings are no longer counted as a recyclable due to their management as a BUD. (NJAC 7:26A-1.3)

NOTES: Totals subject to rounding.

Last Updated on 9/11/2019 Source: https://www.nj.gov/dep/dshw/recycling/stat_links/2017disposalrates.pdf

Table 6.1-4
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2015 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	1,248	1,480	264	13	877	640	775	724	883	819	681	719	9,125
Essex	25,170	22,258	28,222	27,596	30,572	34,207	29,849	27,647	28,282	28,255	26,998	30,437	339,493
Hudson	1,744	1,172	0	0	8	9	24	12	15	0	19	71	3,075
Hunterdon	0	0	0	0	0	0	0	0	0	0	0	0	0
Middlesex	6	22	0	0	0	0	3	5	0	0	0	11	47
Monmouth	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris	0	0.26	0	0.33	0.29	0.25	0	0.37	0	0.36	0.47	0	2
Passaic	2,840	2,214	719	1,606	5,627	5,974	5,399	4,914	4,935	5,123	4,808	5,403	49,562
Somerset	41	0	47	0	0	505	37	41	49	46	15	24	805
Union	0	0	0	0	0	0	0	0	0	0	0	0	0
Warren	0	0	0	0	0	0	0	0	0	0	0	0	0
New York	34,383	30,343	31,013	16,518	39,264	39,699	36,896	34,457	37,104	37,189	36,670	38,216	411,753
International	1,056	813	100	26	1,211	1,298	1,322	1,297	1,143	1,192	1,189	1,233	11,878
Transfer Stations**	3,360	4,810	0	0	5,747	3,288	7,920	7,961	8,347	7,694	7,939	6,981	64,046
Total	**69,847**	**63,111**	**60,365**	**45,759**	**83,307**	**85,620**	**82,226**	**77,058**	**80,760**	**80,318**	**78,319**	**83,096**	**889,785**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-5
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2016 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	900	1,025	569	912	851	878	1,052	1,051	1,070	1,121	1,004	982	11,414
Essex	26,359	27,766	30,183	29,065	29,403	31,834	28,920	30,838	28,497	27,863	28,754	28,983	348,464
Hudson	51	30	62	44	122	98	103	113	74	96	58	39	891
Hunterdon	0	0	0	0	1	0	0	0	0	0	0	0	1
Middlesex	0	3	0	0	1	5	0	19	0	0	0	8	36
Monmouth	0	0	0	0	1	0	0	0	0	0	0	0	1
Morris	0.28	0.26	0	0.27	1	2	0	1	0	0	0	0	4
Passaic	4,349	4,562	3,768	3,540	3,730	4,345	3,864	4,570	4,403	4,263	4,308	4,408	50,107
Somerset	3	27	90	10	23	30	39	19	12	5	6	2	266
Union	0	0	0	0	0	0	114	54	0	0	0	0	169
Warren	0	0	0	0	0	0	0	0	0	0	0	0	0
New York	33,649	31,311	34,313	33,904	33,799	38,043	34,748	38,051	40,599	40,477	40,664	42,370	441,928
International	1,071	1,157	1,341	1,272	1,351	1,402	1,504	1,555	1,507	1,493	1,347	1,396	16,396
Transfer Stations**	9,746	6,188	5,254	10,370	3,315	8,638	7,974	11,693	8,510	4,196	5,126	9,266	90,276
Total	**76,128**	**72,068**	**75,579**	**79,119**	**72,597**	**85,275**	**78,318**	**87,964**	**84,671**	**79,514**	**81,267**	**87,454**	**959,954**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-6
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2017 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	976	997	1,169	318	418	1,231	1,069	998	1,058	1,199	864	721	11,017
Essex	27,848	24,168	27,064	27095	29,913	31,244	28,732	30,834	28,726	29,229	29,298	26,988	341,140
Hudson	54	54	51	14	52	114	108	105	120	96	52	58	878
Hunterdon	10	0	0	0	0	0	0	0	0	0	0	0	10
Middlesex	2	0	0	0	0	0.26	7	35	8	10	7	51	119
Monmouth	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris	0	0.48	0	0	0.54	0	0.49	0	0.54	0	0.48	0	3
Passaic	4,177	4,218	5,493	1546	2,297	5,202	4,623	4,359	4,277	4,292	3,153	5,306	48,944
Somerset	14	9	24	12	0	0	10	360	10	0	0	0	440
Union	0	0	0	0	0	0	0	0	0	0	0	0	0
Warren	0	0	0	0	0	0	0	0	0	0	0	0	0
New York	39,284	36,226	40,516	34866	36,824	41,755	40,464	41,084	39,387	40,152	40,154	39,161	469,873
International	1,476	1,183	1,469	444	683	1,467	1,638	1,595	1,528	1,514	1,355	1,406	15,757
Transfer Stations**	10,700	8,743	5,031	0	2,497	12,756	5,852	9,803	9,062	2,261	1,997	7,426	76,127
Total	**84,540**	**75,598**	**80,816**	**64,296**	**72,684**	**93,770**	**82,504**	**89,174**	**84,176**	**78,754**	**76,880**	**81,117**	**964,309**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-7
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2018 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	1,896	1,706	1,896	2,185	2,483	2,469	2,467	2,174	1,485	2,261	2,134	1,620	24,776
Essex	27,959	25,310	27,231	29,060	32,755	32,567	33,376	34,852	30,090	33,366	32,006	31,026	369,597
Hudson	61	45	55	56	143	150	146	141	130	106	84	66	1,183
Hunterdon	0	0	0	0	0	0	0	0	0	0	0	0	0
Middlesex	7	13	13	15	32	8	7	26	6	19	19	12	177
Monmouth	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris	1	0	6	0	19	1	0	1	1	0	1	0	28
Passaic	3,437	3,169	5,127	5,266	4,071	3,741	4,010	4,584	3,026	3,966	4,514	3,555	48,467
Somerset	12	31	25	20	35	32	11	7	6	0	5	0	185
Union	1	0	0	0	3	0	0	0	4	0	0	0	8
Warren	0	0	0	0	3	8	0	0	0	0	0	0	11
New York	38,556	35,321	39,669	37,828	42,488	43,655	39,575	41,344	35,688	41,789	42,350	38,299	476,563
International	1,416	1,249	1,501	1,592	1,767	1,820	1,856	1,869	1,626	1,848	1,606	1,623	19,774
Transfer Stations**	12,537	5,899	4,843	7,862	3,849	2,907	1,906	3,189	205	778	4,219	0	48,195
Total	**85,884**	**72,745**	**80,367**	**83,884**	**87,647**	**87,357**	**83,353**	**88,187**	**72,267**	**84,135**	**86,939**	**76,202**	**988,964**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-8
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2019 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	2,255	1,402	1,754	2,073	2,500	2,386	2,299	2,469	2,031	1,956	1,270	2,130	24,526
Essex	30,927	26,480	28,953	32,001	34,547	32,527	33,992	32,694	29,968	32,429	28,956	33,662	377,137
Hudson	706	54	49	78	149	130	145	182	102	111	188.79	575	2,470
Hunterdon	0	0	0	0	0	0	0	0	0	0	0	0	0
Middlesex	12	11	18	21	12	13	15	14	35	12	26	15	204
Monmouth	0	0	0	0	0	0	0	0	0	0	0	0	0
Morris	1	0	1	1	0	1	1	0	0	1	1	0	5
Passaic	4,664	3,330.62	4,437	5,073	5,238	5,432	4,343	5,691.46	3,897	3,702	3,022	3,238.10	52,070
Somerset	9	4	6	10	6	11	11	6	2	10	17	18	109
Union	0	0	8	0	0	0	0	0	0	0	0	0	8
Warren	0	0	39	36	58	51	74	52	58	60	58	66	553
New York	38,567	32,152	36,068	38,879	40,994	38,789	39,719	39,549	37,158	41,168	38,854	39,255	461,152
International	1,501	1,338	1,521	1,666	1,618	1,762	1,944	1,856	1,743	1,959	1,645	1,609	20,162
Transfer Stations**	4,350	987	2,010	5,446	2,530	487	1,577	902	23	8,319	6,429	12,287	45,346
Total	**82,993**	**65,758**	**74,865**	**85,284**	**87,652**	**81,590**	**84,118**	**83,415**	**75,018**	**89,725**	**80,467**	**92,855**	**983,741**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-9
Essex County Resource Recovery Facility
Tons of Waste Delivered January - September 2020 by County of Origin*

Origin	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Bergen	2,292	3,362	2,649	3,414	3,566	2,470	4,366	2,716	2,667				27,503
Essex	30,850	27,346	30,767	28,255	31,170	34,149	33,559	32,439	30,624				279,159
Hudson	60	589	693	1	0	3	4	0	2				1,352
Hunterdon	0	0	0	0	0	0	0	0	0				0
Middlesex	12	18	34	18	15	21	7	12	6				142
Monmouth	0	0	0	0	0	0	0	0	0				0
Morris	0.39	0	1	0	0	1	0	0	1				3
Passaic	3,142	3,104	5,526	4,861	6,072	5,071	6,139	5,358	5,089				44,363
Somerset	10	9	8	5	3	2	3	2	0				40
Union	0	0	0	0	0	0	0	0	0				0
Warren	86	49	48	48	34	62	58	40	41				467
New York	37,831	35,179	34,038	27,547	32,271	33,952	36,088	35,641	32,260				304,807
International	1,523	1,394	1,173	127	129	187	317	406	379				5,635
Transfer Stations**	9,330	4,598	9,184	19,326	12,993	0	5,079	2,878	2,149				65,538
Total	**85,137**	**75,649**	**84,122**	**83,602**	**86,252**	**75,917**	**85,620**	**79,492**	**73,218**				**729,010**

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

*** This renewal application was submitted in November 2020. At time of preparation, October 2020 monthly report was not yet available.

Table 6.1-10
Essex County Resource Recovery Facility
% of Waste Delivered by County for 2015-2019*

Origin	2015	2016	2017	2018	2019	Total	% Total
Bergen	9,125	11,414	11,017	24,776	24,526	80,858	1.68920
Essex	339,493	348,464	341,140	369,597	377,137	1,775,832	37.09889
Hudson	3,075	891	878	1,183	2,470	8,497	0.17752
Hunterdon	0	1	10	0	0	11	0.00023
Middlesex	47	36	119	177	204	583	0.01218
Monmouth	0	1	0	0	0	1	0.00003
Morris	2	4	3	28	5	42	0.00088
Passaic	49,562	50,107	48,944	48,467	52,070	249,149	5.20497
Somerset	805	266	440	185	109	1,804	0.03769
Union	0	169	0	8	8	185	0.00386
Warren	0	0	0	11	553	563	0.01177
New York	411,753	441,928	469,873	476,563	461,152	2,261,270	47.24017
International	11,878	16,396	15,757	19,774	20,162	83,967	1.75415
Transfer Stations**	64,046	90,276	76,127	48,195	45,346	323,989	6.76846
Total	889,785	959,954	964,309	988,964	983,741	4,786,752	100.00

*Waste that originates outside of New Jersey is reported by state of origin or international, as applicable.

** Includes waste that comes to the ECRRF from transfer stations and materials recovery facilities.

Table 6.1-11
Waste Types Received by the Essex County Resource Recovery Facility (Tons)
2015 - 2019

Waste Type	2015	2016	2017	2018	2019	Total	% Total
10 - Household & Municipal	876,095	937,890	943,993	965,878	959,477	4,683,333	97.84
13 - Bulky Waste	NA	NA	NA	NA	NA	0	0.00
13C - Construction & Demolition	NA	NA	NA	NA	NA	0	0.00
23 - Vegetative Waste	0	0	0	0	0	0	0.00
25 - Animal & Food Process Waste	0	0	0	0	0	0	0.00
27 - Dry Industrial	13,691	22,064	20,316	23,086	24,264	103,420	2.16
27A - Asbestos	NA	NA	NA	NA	NA	0	0.00
271 - Incinerator Ash	NA	NA	NA	NA	NA	0	0.00
Total Waste Received	**889,785**	**959,954**	**964,309**	**988,964**	**983,741**	**4,786,752**	100

6.1.4 Solid Waste Heat Content

The annual average heat content of waste from 2015 to 2019 remained fairly consistent with an average heat content of 5,004 BTU/lb. This average HHV value for the review period is consistent with the average heat content of 5,104 BTU/lb for the previous permit renewal review period (2006-2010) and both averages are slightly higher than, but consistent with the predictions made by the original waste composition studies, which indicated that wastes directed to the ECRRF would exhibit a higher heating value (HHV) of 4,958 BTU/lb. The average HHV values for each calendar year (2015-2019) compared to the average for the previous permit renewal review period (2006-2010) and the HHV value predicted in the EHIS are provided herein:

Year	Average HHV (BTU/lb)	Average HHV for 2006-2010 (BTU/lb)	EIS Predicted HHV (BTU/lb)
2015	5,032	5,104	4,958
2016	4,976	5,104	4,958
2017	4,987	5,104	4,958
2018	4,977	5,104	4,958
2019	5,046	5,104	4,958
Avg.	5,004	NA	NA

Previous permit renewal review period (2006-2010):

Year	Average HHV (BTU/lb)	EIS Predicted HHV (BTU/lb)
2006	5169	4958
2007	5061	4958
2008	5087	4958
2009	5101	4958
2010	5101	4958
Avg.	5104	NA

Consistent with the values for each calendar year for the review period (2015-2019) and those for the previous permit renewal review period (2006-2010), the average HHV for the months of January 2020 through September 2020 is 5049 BTU/lb.

6.1.5 Waste Agreements

As discussed in the Introduction to this application, the ECRRF is nominally owned by the Port Authority of New York and New Jersey (the Port Authority) and beneficially owned by Covanta Essex Company under service agreement and site lease, each with the Port Authority.

In 2012, Covanta Essex Company, the Port Authority and the Department of Sanitation for New York City (DSNY) entered into a series of agreements. Effective January 1, 2013 the Service Agreement between the Port Authority and Covanta Essex provides that all waste and service revenues, and energy sales are earned directly by Covanta Essex, and all capital expenditures and operating expenses are the responsibility of Covanta Essex. The lease agreement for the site has been extended to 2032 with a renewal option through 2052. The Port Authority has also entered into a 20-year waste agreement with the DSNY under which the DSNY will continue to utilize about half the Facility's disposal capacity.

The Essex County Utilities Authority, (ECUA) is the entity responsible for the implementation/oversight of the Essex County District Solid Waste Management Plan. Under the current contract with ECUA, there is no guaranteed delivery tonnage, but Covanta Essex is obligated to accept up to 370,000 TPY of Type 10 Municipal Waste (household, commercial and institutional waste) generated in Essex County.

The balance of waste received at the ECRRF is delivered in accordance with a combination of long- and short-term waste disposal agreements with third party entities.

6.1.6 Solid Waste Types Received and Generated

Waste Types Received

The ECRRF is authorized pursuant to the Facility's Solid Waste Facility Permit (Condition 73) and consistent with the Title V Air Operating Permit, state and federal regulations to accept/process the following waste types:

Waste Type 10: Municipal Waste (Household, Commercial and Institutional Waste): Waste originating in the community and consisting of household waste from private residences, commercial waste which originates in wholesale, retail or service establishments such as restaurants, stores markets, theaters, hotels and warehouses, and institutional waste material originated in schools, hospitals [does not include untreated regulated medical waste], research institutions and public buildings.

Waste Type 23: Vegetative Waste: Waste materials from farms, plant nurseries, greenhouses that are produced from the raising of plants. This waste includes such crop residues as plant stalks, hulls, leaves and tree wastes processed through a wood chipper. Also included are non-crop residues such as garden/yard waste, **except for large quantities of easily discernible yard wastes such as grass clippings, leaves, tree trimmings, bushes and shrubs which are prohibited pursuant to the ECRRF's Title V Permit [Title V, U1 OS Summary, Reference #74].**

Waste Type 25: Animal and Food Processing Wastes: Processing waste materials generated in canneries, slaughterhouses, packing plants or similar industries, including animal manure when intended for disposal and not reuse. Also included are dead

animals, **except full truckloads of dead animals prohibited pursuant to Solid Waste Facility Permit Condition 73.**

Waste Type 27: Dry Industrial Waste: Non-hazardous waste materials resulting from manufacturing, industrial and research and development processes and operations, **except for asbestos and asbestos containing waste, dry non-hazardous pesticides, contaminated soils, radioactive wastes and hazardous wastes as defined in N.J.A.C. 7:26G-1 et seq. and 40 CFR 261 which is generated by small quantity generators as defined in N.J.A.C. 7:26G-1 et seq. The Facility's Title V Permit also prohibits the acceptance of beryllium and beryllium-containing wastes [Title V, U1 OS Summary, Reference #18]**

Type 27 Waste, non-hazardous dry industrial waste is accepted for processing once it has completed the Covanta Energy approval-process.

The Facility has been approved to accept waste types 10, 23 and 27 since it began operations in 1990. The Facility gained approval to accept Type 25 Waste on May 11, 2015.

Data on tons of waste delivered to the Essex County Resource Recovery Facility (ECRRF) by waste type was compiled from the NJDEP Solid Waste Facility Monthly Disposal and Materials Recovery Reports for the ECRRF (prepared monthly by the ECRRF and submitted to NJDEP) for the period of January 2015 through September 2020. The Solid Waste Report is compiled each month from the ECRRF scalehouse reports.

During the 2015 -2019 review period, approximately 97.8% of the waste delivered to the ECRRF was municipal solid waste (Type 10). Approximately 2.2% of the waste delivered to the Facility was Dry Industrial Waste (Type 27). No Vegetative Waste (Type 23) or Animal Processing Waste (Type 25) loads were received/processed at the ECRRF during the 2015-2019 period.

The ratio of waste types delivered to the ECRRF during the 2015-2019 review period was consistent with the waste type deliveries during the previous permit renewal review period. During the 2006-2010 permit renewal review period, approximately 99.8% of the waste delivered and processed at the Facility was municipal solid waste (Type 10). Approximately 0.2% of the waste delivered to the Facility during the subject permit term was dry Industrial Waste (Type 27). No Vegetative (Type 23) waste loads were received/processed at the Facility during the subject permit term. Type 25 Waste was not yet approved for receipt and processing at the ECRRF, during the previous permit renewal review period (2006-2010).

Also consistent with the 2015-2019 data, the majority of waste received at the ECRRF during the period of January 2020 through September of 2020 (see Table 6.1-10) was Type 10 (98.4%) with a much smaller percentage of waste received (1.6%) categorized as Type 27 (Dry Industrial Waste).

Table 6.1.11 provides an annual summary of the Waste Types delivered to the ECRRF from 2015 – 2019. Tables 7.0-8 through 7.0-13 in *Section 7.0, Additional Operating Data Tables* list tons of waste delivered by type during each month for 2015, 2016, 2017, 2018, 2019 and January – September of 2020, respectively.

Waste Types Generated

The Facility process generates ash residue, Waste Type 27-I (Incinerator Ash).
The Facility has current disposal agreements for ash residue disposal with the following entities:

1) Gloucester County Solid Waste Complex Landfill
   503 Monroeville Road
   Swedesboro, NJ 08085

2) Covanta Metals Marketing, LLC

Keystone Industrial Port Complex
Lot No. 13051-1
500 Middle Drive
Fairless Hills, PA 19030

The current contract with the Gloucester County Improvement Authority commenced on January 1, 2020 and will expire on December 31, 2022. Covanta Metals Marketing, LLC is also owned by Covanta (owner of the ECRRF), so there is no contract requirement for ash shipments to the Covanta Metals Marketing Facility located in Fairless Hills, PA.

Ash residue generation rates and characterization results are discussed below in *Section 6.3.11*. Ferrous metals and non-ferrous metals recovered from the ash residue for recycling are discussed in *Sections 6.3.9 and 6.3.10, respectively*, of this application. Service area recycling rates and the Facility's contributions to the service area recycling rates and related projects are discussed in *Section 6.1.2*, above.

6.1.7 Host Community Benefits

Covanta Essex Company, the Port Authority of New York and New Jersey, and the employees of the Essex County Resource Recovery Facility (ECRRF) are important members of the community and contribute to its viability in a number of ways.

The host community fees paid by Covanta Essex Company to the community annually as a result of the ECRRFs operations ranged from approximately $5 million in 2015 to $5.4 million in 2019. For comparison, the host community fees paid to the City of Newark by the Port Authority (under a previous contract agreement) as a result of the ECRRF's operations during the previous permit renewal review period (2006-2010) were paid annually and ranged from approximately $4.6 million in 2006 to approximately $5.0 million in 2010. Covanta Essex estimates that the total host community fees to be paid in 2020 will be approximately $5.5 million.

During the 5-year permit renewal review period from 2015-2019, Covanta Essex contributed the annual average total of $109,403 for charitable/community relations contributions, a substantial increase compared to an annual average total for charitable/community relations contributions of $55,750 for the previous permit renewal review period (2006-2010). Covanta Essex estimates that the annual contributions for charitable/community relations contributions for 2020 will be approximately $124,426. Provided below are the annual totals for charitable contributions and community relations projects for both the current and previous permit renewal review periods, as follows:

Current Permit Renewal Review Period (2015-2019):

Year	Charitable/Community Relations Contributions
2015	$142,653
2016	$99,061
2017	$116,340
2018	$94,418
2019	$94,541
Avg.	$109,403

Previous Permit Renewal Review Period (2006-2010):

Year	Charitable/Community Relations Contributions
2006	$ 4,516
2007	$35, 371
2008	$74,669
2009	$66,310
2010	$97,883
Avg.	$55,750

Specific charities and community organizations that were supported by Covanta Essex (from 2015 through the present) through monetary contributions and/or participation in specific community events include the following:

- Charitable contribution to the Ironbound Ambulance Squad;
- Support and donation to the St. Benedicts Rain Garden Initiative;
- $5,000 donation to the United Way of Greater Newark Community Covid-19 Fund;
- Conduct free quarterly E-Waste collection events;
- Support Abington Avenue Girls Excelling in Math and Science (GEMS) Program including providing plant tours to students upon request;
- Participate in the City of Newark Adopt A Lot Program;
- Support and donate to the Essex County Turtleback Zoo;
- Participate in the annual City of Newark Slam Dunk the Junk event;
- Board member of the Ironbound Boys and Girls Club;
- Support the Teen Summer of Service Program for the Boys and Girls Club of Newark including providing plant tours upon request;
- Support the local Salvation Army chapter;
- Participate in Rx4Safety takeback programs with local police departments;
- Directly fund the initiative for Bronze Certification for Sustainable Jersey for Schools Program for the Newark Public Schools (NPS);
- Donate to Pierre Toussaint Food Pantry;
- Distribute food packages at the Camden Elementary School in Newark, NJ; and
- Provide proper and respectful disposition of American flags.

6.2 LAND USE/ZONING

The ECRRF is located in a heavy industrial area that is zoned I-3. There have been no changes in zoning during the permit term. There have been no changes in adjacent land use during the 5-year permit term.

6.3 FACILITY OPERATIONS

6.3.1 Bypass Waste Summary

Bypass waste includes bulky waste (white goods, C&D debris and other non-hazardous oversize items) and mattresses. If bulky waste is identified while the delivery vehicle is still on-site at the ECRRF, the unacceptable material is reloaded and the vehicle sent to the outbound scales to weight-out. If incidental bulky items or C&D material is segregated from the processible waste and/or loads are rejected *after* the delivery vehicle has left the site, they are stored in a dedicated area of the tipping floor and subsequently loaded into the bulky waste rejects container for eventual removal from the site. The annual average of bypass waste removed from the facility was 102 tons per year (TPY) for the current review period (2015-2019) compared to an average of 394 TPY removed during the previous permit review renewal period (2006-2010).

Bypass waste removed from the Essex County Resource Recovery Facility from 2015-2019 is summarized below.

Year	Total Bypass Waste (tons)
2015	79
2016	100
2017	86
2018	105

2019	138
Avg.	102

For comparison, bypass waste removed from the Essex County Resource Recovery Facility from 2006-2010 is summarized below.

Year	Total Bypass Waste (tons)
2006	166
2007	142
2008	354
2009	687
2010	622
Avg.	394

Bypass waste removed from the ECRRF during the period of January – September 2020 is 163 tons.

Upon removal from the Facility bulky waste (white goods, C&D debris and other non-hazardous oversize items are transported to an appropriate handling or disposal site.

6.3.2 Facility Operating Hours

The ECRRF *processes* waste twenty-four (24) hours per day, seven (7) days a week. These waste processing hours have been in place since the Facility started up in 1990.

The permitted hours for *waste receiving* are 24-hours per day Monday through Saturday. These waste receiving hours have been in place since early 1995.

On occasion, if Covanta Essex obtains prior approval from NJDEP, the ECRRF may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.

6.3.3 Waste Received and Waste Processed

The following table lists the waste received and the waste processed at the ECRRF for each calendar year from 2015 -2019. The Facility is permitted to process up to 985,500 tons per year (based on a calendar year) of solid waste. The average tons per year waste processed during the previous permit renewal review period (2006-2010) was 910,483 TPY. The average tons per year waste processed during the subject permit renewal review period (2015 - 2019) was 957,698 TPY. The Facility has maintained continuous compliance with the throughput limit of 985,500 TPY since it became effective September 30, 1997 including during the current permit renewal review period (2015-2019).

Year	Waste Received (tons)	Waste Processed (tons)	Throughput Limit Tons Per Year
2015	889,785	890,901	985,500
2016	959,954	958,128	985,500
2017	964,309	968,485	985,500
2018	988,964	985,477	985,500
2019	983,741	985,499	985,500

The following table lists the waste received and the waste processed at the ECRRF from 2006 -2010 for comparison.

Year	Waste Received (tons)	Waste Processed (tons)	Throughput Limit Tons Per Year
2006	888,865	891,117	985,500
2007	891,429	888,079	985,500
2008	915,258	918,967	985,500
2009	924,507	925,146	985,500
2010	927,046	929,104	985,500

Waste received and waste processed for the 9-month period from January – September 2020 was 729,010 tons and 733,778 tons, respectively.

Monthly and annual totals for waste received by county or state of origin, for waste received by type and for waste processed during the current permit renewal review period are provided in Tables 6.1-4 through 6.1-10, Table 6.1-11 and Tables 7.0-8 through 7.0-13 and Tables 7.0-1 through 7.0-6, respectively.

6.3.4 Boiler Availability, Hours of Operation and Days of Operation

The following table lists the average boiler availability for each unit for each calendar year from 2015-2019. The boiler availability for this review period of 94.9% (facility average for all three units during the review period) is significantly above the availability projected in the EIS of 82%, and consistent with the boiler availability for the previous review period (2006-2010) of 93.0%. There have been no shutdowns or diversions of waste due to lack of facility or boiler availability.

Current Permit Renewal Review Period (2015-2019):

Year	Unit 1	Unit 2	Unit 3	Facility Average	EIS Projection
2015	92.5%	94.1%	93.3%	93.3%	82%
2016	93.5%	95.1%	95.1%	94.5%	82%

2017	94.4%	94.5%	94.2%	94.4%	82%
2018	95.3%	96.7%	96.8%	96.3%	82%
2019	96.3%	96.0%	95.9%	96.1%	82%

Previous Permit Renewal Review Period (2006-2010):

Year	Unit 1	Unit 2	Unit 3	Facility Average	EIS Projection
2006	93.9%	91.0%	94.0%	92.9%	82%
2007	93.1%	89.5%	90.3%	91.0%	82%
2008	94.5%	91.4%	93.3%	93.1%	82%
2009	94.9%	96.0%	91.5%	94.1%	82%
2010	94.4%	91.8%	95.7%	94.0%	82%

Also consistent with both the current and previous review periods, the average boiler availability for all three units for the 9-month period of January through September of 2020 is 95.3%.

Provided below are total hours of operation (3 unit total) and total days of operation (3 unit total) for the ECRRF for each calendar year for the 2015-2019 review period and for the previous permit renewal review period (2006-2010) for comparison. The average annual total operating hours (3 Units) for the current review period of 25,162 hours is slightly higher than the total annual average for the previous review period of 24,466 hours. The total average operating days for the current review period (1040.1 days) is also proportionally higher than that for the previous review period (1019.4 days).

Current Permit Renewal Review Period (2015-2019):

Year	Total Operating Hours (for 3 Units)	Total Operating Days (for 3 Units)
2015	25,542	1022.6

2016	24,923	1038.5
2017	24,808	1033.7
2018	25,320	1055.0
2019	25,218	1050.8
Average	25,162	1040.1

Previous Permit Review Period (2006-2010):

Year	Total Operating Hours (for 3 Units)	Total Operating Days (for 3 Units)
2006	24,441	1018.4
2007	23,917	996.5
2008	24,536	1022.3
2009	24,719	1030.0
2010	24,717	1029.9
Average	24,466	1019.4

The total hours of operation and days of operation for the ECRRF for the 9-month period of January through September of 2020 are 18,829 hours and 784.5 days, respectively.

Tables 7.0-1 through 7.0-6 provide monthly and annual totals for operating data including monthly boiler availability for each unit and for the Facility (average of 3 units), boiler operating hours and boiler operating days for each calendar year (2015-2019) and for the period from January – September 2020.

6.3.5 Outage Summary

The Facility currently utilizes a schedule of three (3) planned outages for regular maintenance on the Facility's three (3) MWC units and ancillary plant equipment. There are typically two (2) boiler outages scheduled in the fall and one (1) boiler

outage scheduled in late winter to early spring. The EIS did not project a Facility outage schedule, but predicted a conservative estimate of availability of 82%, which the ECRRF has consistently outperformed, as discussed above.

6.3.6 Steam Production Summary

The following tables list the total steam produced by the Facility for the current review period (2015 – 2019) and for the previous permit renewal review period (2006 – 2010) for comparison. The average annual steam production (all 3 units) for the current review period (2015-2019) is 5,760,951 klb of steam consistent with the average of 5,732,703 klb for the previous permit renewal period (2006 – 2010).

Current Permit Renewal Review Period (2015-2019):

Year	Total Steam Production (klbs)
2015	5,458,098
2016	5,753,528
2017	5,779,716
2018	5,869,746
2019	5,943,666
Average	5,760,951

Previous Permit Renewal Review Period (2006-2010):

Year	Total Steam Production (klbs)
2006	5,692,458
2007	5,531,123
2008	5,786,365
2009	5,797,257
2010	5,856,310
Average	5,732,703

In addition to establishing the ECRRF's solid waste throughput limit of 985,900 tons per year, the ECRRF's Solid Waste Facility Permit Condition 88 also contains the following short-term limits governing steam production:

> *"…Facility's rate at which is can process solid waste is further limited to a maximum steam production rate of 110 percent of the maximum demonstrated municipal waste combustor unit load (as defined in 40 CFR 60.51b)* ***or at a rate not to exceed 990,000 pounds per boiler (at a temperature of approximately 750 degrees F and a pressure of approximately 630 psig) over any discrete block four hour period of time*** *(i.e, 12-4 AM, 4-8 AM, 8 AM-12 PM, etc.), whichever is lowest. Each time that the maximum demonstrated municipal waste combustor unit load is determined, the permittee shall report the results in writing to the Solid and Hazardous Waste Management Program."*

If the facility's three boilers operated at the maximum steam rate of 247,500 lbs/hr (990,000 lb/4 hours = 247,000 lb/hr) at 100% availability for a year that would result in the maximum annual steam rate of 6,504,300 klb ((8760 hours/unit x 3 units x 247,500 lb/hr)/1000 = 6,504,300 klb). Since boiler availability is never 100%, actual steam production will be somewhat lower than the maximum theoretical limit (based on actual boiler operating hours and actual steam rate).

In the Table provided below, actual steam production for the review period (2015-2019), as well as for the 9-month period from January-September 2020, is compared to the maximum allowable steam production for the specific year based on actual boiler operating hours ((Actual operating hours x 247,500 lb/hr)/1000 = maximum allowable steam in klb/hr). The actual steam production for all five years (2015-2019), as well as for the first nine (9) months of 2020, is below the maximum allowable steam based on actual operating hours (see following table).

Year	Actual Annual Steam Production (klb)	Maximum Allowable Annual Steam Production* (klb)
2015	5,458,098	6,321,645
2016	5,753,528	6,168,443
2017	5,779,716	6,139,980
2018	5,869,746	6,266,700
2019	5,943,666	6,241,455
Jan-Sept. 2020	4,451,309	4,660,178

* Maximum allowable steam production for a specific year based on actual hours of operation and the average hourly maximum of 247,500 lb/hr steam.

6.3.7 Electrical Production Summary

The heat energy produced during the combustion of refuse at the ECRRF is used to create steam that is subsequently used to power a turbine to generate clean renewable energy. The electricity produced is used to operate the Facility and the remainder is exported to the electrical grid operated by PJM. On an annual basis, the process generates enough electricity to power the Facility and approximately 55,000 homes on a continuous basis.

Provided in the tables below are the annual gross electrical generation and the annual net electrical generation totals for each year of the current and previous permit renewal review periods. The average annual gross electrical production for the current review period (2015-2019) is 542,042 MWH, which is consistent with the average annual gross electrical production for the previous permit renewal review period (2006-2010) of 548,503 MWH. The average annual net electrical production for the current review period (2015-2019) is 467,219 MWH, which is consistent with the average annual gross electrical production for the previous permit renewal review period (2006-2010) of 478,374 MWH.

Current Permit Review Period (2015-2019):

Year	Gross Electrical Production (MWH)	Net Electrical Production (MWH)
2015	505,482	436,668
2016	548,775	474,727
2017	513,910	437,918
2018	567,713	490,167
2019	574,478	496,614
Average	542,072	467,219

Previous Permit Review Period (2006-2010):

Year	Gross Electrical Production (MWH)	Net Electrical Production (MWH)
2006	552,227	484,232
2007	522,223	453,918
2008	550,333	478,096
2009	553,595	483,516
2010	564,136	492,110
Average	548,503	478,374

The EIS projected that the ECRRF's annual net electrical production would be 323,194 MWH based on an annual waste processing rate of 620,500 TPY, or 0.52 MWH/ton of waste processed. Provided below is the MWH/ton calculated based on waste processed and net electrical production (for purposes of comparison with the original EIS projection) for the current 5-year permit term (2015-2019) and for the previous permit renewal review period (2006-2010). The MWH/ton of waste processed based on *gross* electrical generation is also provided for each 5-year permit renewal review period.

Current Permit Renewal Review Period (2015-2019):

Year	MWH/ton based on Net Production	EIS Projection MWH/ton based on Net	MWH/ton based on Gross Prod.
2015	0.49	0.52	0.57
2016	0.50	0.52	0.57
2017	0.45	0.52	0.53
2018	0.50	0.52	0.58
2019	0.50	0.52	0.58

The net MWH/ton electrical generation rate for the review period (2015-2019) of 0.49 is relatively close to the EIS prediction 0.52 and to the average annual net MWH/ton electrical generation rate of 0.52 for the previous permit renewal review period (2006-2010).

Previous Permit Renewal Review Period (2006-2010):

Year	MWH/ton based on Net Production	EIS Projection MWH/ton based on Net	MWH/ton based on Gross Prod.
2006	0.54	0.52	0.62
2007	0.51	0.52	0.68
2008	0.52	0.52	0.60
2009	0.52	0.52	0.60
2010	0.53	0.52	0.61

The total gross electrical generation for the period of Janaury – September of 2020 is 427,366 MWH. The total net electrical generation for this 9-month period is 371,352 MWH. The MWH/ton for net electrical generation for this period is 0.51 consistent with the MWH/ton of the review period and of the EIS projection. The

MWH/ton for the gross electrical generation for this 9-month period is 0.58, consistent with the current review period (2015-2019).

Electrical generation for each month during each calendar year for 2015, 2016, 2017, 2018, 2019 and January – September 2020 is provided in Tables 7.0-1 through 7.0-6, respectively in Section 7.0, *Additional Operating Data Tables* of this renewal application.

6.3.8 Auxiliary Fuel Summary

The ECRRF uses ultra low sulfur diesel fuel oil as the auxiliary fuel for the combustion process. Auxiliary fuel is used during boiler start-up to heat the boiler at a controlled rate up to normal operating conditions before refuse is fed to the unit. Auxiliary fuel is also used during shutdown to maintain the required combustion zone temperatures until all refuse is burned off the grates. Auxiliary fuel burners may also be lit periodically at other times when necessary to maintain combustion zone temperatures such as when processing very wet fuel.

The following tables list the total annual fuel oil used as auxiliary fuel at the Facility for the current permit renewal review period (2015-2019) and from the previous permit renewal review period (2006-2010) for comparison. The annual average auxiliary fuel use for the current review period (2015-2019) of 251,458 gallons is consistent with the auxiliary fuel us of 222,250 gallons for the previous permit renewal review period (2006-2010).

Current Permit Renewal Review Period (2015-2019):

Year	Auxiliary Fuel Usage (gallons)
2015	278,550
2016	242,210
2017	204,320

2018	286,470
2019	245,740
Average	251,458

Previous Permit Renewal Review Period (2006-2010):

Year	Auxiliary Fuel Usage (gallons)
2006	211,618
2007	279,845
2008	178,845
2009	227,844
2010	213,096
Average	222,250

The auxiliary fuel use for the period from January – September 2020 was 250,200 gallons.

6.3.9 Ferrous Metal Summary

As discussed earlier, one of the ways that the ECRRF contributes to the County's recycling rates is by recovering an average of 21,663 TPY (average for 2015-2019 review period) of ferrous metals from the ash residue for recycling. The ferrous metal recovery system removes ferrous metal from the ash residue using a drum magnet, FE-200-MAG, which is 5-ft in diameter. The ferrous material is picked out of the ash by magnetism using FE-200-MAG and deposited into the ferrous metal storage bunker. Recovered metal is stored in the ferrous metal storage bunker prior to transport and sale to the secondary materials market. The following table lists the total ferrous metals recovered from the ash residue stream from 2015-2019.

Current Permit Renewal Review Period (2015-2019):

Year	Ferrous Metals (tons)	Ferrous as % of Waste Processed	EIS Prediction	Previous 5-Year Permit Period (2006-2010)
2015	16,351	1.8%	5.25%	1.3-1.8%
2016	20,784	2.2%	5.25%	1.3-1.8%
2017	21,995	2.3%	5.25%	1.3-1.8%
2018	24,724	2.5%	5.25%	1.3-1.8%
2019	24,460	2.5%	5.25%	1.3-1.8%
Avg.	21,663	2.3	NA	NA

Previous Permit Renewal Review Period (2006-2010):

Year	Ferrous Metals (tons)	Ferrous as % of Waste Processed	EIS Prediction	Previous 5- Year Permit Period
2006	16,255	1.8%	5.25%	2.5-3.0%
2007	15,492	1.7%	5.25%	2.5-3.0%
2008	15,694	1.7%	5.25%	2.5-3.0%
2009	16,277	1.8%	5.25%	2.5-3.0%
2010	12,460	1.3%	5.25%	2.5-3.0%
Avg.	15,236	1.7%	NA	NA

As noted in the May 2011 Solid Waste Facility Permit Renewal Application, the narrative included in the preceding permit renewal application (Solid Waste Facility Renewal Application submitted in 2000) indicated that the 5.25% ferrous removal prediction contained in the EIS, which was based on an assumed 5.25% ferrous in the waste stream, was high and that actual Facility operations demonstrated ferrous removal was in the range of 2.5 to 3.0%. Ferrous metal recovered during the previous permit renewal review period (2006-2010) was in the range of 1.3 to 1.8% of waste processed. Ferrous processed during the current permit review period (2015-2019) ranged from 1.8% – 2.5% and increased from 1.8% in 2015 to 2.5% in 2018 and 2019, reaching the rate of recovery projected in the 2000 renewal application.

Total tons of ferrous metals recovered in the period from January through September 2020 was 17,277 tons or 2.4 % of the total waste processed consistent with the 2015-2019 review period ferrous metals recovery rate and the ferrous metals recovery rate projected in the 2000 Solid Waste Facility Permit Renewal Application.

Ferrous metals recovered during the subject permit term were sold to:

Ferrous Vendor/Recycler	Period
Gerdau Long Steel 1 Crossman Road Sayreville, NJ	January – December 2015
Fairless Metals Marketing, LLC 500 Middle Drive Fairless Hills, PA	January 2016 – February 2020
Eastern Metals Recycling (EMR)/Newark Metal 206 Calcutta Street Newark, NJ 07114	March 2020 – Present

Ferrous metals are currently transported by DKB Transport Corporation, and sold to EMR/Newark Metal (see Table above).

Annual and monthly totals for ferrous metal recovered for the review period are included in the Operating Data Tables (Table 7.0-1 through 7.0-6).

6.3.10 Non-Ferrous Metals Summary

The non-ferrous metals recovery system recovers non-ferrous metals from the ash residue using two (2) eddy current separators (ECSs). Recovered non-ferrous metal is stored in the non-ferrous metal storage bunkers located in the Ash Residue Building prior to transport and sale to the secondary materials market.

On April 20, 2012. Covanta Essex Company submitted a minor modification application to NJDEP to make ferrous system upgrades and for installation of a non-ferrous metals recovery system. The installation of the non-ferrous recovery system was completed on November 2, 2013 and the system became fully operational on April 5, 2014. The following table lists the total non-ferrous metals recovered from the ash residue stream for each calendar year from 2015-2019.

Year	Non-Ferrous Metals Removed (tons)	Non-Ferrous Metals Recovered as % of Waste Processed
2015	3,136	0.4
2016	3,747	0.4
2017	3,541	0.4
2018	3,446	0.3
2019	3,407	0.3
Average	3,455	0.4

Total tons of non-ferrous recovered in the period from January through September 2020 was 2,511, which is 0.3 % of the total waste processed.

Non-ferrous metals recovered during the subject permit term were sold to:

Non-Ferrous Vendor/Recycler	Period
Auburn Metal Processing 6984 North Street Rd Auburn, NY 13021	January 2015 – May 2017
Fairless Metals Marketing, LLC 500 Middle Drive Fairless Hills, PA	June 2017 – Present

Recovered non-ferrous metals are currently transported to Covanta Metals Management located in Fairless Hills, PA by DKB Transport Corporation. DKB Transport Corporation is located at 555 Water Works Road, Old Bridge, NJ.

As indicated in the previous Section 6.3.9 above, Tables 7.0-1 through 7.0-6, provide operating data for each month of 2015, 2016, 2017, 2018, 2019 and January-September 2020, respectively including monthly recovery of nonferrous metals.

6.3.11 Ash Residue Generation and Characterization

The following tables list the annual ash residue generated at the Facility (TPY) and the average percent (%) weight reduction achieved from waste processed to the remaining ash residue for both the current (2015-2019) and previous (2006-2010) permit renewal review periods. The EIS predicted that 600 TPD of wet ash would be generated based on 2,250 TPD of waste processed, or that the weight of the material would be reduced 73% (average ash content of 27%). The projected ash generation rate for the increased throughput limit of 985,500 TPY (2,700 TPD) was 755 TPD, or 72% weight reduction of the waste processed (average ash content of 28%).

During the 2015-2019 review period, the average weight reduction achieved of 80% (average ash content of 20%) was greater than the average weight reduction of 76% achieved (average ash content of 24%) during the previous permit renewal review period (2006-2010), as well as being greater than the weight reduction predictions made in the EIS of 73% (average ash content of 27%) and 72% (average ash content of 28%), respectively.

Current Permit Renewal Review Period (2015-2019):

Year	Ash Residue Generated (tons)	Avg. Reduction as % wt. of Waste Processed	EIS % weight Reduction Projection	Throughput increase % wt. Reduction Projection
2015	193,551	78%	73%	72%
2016	202,036	79%	73%	72%
2017	198,219	80%	73%	72%
2018	192,446	80%	73%	72%
2019	187,896	81%	73%	72%
Avg.	194,830	80%	NA	NA

Previous Permit Renewal Review Period (2006-2010):

Year	Ash Residue Generated (tons)	Avg. Reduction as % wt. of Waste Processed	EIS % weight Reduction Projection	Throughput increase % wt. Reduction Projection
2006	216,894	76%	73%	72%
2007	218,192	75%	73%	72%
2008	219,978	76%	73%	72%
2009	213,014	77%	73%	72%
2010	214,577	77%	73%	72%
Avg.	216,531	76%	NA	NA

Total ash residue generated in the 9-month period from January-September 2020 was 138,033 tons. The % weight reduction achieved was 81% (19% ash content) consistent with the 2015-2019 permit renewal review period.

Annual and monthly totals of ash residue generated are provided for the review period in the Operating Data Tables 7.0-1 through 7.0-6.

In accordance with Solid Waste Facility permit conditions 48-51 and the ECRRF's NJDEP-approved Residual Ash Monitoring Plan, the Facility's ash residue is analyzed for TCLP metals (toxicity characteristics) on a monthly basis (ten (10) samples per month) and for total dioxins and furans on an annual basis (ash sampling for the ash residue to be analyzed for PCDD/PCDF is required to be conducted during the annual stack compliance tests). The confirmatory ash testing results for the subject review period (2015-2019) demonstrates consistent support for the non-hazardous characterization of Facility ash residue. The ash residue testing results (monthly TCLP and annual dioxin/furan testing) have been provided to NJDEP in their entirety and are on file with NJDEP, Division of Solid and Hazardous Waste, and, therefore are not repeated herein.

The Facility has a current disposal agreement for ash residue disposal with the following landfill:

1) Gloucester County Solid Waste Complex Landfill
503 Monroeville Road
Swedesboro, NJ 08085

As indicated in Volume IX, Appendix A of the Facility's O&M Manual, the ECRRF may also send shipments of ash residue to the:

2) Covanta Metals Marketing, LLC
Keystone Industrial Port Complex
Lot No. 13051-1
Fairless Hills, PA 19030

The Covanta Metals Marketing Facility is a permitted residual waste processing facility (PADEP General Permit No. WMGM061SE001) for processing of the ash residue in the Total Ash Processing System. Covanta Metals Marketing, LLC is

owned by Covanta Energy. Therefore, there is no contract requirement for ash shipments for the Covanta Metals Marketing Facility.

Ash residue is currently transported by DJM Transport, LLC (DJM) located in Kearny, NJ.

6.3.12 ECRRF Staffing Summary

The ECRRF staff is organized into three (3) major groups or departments: management/administration (including accounting), operations and maintenance. The Facility currently employs a total of seventy-eight (78) full-time personnel and ten to thirteen (10-13) temporary employees compared to eighty-two (82) full-time personnel and six to twelve (6-12) temporary employees at the time of the previous permit renewal. No significant changes were made to the overall staffing structure during the review period.

6.3.13 ECRRF Safety Record

The ECRRF has been a Voluntary Protection Program (VPP) "Star" in the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA) prestigious safety program to promote effective worksite-based safety and health and recognize exemplary occupational safety and health from 1995-2018. The "Star" level is VPP's highest level of achievement. VPP participation requires a joint commitment between management and employees; a high-quality worksite analysis, hazard prevention and control program; and comprehensive safety and health training for all employees. Although the Facility was not able to recertify to continue in the VPP Program in recent years due to labor negotiation issues, the Facility continues to promote the program's goals and practices and Covanta Essex plans/intends to participate in the VPP Program in the future.

From 2007 through 2010, the Covanta Essex team received a New Jersey Award of Merit for its safety performance including working more than 450,000 hours without a lost time injury. In 2008, the ECRRF won the New Jersey Safety Achievement Award for overall safety performance during the previous five years. The ECRRF staff is committed to ensuring that the Facility is run safely and reliably, as evidenced by the Facility's safety record and achievements.

Provided herein is the OSHA Frequency Index for the current review period, as well as the previous review period, for comparison.

Current Permit Renewal Review Period (2015-2019):

Year	OSHA Frequency Index (Accident Rate)
2015	1.17
2016	1.17
2017	1.18
2018	1.18
2019	1.19

Previous Permit Renewal Review Period (2006-2010):

Year	OSHA Frequency Index (Accident Rate)
2006	4.75
2007	0.00
2008	2.02
2009	3.19
2010	1.01

6.4 WATER RESOURCES

6.4.1 City Water Consumption

The ECRRF's major source of water is city water supplied by the City of Newark Water Department via low-pressure service (50 PSIG) for internal plant usage and high-pressure service (125 PSIG) primarily for fire protection. The total guaranteed high-pressure supply at the ECRRF site is 3000 gallons per minute (gpm).

Low quality water consumption, including water used for ash discharger quench water, slurry makeup and dilution water, is supplemented by storm water collected in the Facility's storm water collection/reuse system during rainwater events, offsetting some city water use.

The following tables list the total city water (low- and high-pressure) consumed by the Facility for the current permit renewal review period (2015-2019), as well as for the previous permit renewal review period (2006-2010) for comparison. The total average water used for the current permit renewal review period (2015-2019) is 27 gpm. This is well-below the guaranteed supply of 3000 gpm, and is also below the average total water usage for the previous permit renewal review period (2006-2010) of 119 gpm. The reason for the difference in city water consumption totals between the two review periods is not believed to be a significant difference in actual water consumption, but instead is attributed to the potable water flow meter, which was found to be reading erroneously high during the previous review period. The potable water flow meter was replaced in 2014, and the facility calibrates the meter on an annual basis to ensure accurate water consumption data. The facility continues to use storm water collected in the Facility's storm water collection/reuse system during rainwater events to offset some city water use.

Current Permit Renewal Review Period (2015-2019):

Year	Total[(1)] City Water Consumption (gallons)	Average (gpd)	Average (gpm)
2015	12,277,556	33,637	23
2016	15,697,289	43,006	30
2017	13,610,099	37,288	26
2018	15,212,866	41,679	29
2019	13,569,403	37,176	26
Avg.	14,073,443	38,557	27

(1) Total water includes low- and high-pressure water consumption.

Previous Permit Renewal Review Period (2006-2010):

Year	Total[(1)] City Water Consumption (gallons)	Average (gpd)	Average (gpm)
2006	61,810,378	169,344	118
2007	62,460,963	171,126	119
2008	63,663,908	174,422	121
2009	61,749,305	169,176	117
2010	61,947,095	169,718	118
Avg.	62,326,332	170,757	119

(1) Total water includes low- and high-pressure water consumption.

The total water use for the 9-month period from January-September 2020 is 10,757,682 gallons.

Annual city water consumption totals by type (potable, high pressure and sanitary) are provided for the review period in Section 7.0, Additional Facility Operating Data in Table 7.0-7.

6.4.2 Sanitary Wastewater Discharged

With respect to process wastewater, the ECRRF is a "zero discharge" facility. All process wastewater is reused on-site. The only water discharged to the Passaic Valley Sewerage Commissioners (PVSC) Wastewater Treatment Plant (located in Newark, NJ) is the Facility's sanitary wastewater. The ECRRF must operate in compliance with the Facility's Sewer Connection Permit (#PVSA90-4880-4) issued by the Passaic Valley Sewerage Authority. The Sewer Connection Permit limits discharges to less than 25,000 gallons per day. The following tables list the annual and average daily sanitary wastewater discharged to the PVSC treatment plant for the current permit renewal review period (2015-2019) and the previous permit renewal review period (2006-2010). The average discharge of 4,549 gpd for the current review period (2015-2019) is comparable to the average discharge of 4,749 gpd from the previous permit renewal period (2006-2010) and well below the <25,000 gpd requirement.

Current Permit Renewal Review Period (2015-2019):

Year	Sanitary Wastewater Discharged (gallons)	Average Wastewater (gpd)	PVSA Permit Limit (gpd)
2015	1,400,451	3,837	<25,000
2016	2,692,812	7,378	<25,000
2017	1,420,962	3,893	<25,000
2018	1,668,665	4,572	<25,000
2019	1,119,650	3,068	<25,000
Avg.	1,660,508	4,549	

Previous Permit Renewal Review Period (2006-2010)

Year	Sanitary Wastewater Discharged (gallons)	Average Wastewater (gpd)	PVSA Permit Limit (gpd)
2006	2,263,627	6,202	<25,000
2007	2,247,593	6,158	<25,000
2008	1,739,343	4,765	<25,000
2009	1,423,464	3,900	<25,000
2010	993,504	2,722	<25,000
Avg.	1,733,506	4,749	

The total sanitary wastewater discharged for the period of January – September 2020 is 877,421 gallons, which is an average of 3,303 gallons/day, which is in the range of average wastewater gallons per day for the calendar years discussed above, which ranges from the lowest annual average of 2,722 gpd for calendar year 2010 to the highest average of 7,378 gpd for calendar year 2016.

6.4.3 Storm Water Flows

The ECRRF utilizes a storm water collection/reuse system that has been in place since the summer of 1997. Storm water flow on-site is directed into one of two conveyance systems, both of which ultimately go to the wastewater storage tank for reuse in the process. Storm water flow from the south side of the site is channeled into an underground lift station prior to being pumped into the wastewater storage tank. This storm water is then used in the Facility process as low quality water for ash quenching, dilution water and slurry makeup water. Storm water flow from the northern portion of the site is collected in a detention basin that is designed to capture a maximum of a two-year storm event. Water in the basin can be pumped to the wastewater storage tank for reuse. Since the storm water collection/reuse system has been in use, discharges to the Passaic River have been reduced to periods of extremely high rainfall.

Storm water discharges from the ECRRF site are currently authorized under NJPDES Storm Water Permit No. NJ0055247. The NJPDES permit requires monitoring of water quality when a storm water discharge occurs (Outfalls 001A and 002A) and annual sampling of the detention pond (IP01), as well as sampling of IP01 at any time a discharge occurs. The results of this monitoring for the review period (2015-2019) are discussed herein and the annual monitoring results for detention basis IP01 are provided in Table 6.4.3-1 below.

The ECRRF Storm Water Pollution Prevention Plan (SPPP) identifies Best Management Practices (BMPs) that are employed on-site to ensure permit compliance for all discharges to the Passaic River.

Quarterly Discharge Monitoring Reports (DMRs) for Outfall 001A, annual DMRs for Outfall 002A and Quarterly Waste Characterization Reports (WCRs) for the detention basin IP01 were submitted to NJDEP, Office of Permit Management, Division of Water Quality for the 2015 - 2019 permit renewal review period. There were no discharge events at either Outfall 001A or Outfall 002A during the 2015 – 2019 review period. Sampling at these outfalls is only required during a discharge event. The results for sampling the detention basin IP01 are required to be reported on an annual basis. The basin is required to be sampled at least once per year, and anytime there is a discharge. Only a very unusual storm event would cause a discharge from the basin. There was no discharge from basin IP01 during the 2015-2019 review period. Therefore, the basin IP01 was sampled once per year during the 2015-2019 review period. The results are provided in Table 6.4.3-1 on the following page.

Table 6.4.3-1
Essex County Resource Recovery Facility
NJPDES Monitoring Results Summary for Detention Pond IP01*

Reporting Period	*BOD mg/L*	*pH*	*TSS mg/L*	*Ammonia (as N) mg/L*	*COD mg/L*	*Oil & Grease mg/L*	*Total Zinc mg/L*	*Phenol mg/L*
2015	83.8	7.19	50	4.96	190	4.1	0.112	0.026
2016	1930	7.28	798	16.8	15800	4.4	2.74	0.13
2017	27	7.61	97	2.1	79.6	1.7	0.0549	0.013
2018	<22.1	7.46	4.93	5.1	121	<1.4	0.0304	<0.01
2019	45.2	7.49	26.0	1.7	135	3.5	0.0865	0.023

* The results for sampling the detention pond IP01 are required to be reported on an annual basis. The pond is required to be sampled at least once per year, and anytime there is a discharge. Only a very unusual storm event would overflow (cause a discharge from) the pond. The pond was sampled once per year during the 2015-2019 review period.

The most recent NJPDES permit renewal was issued on December 12, 2019. The Discharge Monitoring Report (DMR) frequency requirement has been decreased for Outfall 001A from quarterly submissions of the DMRs to an annual submission requirement. Therefore, the frequency of DMR and WCR submission is annual for all three storm water monitoring locations, and no DMRs are required to/have been submitted in 2020 to-date.

6.5 AIR QUALITY/NOISE

6.5.1 Air Quality

Energy-from-Waste facilities are subject to some of the most stringent environmental regulations in the nation. The ECRRF's emission performance is strictly monitored by NJDEP and USEPA. Applicable emission standards have become increasingly restrictive over time, and as a result, the Facility has continued to enhance its already sophisticated technologies and implement operational improvements to ensure compliance.

The Essex County Resource Recovery Facility (ECRRF) Title V Permit (No. BOP190001) establishes MWC Unit emission standards, operating requirements and monitoring and testing requirements for the Facility in accordance with 40 CFR 60, Subparts Cb/Eb as implemented pursuant to 40 CFR 62, Subpart FFF, as well as other applicable state and federal air requirements.

Air pollution control equipment at the ECRRF includes spray dryer absorbers (scrubbers) for acid gas control, baghouses for particulate removal (installed between November 2015 and November 2016 to replace the electrostatic precipitators), carbon injection for mercury reduction and a Selective Non-Catalytic Reduction (SNCR) System for reduction of nitrogen oxides, as well as the Covanta LN^{TM} (Low NO_X) process for further reduction of NO_X emissions.

Compliance with the air standards on an on-going basis is monitored utilizing the Facility's continuous emissions monitoring system (CEMS). Oxygen (O_2), carbon dioxide (CO_2), nitrogen oxides (NO_X), sulfur dioxide (SO_2) and carbon monoxide (CO) are measured on a continuous basis on all three units. The continuous emissions monitors (CEMs) for nitrogen oxides (stack analyzers), carbon monoxide (stack analyzers) and sulfur dioxide (economizer and stack analyzers) are used for demonstrating compliance with the concentration limits for these constituents, as well as the % reduction for SO_2. The oxygen analyzers (economizer and stack) are used to monitor O_2 levels in the flue gas path, as well as to correct NO_X, CO and SO_2 to seven (7) percent oxygen in accordance with the permit limits. In order to comply with the requirements of the EPA's Greenhouse Gas Reporting Rule for continuous monitoring of carbon dioxide (CO_2), the Facility has installed and certified CO_2 and flow monitors for monitoring these additional constituents. The Facility's continuous opacity monitoring system (COMS) is used to demonstrate compliance with the opacity limits on a continuous basis for all three units, as well.

In order to assure reliable and accurate CEMS/COMS data, the ECRRF has developed a CEMS Quality Assurance/Quality Control (QA/QC) Manual that contains

procedures to comply with the requirements for operating the CEMS pursuant to the Facility's air permits, applicable federal and state regulations and 40 CFR 60, Appendices B and F.

If a CEMS parameter exceedance occurs, the Facility must report the incident to the NJDEP Hotline within fifteen (15) minutes and then provide written follow-up notification describing the nature of the event and the measures implemented to prevent recurrence. Malfunctions must be reported to the Department in writing within two (2) working days of occurrence and a more-detailed report is required to be provided to the Department within thirty (30) days of occurrence of the event. All excess emissions events (including those due to startup, shutdown and malfunction) must be summarized in the Facility's Quarterly Excess Emissions and Monitoring System Performance Report. Compliance with Federal Emission standards is reported again in the Semi-Annual Cb/Eb Air Reports.

In addition to the CEMS/COMS monitoring discussed above, the ECRRF's permit requires continuous monitoring of load level (steam flow), baghouse inlet temperature, carbon injection rate and scrubber slurry flow rate. Although these parameters are not direct measurements of MWC unit emissions, compliance with the established standards for these parameters ensures that the Facility is operating in a manner consistent with that with which it was operated during stack testing when the Facility demonstrates compliance with permit limits for all regulated parameters, in addition to the CEMS/COMS-monitored constituents.

The ECRRF Title V Permits contains annual and five (5)-year (prior to Title V Permit Renewal) stack testing requirements in accordance with 40 CFR 60, Subparts Cb/Eb, as well as other state and federal requirements. Stack testing is conducted by a licensed contractor. A Source Test Protocol is submitted to NJDEP for review and approval prior to the stack test. The test protocol outlines the test schedule and the test methods to be used.

Annual testing is conducted on all three units for PM, PM-10, opacity, cadmium, lead, mercury, hydrogen chloride, dioxins/furans (alternative test schedule allowed if certain criteria are met), and fugitive emissions from the MWC units' ash handling system.

In additional to the constituents tested for annually, the following constituents are tested every five years (prior to Title V Permit renewal): hydrogen fluoride, beryllium, volatile organic compounds, sulfuric acid mist, arsenic, ammonia slip, sulfur dioxide, nitrogen oxides, carbon monoxide, 2,3,7,8-TCDD, chromium, nickel, polycyclic aromatic hydrocarbons, benzo(A)pyrene, carbon tetrachloride, formaldehyde, perchloroethylene, trichloroethylene, and vinyl chloride.

Annual emission stack test data is summarized for each of the three combustion units for 2015, 2016, 2017, 2018, 2019 and 2020, in Tables 6.5-1, 6.5-2, 6.5-3, 6.5-4, 6.5-5 and 6.5-6 below, respectively.

The ECCRF has operated in substantial compliance with the air requirements throughout the current permit period. A summary of all Enforcement Actions taken during January 1, 2015 through September 2020 is provided in Appendix C.

Table 6.5-1
2015 Stack Test Results Summary for the ECRRF[(1)]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	541	463	553	NA
Mercury (Hg) ug/dscm @ 7% O_2	42	91	56	NA
Outlet/Stack				
Particulate Matter (PM) gr/dscf @ 7% O_2	0.0020	0.0025	0.0028	0.014
Particulate Matter (PM) gr/dscf @ 12% CO_2	0.002	0.003	0.003	0.1
Particulate Matter (PM) lb/hr	1.6	2.0	2.1	9.8
Particulate Matter (PM) mg/dscm @ 7% O_2	5	6	6	25
PM10 lb/hr	3.6	3.3	4.1	22.8
PM 2.5 lb/hr	3.5	3.0	3.8	22.8
Hydrogen Chloride (HCl) ppm @ 7% O_2	6	2	10	47/29[(2)]
Hydrogen Chloride (HCl) lb/hr	2.9	1.3	5.2	21.6
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[(3)]	NA	NA	0.59	35
2,3,7,8-TCDD lb/hr[(3)]	NA	NA	1.84E-10	1.00E-05
Mercury (Hg) ug/dscm @ 7% O_2	3	13	6	28/50[(2)]
Mercury (Hg) lb/hr	0.0010	0.0046	0.0020	0.053
Cadmium (Cd) ug/dscm @ 7% O_2	3	5	5	35
Cadmium (Cd) lb/hr	0.0011	0.0016	0.0018	0.043
Lead (Pb) ug/dscm @ 7% O_2	31	43	58	400
Lead (Pb) lb/hr	0.01	0.02	0.02	0.5
Removal Efficiency				
Hydrogen Chloride (HCl) %	99	99	98	≥90/95[(2)]
Mercury (Hg) %	93	90	88	≥85/95[(2)]
Ash Handling System				
Fugitive Emissions, Min.	0.00			9

[(1)]2015 Stack Testing was conducted May 18, 2015 through May 21, 2015.

[(2)] 1st limit listed is NJDEP limit; 2nd limit listed is federal limit.

[(3)] The ECRRF participates in the alternate testing schedule for PCDD/PCDfs allowed pursuant to 40 CFR 60.38b(b). Unit #3 Was tested in 2015.

Table 6.5-2
2016 Stack Test Results Summary for the ECRRF[(1)]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	485	467	450	NA
Mercury (Hg) ug/dscm @ 7% O_2	42.8	48	484	NA
Outlet/Stack				
Particulate Matter (PM) gr/dscf @ 7% O_2	0.0025	0.00058	0.00038	0.014
Particulate Matter (PM) lb/hr	2.1	0.5	0.3	9.8/4.4[(4)]
Particulate Matter (PM) mg/dscm @ 7% O_2	6	1.3	1	25/12[(4)]
PM10 lb/hr	11.6	4.1	2.5	22.8/17[(4)]
PM 2.5 lb/hr	11.2	3.9	2.4	22.8/17[(4)]
Hydrogen Chloride (HCl) ppm @ 7% O_2	8	1.0	5	47/29[(2)]
Hydrogen Chloride (HCl) lb/hr	4.4	0.5	2.7	21.6
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[(3)]	1.23	0.21	0.12	35/30[(4)]
2,3,7,8-TCDD lb/hr[(3)]	6.66E-10	0.00E+00	2.56E-11	1.00E-05
Mercury (Hg) ug/dscm @ 7% O_2	6	<1.2	2	28/50[(2)]
Mercury (Hg) lb/hr	0.0021	<0.00043	0.001	0.053/0.01[(4)]
Cadmium (Cd) ug/dscm @ 7% O_2	6	0.10	<0.12	35
Cadmium (Cd) lb/hr	0.0022	3.3E-05	<0.000042	0.043/0.0037[(4)]
Lead (Pb) ug/dscm @ 7% O_2	57	1.4	0.69	400
Lead (Pb) lb/hr	0.02	0.0005	0.00024	0.5/0.037[(4)]
Removal Efficiency				
Hydrogen Chloride (HCl) %	98	99.8	99	≥90/95[(2)]
Mercury (Hg) %	86	100	99	≥95/85[(2)]
Ash Handling System				
Fugitive Emissions, Min.	0.00			9

[(1)]2016 Stack Testing was conducted on Units 1 and 3 between April 26, 2016 and April 29, 2016. Stack testing was conducted on Unit 2 between July 13, 2016 and July 19, 2016.

[(2)] 1st limit listed is NJDEP limit; 2nd limit listed is federal limit.

[(3)] The ECRRF participates in the alternate testing schedule for PCDD/PCDFs. However, all three units were tested in 2016, because of the project to replace the ESPs with baghouses. See following footnote.

[(4)] The 1st limit applies to Unit 1 (baghouse installation not yet complete). The 2nd limit applies to Units 2 & 3 (baghouse installation completed on both units, so the more restrictive limit is in effect).

Table 6.5-3
2017 Stack Test Results Summary for the ECRRF[1]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	500	488	413	NA
Mercury (Hg) ug/dscm @ 7% O_2	40.4	51.2	133	NA
Outlet/Stack				
Filterable Particulate Matter (PM) gr/dscf @ 7% O_2	0.000317	0.000448	0.000621	NA
Filterable Particulate Matter (PM) lb/hr	0.257	0.364	0.512	4.4
Filterable Particulate Matter (PM) mg/dscm @ 7% O_2	0.726	1.03	1.42	12/25
Total PM10 gr/dscf @ 7% O_2	0.00125	0.00647	0.00544	NA
Total PM10 lb/hr	0.867	4.46	3.85	17
Total PM 2.5 lb/hr	0.755	4.17	3.46	17
Hydrogen Chloride (HCl) ppm @ 7% O_2	0.527	5.03	2.85	47/29[2]
Hydrogen Chloride (HCl) lb/hr	0.284	2.76	1.56	21.6
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[3]	0.353	0.131	NA	30
Dioxins/Furans (PCDD/PCDF) lb/hr	1.18E-07	4.87E-08	NA	0.000011
2,3,7,8-TCDD lb/hr[3]	<3.79E-10	0.00E-00	NA	1.00E-05
Mercury (Hg) ug/dscm @ 7% O_2	<1.23	<1.27	<1.24	28/50[2]
Mercury (Hg) lb/hr	<0.000428	<0.000459	<0.000457	0.01
Cadmium (Cd) ug/dscm @ 7% O_2	0.167	0.107	0.0887	35
Cadmium (Cd) lb/hr	0.0000612	0.0000388	0.0000326	0.0037
Lead (Pb) ug/dscm @ 7% O_2	2.16	2.14	2.25	400
Lead (Pb) lb/hr	0.000728	0.000774	0.000829	0.037
Removal Efficiency				
Hydrogen Chloride (HCl) %	99.9	98.9	99.3	≥90/95[2]
Mercury (Hg) %	>96.8	>97.4	>98.2	≥95/85[2]
Ash Handling System				
Fugitive Emissions, Min.	0.00			9
Visible Emssions				
Opacity %	0	0	2	10

[1]2017 Stack Testing was conducted February 21 through February 23, 2017 and July 31, 2017 through August 4, 2017.

[2] 1st limit listed is NJDEP limit; 2nd limit listed is federal limit.

[3] The ECRRF participates in the alternate testing schedule for PCDD/PCDF allowed pursuant to 40 CFR 60.38b(b). Unit 2 was tested in 2017. Dioxin/furan testing was also conducted on Unit 1 to demonstrate compliance with the PCDD/PCDF limit after the baghouse installation.

Table 6.5-4

2018 Stack Test Results Summary for the ECRRF[1]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	410	426	501	NA
Mercury (Hg) ug/dscm @ 7% O_2	46.0	40.4	32.0	NA
Stack				
Ammonia (NH_3) lb/hr	0.852	1.15	1.02	10.1
Benzo[a]pyrene (B[a]P) lb/hr	1.16E-07	8.19E-08	1.69E-07	2.28E-04
Carbon Monoxide (CO)ppm @ 7% O_2[2]	29.7	37.4	42.0	400/100[4]
Carbon Monoxide (CO) lb/hr[3]	13.0	15.6	17.2	126
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[5]	NA	NA	0.359	30
Dioxins/Furans (PCDD/PCDF) lb/hr[5]	NA	NA	1.30E-07	1.10E-05
2,3,7,8-TCDD lb/hr[5]	NA	NA	0.00E-00?	1.00E-05
Formaldehyde (CH_2O) lb/hr	<0.0654	<0.0693	<0.0666	0.046
Hydrogen Chloride (HCl) ppm @ 7% O2	0.617	4.55	8.03	47/29[4]
Hydrogen Chloride (HCl) lb/hr	0.361	2.31	4.21	21.6
Mercury (Hg) ug/dscm @ 7% O_2	<1.21	<0.887	<1.14	28/50[4]
Mercury (Hg) lb/hr	<0.000463	<0.000336	<0.000398	0.01
Arsenic (As) lb/hr	<0.0000487	0.0000587	<0000472	0.0037
Beryllium (Be) lb/hr	<0.0000122	<0.0000043	<0.0000047	0.00025
Cadmium (Cd) ug/dscm @ 7% O_2	<0.127	1.05	<0.164	35
Cadmium (Cd) lb/hr	<0.0000487	0.000386	<0.0000572	0.0037
Chromium (Cr) lb/hr	0.000342	0.000737	0.000618	0.012
Lead (Pb) ug/dscm @ 7% O_2	1.44	9.89	2.34	400
Lead (Pb) lb/hr	0.000387	0.00362	0.000820	0.037
Nickel (Ni) lb/hr	0.000459	0.000797	0.000766	0.0033
Nitrogen Oxides (NO_X) ppm @ 7% O_2[2]	93.1	101	99.0	300/205[4]
Nitrogen Oxides (NO_X) lb/hr[6]	67.0	69.1	66.4	95
Filterable Particulate Matter (PM) gr/dscf @ 7% O_2	0.000423	0.00243	0.000737	NA
Total Particulate Matter (PM) gr/dscf @ 12% CO_2	0.00303	0.00514	0.00210	0.1
Filterable Particulate Matter (PM) lb/hr	0.383	2.00	0.586	4.4
Filterable Particulate Matter (PM) mg/dscm @ 7% O_2	0.969	5.56	1.69	12/25[4]
Total Polycyclic Aromatic Hydrocarbons (PAHs) lb/hr	<0.0000266	<0.0000214	<0.0000460	0.29
Total PM 2.5 lb/hr	4.94	3.08	2.86	17.0
Total PM10 gr/dscf @ 7% O_2	0.00734	0.00502	0.00400	NA
Total PM10 lb/hr	5.22	3.56	3.10	17.0
Sulfur Dioxide (SO_2) ppm @ 7% O_2[3]	8.73	11.6	9.07	94/29[4]
Sulfur Dioxide (SO_2) lb/hr[6]	8.77	11.2	8.44	75.8
Sulfuric Acid Mist including SO_3 mg/dscf @ 7% O_2	0.0888	0.0164	0.0187	10
Sulfuric Acid Mist including SO_3 lb/hr	1.21	0.208	0.233	4.0
Hydrogen Fluoride lb/hr	<0.0598	<0.0478	<0.0499	0.82
Total Hydrocarbons lb/hr	0.538	0.314	0.164	6.3
Total Hydrocarbons ppm @ 7% O_2	2.15	1.32	0.696	66
Carbon Tetrachloride lb/hr	<6.77E-04	<6.62E-04	<2.53E-03	0.01
Tetrachloroethylene lb/hr	<7.30E-04	<7.13E-04	<3.16E-03	0.01
Trichloroethylene lb/hr	<5.79E-04	<5.65E-04	<2.23E-03	0.01
Vinyl Chloride lb/hr	<2.75E-04	<2.69E-04	<1.03E-03	0.0046

Continued on Next Page.

Table 6.5-4 – Continued
2018 Stack Test Results Summary for the ECRRF(1)

Removal Efficiency				
Hydrogen Chloride (HCl) %	99.8	98.9	98.4	>90/95[4]
Mercury (Hg) %	>97.0	>97.6	>96.3	≥80/≥85[4]
Ash Handling System				
Fugitive Emissions, Min.	0			9
Visible Emissions				
Opacity %	1	1	0	10

[1]2018 Stack Testing conducted May 14 through May 16, 2018 and July 9 through July 15, 2018 and included additional constituents required to be tested
every 5 years.

[2]Data provided by reference method CEMS.

[3]Data provided by reference method CEMS and concurrent airflows.

[4]1st limit listed is NJDEP limit; 2nd limit listed is federal limit.

[5]The ECRRF participates in the alternate testing schedule for PCDD/PCDfs allowed pursuant to 40 CFR 60.38b(b). Unit #3 was tested in 2018.

Table 6.5-5
2019 Stack Test Results Summary for the ECRRF[(1)]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	437	426	423	NA
Mercury (Hg) ug/dscm @ 7% O_2	34.6	49.6	49.9	NA
ESP Outlet/Stack				
Filterable Particulate Matter (PM) gr/dscf @ 7% O_2	0.00129	0.000938	0.00130	NA
Filterable Particulate Matter (PM) lb/hr	1.10	0.733	1.12	4.4
Particulate Matter (PM) mg/dscm @ 7% O_2	2.95	2.15	2.98	12/25
Total PM10 gr/dscf @ 7% O_2	0.00673	0.00522	0.00370	NA
Total PM10 lb/hr	4.81	3.53	2.74	17
Total PM2.5 gr/dscf @ 7% O_2	0.00627	0.00509	0.00341	NA
Total PM2.5 lb/hr	4.47	3.44	2.53	17
Hydrogen Chloride (HCl) ppm @ 7% O_2	3.95	3.63	2.52	47/29[(2)]
Hydrogen Chloride (HCl) lb/hr	2.25	1.89	1.48	21.6
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[(3)]	0.486	NA	NA	30
Dioxin/Furan (PCDD/PCDF) lb/hr	1.78E-07	NA	NA	1.1E-05
2,3,7,8-TCDD lb/hr	<5.73E-10	NA	NA	1E-05
Mercury (Hg) ug/dscm @ 7% O_2	<1.20	<1.32	<1.24	28/50[(2)]
Mercury (Hg) lb/hr	<0.000454	<0.000447	<0.000462	0.01
Cadmium (Cd) ug/dscm @ 7% O_2	0.296	0.260	0.353	35
Cadmium (Cd) lb/hr	0.000112	0.0000881	0.000129	0.0037
Lead (Pb)ug/dscm @ 7% O_2	1.46	1.50	1.98	400
Lead (Pb) lb/hr	0.000554	0.000506	0.000721	0.037
Formaldehyde lb/hr	<0.0216	<0.0200	<0.0208	0.046
Removal Efficiency				
Hydrogen Chloride (HCl) %	99.1	99.2	99.4	≥90/95[(2)]
Mercury (Hg) %	>96.4	>96.7	>97.0	≥95/85[(2)]
Ash Handling System				
Fugitive Emissions, Min.		0		9:00
Visible Emissions				
Opacity %	0	0	1	10

[(1)]2019 Stack Testing was conducted April 29, 2019 through May 3, 2019.and repeat testing for formaldehyde was conducted July 9-10, 2019.
[(2)] 1st limit listed is NJDEP limit; 2nd limit listed is federal limit.
[(3)] The ECRRF participates in the alternate testing schedule for PCDD/PCDfs allowed pursuant to 40 CFR 60.38b(b). Unit #1 was tested in 2019.
[(4)] Total particulate including filterable and condensible particulate.

Table 6.5-6
2020 Stack Test Results Summary for the ECRRF[(1)]

Parameter/Units	Unit 1	Unit 2	Unit 3	Limit
SDA Inlet				
Hydrogen Chloride (HCl) ppm @ 7% O_2	401	422	381	NA
Mercury (Hg) ug/dscm @ 7% O_2	29.9	232	23.5	NA
ESP Outlet/Stack				
Filterable Particulate Matter (PM) gr/dscf @ 7% O_2	0.000907	0.000312	0.000248	NA
Filterable Particulate Matter (PM) lb/hr	0.660	0.257	0.200	4.4
Filterable Particulate Matter (PM) mg/dscm @ 7% O_2	2.07	0.713	0.568	12/25
Total PM10 gr/dscf @ 7% O_2	0.00415	0.00366	0.00417	NA
Total PM10 lb/hr	2.93	2.55	2.95	17
Total PM2.5 gr/dscf @ 7% O_2	0.00365	0.00320	0.00394	NA
Total PM2.5 lb/hr	2.57	2.23	2.79	17
Hydrogen Chloride (HCl) ppm @ 7% O_2	5.97	1.37	2.03	47/29[(2)]
Hydrogen Chloride (HCl) lb/hr	2.89	0.751	1.08	21.6
Total Dioxin/Furan (PCDD/PCDF) ng/dscm @ 7% O_2[(3)]	NA	0.185	NA	30
Dioxin/Furan (PCDD/PCDF) lb/hr	NA	6.38E-08	NA	1.1E-05
2,3,7,8-TCDD lb/hr	NA	<3.06E-10	NA	1E-05
Mercury (Hg) ug/dscm @ 7% O_2	<1.22	<1.34	<1.38	28/50[(2)]
Mercury (Hg) lb/hr	<0.000395	<0.000471	<0.000483	0.01
Cadmium (Cd) ug/dscm @ 7% O_2	0.231	<0.305	<0.167	35
Cadmium (Cd) lb/hr	0.0000747	<0.000108	<0.0000591	0.0037
Lead (Pb)ug/dscm @ 7% O_2	3.14	3.77	1.64	400
Lead (Pb) lb/hr	0.00102	0.00134	0.000580	0.037
Removal Efficiency				
Hydrogen Chloride (HCl) %	98.5	99.7	99.5	≥90/95[(2)]
Mercury (Hg) %	>92.4	>96.4	>93.3	≥95/85[(2)]
Ash Handling System				
Fugitive Emissions, Min.	0			9:00
Visible Emissions				
Opacity %	1	1	1	10

[(1)]2020 Stack Testing was conducted June 29 through July 3, 2020.
[(2)] 1st limit listed is NJDEP limit; 2nd limit listed is federal limit.
[(3)] The ECRRF participates in the alternate testing schedule for PCDD/PCDfs allowed pursuant to 40 CFR 60.38b(b). Unit #1 was tested in 2019.
[(4)] Total particulate including filterable and condensible particulate.

6.5.2 Noise Monitoring

The Essex County Resource Recovery Facility (ECRRF) is located in a heavy industrial zone (I-3) as classified by the City of Newark. The Facility site is located in relative close proximity to Newark Liberty International Airport and the New Jersey Turnpike. These two sources generate the majority of background noise in the area of the Facility. Land use adjacent to the Facility is primarily industrial.

Noise generated at the ECRRF is regulated pursuant to *N.J.A.C. Title 7, Chapter 29, Noise Control*. Pursuant to N.J.A.C. 7:29-1.2, continuous airborne sound[15] generated at industrial facilities between the hours of 7:00 am and 10:00 pm is limited to 65 dBA when measured at any residential property line of any affected person. Impulsive sound[16] is limited to 80 dBA at any residential property line of any affected person from 7:00 am through 10:00 pm. Night-time (10:00 pm through 7:00 am) continuous airborne sound is limited to 50 dBA at any residential property line. Impulsive sound at night may not exceed 80 dBA at any residential property line more than four times in any hour. Impulsive sound which repeats more than four times in any hour during night-time hours shall not exceed 50 dBA at any residential property line.

Regular noise monitoring is not required to be conducted at the Facility. Noise testing was previously conducted for the Facility in 1991 (by EEA Incorporated), in 1992 (by an independent consultant) and in March 1994 (by Recon Systems, Inc.) All these analyses concluded that the ECRRF was in compliance with the applicable noise requirements established in N.J.A.C 7:29-1.2. Additional noise testing was conducted in February of 1995 in order to evaluate compliance with the applicable noise regulations during 24-hour waste receipt at the Facility. This

[15] "Continuous airborne sound" means sound that is measured by the slow response setting of a sound level meter in accordance with the provisions of N.J.A.C. 7:29-2, and which last one second or longer. Impulsive sounds that are rapidly repetitive and have a duration of one second or longer shall be measured as continuous airborne sound.

[16] "Impulsive sound" means either a single pressure peak or a single burst (multiple pressure peaks) having a duration of less than one(1) second.

testing concluded that during 24-hour receipt of waste, the Facility did not exceed any noise requirement during routine operations.

The Facility has not installed any new equipment or made any significant changes to Facility operations during the 2015-2019 permit term that would impact noise levels generated by the Facility; therefore, the conclusions of the previous noise studies and analyses remain applicable to current operations.

6.6 TRAFFIC

6.6.1 Traffic Update

Scale house data for the 2015-2019 review period, as well as data for January-September 2020 was compiled and reviewed to determine total daily waste delivery vehicle counts (vehicles/day) and peak waste vehicle delivery days. Tables 6.6-1, 6.6-2, 6.6-3, 6.6-4, 6.6-5 and 6.6-6 provide total daily waste delivery vehicles (vehicles/day) to the ECRRF and identify peak delivery days for each month during the review period. These tables are provided on the following pages and annual data summarized below.

Current Permit Renewal Review Period (2015-2019):

NUMBER OF WASTE DELIVERY VEHICLES

Year	*Average* Daily Delivery	*Peak* Daily Delivery	Projected *Average* Daily Delivery Original in EIS	Projected *Average* Daily Delivery '95 throughput increase
2015	240	409	455	374
2016	259	405	455	374
2017	271	426	455	374
2018	296	440	455	374
2019	306	430	455	374
Avg.	274	NA	NA	NA

Previous Permit Renewal Review Period (2006-2010):

NUMBER OF WASTE DELIVERY VEHICLES

Year	*Average* Daily Delivery	*Peak* Daily Delivery	Projected *Average* Daily Delivery Original in EIS	Projected *Average* Daily Delivery '95 throughput increase
2006	270	409	455	374
2007	269	408	455	374
2008	279	405	455	374
2009	275	470	455	374
2010	265	409	455	374
Avg.	272	NA	NA	NA

The EIS assumed an expected volume of waste delivery vehicles of 329 to 501 per day, with an average of 455 deliveries per day. In 1995, an updated projection was completed based on actual waste delivery vehicles and accounting for the proposed throughput increase to 985,500 TPY. The "expanded capacity operation" scenario projected an average waste delivery vehicle count of 374 trucks per day.

The average volume of waste delivery vehicles during the review period (2015-2019) was 274 refuse delivery vehicles per day, which is consistent with the average volume of waste delivery vehicles of 272 refuse vehicles per day during the previous permit renewal review period (2006-2010) and well-below both the original EIS and the 1995 expansion operation projections. The highest volume delivery day during the review period (2015-2019) was 440 waste delivery vehicles compared to 470 vehicles in the previous permit renewal review period (2006-2010), both of which are within the volume projected in the EIS of 329 to 501 vehicles per day.

Similarly, the average volume of waste delivery vehicles during the period of January-September 2020 was 295 refuse delivery vehicles per day, well-below both the original EIS and the 1995 expansion operation projections of 455 vehicles per day and 374 vehicles per day, respectively. The highest volume delivery day during the January-September 2020 period was 438 waste delivery vehicles, which is within the volume projected in the EIS of 329 to 501 vehicles per day.

Since the actual Facility traffic is below both the EIS projections and “expanded capacity operation” projections no further traffic analyses are required at this time.

Table 6.6-1
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for 2015

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	67	SC	SC	194	276	335	255	191	346	271	SC	384
2	326	105	182	182	177	345	315	SC	253	305	335	253
3	255	255	253	188	SC	294	248	325	279	185	288	291
4	SC	280	212	119	331	296	101	342	325	SC	276	300
5	396	347	100	SC	380	275	SC	291	184	330	310	215
6	317	362	200	196	296	227	325	264	SC	347	372	SC
7	294	240	250	202	299	SC	409	322	97	250	208	309
8	255	74	188	172	327	296	311	201	347	286	SC	363
9	263	310	248	167	232	325	315	SC	362	299	336	243
10	189	278	322	186	SC	255	335	332	334	172	337	283
11	SC	251	265	114	334	258	192	332	330	SC	223	298
12	311	240	262	SC	364	258	SC	226	217	248	272	203
13	345	280	268	188	297	209	322	286	SC	325	329	SC
14	260	204	173	208	298	SC	347	312	349	342	198	314
15	279	55	SC	172	322	304	263	210	354	309	SC	329
16	307	192	276	171	207	341	271	SC	278	301	343	259
17	179	242	276	199	SC	286	285	315	273	190	345	278
18	SC	365	212	123	350	297	218	342	292	SC	251	297
19	212	359	244	SC	370	303	SC	269	196	336	276	215
20	308	339	192	198	288	194	303	282	SC	326	291	SC
21	259	190	147	204	288	SC	330	295	310	251	197	323
22	308	39	16	169	305	327	265	181	360	281	SC	346
23	308	257	288	168	201	342	276	SC	264	314	328	276
24	115	317	260	199	SC	298	302	333	317	235	357	279
25	93	234	207	121	95	281	212	348	292	SC	292	72
26	213	214	223	SC	337	298	SC	263	198	312	100	203
27	3	251	227	206	374	228	314	295	SC	352	285	SC
28	200	159	173	244	315	SC	346	310	334	258	253	369
29	347		SC	211	309	339	276	203	342	283	SC	375
30	345		234	248	211	335	290	SC	269	294	404	341
31	281		258		SC		299	332		174		306

Average	243	238	205	170	253	252	266	247	259	253	249	249
Peak Day	396	365	322	248	380	345	409	348	362	352	404	384

SC - Scale house closed on Sundays, except as noted below.
If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.
Peak day(s) of each month.

Table 6.6-2
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for 2016

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	69	304	378	277	SC	340	294	296	277	251	363	323
2	216	307	272	204	338	355	196	359	332	SC	259	304
3	SC	239	311	SC	345	348	SC	295	257	352	308	292
4	384	279	317	288	275	218	104	276	SC	369	296	SC
5	371	251	216	338	295	SC	325	319	103	294	232	354
6	343	214	SC	245	310	304	357	222	379	300	SC	387
7	313	40	339	273	209	359	313	SC	381	309	335	289
8	328	261	364	288	SC	284	335	316	358	213	261	329
9	205	293	265	173	309	280	258	348	353	SC	301	343
10	SC	237	296	SC	332	302	SC	269	246	257	366	258
11	338	279	306	341	244	220	315	303	SC	365	288	SC
12	360	261	209	304	258	SC	332	290	372	343	237	333
13	259	186	SC	284	288	301	269	218	381	314	SC	363
14	276	SC	295	291	196	325	276	SC	296	291	363	295
15	313	222	337	317	SC	284	303	315	306	240	337	334
16	194	294	253	199	300	288	204	310	326	SC	301	361
17	SC	379	274	SC	322	303	SC	299	243	356	324	193
18	240	277	280	339	224	210	301	264	SC	371	316	SC
19	323	324	192	362	253	SC	337	298	365	287	225	328
20	324	191	SC	285	270	325	241	212	365	301	SC	405
21	291	SC	293	291	180	322	257	SC	282	318	350	293
22	318	347	281	318	SC	271	304	328	338	220	377	318
23	56	367	217	221	287	285	218	388	316	SC	334	331
24	SC	273	238	SC	298	328	SC	315	254	342	96	238
25	114	295	166	327	237	206	294	319	SC	357	296	SC
26	183	314	180	348	238	SC	361	334	356	295	315	169
27	235	214	SC	289	286	313	265	254	360	290	SC	348
28	357	SC	276	276	173	344	285	SC	320	307	400	396
29	394	354	333	329	SC	271	320	353	299	227	382	328
30	249		253	203	91	294	236	380	335	SC	310	342
31	194		261		344		SC	304		376		225

Average	234	242	247	256	238	265	252	273	293	257	275	283
Peak Day	394	379	378	362	345	359	361	388	381	376	400	405

SC - Scale house closed on Sundays, except as noted below.
If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.
Peak day(s) of each month.

Table 6.6-3
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for 2017

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	SC	302	297	241	276	359	233	380	317	SC	304	329
2	197	308	319	SC	300	351	SC	319	216	363	262	235
3	363	341	320	363	240	268	365	336	SC	393	323	SC
4	382	234	238	337	239	SC	96	349	86	272	223	349
5	395	SC	SC	297	252	381	339	239	426	307	SC	385
6	338	352	379	317	188	371	383	SC	362	313	338	299
7	151	375	369	330	SC	290	335	340	345	232	262	308
8	SC	272	281	217	276	318	269	373	334	SC	277	359
9	410	108	344	SC	301	335	SC	277	251	226	365	136
10	363	212	240	287	179	260	358	300	SC	346	313	112
11	273	167	227	336	202	SC	390	322	353	304	206	380
12	279	161	70	220	228	354	277	230	381	319	SC	357
13	338	415	339	243	134	368	271	SC	249	332	328	277
14	217	373	56	244	SC	298	322	358	326	227	354	275
15	SC	342	114	194	251	304	232	373	319	SC	286	362
16	229	314	266	SC	311	371	SC	287	249	361	289	182
17	353	338	382	262	238	242	325	302	SC	349	298	SC
18	364	227	197	312	292	SC	375	323	347	280	243	367
19	312	SC	166	212	317	353	294	212	394	300	SC	387
20	324	250	395	210	217	373	296	SC	302	284	333	321
21	235	372	408	271	SC	327	318	348	315	218	378	333
22	SC	353	326	215	350	320	241	360	343	SC	317	316
23	340	329	287	SC	361	350	SC	282	237	363	99	246
24	341	336	372	284	309	235	333	293	SC	345	310	SC
25	291	259	244	290	302	SC	369	328	385	259	284	79
26	301	SC	SC	219	314	352	301	213	376	308	SC	384
27	351	349	327	240	219	401	310	SC	288	292	400	335
28	239	387	366	253	SC	317	335	375	315	232	395	353
29	SC		300	195	103	303	228	353	323	SC	272	353
30	348		325	SC	393	313	SC	295	228	353	307	172
31	365		302		391		360	309		315		SC

Average	279	277	266	227	248	304	284	292	288	263	259	266
Peak Day	410	415	408	363	393	401	390	380	426	393	400	387

SC - Scale house closed on Sundays, except as noted below.
If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.
Peak day(s) of each month.

Table 6.6-4
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for 2018

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	133	316	317	SC	388	342	SC	302	248	328	329	234
2	406	317	291	344	302	262	328	330	SC	303	345	SC
3	326	234	231	371	321	SC	413	314	101	326	235	344
4	158	SC	SC	279	312	386	97	257	409	237	SC	364
5	271	347	326	310	248	402	363	SC	300	328	370	215
6	181	414	400	334	SC	326	405	362	378	205	302	322
7	86	276	134	223	343	357	269	395	375	SC	313	287
8	403	323	236	SC	405	339	SC	292	250	215	368	232
9	420	319	356	324	277	235	330	328	SC	302	327	SC
10	386	232	222	418	327	SC	391	342	350	341	263	369
11	331	SC	SC	318	314	355	283	218	376	320	SC	385
12	332	258	437	332	262	377	338	SC	283	295	262	303
13	294	387	365	321	SC	318	326	359	330	250	401	349
14	40	342	296	236	354	328	212	393	335	SC	345	291
15	304	319	324	SC	364	379	SC	292	219	344	341	261
16	355	323	329	363	274	233	342	336	SC	405	271	SC
17	317	217	235	404	323	SC	366	348	377	313	298	357
18	328	SC	SC	325	308	345	287	235	362	347	SC	335
19	312	215	354	355	240	385	315	SC	298	327	341	281
20	219	351	403	337	SC	298	327	375	310	232	427	319
21	SC	312	179	246	325	319	252	402	278	SC	350	297
22	379	320	197	SC	412	325	SC	294	221	375	100	239
23	362	295	337	337	274	246	342	315	SC	405	321	SC
24	289	224	285	410	327	SC	397	334	314	288	284	368
25	333	SC	56	290	312	359	277	231	292	345	SC	65
26	337	313	339	309	252	379	340	SC	272	315	397	334
27	235	366	381	331	SC	298	328	386	154	247	440	374
28	SC	269	283	239	116	317	240	379	220	SC	334	359
29	412		304	SC	390	344	SC	294	226	369	293	279
30	378		258	378	407	266	356	305	SC	377	267	SC
31	290		262		334		413	351		328		386

Average	287	292	271	313	315	304	298	283	270	302	320	294
Peak Day	420	414	437	418	412	402	413	402	409	405	440	386

SC - Scalehouse closed on Sundays.
If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.
Peak day(s) of each month.

Table 6.6-5
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for 2019

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	76	297	315	399	281	240	333	358	SC	372	326	SC
2	352	262	133	412	330	SC	410	348	123	275	240	404
3	354	SC	49	297	261	404	259	267	430	330	SC	380
4	411	351	245	340	260	409	103	SC	380	305	357	377
5	285	372	400	321	SC	304	379	381	392	255	257	321
6	SC	241	308	249	363	373	297	404	391	SC	335	356
7	376	297	363	SC	385	304	SC	300	265	405	353	272
8	349	286	325	362	289	248	377	344	SC	369	361	SC
9	322	232	241	364	323	SC	396	322	359	303	244	363
10	352	SC	SC	300	313	377	315	238	375	319	SC	419
11	310	271	354	309	220	362	280	SC	286	300	262	330
12	242	215	378	328	SC	310	314	369	320	229	330	331
13	SC	290	251	226	366	336	245	388	293	SC	344	325
14	407	291	303	SC	369	308	SC	294	252	257	370	265
15	412	305	273	355	332	224	358	346	SC	410	332	SC
16	340	248	208	379	339	SC	399	334	372	331	274	389
17	318	SC	SC	301	335	383	262	231	347	374	SC	377
18	350	247	347	363	227	401	319	SC	274	311	344	316
19	161	358	341	300	SC	319	313	379	270	259	373	312
20	SC	267	282	227	390	330	237	416	321	SC	287	292
21	268	333	340	SC	414	285	SC	291	217	379	345	261
22	375	388	304	390	313	248	378	323	SC	407	289	SC
23	383	225	251	409	347	SC	386	311	329	295	240	423
24	385	SC	SC	302	331	408	280	265	357	365	SC	396
25	327	360	359	311	249	397	347	SC	289	322	366	72
26	244	353	402	353	SC	298	335	402	332	231	381	345
27	SC	325	290	214	97	311	267	378	304	SC	333	420
28	367	292	330	SC	403	302	SC	304	244	404	100	293
29	412		300	376	333	245	345	352	SC	361	313	SC
30	296		247	373	416	SC	398	338	363	291	243	396
31	291		SC		385		308	229		342		381

Average	325	284	294	306	321	301	309	307	303	314	296	315
Peak Day	412	388	402	412	416	409	410	416	430	410	381	423

SC – Scale house closed on Sundays, except as noted below.
If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.
Peak day(s) of each month.

Table 6.6-6
Essex County Resource Recovery Facility
Daily Scalehouse Deliveries (Trucks per Day) for January-September 2020

Day	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	83	240	SC	296	339	377	289	211	365			
2	354	SC	395	321	216	386	340	SC	307			
3	403	374	366	354	SC	288	260	408	323			
4	305	358	295	227	389	336	102	319	319			
5	SC	274	360	SC	390	298	SC	314	200			
6	410	343	326	408	336	211	405	314	SC			
7	371	315	260	385	334	SC	438	341	108			
8	311	248	SC	322	353	380	281	236	396			
9	334	SC	417	360	236	350	359	SC	360			
10	322	380	404	280	SC	271	344	346	292			
11	257	388	299	218	400	261	205	341	348			
12	SC	254	358	SC	379	287	SC	281	219			
13	383	356	318	353	319	198	384	297	SC			
14	391	359	281	377	305	SC	380	329	325			
15	280	236	SC	355	307	347	292	207	317			
16	369	SC	435	305	219	314	304	SC	133			
17	327	246	412	334	SC	245	313	328	158			
18	158	391	337	234	371	318	216	333	231			
19	47	327	354	SC	413	331	SC	277	192			
20	300	374	334	383	320	211	341	292	SC			
21	374	332	232	398	330	SC	351	316	352			
22	343	242	SC	288	317	360	298	218	338			
23	373	SC	392	338	223	374	306	SC	295			
24	342	399	336	327	SC	287	306	348	292			
25	257	374	307	210	91	300	217	359	318			
26	SC	304	371	SC	405	312	SC	274	186			
27	368	338	367	351	357	214	360	298	SC			
28	374	313	201	400	386	SC	374	346	380			
29	283	246	SC	320	343	324	304	202	340			
30	326		385	305	228	353	308	SC	295			
31	323		383		SC		324	378				

Average	292	286	319	313	277	305	300	304	255			
Peak Day	410	399	435	408	413	386	438	408	396			

SC - Scalehouse closed on Sundays.

If the ECRRF obtains prior approval from NJDEP, Facility may receive waste on Sundays to compensate for snow days and other temporary schedule interruptions.

Peak day(s) of each month.

6.7 COMPLIANCE HISTORY

The ECCRF has operated in substantial compliance with all regulatory requirements throughout the current permit period. As noted in Section 5.0 Disclosure Statement, a summary of all Enforcement Actions taken during January 1, 2015 through September 2020 is provided in Appendix C. This summary includes the date of the action, a brief description of the issue/action and status/summary of the resolution. The majority of enforcement actions issued by NJDEP during the permit term have been resolved by the Facility and require no further action.

6.8 ADDITIONAL FACILITY OPERATIONAL DATA

In addition to the operating data provided throughout Section 6.0, monthly and annual totals for Facility operating data for 2015, 2016, 2017, 2018, 2019 and January-September of 2020 is provided in Tables 7.0-1, 7.0-2, 7.0-3, 7.0-4, 7.0-5 and 7.0-6, respectively.

Table 7.0-7 provides annual city water consumption by the ECRRF by water type (potable, high pressure and sanitary) for the current permit renewal review period (2015-2019), as well as for January-September 2020.

Tables 7.0-8 through 7.0-13 provide monthly and annual totals of waste delivered by waste type for 2015, 2016, 2017, 2018, 2019 and January-September 2020, respectively.

6.9 PROPOSED PERMIT MODIFICATIONS

Covanta Essex Company is not proposing any permit modifications as part of this routine 5-year Solid Waste Facility Permit Renewal.

SECTION 7.0

ADDITIONAL OPERATING DATA TABLES

Table 7.0-1
Essex County Resource Recovery Facility
2015 Operating Data - Monthly and Annual Totals

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	1,953	1,743	1,890	1,733	2,232	2,087	2,232	2,211	2,070	2,204	1,998	2,188	24,542
Days of Operation (3 Units)	81.4	72.6	78.7	72.2	93.0	86.9	93.0	92.1	86.3	91.8	83.3	91.2	1022.6
Refuse Received (tons)	69,847	63,111	60,365	45,759	83,307	85,620	82,226	77,058	80,760	80,318	78,319	83,096	889,785
Refuse Processed (tons)	70,452	58,399	56,807	55,215	81,420	82,932	82,173	79,414	77,836	84,700	75,880	85,673	890,901
Steam Produced (klbs)	449,023	354,611	346,609	332,655	525,122	474,078	504,508	502,760	477,067	513,765	463,159	514,741	5,458,098
Gross Electric Gen. (MWH)	41,793	27,129	24,052	29,913	50,218	45,018	46,997	47,092	45,840	51,028	45,840	50,562	505,482
Net Electric Gen. (MWH)	36,361	22,907	19,266	25,159	43,832	39,193	40,691	40,895	39,562	44,597	40,011	44,194	436,668
Boiler #1 Availability (%)	100.0	77.9	64.6	74.4	100.0	100.0	100.0	100.0	100.0	96.5	96.8	100.0	NA
Boiler #2 Availability (%)	97.3	93.6	89.6	68.9	100.0	93.9	100.0	99.6	92.3	100.0	100.0	94.1	NA
Boiler #3 Availability (%)	65.2	87.9	99.8	97.4	100.0	96.0	100.0	97.7	95.3	99.7	80.7	100.0	NA
Average Boiler Availability (%)	87.5	86.5	84.7	80.2	100.0	96.6	100.0	99.1	95.9	98.8	92.5	98.0	NA
Ash Removed (tons)	15,540	12,292	12,424	11,024	17,828	17,915	18,499	16,872	17,436	18,384	16,966	18,371	193,551
Ferrous Removed (tons)	1,341	1,102	1,073	944	1,423	1,510	1,587	1,461	1,255	1,311	1,623	1,720	16,351
Non-Ferrous Removed (tons)	287	206	191	188	253	233	332	237	233	335	264	376	3,136

Table 7.0-2
Essex County Resource Recovery Facility
2016 Operating Data - Monthly and Annual Totals

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	2,201	1,781	1,851	2,099	1,977	2,113	2,214	2,202	2,158	2,147	2,008	2,171	24,923
Day of Operation (3 Units)	91.7	74.2	77.1	87.5	82.4	88.1	92.3	91.8	89.9	89.5	83.7	90.5	1038.5
Refuse Received (tons)	76,128	72,068	75,579	79,119	72,597	85,275	78,318	87,964	84,671	79,514	81,267	87,454	959,954
Refuse Processed (tons)	79,121	70,204	69,539	80,958	76,158	84,588	79,338	83,197	85,212	83,693	79,561	86,559	958,128
Steam Produced (klbs)	485,737	405,252	414,193	489,811	457,130	502,618	488,719	500,911	513,470	507,446	474,802	513,439	5,753,528
Gross Electric Gen. (MWH)	47,651	38,739	40,263	47,898	44,179	48,066	42,804	45,268	48,809	48,751	46,438	49,909	548,775
Net Electric Gen. (MWH)	41,622	33,524	34,732	41,838	37,879	41,728	36,589	38,858	42,253	41,988	40,366	43,350	474,727
Boiler #1 Availability (%)	96.9	94.4	59.6	98.4	100.0	99.8	100.0	100.0	99.7	94.4	81.8	96.4	NA
Boiler #2 Availability (%)	99.9	100.0	97.0	93.2	65.7	93.7	97.6	96.0	100.0	100.0	97.5	100.0	NA
Boiler #3 Availability (%)	99.0	61.5	92.2	100.0	100.0	100.0	100.0	100.0	100.0	94.1	99.5	95.4	NA
Average Boiler Availability (%)	98.6	85.3	82.9	97.2	88.6	97.8	99.2	98.7	99.9	96.2	93.0	97.3	NA
Ash Removed (tons)	17,554	14,561	15,401	16,608	15,793	17,265	15,999	17,915	18,223	17,363	17,312	18,042	202,036
Ferrous Removed (tons)	1,568	1,560	1,474	1,581	1,480	1,827	1,851	1,893	1,925	1,942	1,763	1,920	20,784
Non-Ferrous Removed	274	251	379	260	308	318	351	351	300	328	325	302	3,747

Table 7.0-3
Essex County Resource Recovery Facility
2017 Operating Data - Monthly and Annual Totals

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	2,230	1,929	2,205	1,656	1,856	2,160	2,202	2,164	2,109	2,193	1,886	2,218	24,808
Days of Operation (3 Units)	92.9	80.4	91.9	69.0	77.3	90.0	91.7	90.2	87.9	91.4	78.6	92.4	1033.7
Refused Received (tons)	84,540	75,598	80,816	64,296	72,684	93,770	82,504	89,174	84,176	78,754	76,880	81,117	964,309
Refuse Processed (tons)	88,370	72,246	85,527	60,305	73,578	88,054	89,036	85,096	83,628	83,274	73,849	85,522	968,485
Steam Produced (klbs)	526,066	450,114	510,089	349,770	415,730	513,184	517,521	512,535	500,877	516,407	440,358	527,065	5,779,716
Gross Electric Gen. (MWH)	51,057	43,182	47,037	31,492	26,042	27,225	43,317	49,483	48,500	50,611	43,770	52,194	513,910
Net Electric Gen. (MWH)	44,282	37,272	40,521	26,698	20,872	20,983	36,463	42,240	41,800	43,441	37,927	45,419	437,918
Boiler #1 Availability (%)	99.8	100.0	96.4	87.0	94.5	100.0	100.0	100.0	95.2	100.0	61.9	98.3	NA
Boiler #2 Availability (%)	100.0	100.0	100.0	86.4	59.4	100.0	95.9	94.0	97.7	100.0	100.0	100.0	NA
Boiler #3 Availability (%)	100.0	87.1	100.0	56.6	95.6	100.0	100.0	96.9	100.0	94.7	100.0	99.8	NA
Average Boiler Availability (%)	99.9	95.7	98.8	76.7	83.2	100.0	98.6	97.0	97.6	98.2	87.3	99.4	NA
Ash Removed (tons)	17,885	16,178	18,057	13,117	12,378	18,153	16,405	20,209	16,532	17,606	15,166	16,533	198,219
Ferrous Removed (tons)	2,030	1,730	1,792	1,480	1,260	1,899	2,003	2,095	1,899	2,138	1,705	1,964	21,995
Non-Ferrous Removed (tons)	328	259	345	181	270	327	274	334	311	387	283	241	3,541

Table 7.0-4
Essex County Resource Recovery Facility
2018 Operating Data - Monthly and Annual Facility Totals

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	2,229	1,731	1,984	2,126	2,189	2,159	2,213	2,232	1,919	2,198	2,110	2,232	25,320
Days of Operation (3 Units)	92.9	72.1	82.6	88.6	91.2	90.0	92.2	93.0	79.9	91.6	87.9	93.0	1,055
Refuse Received (tons)	85,884	72,745	80,367	83,884	87,647	87,357	83,353	88,187	72,267	84,135	86,939	76,202	988,964
Refuse Processed (tons)	85,012	71,013	77,296	86,275	86,181	85,834	84,649	87,900	72,836	84,315	82,990	81,176	985,477
Steam Produced (klbs)	524,408	401,932	465,960	501,136	513,325	506,404	514,424	509,535	441,365	513,727	476,224	501,306	5,869,746
Gross Electric Gen. (MWH)	51,261	37,405	43,906	49,666	50,165	48,571	49,681	48,954	43,298	50,543	45,350	48,913	567,713
Net Electric Gen. (MWH)	44,737	31,844	37,785	42,989	43,409	42,052	42,844	42,026	36,755	43,734	39,487	42,505	490,167
Boiler #1 Availability (%)	100.0	94.4	100.0	95.6	94.2	100.0	97.4	100.0	66.5	95.4	100.0	100.0	NA
Boiler #2 Availability (%)	100.0	98.6	68.9	99.9	100.0	99.9	100.0	100.0	100.0	100.0	93.0	100.0	NA
Boiler #3 Availability (%)	99.6	64.6	97.7	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	NA
Average Boiler Availability (%)	99.9	85.9	88.9	98.4	98.1	100.0	99.1	100.0	88.8	98.5	97.7	100.0	NA
Ash Removed (tons)	19,009	14,084	14,452	15,882	17,078	15,871	16,130	17,159	12,794	17,410	16,922	15,655	192,446
Ferrous Removed (tons)	2,397	1,813	1,835	2,014	2,122	2,087	2,057	2,511	1,832	1,739	2,268	2,048	24,724
Non-Ferrous Removed (tons)	403	207	208	279	314	297	436	263	233	257	257	292	3,446

Table 7.0-5
Essex County Resource Recovery Facility
2019 Operating Data - Monthly and Annual Facility Totals

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	2,187	1,756	1,970	2,071	2,210	2,155	2,159	2,232	1,916	2,232	2,110	2,220	25,218
Days of Operation (3 Units)	91.1	73.2	82.1	86.3	92.1	89.8	89.9	93.0	79.8	93.0	87.9	92.5	1050.8
Refuse Received (tons)	82,993	65,758	74,865	85,284	87,652	81,590	84,118	83,415	75,018	89,725	80,467	92,855	983,741
Refuse Processed (tons)	82,465	67,582	75,153	78,929	88,467	85,934	82,900	88,294	73,484	87,128	86,549	88,616	985,499
Steam Produced (klbs)	511,061	407,368	458,431	489,384	513,107	507,008	496,702	528,984	460,287	538,509	506,977	525,848	5,943,666
Gross Electric Gen. (MWH)	50,204	39,856	41,166	45,048	49,998	48,629	46,703	52,315	45,156	53,033	50,250	52,120	574,478
Net Electric Gen. (MWH)	43,589	34,419	34,900	38,570	43,198	42,098	40,047	45,620	38,914	45,977	43,760	45,522	496,614
Boiler #1 Availability (%)	94.5	100.0	100.0	98.8	100.0	100.0	96.1	100.0	66.1	100.0	100.0	100.0	NA
Boiler #2 Availability (%)	99.7	100.0	64.8	93.7	100.0	100.0	94.2	100.0	100.0	100.0	100.0	100.0	NA
Boiler #3 Availability (%)	99.7	61.3	100.0	95.3	97.0	99.3	99.9	100.0	100.0	100.0	100.0	98.5	NA
Average Boiler Availability (%)	98.0	87.1	88.3	95.9	99.0	99.8	96.7	100.0	88.7	100.0	100.0	99.5	NA
Ash Removed (tons)	16,214	14,323	13,489	16,353	16,677	14,492	15,693	16,818	13,948	16,382	15,874	17,633	187,896
Ferrous Removed (tons)	1,936	1,812	1,663	2,125	2,208	2,038	2,057	2,212	1,727	2,285	1,970	2,427	24,460
Non-Ferrous Removed (tons)*	249	254	230	313	297	294	322	296	200	343	269	339	3,407

Table 7.0-6
Essex County Resource Recovery Facility
January - September 2020 Operating Data - Monthly and Year-to-Date Totals*

Operating Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Hours of Operation (3 Units)	2,232	1,797	2,229	2,112	2,232	1,983	2,199	2,168	1,877				18,829
Days of Operation (3 Units)	93.0	74.9	92.9	88.0	93.0	82.6	91.6	90.3	78.2				784.5
Refuse Received (tons)	85,137	75,649	84,122	83,602	86,252	75,917	85,620	79,492	73,218				729,010
Refuse Processed (tons)	88,685	70,646	89,459	79,680	88,991	76,375	84,899	83,661	71,382				733,778
Steam Produced (klbs)	535,586	425,291	538,543	483,050	537,087	464,360	516,547	505,380	445,465				4,451,309
Gross Electric Gen. (MWH)	52,652	40,928	53,160	48,045	53,005	40,150	48,815	47,621	42,990				427,366
Net Electric Gen. (MWH)	45,815	34,653	46,680	41,510	45,920	37,392	41,732	40,891	36,760				371,353
Boiler #1 Availability (%)	100.0	95.5	99.7	100.0	100.0	100.0	95.6	91.4	97.9				NA
Boiler #2 Availability (%)	100.0	99.8	100.0	100.0	99.9	81.0	100.0	100.0	63.6				NA
Boiler #3 Availability (%)	100.0	62.9	99.9	93.4	100.0	94.4	100.0	100.0	99.3				NA
Average Boiler Availability (%)	100.0	86.1	99.9	97.8	100.0	91.8	98.5	97.1	86.9				NA
Ash Removed (tons)	16,864	12,801	16,746	15,994	15,493	15,487	16,828	14,270	13,549				138,033
Ferrous Removed (tons)	2,393	1,207	2,085	2,400	2,119	1,872	2,283	1,708	1,772				17,838
Non-Ferrous Removed (tons)	320	196	288	335	323	270	304	265	209				2,511

* This SWF Renewal Application is being submitted in November of 2020, so data is provided for January - September of 2020.

Table 7.0-7
Essex County Resource Recovery Facility
City Water Consumption (2015 - September 2020) by Type

Period	Water Type			Total
	Potable	High Pressure	Sanitary	
2015	546,966	10,330,139	1,400,451	12,277,556
2016	395,042	12,609,435	2,692,812	15,697,289
2017	122,180	12,066,958	1,420,962	13,610,100
2018	393,351	13,150,850	1,668,665	15,212,866
2019	479,405	11,970,348	1,119,650	13,569,403
Jan -Sept.2020	433,778	9,446,483	877,421	10,757,682

Table 7.0-8
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2015 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 – MSW	68,519	62,004	60,123	45,700	82,043	84,219	80,842	75,681	79,420	78,960	76,965	81,618	876,095
13 – Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
23 – Vegetative	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0	0	0	0	0
27 - Dry Industrial	1,328	1,107	241	59	1,264	1,401	1,384	1,376	1,340	1,358	1,354	1,478	13,691
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total	**69,847**	**63,111**	**60,365**	**45,759**	**83,307**	**85,620**	**82,226**	**77,058**	**80,760**	**80,318**	**78,319**	**83,096**	**889,785**

Table 7.0-9
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2016 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 – MSW	74,824	70,758	74,025	77,329	70,623	83,374	76,194	85,794	82,641	77,393	79,417	85,519	937,890
13 – Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
23 - Vegetative	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0	0	0	0	0
27 - Dry Industrial	1,305	1,310	1,554	1,790	1,975	1,902	2,124	2,169	2,030	2,120	1,850	1,935	22,064
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total	**76,128**	**72,068**	**75,579**	**79,119**	**72,597**	**85,275**	**78,318**	**87,964**	**84,671**	**79,514**	**81,267**	**87,454**	**959,954**

Table 7.0-10
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2017 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 - MSW	82,659	73,958	78,766	63,736	71,791	91,754	80,379	87,165	82,217	76,775	75,302	79,491	943,993
13 - Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
23 - Vegetative	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0	0	0	0	0
27 - Dry Industrial	1,881	1,640	2,050	560	894	2,016	2,125	2,009	1,959	1,979	1,578	1,626	20,316
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total	**84,540**	**75,598**	**80,816**	**64,296**	**72,684**	**93,770**	**82,504**	**89,174**	**84,176**	**78,754**	**76,880**	**81,117**	**964,309**

Table 7.0-11
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2018 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 - MSW	84,248	71,312	78,622	81,918	85,507	85,188	81,194	85,989	70,360	82,043	85,111	74,386	965,878
13 - Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
23 - Vegetative	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0	0	0	0	0
27 - Dry Industrial	1,636	1,433	1,745	1,966	2,140	2,169	2,159	2,197	1,907	2,092	1,828	1,816	23,086
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total	**85,884**	**72,745**	**80,367**	**83,884**	**87,647**	**87,357**	**83,353**	**88,187**	**72,267**	**84,135**	**86,939**	**76,202**	**988,964**

Table 7.0-12
Essex County Resource Recovery Facility
Tons of Waste Delivered in 2019 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 - MSW	81,267	64,266	73,127	83,371	85,700	79,445	81,715	81,140	72,928	87,268	78,392	90,858	959,477
13 - Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
23 - Vegetative	0	0	0	0	0	0	0	0	0	0	0	0	0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0	0	0	0	0
27 - Dry Industrial	1,725	1,492	1,738	1,913	1,952	2,144	2,403	2,275	2,090	2,457	2,075	1,998	24,264
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total	**82,993**	**65,758**	**74,865**	**85,284**	**87,652**	**81,590**	**84,118**	**83,415**	**75,018**	**89,725**	**80,467**	**92,855**	**983,741**

Table 7.0-13
Essex County Resource Recovery Facility
Tons of Waste Delivered January - September 2020 by Waste Type

Waste Type	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
10 - MSW	83,178	73,730	82,230	83,016	85,181	74,928	84,562	78,408	72,261				717,493
13 - Bulky	NA	NA	NA	NA	NA	NA	NA	NA	NA				0
13C - C&D	NA	NA	NA	NA	NA	NA	NA	NA	NA				0
23 - Vegetative	0	0	0	0	0	0	0	0	0				0
25 - Animal & Food Process	0	0	0	0	0	0	0	0	0				0
27 - Dry Industrial	1,960	1,919	1,892	586	1,072	990	1,058	1,083	957				11,517
27A - Asbestos	NA	NA	NA	NA	NA	NA	NA	NA	NA				0
271 - Incinerator Ash	NA	NA	NA	NA	NA	NA	NA	NA	NA				0
Total	**85,137**	**75,649**	**84,122**	**83,602**	**86,252**	**75,917**	**85,620**	**79,492**	**73,218**				**729,010**

APPENDIX A

GUIDELINES FOR THE PREPARATION OF AN APPLICATION FOR THE RENEWAL OF A SOLID WASTE FACILTY PERMIT

Revised October 2005

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION SOLID AND HAZARDOUS WASTE MANAGEMENT PROGRAM

LARGE-SCALE THERMAL DESTRUCTION FACILITIES: GUIDELINES FOR THE PREPARATION OF AN APPLICATION FOR THE RENEWAL OF A SOLID WASTE FACILITY PERMIT

In accordance with N.J.A.C. 7:26-2.7(b)1., the Permittee of a permitted solid waste facility shall apply for a Solid Waste Facility Permit renewal at least 90 days prior to the expiration date of the existing Permit, providing the facility has remaining permitted capacity in accordance with its Permit and the facility is included in the District Solid Waste Management Plan.

N.J.A.C. 7:26-2.7(b)2. requires that the Permittee submit the fee required by N.J.A.C. 7:26-4, along with the following information, as an application to renew the Solid Waste Facility Permit for that facility:

1. An updated registration statement on forms provided by the Department;

2. An updated engineering design for the facility;

3. An updated Operations and Maintenance Manual for the facility;

4. An amendment to the disclosure statement as required pursuant to N.J.A.C. 7:26-16.6; and

5. An updated environmental and health impact statement, including a complete and detailed description of changes in environmental impacts resulting from the operation of the facility and additional mitigation measures being proposed to address such impacts.

THIS DOCUMENT PROVIDES THE GUIDELINES TO BE USED IN THE PREPARATION OF A PERMIT RENEWAL APPLICATION FOR A LARGE-SCALE THERMAL DESTRUCTION FACILITY, AND DESCRIBES THE INFORMATION NEEDED TO SATISFY EACH ITEM LISTED ABOVE, AS FOLLOWS:

1. Complete the Solid Waste Facility Permit Application Form that is provided by the Solid and Hazardous Waste Management Program (the Program). A fee of $140,661 shall accompany the application, as required by N.J.A.C. 7:26-4.3. The fee shall be paid by certified check or money order and made payable to "Treasurer, State of New Jersey".

2. Provide an updated engineering design for the facility. List any changes made to the design of the facility, as depicted in the documents and design drawings listed under the "Approved Application, Drawings and Associated Documents" section of the current Permit. Include a narrative description of the change, the reason for the change, and an environmental impact assessment of the change. Any affected drawings not previously approved by this Program shall be revised and submitted. One set of these revised drawings shall be signed and sealed by a Professional Engineer licensed by the State of New Jersey. If no design changes have been made during the term of the current Permit and none are being proposed as part of the Permit renewal application, please indicate so.

   The engineering design changes shall be described in 3 separate categories, as applicable:

   I. Design changes made after the current Permit issuance date, that have been previously approved by the Solid and Hazardous Waste Management Program. List the changes and include the following information:

      - Date of revision request;
      - Description of the change, the reason for the change, and the environmental impact of the change;
      - The Program's finding (major or minor modification);
      - Date of the Program's decision to approve the requested change; and,

- Date of design change implementation.

II. Design changes made after the current Permit issuance date, that have not been approved by the Program. Include the following information:

List and discuss any significant changes made to the Permit approved design that have not been previously approved by the Program. Each design change listed shall be accompanied by an environmental impact assessment of the change made. This assessment shall be based on the affected parameters listed in item number 5 below. The Program will evaluate each design change as a major/minor Permit modification, and a separate fee will be assessed for each in accordance with N.J.A.C. 7:26-4.3. [Note: these revisions are technically violations, and the renewal process will be used to bring them into compliance]. Include the following information:

- A narrative description of the change made, and the reason for the change;
- The modified design drawings (all drawings of record affected by the design change shall be revised and submitted); and,
- An environmental impact assessment of the design change made.

III. Design changes being proposed as part of the Permit renewal application. Include the following information:

List and discuss any significant changes being proposed to the Permit approved design, as part of the Permit renewal process. These changes to upgrade or otherwise alter the existing approved design, shall be submitted with an environmental impact assessment of the change proposed. The Program will evaluate each proposed revision as a major/minor Permit modification, and a separate fee will be assessed for each in accordance with N.J.A.C. 7:26-4.3. This assessment shall be based on the affected parameters listed in item number 5 below. Provide the following information:

- A narrative description of the proposed revision, including the reason for the proposed change;
- Revised design drawings (all drawings of record affected by the proposed design change shall be revised and submitted); and,
- An environmental impact assessment of the proposed design change.

3. Provide an updated operations and maintenance manual for the facility. If no revisions have been made to the approved operations and maintenance manual during the term of the current Permit, and none are being proposed as part of the Permit renewal application, please indicate so.

Operations and maintenance manual changes shall be described in 3 separate categories, as applicable:

I. Revisions made since the Permit issuance date, that have been previously approved by the Program. Include the following information:

- Date of revision request;
- A brief narrative description of the revision, including the reason for implementing the change, and the environmental impact of the change (if any);
- The Program's determination as to whether or not the revision in operations constituted a major or minor Permit modification;
- Date of the Program's decision to approve the requested revision; and,
- Date of implementation of the revised procedure.

II. Revisions made to the approved operations and maintenance manual that have not been approved by the Program. In those cases where such changes may create an increased environmental impact, an environmental impact assessment of the change shall be submitted. The Program will evaluate each revision as a major/minor Permit modification. [Note: These unapproved changes to the operations and maintenance manual are technically violations, and the Permit renewal process will be used to bring them into compliance]. Provide the following information:

- A narrative description of the change made and the reason for the change;

- The actual operations and maintenance manual page text changes; and,
- An environmental assessment of the change made (if warranted).

III. Operations and maintenance manual changes being proposed as part of the Permit renewal application. Include the following information:

- Describe the proposed changes to be made to the approved operations and maintenance manual, to upgrade or otherwise alter the existing document. In those cases where the proposed changes can lead to an increased environmental impact, an environmental assessment of the change shall be submitted. The Program will evaluate each proposed change as a major/minor Permit modification;
- Discuss the reason for the proposed changes; and,
- Submit the proposed page text changes.

4. Submit an amendment to the disclosure statement, if required pursuant to N.J.A.C. 7:26-16.6. Please contact the Department's Bureau of Solid and Hazardous Waste Regulation at (609) 984-2014, for current requirements regarding the submission of any additional or amended disclosure statement information as part of the Solid Waste Facility Permit renewal process.

   In the Permit renewal application document, provide only a brief statement summarizing the Permittee's current status relative to the requirements of N.J.A.C. 7:26-16.1 *et seq*.

5. Provide an updated environmental and health impact statement, including a complete and detailed description of changes in environmental impacts resulting from the operation of the facility and the additional mitigating measures being proposed to address such impacts (as necessary). There are two major types of Permit renewal applications. The requirements for an updated environmental and health impact statement are described below for each type.

   In addition, <u>for each type of Permit renewal application</u>, the Permittee shall also compile and submit facility operational data collected during the term of the current Solid Waste Facility Permit. This operational data shall include, but not be limited to, the following: monthly and annual totals for the weight and origin (by county) of solid waste delivered to the facility for each authorized waste type; monthly and annual totals for waste processed; monthly and annual totals of steam produced; monthly and annual totals for the gross electrical energy generated and the net electrical energy exported (include the identification of the electricity customer); monthly and annual totals for days and hours operated and the calculation of annual facility availability; monthly and annual totals for the weight of ash residue removed for disposal and/or recycling (identify the disposal and recycling facilities used) and the weight of recovered metal removed (identify the recycling facility receiving this material); summary tables of the monthly ash analysis results; summary tables of all air emissions testing results; summary tables of NJPDES Permit monitoring data; annual facility water use (identify the source of water supply for the facility); annual facility wastewater generation (identify the wastewater treatment facility that receives the discharge); and daily waste vehicle delivery counts, with a computation of the average daily and peak daily delivery vehicle count from this data (note that if truck routes have been altered from those previously analyzed, a new analysis shall be submitted for the impacts of facility traffic on the level of service at the affected major intersections).

   <u>For each type of Permit renewal application</u>, please also submit a summarization of facility monitoring reports and enforcement inspection reports that reflect the facility's history of compliance (or non-compliance) with Department permits during the term of the current Solid Waste Facility Permit.

   ❖ <u>If this is the initial Permit renewal application being filed for the facility</u>, list and summarize the original data, assumptions, and projections presented in the environmental and health impact statement approved by the Program as part of the original Solid Waste Facility Permit application. Then, conduct a detailed comparative analysis of the original environmental and health impact statement projections for construction and operational impacts, to the actual impacts. This analysis shall be documented with facility operational data collected during the term of operation under the original Solid Waste Facility Permit. **To perform this analysis, please see the detailed requirements listed below.** In those cases where the actual impact has been greater than the original impact projected and exceeds an applicable standard, additional mitigating measures must be proposed for approval. <u>This detailed comparative analysis will also be required in any case where an expansion in operating capacity was incorporated into the current Solid Waste Facility Permit, even if this is not the initial Permit renewal application being filed.</u> In that case, the

comparative analysis shall be based on the environmental and health impact statement projections submitted for the expansion in capacity.

❖ If this is not the initial Permit renewal application being filed for the facility, the comparative environmental impact analysis can be limited to only those parameters that may have been impacted by any *major* Permit modification issued during the term of the current Solid Waste Facility Permit. In that case, the findings of the environmental impact assessment that was submitted with the Permit modification application, may be summarized and compared to the applicable parameters from the facility's latest environmental and health impact statement.

In addition, the Permittee shall determine if the facility operational data collected during the term of the current Permit indicates that a significant change in facility operation has occurred. This determination shall be based on a comparison with operational data collected during the term of the previous Permit and the projections of facility impact contained in the facility's latest environmental impact assessment. If the Permittee determines that a significant change in facility operation has occurred, then an analysis of environmental impacts shall be performed for those parameters that may be impacted by the significant change in operation. If the Permittee determines that a significant change in facility operation has not occurred, based on facility operational data collected during the term of the current Permit, he shall submit a written certification of this finding to the Department.

To perform the detailed comparative analysis of facility operation to the original environmental and health impact statement projections, please provide the following information:

I. Summarize the original data, assumptions, and projections presented in the environmental and health impact statement approved by the Program, including but not limited to the following list. Please note that the parameters included in the facility's environmental and health impact statement may differ from those listed below, and that the analysis shall be based on the parameters in the facility's impact statement.

- Solid Waste Planning (on a per District served basis):
  - Population projections for the service area
  - Source reduction and recycling rates
  - Solid waste generation
  - Solid waste composition
  - Solid waste heat and ash content
  - Interdistrict agreements (if relevant)/regionalization
  - Solid Waste Management Plan
    - *Objectives
    - *Recycling and waste reduction goals
    - *Battery separation plans
    - *Industrial survey
    - *Facility compatibility with recycling effort
    - *Host community benefits program
    - *Communications/monitoring plans

- Land Use/Zoning
  - Facility site and surrounding area
  - Facility compliance with State and local land use and environmental requirements
  - Property values

- Facility Economics:
  - Project financing
  - Projected capital and operating and maintenance costs
  - Annual service agreement
  - Revenues to be realized by the sale of recovered products (if applicable)
  - Projected tipping fee

- Description of Facility Operations and Existing Infrastructure:
  - Types, capacities and numbers of units

- Waste sources
- Solid waste delivery
- Solid waste processing
- Facility availability
- Energy supply system
- Steam/electrical production
- Ferrous metals recovery
- Water supply and consumption
- Stormwater management
- Wastewater generation and disposal
- Pollution controls and monitoring
- Ash residue generation and disposal
    *Ash quality and quantity
    *Disposal and haulage contracts/arrangements
- Facility staffing levels

- Biological/Ecological resources
  - Vegetation
  - Terrestrial wildlife
  - Aquatic wildlife
  - Endangered, threatened or rare plant and animal species
  - Unique, critical, or unusual habitat

- Cultural Resources
  - Parks, open spaces, scenic areas
  - Historic sites
  - Archaeological resources

- Soils and Geology

- Water Resources:
  - Surface water quantity and quality data, water classifications, and designated uses and limitations
  - Ground water quantity and quality data
  - Consistency with area-wide water quality management plan

- Air Quality:
  - Climate data
  - Ambient pollutant concentrations
  - Stack emission projections
  - Health risk assessment

- Ambient Acoustical Conditions:
  - Daytime and nighttime background values
  - Facility operational impact projections (at facility boundary and closest receptors)
  - Design mitigation to be provided

- Traffic:
  - Description of existing road network that will service the facility
  - Existing traffic flow rates
  - Volume projections for the facility
  - Projections of peak day and peak hour for the facility
  - Designated traffic routes
  - Improvements to be made for mitigation purposes
  - Level of service (LOS) impact projections for major intersections

II. Compile, summarize, and submit facility operational data and any other data that measures the nature and extent of impacts made during facility operation. Provide current data for each category to enable comparison to the original environmental and health impact statement categories listed in item number 5.I. above. Provide the following information, as applicable:

- Solid Waste Planning (on a per District served basis):
  - Updated population projections
  - DEP certified recycling figures for previous years covered by the current permit, as well as projections of recycling rates for the next five-year period
  - Solid Waste Management Plan updated solid waste composition studies and projections for the next five-year period
  - Solid waste heat and ash content from facility operational records, or other studies that may have been performed
  - Status of Interdistrict Agreements or other free-market arrangements relative to the Solid Waste Management Plan of the facility's host district
  - Status of solid waste management goals relative to such things as the battery separation program, the industrial waste survey program (if ID # 27 waste was, and/or is to be processed), and source reduction/recycling, viewed as it affects the past and proposed future operations of the facility
  - Host community benefits paid annually during past operations
  - Annual public meetings held (provide the dates and location) over the term of the Permit

- Land Use/Zoning
  - Changes made at the facility site or within a one (1) mile radius of the site during the term of the current Permit, and any known changes planned in the near future
  - Impact of facility operation on area property values

- Facility Economics:
  - Method employed to finance facility
  - Capital costs of the facility and annual operating and maintenance costs
  - Alterations made to the Service Agreement over the term of the previous permit (provide dates and brief description of cause for alterations)
  - History of any changes in tipping fees over the term of the current Permit, and projections for the next five-year period

- Facility Operations:
  - Provide monthly and annual totals for the weight and origin (by county) of solid waste delivered to the facility for each authorized waste type. Identify the average monthly, weekly and daily deliveries as well as the range of peaks and lows.
  - Identify the average monthly, weekly, and daily charging rates as well as the range of peaks and lows.
  - Calculate annual facility availability, including planned and unplanned downtime.
  - Provide monthly and annual totals of steam produced, and monthly and annual totals for electrical energy generated and the net electrical energy exported (identify the electricity customer).
  - Provide the monthly and annual totals for recovered ferrous metals. Identify the average weekly and daily quantity of ferrous metals recovered (if known). Identify the market receiving this material.
  - Identify the facility's daily average and daily peak water consumption, and provide annual totals of water consumption. Identify the source of water supply servicing the facility.
  - Identify the facility's daily average and daily peak, and hourly average and hourly peak rates of wastewater generation (if known). Identify the wastewater treatment facility that receives the wastewater discharge from the facility.
  - Identify the daily and hourly average and peak rates of ash residue produced. Provide monthly and annual totals for the weight of ash residue removed for disposal. Identify the waste disposal and/or recycling facility to which the ash was taken, and the collector/hauler(s) who handled the residue. Submit copies of the current contracts with the disposal facility and the collector/hauler for the handling of all ash residue (both as a hazardous and non-hazardous product).
  - Present summarized monthly ash residue analytical results collected over the term of the current Permit.

- Biological/Ecological Resources
  - Impact of facility construction and operation on vegetation, wildlife, and endangered, threatened or rare species (as applicable)

- Cultural Resources
  - Impact of facility construction and operation on parks, open space, scenic areas, historic sites and archaeological resources (as applicable)

- Soils and Geology
  - Impact of facility construction on soils and geology

- Water Resources:
  - Summarize the NJPDES surface water discharge testing database and the compliance history with the NJPDES Permit standards. Excursions from these standards as well as discharge levels projected in the original environmental and health impact statement shall be highlighted for comparison purposes.
  - Summarize the ground water monitoring well testing database (if applicable) and the compliance history with the NJPDES Permit issued to the facility.

- Air Quality:
  - Summarize available local ambient air quality monitoring data that spans the term of the current Permit.
  - Summarize stack testing and CEMS data generated during the term of the current Permit. Highlight test data demonstrating non-compliance with air quality permit limitations and describe the probable or known cause, along with any operational or equipment modifications made to deal with excursions noted.
  - Employing the operational air monitoring data and stack testing results available, present any revisions to the original health risk analysis presented in the environmental and health impact statement.

- Acoustical Conditions:
  - Summarize the findings of the facility specific sound level survey, conducted within the first thirty days of full-scale facility operations. Present findings on the background noise levels determined (both daytime and nighttime periods) for comparison to those contained in the original environmental and health impact statement. Also present data from any other sound level compliance testing that was performed during the term of the current Permit.
  - Provide a comprehensive listing of operational noise abatement measures employed at the facility.

- Traffic:
  - For the period consisting of the term of the current Permit, waste delivery scale records should be summarized to reflect truck deliveries by municipality of origin (and county, if regional), by type of haulage vehicle used (single unit body or transfer trailer), delivery times (reflected in hourly increments) and days of the week delivery occurs. Vehicles involved in the haulage of ash, unprocessibles, bypass wastes and materials (e.g. lime, aqueous ammonia, etc.) should be similarly evaluated, as shall employee vehicles. The summarized data shall be used to compute the peak day, the average day in the most recent year of operation, and the peak hour and "average" hour from the most recent year of operation. Compare these values with the values used in the original environmental and health impact statement traffic analysis (note - the calculated hourly delivery profile shall be submitted for all hours to determine if changes in the "facility peak hour designation" has occurred).
  - Employ the data from the previous task to determine peak and average hourly vehicle counts, and reflect these vehicle counts (by movement - inbound and outbound) through the key intersections analyzed in the original traffic study. A comparative analysis shall be performed to determine changes in count values (if any).
  - Changes made to the "Designated Truck Routing Plan" (if any) shall be outlined and details provided. If truck routes have been altered from those previously analyzed, a new analysis of the impact on the level of service shall be performed at the new major intersections.
  - List and describe the improvements made locally to mitigate traffic impact from the facility, as was committed to by the applicant during the original permitting process. Also include any improvements

made that were not initially committed to by the applicant during the permitting process. Identify the dates of completion, cost of improvement and responsible party.

- Where the vehicle count by movement values calculated from the operational database differs from those projected in the original environmental and health impact statement, to the extent that the new values are greater than those originally projected, a reevaluation of the level of service (LOS) shall be performed to determine the differential in impact created.

III. Utilizing the information presented in item numbers 5.I and 5.II. above, perform the comparative environmental impact analysis. A finding of less impact than projected, no change in impact projected, or greater impact than projected shall be made for each of the parameters analyzed.

If an impact is found to be greater than the one originally projected, it shall be determined if the impact is restricted by a regulatory standard. If the impact is greater than that projected in the environmental and health impact statement and greater than the regulatory standard, additional mitigating measures shall be proposed to bring the impact to a level less than the regulatory standard. In the case where it is demonstrated that an impact is greater than that originally projected but below the regulatory standard, the Permittee shall either define measures to mitigate the impact to the levels projected in the environmental and health impact statement, or shall demonstrate to the Department that mitigation is not warranted.

APPENDIX B

OPERATION & MAINTENANCE (O&M) MANUAL UPDATES

COVANTA

Powering Today. Protecting Tomorrow.

SECURITY SYSTEM PLAN

VOLUME IX, CHAPTER 9

Revision 2, November 2020

Approved by _____ **Date** 11/19/20

ESSEX COUNTY RESOURCE RECOVERY FACILITY

SECURITY SYSTEM

The basic plan for the Essex Facility security system is to use gate control as the means to limit/control personnel access to the plant, to use a closed circuit television system to support gate control and monitor the facility's perimeter areas and to use a key fob reader and a key lock system to limit/control access to the Administration and Process areas.

A 7'-0" high chain link fence runs along the entire perimeter of the Essex Facility. The majority of facility ingress and egress occurs at the main gate with the exception of entrance to the plant during emergency situations through the emergency access gate at the back entrance which also serves as an alternate employee entrance gate. This emergency access gate normally remains locked. Employees can enter as needed using a key fob provided to them by Covanta Essex Company.

During normal business hours and when receiving waste deliveries, main gate control is accomplished through the use of a plant security guard and an automatic gate system. On Sundays when no waste is received and the front entrance gate is closed, it is accomplished through the use of a key fob reader gate control system for employees at the back entrance gate, the facility closed circuit television system and the Control Room Operators.

The main gate consists of separate entrance and exit sections. Each section is split into a 12'-6" automatic gate and a 28'-1" manual gate inbound and 25'6" manual gate outbound. During normal waste receiving hours both sections of the entrance gate are fixed in the open position. Refuse/ash trucks pass through the gate and are processed/monitored by the scale house attendants. All other vehicles enter the plant on the by-pass lane and are stopped at the guard house by a manually operated traffic barrier where the plant security guard identifies the occupants of the vehicles. The plant staff is allowed to pass on to the plant proper and all non-plant staff personnel are required to provide an employee contact name and if approved to enter by the employee contact person, they are provided directions as required.

On Sundays when no waste is being received, the front entrance gate is closed. Permanent plant staff personnel drive up to the back entrance gate control key fob reader and hold the key fob in front of the key fob reader in order to open the automatic section of the back entrance gate. All other non-plant personnel will be required to contact the Control Room Operator by phone. The Operator will ascertain the visitors' identity and purpose for requiring plant access. He will utilize both the phone and the closed circuit television camera dedicated for monitoring the plant entrance gate. With verification of the visitor's identity and legitimate purpose for plant access, the Operator will send a plant employee out to open the gate. The visitors will be instructed to proceed to a specific location and to make contact with a specific individual on the plant staff.

In support of the main gate and back gate control is a closed circuit television (CCTV) system consisting of several cameras in various locations around the plant. Six cameras are used to monitor the facility perimeter and are mounted on the main building. Three of the cameras are positioned one each on the north and south corners of the Tipping Bay and one on the east wall. One camera is also be mounted on the southeast corner of the Ash Building.

Another camera is used to monitor the entire Scale House area and is mounted on the south wall of the Tipping Bay. Additionally, two cameras are used in the immediate area of the entrance and exit gates. The cameras are mounted on a centrally located pole and provide vehicle identification information for both the Main Control Room and the Scale House Operators.

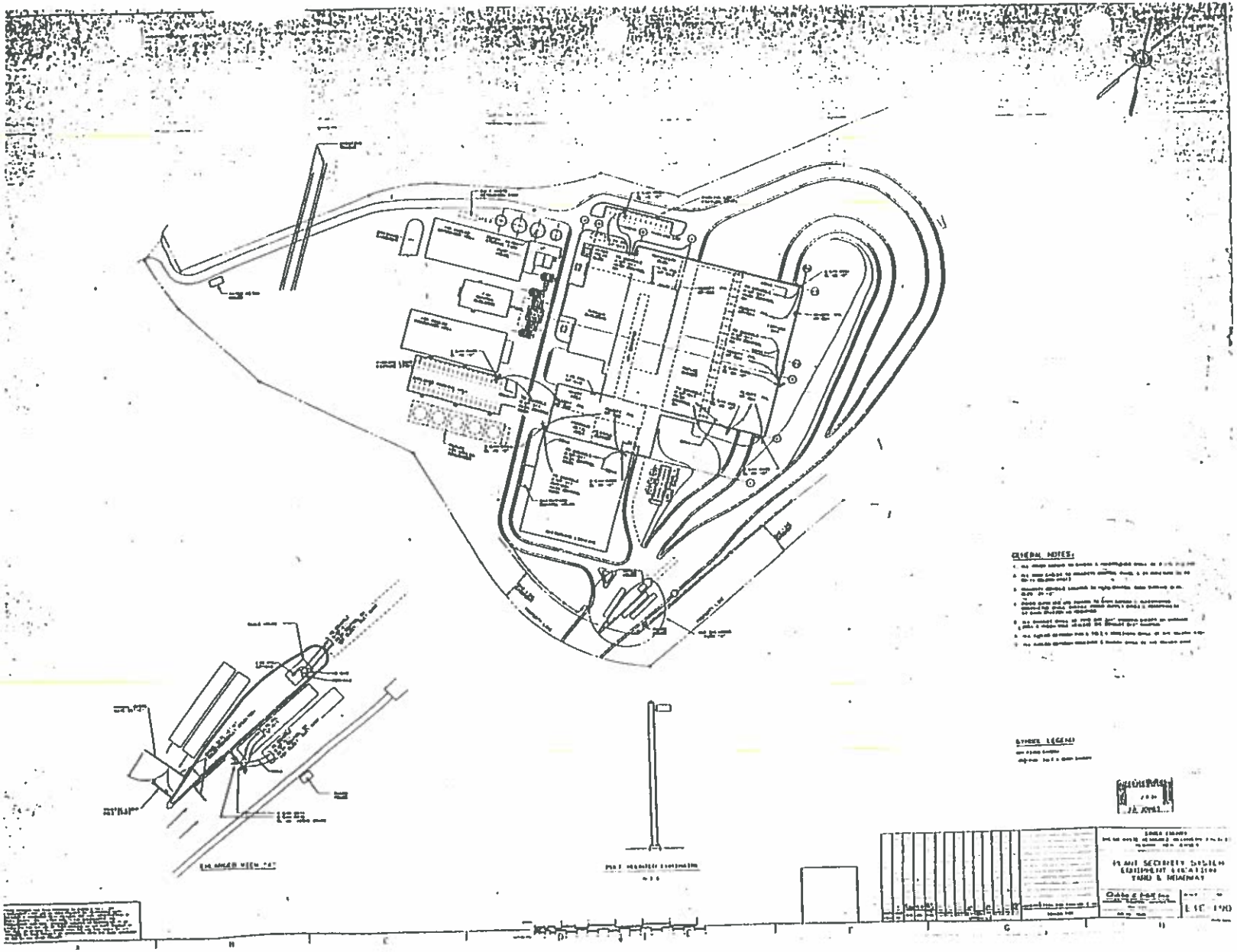
The last two cameras are positioned in the visitor and employee parking areas. These cameras serve as perimeter monitors for the northwest and west sides of the building as well as for the parking areas.

Inside the facility proper, a card or key fob reader and a key lock system shall be utilized for security purposes. During normal business hours heavy traffic area access doors will remain open. These would include the main entrance to the Administration Building, the Maintenance area door, the Condensate Pump House, etc. doors that are normally considered to be in low traffic areas or are in areas of restricted access for safety reasons will remain locked. These will include doors like the one on the east side of the Tipping Bay and the doors/gates to the Switchyard Control House/Switchyard respectively.

On the off shifts, all external doors to the main building and the access doors from the operating facility proper to the Administration Building will be locked. In addition, all doors to the outlying process area buildings such as the Condensate Pump House, the Lime Slaker Building, etc. shall be locked.

The external doors on the Administration Building first floor shall be made accessible by the use of a key fob reader system. The balance of the locks on the Administration Building doors shall be a distinct key. Only the Plant Supervisors including the Shift Supervisors will have access to the Administration Building key.

The outlying process buildings that will periodically be entered on the off shifts will be keyed alike or have a single master key.



API-9-4

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EXTERNAL PLANT MAINTENANCE AND LITTER CONTROL PLAN

Revision 3, November 2020

VOLUME IX – CHAPTER 11

Approved by _____ **Date** 11/19/20

COVANTA ESSEX COMPANY

VOLUME IX – CHAPTER 11

EXTERNAL PLANT MAINTENANCE AND LITTER CONTROL PLAN

Revision 3, November 2020

The fundamental design of the Covanta Essex Company Resource Recovery Facility holds that refuse will be received in covered or contained vehicles and will only be deposited within the tipping hall areaupon the tipping hall floor. These refuse receipt procedures are believed to minimize, to the extent practical, the generation of litter within the facility. To the extent that debris or litter is found on the site, or in the driveways to the site, Covanta personnel will provide for general housekeeping on a day-to-day basis.

The Operations Manager shall assume full responsibility for maintaining the exterior of the facility. The exterior grounds shall be maintained in a manner that is free of litter and debris. The company will require all refuse trucks to be cleaned out and all equipment secured before leaving the tipping bay, so as not to drop garbage out of truck when departing the site. All storage areas will be kept at normal levels to ensure against spillage or overflows.

All paved areas on site will be swept/cleaned on a daily basis, weather permitting, to prevent accumulation of dirt and debris on paved areas and the catch basin. The company will also clean/sweep the truck access road leading to the plant site on a routine basis. This will be done by using a street cleaning machine typically used by municipalities.

The Company will maintain and replace as necessary all landscaping and vegetation that was planted as part of the original design.

The external façade of the structure will be maintained as needed including cleaning of windows and maintenance of aluminum and painted surfaces. When necessary walls will be painted and aluminum siding will be replaced.

Snow and ice removal are expected to be contracted to a local vendor. Covanta expects to provide for limited snow and ice removal as required for safety.

Approved:

Facility Manager — Date: 11/19/20

Environmental Manager — Date: 11/19/20

OPERATIONS AND MAINTENANCE MANUAL

OIL-WATER SEPARATOR UNITS

COVANTA ESSEX COMPANY
183 RAYMOND BOULEVARD
NEWARK, NJ 07105

1.00 INTRODUCTION

This operations and maintenance manual is designed to be used as the primary reference source for the operation of the Covanta Essex Company stormwater treatment facility, located at 183 Raymond Blvd., Newark, NJ 07105.

This O&M manual may be supplemented with equipment manuals, textbooks, and other publications regarding the treatment processes used at the Covanta facility, upon agreement by the management, maintenance, and operations personnel.

1.10 OPERATION AND MANAGEMENT RESPONSIBILLITY

Operator Responsibility

1. Know proper operations procedures.
2. Operate treatment system effectively.
3. Maintain accurate and neat system operations and maintenance records.
4. Keep management advised of potential problems in the operation and maintenance of the system.
5. Be aware of safety hazards connected with waste water treatment.
6. Know how to monitor treatment units.

Management Responsibility

1. Maintain efficient plant operation and maintenance.
2. Maintain adequate treatment system operational and maintenance records.
3. Provide operational personnel with sufficient funds to properly operate and maintain the treatment facility.
4. Establish operator training programs.
5. Make employees aware of the importance of proper plant performance.
6. Make periodic inspections of the treatment system to observe operational practices.

1.20 TYPE OF TREATMENT

The Covanta treatment facility will consist of three (3) passive gravity oil-water separators, which will provide primary treatment for flow from their respective areas then discharge into the Retention Basin (IP01).

1.30 PLANT FLOW PATTERN

Stormwater run-off from the two parking lots and the front gate scale house are directed to three in-ground oil/water separators. The separators discharges combine with other rainwater drainage from the buildings and land area and flow to the Retention Basin. From the Retention Basin, water is stored in the Wastewater Storage Tank until it is reused within the process.

2.00 PERMIT INFORMATION AND EFFLUENT LIMITATIONS

2.10 PERMIT INFORMATION

Covanta Essex Company has been issued a NJPDES permit by the NJDEP:

PERMIT NUMBER NJ0055247

EFFECTIVE DATE: 1 FEBRUARY 1, 2020

EXPIRATION DATE: 31 JANUARY 2025

2.20 EFFUENT LIMITATIONS

The NJPDES permit effluent limitations and monitoring requirements are attached on the following pages.

2.30 BYPASSING AND NONCOMPLIANCE

There is no physical means to bypass the oil/water separators at the facility. Any oil or sediment that is separated out as the water flows through is routinely vacuumed out of the separator with a vacuum truck. In the event of an overflow of the separator, any oil that is spilled would be cleaned up according to the procedures for oil spills included in the facility's Emergency Action Plan.

If there is any noncompliance event including, but not limited to:
1. Any exceedance of effluent limitation that:
    i. Causes injury to persons;
    ii. Poses a threat to human health;
    iii. Causes damage to the environment; or
    iv. Poses a threat to the environment;

and for any discharge of any toxic or hazardous pollutant listed in N.J.A.C. 7:14A-4 Appendix A, which is not covered under a permit, the operator must notify the supervisor and must notify the NJDEP HOTLINE at (877) 927-6337 or 1-877-WARN-DEP within 2 hours of the commencement of the discharge or of the operator becoming aware of the discharge and provide the information listed below:

A. A description of the discharge, including the time of the discharge, the location of discharge, the volume of the discharge, the concentration of pollutants discharged, and the receiving water of the discharge;
B. Steps being taken to determine the cause of the permit noncompliance; and
C. Steps being taken to reduce, remediate, and eliminate the noncomplying discharge and any damage to the environment, and the anticipated time frame to initiate and complete the steps to be taken.

In addition, any revision to this information reported must be reported to the DEP Hotline within 24 hours after becoming aware of the need to revise the information.

A written submission shall also be provided within 5 days of the time the permittee became aware of the circumstances. The written submission shall contain information in (A) through (C) above.

Written Notification should be sent to:

Administrator of Water Compliance and Enforcement Element
New Jersey Department of Environmental Protection
401 East State Street, 4th Floor East
PO Box 422
Trenton, New Jersey 08625-0422

2.40 EMERGENCY/NONCOMPLIANCE CONTACT PERSONNEL

Upon the occurrence of an emergency or noncompliance incident the following persons shall be notified:

	Cell Phone
Dave Blackmore	240-308-5025
Luther Johnson	848-203-5999
Patricia Earls	201-621-1845

During a noncompliance incident, supply information as (A) through (C) as able.

3.00 DESIGN AND OPERATION OF TREATMENT UNITS

3.10 DESIGN OF TREATMENT UNITS

See attached print

3.20 DESCRIPTION OF TREATMENT PROCESS

The stormwater will flow by gravity through a curb grate into the oil-water separator. Once in the separator, the oil and solids from the drainage area will float or settle respectively, based on Stokes Law, which is applicable to the rate of rise of oil in water. Stokes Law also applies to suspended solids.

As the water enters the unit, suspended solids will deposit in the initial baffled basin, the flow then moves under the retaining wall providing a non-turbulent condition in the initial basin, whereby oil may rise, coalesce and remain in the surface.

3.30 REMOVAL EFFICIENCY

$$\% \text{ Removeal} = \frac{\text{conc. In} - \text{conc. out}}{\text{conc. in}} \times 100$$

3.40 POTENTIAL OPERATING PROBLEMS

- No water flow into the unit

    - Curb grate may be clogged
    - Obstruction in influent pipe

The drainage area of each unit must be kept free of all debris to prevent blockage of the grate or influent pipe.

- Reduced flow to the discharge portion of the unit
- Water level rises in separation portion of the unit
- Reduced or (-) removal efficiencies for suspended solids

    - Accumulated of solids in separation area

The depth of solids must be monitored to prevent excess accumulation in the unit. Solids must be removed as needed.

- Reduced or (-) removal efficiencies for oil.

    - Accumulated oil must be removed as needed, and stored in appropriate area. (waste oil)

    - The type of oil removal device used will be dependent on the amount generated.

3.50 OPERATIONS PROCEDURES

DAILY:

As part of the daily facility ground keeping, survey each oil-water separator area for the following:

- Curb grate free of debris
- Drainage area free of debris and excess dirt.
- Check the integrity of the separator and lids.

- Note any repair if needed.

It is important to keep the separators and the areas surrounding them clean to ensure reliable performance from the units.

4.0 RECORDS AND REPORTS

4.10 LOG PROCEDURES

Inspection of the unit will be incorporated into exiting logs. Periodic inspection for presence of oil and sediment will be conducted.

4.20 DISCHARGE MONITORING REPORTS

Lab results from annual samples taken from the Retention Basin (IP01) required by the NJPDES permit and from samples taken during an overflow event are reported on the annual Waste Characterization Report (WCR) or Discharge Monitoring Report (DMR), as applicable, that are completed online at NJDEPOnline.

A.1 EFFLUENT LIMIATIONS AND MONITORING REQUIREMENTS

Sampling is performed during each monitoring period based on the discharge events that occur in accordance with the permit. If no discharge events occur, "no discharge" is reported. Samples are taken from the overflow of the retention basin (IP01).

Effluent Characteristic	Discharge Limitations		
	DSN001A	DSN002A	IP01
Total Suspended Solids	Monitor Only	Monitor Only	Monitor Only
Oil and Grease	NA	NA	Monitor Only
Chemical Oxygen Demand	Monitor Only	Monitor Only	Monitor Only
Zinc (total)	Monitor Only	NA	Monitor Only
Ammonia	Monitor Only	NA	Monitor Only
Phenol	Monitor Only	NA	Monitor Only
Biochemical Oxygen Demand	Monitor Only	NA	Monitor Only
pH	Monitor Only	Monitor Only	Monitor Only

APPENDIX C

SUMMARY OF ENFORCEMENT ACTIONS

COVANTA ESSEX COMPANY
ESSEX COUNTY RESOURCE RECOVERY FACILITY
SUMMARY OF ENFORCEMENT ACTIONS

DATE	DESCRIPTION/CAUSE	RESOLUTION
02/02/15	RN/AO Solid Waste – Broken shutter on radioactive level gauge. Failure to report within 24 hours of occurrence.	CLOSED. Upon discovery, reported to NJDEP by telephone and written notification. Follow-up written notification within 30 days addressing steps taken to remedy violation. No monetary penalty assessed.
06/08/15	NOV Air – Three separate NOVs for emission exceedances that occurred in 1st, 2nd and 3rd Quarters of 2014 that have been granted affirmative defense.	CLOSED. Affirmative Defense granted. No further action required.
07/28/15	SA Air – Issued for air exceedances that occurred in 2014 that were reportable events or were not granted affirmative defense.	CLOSED. Fully executed Settlement Agreement was issued by NJDEP on August 3, 2015. Paid $6,900 penalty.
08/17/15	NOV Underground Storage Tank – UST overfill alarm at the tank filling station was not functioning due to corroded relay.	CLOSED. Repair completed 5/29/15. Paid $2,500 penalty.
07/15/16	NOV Air – Issued for air exceedances that occurred in 2015 and the 1st Quarter of 2016 that were granted the affirmative defense.	CLOSED. Affirmative Defense granted. No further action required.
08/22/16	SA Air - Issued for air exceedances that occurred in 2015 and the 1st Quarter of 2016 that were reportable events or were not granted affirmative defense.	CLOSED. Paid $19,460 penalty.
02/15/17	NOV Air – Issued for air exceedances that occurred during the 2nd through the 4th Quarters of 2016 that were granted the affirmative defense.	CLOSED. Affirmative Defense granted. No further action required.
06/01/17	SA Air – Issued for air exceedances that occurred during 2nd through 4th Quarters of 2016 that were reportable or were not granted the affirmative defense.	CLOSED. Paid $19,025 penalty.
08/01/17	SA Air – Issued for air exceedances that occurred on January 4, 2017 and March 30, 2017 that were reportable events.	CLOSED. NEA170001 was signed by Facility Manager and returned to NJDEP on 7/26/17. Paid $600 penalty.

COVANTA ESSEX COMPANY
ESSEX COUNTY RESOURCE RECOVERY FACILITY
SUMMARY OF ENFORCEMENT ACTIONS -- Continued

DATE	DESCRIPTION/CAUSE	RESOLUTION
02/15/18	NOV Air – Out of range pressure drop readings (four) on the metal recovery dust collector.	CLOSED. The filters were changed out on 2/14/18 and the pressure drop returned to the acceptable range. No monetary penalty assessed.
03/01/19	NOV Solid Waste – Failure to test November 2018 ash samples that were determined to be non-representative of the ash residue generated for November 2018.	OPEN. Within 15 days of receipt of the NOV (letter dated 3/13/19), a description of corrective actions taken to achieve compliance with the hourly ash sampling requirements was submitted to NJDEP.
04/10/19	NOV UST – Training and certification as a Class A/B operator was completed as required prior to October 13, 2018, but the updated UST Questionnaire was not submitted prior to that date resulting in the NOV.	CLOSED. Updated UST Facility Certification Questionnaire and required documentation were submitted on 4/30/19. No monetary penalty assessed.
06/18/19	NOV Air – Issued for air emission exceedances that occurred between 2nd Quarter 2017 and 1st Quarter 2019 that were granted the affirmative defense.	CLOSED. Affirmative Defense granted. No monetary penalty assessed.
06/18/19	SA Air - Issued for air exceedances that occurred between the during 2nd Quarter 2017 and the 1st Quarter 2019 that were reportable or were not granted the affirmative defense.	CLOSED. Paid $23,400 penalty.
08/19/19	AONOCAPA Air – dust collector CD1019 was not operational.	CLOSED. After a meeting with NJDEP to discuss the issue and demonstrate that there was no environmental release from the dust collector not operating as well as the efforts that were made to repair the existing dust collector before the new dust collector could be installed, the penalty amount was reduced to $65,600. Fine has been paid.

COVANTA ESSEX COMPANY
ESSEX COUNTY RESOURCE RECOVERY FACILITY
SUMMARY OF ENFORCEMENT ACTIONS -- Continued

DATE	DESCRIPTION/CAUSE	RESOLUTION
03/19/20	NOV Issued for on-going housekeeping issues in the metals recovery area.	CLOSED. Follow-up response was submitted on April 2, 2020 to certify the corrective actions taken.
04/27/20	SA Findings from NJDEP inspection of DPCC Plan requirements and records.	CLOSED. $1,125 penalty paid.
9/22/20	NOV Air – Carbon system hopper fill signal for Unit #2 was not being displayed on the Citect screen in the control room.	OPEN. Carbon system hopper fill signal for Unit #2 must be restored within 30 days of NOV issuance date. Response letter was submitted on 10/21/20 stating that a new carbon hopper level transmitter was installed on October 20, 2020 and the indication was confirmed to be restored to Citect.
9/22/20	NOV Air – Failed bag in the dust collector of pugmill Silo A dust collector that caused particulate emissions to be released in the flyash conditioning room.	OPEN. Replaced failed bags in pugmill silo A dust collector (CD1017). Response letter was submitted on 9/29/20 stating that three new bag filters were installed in CD1017. No fines have been assessed to date.

Abbreviations (used in the table)

AO: Administrative Order
Admin: Administrative
AONOCAPA: Administrative Order and Notice of Civil Administrative Penalty Assessment
CEM: Continuous Emission Monitoring System
DPCC: Discharge Prevention Control and Countermeasure program
NOV: Notice of Violation
SA: Settlement Agreement
Proced: Procedure

COVANTA
Powering Today. Protecting Tomorrow.

Covanta Essex Company
183 Raymond Boulevard
Newark, NJ 07105
Tel: 973-344-0900
Fax: 973-344-4999

February 2, 2022

Mr. Anthony Fontana, Chief
NJ Department of Environmental Protection
Bureau of Solid Waste Permitting
P.O. Box 420
Mail Code: 401-02C
401 East State Street
2nd Floor, West Wing
Trenton, NJ 08625-0420

Subject: Application for a Solid Waste Facility Permit Renewal
Covanta Essex Company - Essex County Resource Recovery Facility
Permit No. RRF200001, Program Interest Number: 133546
Response to Technical Notice of Deficiency
Corrected O&M manual section SD-2

Dear Mr. Fontana:

On behalf of Covanta Essex Company, the enclosed revised section SD-2 of the O&M manual is being submitted to remove all references to waste diversion at the Essex County Resource Recovery Facility. This text was erroneously included in SD-2 of the O&M manual in a prior revision when waste transfer operations were being considered for the facility several years ago. However, this was never finalized and is not currently under consideration by Covanta Essex Company. This should replace the version of section SD-2 that was included with the response to the Technical Notice of Deficiency that was submitted on January 10, 2022.

If you have any questions regarding this submittal, please do not hesitate to contact me.

Sincerely,

Patricia Earls
New Jersey Regional Environmental Manager

cc: Kimberly Beccia, Bureau of Solid Waste Permitting
Tom Byrne, Bureau of Solid Waste Permitting
Gina Lugo, Bureau of Solid Waste Compliance & Enforcement
Rajendra Gandhi, Bureau of Solid Waste Compliance & Enforcement
Jeffrey Meyer, Bureau of Air Compliance & Enforcement - Northern

COVANTA
ENERGY
for a cleaner world

COVANTA ESSEX COMPANY

ESSEX RESOURCE RECOVERY FACILITY

REFUSE RECEIVING & HANDLING SYSTEM

SYSTEM DESCRIPTION NO. 2

VOLUME I

REVISED, MAY 1990
REVISED, SEPTEMBER 1990
REVISED, JANUARY 1994
REVISED, MAY 1995
REVISED, SEPTEMBER 2003
REVISED, MAY 2009
REVISED, MAY 2011
REVISED, JANUARY 2022

APPROVED BY: _____ **DATE:** 1/2/22

RECORD OF CHANGES

Change #	Date	Affected Pages	Purpose
1	5/90	2, 5-8, 19,21,23,24	Correct Errors
		All page numbers	Changed to SD2-#reference
2	9/90	4, 7, 8,15,19,21	Correct Errors
3	1/94	10, 11, 12,13,14,15, 16, 18, 22,23,24,25 26, 27, 28	Correct Errors
4	5/95	Addition of Section 5.0	Addition
5	9/03	All	Review & correct errors
6	5/09	All	Review, add waste diversion project description
7	5/11	All	Review for Solid Waste Permit Renewal
8	1/22	All	Incorporate changes outlined in Technical NOD response for Solid Waste Permit Renewal and remove waste diversion information

Table of Contents

1.0 System Function

The tipping floor operates 6 days a week. Approximately 250-400 refuse trucks are processed at the facility per day.

The facility receives approximately 18,000 to 20,000 tons over a six day period each week. This is to ensure that sufficient quantities of refuse are available to support boiler operation when refuse is not being received. The main objective of this system is to provide a 3-4 day supply of refuse. This is accomplished by storing the refuse in various sections of the refuse bunker. Refuse inventory typically ranges from 5,000 to 14,000 tons. The secondary objective is to facilitate the diversion of 100 to 300 tons per day to alternate facilities.

2.0 Main Flow Path

Tipping Operation for Trucks Delivering MSW

The refuse flow path begins when trucks carrying refuse enter the facility from the south (Figure 1). The trucks proceed to the scales after they have entered the facility. The scales measure the weight of the truck and the refuse load. Once the trucks have been weighed, they go to the tipping bay. There they are directed to an unloading bay by the tipping floor operator. The trucks maneuver on the large tipping floor to align with one of the tipping ports and unload the refuse.

Two refuse cranes are used to transfer refuse within the refuse bunker or to the refuse feed charging hopper. In order to help stabilize furnace performance mixing of the refuse is performed within the bunker. This helps to make the refuse more uniform in combustion characteristics. The refuse feed charging hopper stores refuse and guides it to the upper feed chute. The upper feed chute fills with refuse and maintains an air seal between the atmosphere and the furnace.

From the upper feed chute refuse falls to the lower feed chute. The lower feed chute directs refuse to the ram feeder. A shut-off damper is positioned between the upper and the lower feed chutes to seal the boiler during start up and shut down.

2.1 Minor Flow path

The minor flow paths included in the Refuse Receiving & Handling System include:

Cooling Water System
Fire Protection System

Cooling Water System

Cooling water is used to cool the lower feed chute, since it is exposed to the heat from the furnace. Water from the closed cooling water system enters both sides of the lower feed chute. Cooling water is regulated by a flow regulating valve CC-139. Water flows through side wall water jacket and cools the lower feed chute. Water from the side walls is piped to the rear jacket of the chute and is then discharged from the chute to the cooling water surge tank through return piping mounted on both sides of the lower feed chute. The chute coolers are not pressure vessels and water should not exceed 15 psig.

Fire Protection System

Two fire stations are provided above the refuse bunker to extinguish fires which may start in the refuse bunker or the feed chute. The stations are equipped with water cannons for directing water to the burning refuse. The tipping floor is equipped with an overhead sprinkler system. A sprinkler system is also installed above the bunker and the crane to protect the units and their festoon cabling.

3.0 Component Description

The components included in this system include:

Scales
Tipping Bay

Refuse Bunker
Overhead Refuse Crane
Orange Peel Grapple
Refuse Feed Charging Hopper

3.1 Scales

Function

The function of the truck scales is to provide the scale operator with a gross, net, or tare weight of a truck. The weight of the refuse dumped at the plant site is required for billing and reporting purposes.

Description

Two 100-ton, 60'x 10', truck scales, for incoming trucks are located to the southeast of the tipping bay next to the scale house. Two 100-ton scales for outgoing empty refuse trucks and for those loaded with ash, ferrous, non-ferrous, and bulk removal are also provided.

The scale is equipped with a scale house operator's console that contains a digital display for each scale. The digital display has a 120,000 lb capacity with weight increments of 10 pounds and an automatic zero. The instruments are solid state integrated circuits. The

display is composed of at least six digits 3/4 inches in height. The scale is also equipped with digital TARE entry switches to match the weight display. A Gross-Net switch is also provided to select the read out display to be either gross weight or net weight. In the Net position, the value set on the Tare switches is subtracted from the gross weight and the net weight will appear on the display. All trucks are weighed for both tare and gross weights at this facility.

Operational Data

Scale Design Data
Manufacturer: Weigh-tronics, Inc & Fairbanks Scale
Capacity: 60 Ton (3)

3.2 Tipping Bay

Function

The function of the tipping bay is to provide ample space for refuse trucks to maneuver, unload and exit.

Description

The tipping bay, shown in Figure 2 is located adjacent to the refuse bunker and is accessed through two roll-up doors, one located on the northern roadway and one located on the southern. The floor area is 272 feet long by 112 feet wide. The tipping floor can handle up to 16 trucks at one time, though the average number of trucks for any given time is expected to be less, usually about 6-8. The tipping bay is under a slight negative pressure to ensure that no odors escape the building.

3.3 Refuse Bunker

Function

The function of the refuse bunker (pit) is to store large quantities of refuse for use in the boiler.

Description

The refuse bunker, shown in Figure 4, is a large storage area located adjacent to the tipping floor. It is approximately 69 feet wide by 269 feet long by 95 feet deep. The refuse bunker has a storage capacity of approximately 14,000 tons which is approximately a 5 to 6 day supply of refuse with all three boilers operating at maximum continuous rating (MCR). Refuse cranes are mounted above the refuse bunker to transfer refuse within the pit and to transfer it to the refuse feed charge hoppers.

3.4 Refuse Cranes

Function

The function of the refuse cranes is to transport and mix refuse within the refuse bunker and to deliver refuse to the refuse charging feed hopper.

Description

Two, 100% capacity refuse cranes, shown in Figure 5, are located above the refuse bunker, at elevation 101'-1". The cranes are sized to hold approximately 8.5 tons. This is based on the following assumptions and calculations:

Crane Capacity = 12.00 tons (grapple weight) + 8.5 tons (trash weight) = 20.5 tons

The refuse cranes consist of the following components:

Bridge Drive System
Trolley Drive System
Holding/Closing Hoist Drive System
Six Tine Orange peel Grapple
Railways
Motors
Motor Brakes
Circuit Switches
Festoon System
Auxiliary Hoist

Bridge Drive System

The bridge drive system is used to position the crane on the rails above the refuse bunker. It uses two motor drive assemblies. The drive assemblies, shown in Figure 5, are located on the east and west end of the bridge. They consist of a magnatorque brake, a 40 HP motor, a motor brake, and a gear case connected to a drive wheel by a shaft. The bridge drive has a maximum speed of 250 feet per minute (fpm).

Trolley Drive System

The trolley drive system positions the grapple over the refuse bunker. The trolley is driven by a 30 HP motor connected to a gear box to two drive wheels via a drive shaft. The drive is slowed by motor and magnatorque brakes. The trolley drive system has a maximum speed of 250 fpm.

Holding and Closing Hoist Drive System

There is a drive system and drum for each of these two functions. The hoist drive system is driven by a 200 HP motor connected by a coupled drive shaft to the drum by a reduction gear. Magnatorque and motor brakes act on the shaft to reduce speed. The holding hoist

drive is used for raising and lowering the grapple. The holding/closing hoist has a maximum speed of 250 fpm. The closing drive is used to open or close the grapple. To move the grapple vertically, and maintain the open or closed position, both lines must be moved simultaneously.

Each drive assembly is made up of the following components: motor, motor brake, magnetorque brake, gearbox, and drive shaft(s).

--Motor

All motors are 480 volt, 3 phase AC. They are synchronous motors connected to the drive shaft via a coupling to enable easy removal.

Inspection

Motors should be clean to allow proper cooling. The holding and closing motors are equipped with separate blowers which should also be inspected.

--Motor Brake

This is the On-Off brake. It is opened by an electromagnetic solenoid and closed by a spring. Electricity to the solenoid is supplied whenever the motor is energized, thus releasing the brake when movement is desired. During all movement the brake is off.

The brakes contain a self-adjustment mechanism which consists of a stack of spacer plates enclosed in a housing through which the rod that connects the brake jaws passes. As the brake lining wears, the rod moves further through the spacer plate housing each time the brake is released. When the stroke length reaches a certain point, the spacer nearest the brake wheel automatically drops from the stop on the end of the brake rod. The next time the brake is set, the stop butts against the remaining spacers and the brake stroke is shortened by the width of one spacer. This cycle repeats throughout the life of the liner.

Inspection

Check brake pads for wear and that all bolts and fittings are tight.

--Magnetorque Brake

This brake, shown in Figure 6, is the speed control brake. Electromagnetic poles in the brake oppose rotation when the speed needs to be reduced. The larger the difference between the desired speed and the actual speed, the more current will be supplied to the brake, and the more counter-torque will be applied. The brake allows for an infinite range of speed control.

--Gear box

The gear box controls the ratio of the motor speed to the drum or shaft speed.

Inspection

An oil level must be maintained in the gear box. This level should be checked every shift for each gear box. Inspect the box seals for leaks and report any excessive leaks.

--Drive Shafts

Drive shafts contain couplings between components to allow removal of components without affecting the position of connected shafts. Check at least once per day during walkdown.

-Circuit Breakers

Circuit breakers are installed to provide over current protection to the electrical equipment on the cranes. They also provide positive electrical isolation during outages.

The 480 volt supply is transformed from the 4160 volt switch gear SG-904 and SG-906 for the north and south cranes, respectively. 480 volts is sent from transformers TR-912 and TR-913 to the main disconnects (HC-DS1 and HC-DS2) in the crane switch gear area. This breaker then feeds the five functions: bridge, trolley, holding, closing, and auxiliary hoist motors. Any time these components require maintenance or any time a crane inspection is being performed, this switch must be locked off.

-Refuse Crane Operational Limit Switches

Function

The functions of the refuse crane limits are, primarily, to automatically slowdown or stop a crane component before reaching the limit of its travel. Various limit switches are employed by the automatic crane operating system.

Description

The sections which follow will describe the various types of limit switches used on the P & H overhead refuse crane.

--Mechanically Activated Toggle or Flop-Type Switches

This type of switch, mounted to the rail support, is actuated by contact made with a piece of metal attached to the moving part (bridge or trolley platform) which is to be limited. The switch is either on or off. When the switch if off there is no limit applied. Throughout most of the operating range of the bridge or trolley the switch will be off. However, as the edge of the rails is approached the metal plate will contact the limit switch and flip it to the "on" position. When the switch is on, a relay in the control circuit for the motor will cause the motor to either slowdown or stop completely.

These switches, shown in Figure 8 are rugged and reliable. Normal operational inspection should be limited to checking the tightness of the mounting bolts and visually verifying the

proper "on" or "off" position. Do not flop the switch unless a problem is suspected, as mistakenly leaving the switch in the wrong position will cause it to be destroyed on the next pass of the crane, or no trolley movement possibly creating delays to crane operations when needed.

--Electro-Magnetic, Proximity "Go" Switches

This type of switch is mounted on the moving object to be slowed or stopped. A metal plate fixed to the rail support structure will actuate this switch without making contact. This is done through the use of a magnetic core in the switch which will move the switch from the "off" to the "on" position when an iron plate is next to (or in the same "proximity") as a switch.

The switches which limit bridge and trolley movement can be found on an arm hanging over the side of either component. They are spaced so as to pass freely and without contact between the iron actuator plates. It is extremely important that when working on or inspecting a refuse crane none of the switches or actuator plates be stepped on or moved in any way.

Operational inspection should include a check to ensure that all the mounting bolts of the plates and the switches are tight, and that the electrical connections to the switches are tight and in the proper location, and switches aren't covered with iron filings giving false readings.

In addition to providing for slowdown or stop functions the proximity switch can be used to determine the position of the bridge or trolley for automatic operation. This is done by placing a metal plate on one of the wheels and attaching a proximity switch close to the wheel such that when the wheel makes a revolution it will activate the switch which acts as a counter. By knowing the distance around the outside of each wheel and multiplying this by the number of turns counted by the switch, the location of the bridge or trolley can be determined. Other positioning proximity switches used in automatic operation are mounted similarly to the slowdown and stop switches. These switches reset the wheel counter if there is any wheel slippage.

--Rotational Gear Type Limit Switches

In order to determine the position of the grapple during crane operations rotational switches (Figure 3) attached to the grapple closing drum shaft. With the grapple close to the desired limit position the switch can be set. Whenever the drum rotations return to this point the switch is turned "on". When "on" the switch will limit drum rotation by slowing or stopping the motor.

--Mechanical Grapple Stop Limit Bar

The only function of this device is to stop motion of the grapple upwards so that it does not contact the holding or closing drums or the trolley platform. The switch (Figure 5) operates on a counterweight system, and is very similar to a breaker. Two of the three AC power feed cables to each of the holding and closing drum motor are fed into the switch housing

to a contact. As long as the contact switch is closed power will flow out to the motor. One contact for each of the four switches in the cubicle is attached to an operating bar which extends out of one side of the cubicle. Attached to the free end of this bar is a counterweight mechanism. When the counterweight is allowed to move freely the operating bar will rotate and the switch contacts will be opened, disconnecting power to the motors.

During normal operation the switch counterweight is held in the closed position by the weight of the crane limit bar which is attached to the switch counter weight by a cable. The weight of the crane limit bar holds the contact switch shut. However, if the grapple were to come up high enough to contact the limit bar, the cable between the bar and the switch counterweight will slacken and the switch will open.

--Anti-Collision Bridge Limits

Each bridge has a device mounted on it which sends a signal to the other bridge to determine how close the bridges are. If the bridges get too close together, a red alarm warning light goes on in both refuse crane cabs. If the bridges are close they will not travel toward one another.

-Switch Functions

This section will describe the functions of the various switches for each of the various crane functions.

--Bridge

The main concern with the bridge function is to slowdown and stop the bridge motion before the bumpers hit the mechanical stops at either the east or west edge of the rail. To accomplish this there is a set of electrical proximity limit switches at each of the rail, east and west. As the bridge hits the first switch, the motor is slowed down. The second switch stops the motor. Both types of switches are provided for redundant protection. One center lane located approximately 1/2 way on the bridge will allow the bridge to come all the way to the back to the north or south wall to allow for crane maintenance.

--Trolley

The trolley limits are similar to that of the bridge with a few minor differences. A set of mechanical limits is mounted on the east and west sides of one of the trolley rails. As the trolley moves in either the east or west direction, it operates the first switch which slows down the motor speed. When the trolley platform reaches the second switch the power to the trolley motor is cut off, and the platform will coast to a stop.

On the cab side of each bridge rail, two long pieces of metal stock are mounted beneath the rail to actuate proximity switches mounted on the platform. The first plate going south actuates the slowdown function and the second the stop function, only in combination with grapple height. The function of these limits is to protect the festoon power supply cables which are draped along the south side bridge rail. If the grapple were in the raised position

it could make contact and damage these festoons at the east end of trolley travel. When the grapple is not at a high position these proximity limits switches will not effect operation. At the west side of each trolley rail, two more metal plate proximity switch actuators are mounted. These are called the hopper slowdown and stop limits due to their location. Finally, there is a short plate mounted in the middle of the trolley rail which functions to reset the automatic control system trolley location.

--Holding Drum

A gear rotational limit switch is attached to each end of the holding drum. One end of the drum has the upper limit switch which stops the upward motion of the grapple before it hits the mechanical grapple stop.

The other end of the drum has the Trolley Festoon Zone Upper Limit Switch which works in conjunction with the trolley limits. This end also has the upper slowdown switch to slowdown the upward movement of the grapple when it is getting close to the Bridge.

In addition the mechanical limit bar protects both the holding and closing drums from being struck by the grapple by cutting power to the motors.

-Festoon System

The cranes are provided with a festoon system used to gather in and let out electrical wire the full distance of the refuse crane's travel. The system consists of railways with rollers to guide the gathering and letting out of electrical wire to the crane. Shock cords are provided with each of the loops to prevent snapping the wires on full extension of the crane, which should be inspected during the walk down.

-Auxiliary Hoist

The auxiliary hoist is located on the refuse crane bridge. It provides the operator with a service crane to pick out small to medium size non-combustible materials. The auxiliary hoist can travel at a maximum speed of 80 fpm and has a capacity of 3 tons.

Refuse Crane Operating Data

Manufacturer: P & H
Lifting Capacity: 20.5 tons
(with grapple): (16 yds grapple)
Grapple Capacity: 8.5 tons
Maximum Speeds:
Bridge: 250 fpm
Trolley: 250 fpm
Hoist: 250 fpm
Auxiliary Hoist: 80 fpm
Lift: 103ft 6in.
CMAA Classification: Class F
Auxiliary Hoist Capacity: 3 Tons

-Railways

Each of the railways provide guides and support track for the bridge and trolleys and are equipped with hydraulic bumpers on the corners of the unit. The bumpers each have sufficient energy absorbing capacity to stop a fully loaded crane when traveling at full rated speed without causing damage to the bumpers. Stops are provided on each of the bridge girders for contact with the bumpers.

3.5 Six Tine Orange Peel Grapple

One grapple, shown in Figure 8, is installed per refuse crane assembly. Each 16 cubic, yard, grapple weighs 12.0 tons has a capacity of 8.5 tons, per load. The grapple consists of the following components:

Equalizing bar
Guide rollers
Upper and Lower Sheave
Press Rod
Tines
Lower sheave
Holding/Closing line assembly.

-Equalizing Bar

The equalizing bar ensures that equal tension is maintained on all lines when lifting a load. The bar pivots around a center pin connected to the grapple. Any slight unevenness of the cable length will be nullified by the equalizing bar. In addition, the equalizing bar allows the grapple to rotate if the load is off-center. If the equalizing bar is severely uneven, though it could cause the cables to wrap on the drum unevenly and cause the cables to break.

-Guide rollers

The guide rollers are located on the equalizing bar and the upper sheave to keep the hoist ropes in position and reduce wear which would otherwise occur on the top of the upper sheave platform.

-Upper Sheave

The upper sheave assembly is pinned to the top of each press rod and is located beneath the equalizing bar. It contains the sheaves (pulleys) through which the wire rope for the closing line passes, and the guide rollers for the closing lines.

-Press Rods

The press rods are provided for support and to act as a pivot between the upper sheave assembly and the tines. The press rod is used to direct the tine motion by maintaining a

fixed distance between the upper sheave assembly pin and the tine pin.

-Tines

The tines are pinned to the press rods and the lower sheave assembly and are used to grab refuse from the pile. There are six, symmetric, tines which make the orange peel grapple. The angle of the tines ensures good penetration for digging.

-Lower Sheave Assembly

The lower sheave assembly is pinned to the tines and contains the sheaves through which closing line wire rope is fastened. The lower sheave assembly drops to its lowest position as the closing lines are let out. Since the tines are connected to the press rod which is fixed to the upper sheave, the tines rotate out and become vertical.

-Holding and Closing Lines

The holding and closing lines are wrapped around their respective hoist drums and are let out or taken in to operate the grapple. There are two separate cables for each drum. The holding lines are attached to the top of the grapple and will move the grapple vertically. The closing lines are passed through the grapple and wound around the sheaves. Each closing line enters through the upper sheave assembly plate straight down to the first lower sheave. The cables passes around this sheave and back up to the upper sheave. Finally, the cable loops back down through the second lower sheave and is attached to the closing equalizing bar located between the upper sheaves. All cables are connected to the grapple by a wire rope socket. Holding and closing drums each have a sufficient number of wraps to allow the grapple to operate to the lowest pit level.

3.6 Crane Operator Control Room

Function

The function of the crane operator control room is to provide a safe and convenient location for the crane operator to manipulate the refuse crane.

Description

The crane operator control rooms are located at the top of the refuse bunker at elevation 85 feet. There are two control rooms, one each at the north and south ends of the refuse bunker. The control rooms contain the controls for the refuse cranes and the auxiliary hoist. The control rooms are equipped with hinged windows on the front and sides to provide the operator with a clear view of the refuse bunker. They are environmentally conditioned and pressurized to minimize odor and dust collection.

3.7 Bulky Waste Shear - DELETED

4.0 Controls Description

4.1 Scales

As a refuse truck enters the plant it must be weighed in order to properly bill the contractor. The truck stops on the scale and the weight indicator records the trucks actual weight.

This function is controlled by the scale house computers located at the scale house.

4.2 Tipping Bay

The utility operator controls the dumping of refuse into the refuse bunker. He guides the refuse trucks to the appropriate tipping port by using hand signals or telling the driver when he stops at the entrance door.

4.3 Refuse Bunker

The refuse cranes are used to move the refuse from the receiving bay doors directly into the charging hopper or into the storage pit for later use. The amount of refuse sent into the boiler charging hopper depends on the boiler load, rate of burning and quality of the refuse. Because the refuse boilers burn the trash at a controlled rate, the charging hoppers only need to be fed as they require more fuel. The remainder of the trash from the receiving bay door is stored on the side of the refuse bunker until needed as fuel. It is very important for the crane operator to monitor the level of fuel in the charging hopper.

A video camera that is located above the charging hopper sends a signal to a television monitor in the crane operator's station. By watching the monitor, the level in the charging hopper can be observed and the hopper refilled as required. The operator should continually check the monitor and maintain the charging hopper level.

-Bunker Management

The goal of bunker management is to coordinate the operation of both cranes to maintain an adequate flow of refuse into the hoppers and keep the refuse storage pit stackable.

The crane operator is responsible for carrying out the pit plan and keeping the CRO constantly informed of changes in the bunker and maintaining an area for truck discharge. Proper management will allow the maximum amount of refuse to come into the facility. To accomplish this, maintaining an open tipping trench (the area of the pit which receives refuse from the trucks) is vital. Refuse should be moved from the trench to the west side of the pit or into the hoppers.

If two cranes are operating to clear the trench, both cranes should operate on their sides of the bunker. If only one crane is operating, it should be used to charge the hoppers and clear the entire trench area.

In general, pit management plan will be developed each day to accommodate the particular refuse conditions. The following is a guide to how this plan is developed.

-Shift Responsibilities

During the day shift two cranes are in operation to maintain the flow of refuse. Typically, during two crane operation with all three boilers on-line, the south crane will feed hopper three and the north will feed hoppers one and two. The south crane must continually move refuse to the north to ensure even pit stacking. The cranes work in conjunction with the front-end loader to move the trash from the tipping bay. Refuse not fed directly to the hoppers should be stacked along the middle of the wall, adjacent to charging hoppers two and three. While stacking it is important to ensure that the trash is stored level enough to evenly to prevent collapse. It is also necessary to maintain as many tipping port chutes clear as possible.

During the evening shift, after the refuse trucks have finished unloading all of the trash, refuse should be taken from the trench and the wall next to the hoppers. Good mixing of refuse should be performed. If the trash in the bunker is squared-off and neatly stacked, it is easier for the crane operator to handle the following day's deliveries.

During the weekend refuse is received on Saturday only. Therefore, the crane operator should pick the refuse evenly from the bunker. Focus on clearing the trench as low as possible. Dig one end wall pile down to the base of the bunker on alternate weekends to keep the refuse from sitting at the base of the pit for long periods of time. This will prevent excessive decomposition of refuse which occurs over time. The decomposition will cause methane and heat to be produced, which increases the chance of a bunker fire.

-Maintaining Good Fuel Flow

The crane operator is also responsible for the mixture of trash that is fed to the furnace. Throughout the period of a day, many trucks dump refuse into the bunker. Although a large portion of the material is combustible, some is not. To the extent that bulky waste is observed in the pit, the crane operator will endeavor to remove it from the fuel supply. In order to maintain optimum firing conditions, the refuse that is passed into the pit and eventually into the charging hopper must be inspected and mixed by the operator before being dropped directly into the hopper.

The proper mixture of trash will promote stable, uninterrupted, and proper furnace firing conditions. This mixture should consist of heavy and light refuse, paper, metal, and wet and dry refuse. It may be difficult for a crane operator to know exactly what is in the crane grapple, but mixing and fluffing the trash will give the operator a good indication of what will go into the charging hopper.

The **mixing** of refuse is accomplished during the process of stacking and storing the refuse. By watching what is discarded into the refuse storage pit through the tipping port, the crane operator can decide on the quality of the load. For example, too much dry paper will burn too fast, while too much metal will not burn at all. By taking the load and spreading it out around the storage pit, the tipping port can be cleared of trash, and the refuse can be mixed in the bunker to obtain a good refuse mixture.

Fluffing the refuse is another method of mixing the refuse. Fluffing the refuse is accomplished by picking the load from the pit, elevating the load a few feet from the pile, and dropping the load back into the pile. This allows some of the trash to land away from the grapple tines and gives the grapple a less compacted pile from which to grab the trash. This is especially important where digging down a storage pile. The refuse under the pile is compressed, and often a full grapple load will be difficult to obtain without fluffing the pile.

4.4 Crane

During operation, the crane operator uses joy sticks mounted on the operator's chair to position the crane over the refuse bunker, retrieves a load and deposits the load in one of the charging feed hoppers or in another section of the refuse bunker.

The grapple is operated to pick and drop loads with two sets of cables or wire rope. The holding line, which attaches directly to the top of the grapple, through an equalizing bar, positions the grapple height. The closing line will operate to open and close the grapple lines when it is moving and the holding line is stationary.

To pick a load, the opened grapple must be lowered onto the pile. To do this both the holding and closing cable joy sticks are moved to the lower position and the drums pay out cable. The grapple will hit the pile and the tines will penetrate the refuse. Stop both cables, and then carefully move only the closing cable up. This will shorten the distance between the upper and lower sheaves and close the bucket. Stop closing the grapple when the closing cables begin to lift the grapple. Take up the slack on the holding cables. Both cables should now lift the grapple together. If the closing cable is closed too fast, it will snap tight and try to lift the full load. This will often result in breaking a cable.

At this point, the fully closed and loaded bucket should be lifted by positioning both the holding and closing lines to the hoist (up) position.

NOTE: If only the holding line is raised, this will OPEN the grapple by causing slack in the closing line.

The grapple can then be positioned as desired by moving the trolley and bridge with the joy stick. When in position, the normal dumping method is to maintain the height with the holding lines and slacken (lower) the closing lines. This will cause the tines to spread and the refuse to fall.

-Crane Safety

The equipment used can be very dangerous to persons who are careless. Because of these dangers, forming safe and intelligent work habits is as important as knowing the equipment. Some of the primary objectives a crane operator should meet in training are to recognize and correct dangerous conditions and avoid unsafe acts. The following subsections list some general rules of safety to be followed when operating the crane and its auxiliary process refuse-handling equipment.

The following rules for safety of the crane and its auxiliary equipment should be followed at all times.

1. Never operate a crane under the influence of drugs or alcohol.

2. Never operate the crane when tired.

3. Avoid becoming distracted from the crane when it is in motion.

4. Practical jokes are not tolerated.

5. The bucket of the crane should not be used as an elevator for anyone. No one should ride on the crane at any time.

6. Never block out safety devices, such as limit switches, in order to allow operation of the crane in a manner not intended by the manufacturer.

7. Whenever leaving chair power down the crane.

8. Never rely on limits. They're there as backups not primary protection.

-Process Operations

During the crane operation, a few safety rules should be acknowledged. These rules can be broken down into preoperational, operational, and post operational safety rules.

-Preoperation Precautions

1. Only properly designated persons should operate the cranes.

2. Always inspect the crane thoroughly before operating the crane.

3. Before climbing on the crane to check it, power down the crane by opening the circuit breaker to the crane.

4. While changing shifts, communicate with the previous operator about any necessary information regarding the condition and operation of the crane.

-Walk down Inspection

Inspect the following:

1. All brake linings and gaps.

2. Bridge and trolley for obstructions.

3. All bridge and trolley wheels.

4. Motor leads and festoon cables.

5. Gear boxes for oil leaks.

6. Lubrication and grease lines for leakage.

7. Drum bearings and shaft coupling for integrity.

8. Wire rope for frays and breaks.

9. Bucket or grapple for cracks or wear.

-Preoperation Inspection

1. Do visual inspection of cables and grapple by bringing grapple close to cab.

2. Run trolley and bridge east/west and north/south to listen or see any abnormal noises or operations.

-Operational Precautions

1. Always keep both hands on the joy stick controls at all times when in the crane operator's seat.

2. In order to stop the crane due to an emergency hit the emergency stop button.

3. In emergency conditions, do not panic.

4. In emergency situations, always stay in constant communication with the control room.

5. Perform only as many functions at a time as you can handle; do not try to do too much.

6. In an emergency condition, once the crane has stopped all motion, immediately power down the unit.

7. Always know the location of all cranes in and out of service.

8. Always make sure the load is free from all obstructions before lifting or traveling.

9. Check all electrical operation limit switches and report any abnormalities to the supervisor immediately.

10. Avoid sudden starts and stops.

11. Stopping the crane by bumping into the runway stops is not permitted.

12. If the electrical power fails, place all controllers in the OFF position until power is restored to prevent sudden and unexpected movement when the power is restored.

-Post operation Precautions

1. Before leaving the crane operators seat, always power down the unit.

2. When parking the crane on the service bay area, allow the crane holding and closing lines some slack.

3. While changing shifts, communicate with the relief crew any conditions about the operation and condition of the crane.

4. Always clear the load from the bucket before spotting the crane.

5. Before leaving the crane operator control room, always properly secure the crane.

6. Repairs and adjustments should be made only by properly designated and authorized personnel.

-Crane Operator Conduct

1. The operator shall respond to signals from a person directing the lift, or an appointed signal person. When a signal person is not available, the crane operator is responsible for the lifts. However, the crane operator shall obey a stop signal at all times, no matter who gives it.

2. Each operator shall be responsible for those operations under the operator's direct control. Whenever the operator has a question about safety, the operator shall consult with the supervisor before handling the loads.

3. All cranes should be secured when being left unattended. Set the bridge parking brake, power down the unit and controls, and leave the hoist lines slacked while the unit is not operating.

4.5 Bulky Waste Shear - DELETED

5.0 Truck Traffic Abatement Plan

The goal of this plan is to assist facility personnel in reducing on-site refuse truck waiting

times to the lowest practical duration. The facility uses this all inclusive plan which incorporates coordination of the scale house, tipping bay personnel, and refuse crane operation, along with the maintenance of all the related equipment. The objectives of this section will be monitored by plant management and supervisors to ensure that the objectives are met and in order to identify problem areas quickly and to then institute corrective action, where necessary.

The facility is approved to receive refuse trucks 24 hours 6 days per week. Operational history indicates that peak hours are generally between 10:30 AM and 2:00 PM. In order to minimize truck queuing times throughout the day and specifically during the peak receiving time, the following guidelines have been instituted.

5.1 Refuse Pit

During the evening hours, the crane operators are required to ensure the refuse pit is in good order for acceptance of refuse during the early morning rush (06:00 a.m. to 07:00 a.m.). The objective is for the trench to be dug down throughout the evening in order to attain a target level of greater than 20′ below the tipping floor elevation by 6:00 a.m. This is a critical element of the plan and must be strived for in order to minimize truck traffic. Without the trench in good condition by 06:00 a.m., it may fill up quickly causing the tipping floor traffic to back up.

5.2 Scale House

During the peak period, an additional scale house clerk can be called in if needed to help facilitate smooth traffic flow through both the inbound and outbound scales. Security personnel may also assist in traffic abatement during peak periods. If any abnormal traffic should occur, security personnel will immediately notify the Shift Supervisor, who will then coordinate all traffic flow between the scale house and tipping floor until the traffic subsides. The Operations Manager will regularly review the truck queue time reports generated by the scale house personnel to ensure traffic flow issues are not occurring on a regular basis. Truck drivers will be given copies of the attached, or subsequent, handout entitled "Truck Driver Safety Guide" to assist them with safe and efficient maneuverability while on site.

5.3 Tipping Floor

Proper staffing of both the tipping floor and the refuse cranes is another important item. Throughout the day, both refuse cranes remain in service at all times to ensure the trench remains in acceptable condition. The tipping floor is staffed with an adequate number of trained and qualified operations technicians at all times to continually inspect the tipping floor during all hours of waste receiving. This will provide optimum coverage of all the necessary areas. One technician will be located in the tipping bay office at the incoming door to the tipping floor and will provide bay assignments. A second technician will work the floor and loader, performing refuse inspections and moving the trash from the floor to the bunker, assisting in truck traffic control. At least two front end loaders will be available during peak hours. To the extent practical, trailers delivering waste will be scheduled to arrive during off-peak hours in an effort to further minimize on-site truck congestion. At the

discretion of the tipping floor technicians, trailers may be queued on the tipping floor for a short period of time to allow packer trucks to cycle through quickly. After one to two cycles of packer trucks, the trailers will then be allowed to off-load. Transfer trailers will also be positioned on the tipping floor in a manner which will reduce backups; approximately 20′ minimum passage space will be provided at all times by trailers which are in the process of unloading. As the trailers unload, they will be directed to position their vehicle such that clearance will be maintained for other trucks to pass. (See Figure 5-1.) The transfer trailers will also be instructed to depart quickly after unloading to avoid additional delays. Any transfer trailer operators which are found to be hindering flow through the tipping floor will be specifically addressed by tipping floor personnel.

5.4 Maintenance of Refuse Handling Equipment

The maintenance of both the refuse cranes and the front end loaders is a vital part of the truck traffic abatement plan. This maintenance program is designed to ensure that this equipment is always available for use during the peak time. The Maintenance Department performs daily walk downs of the refuse cranes at 05:30 a.m. Monday through Friday. Any corrective maintenance can then either be performed immediately or scheduled for an off-peak time depending on its urgency. The Operations Department performs minor preventive maintenance to the refuse cranes daily on the evening shift. Any discrepancies are reviewed with the Maintenance Department the following morning. The front end loaders are walked down daily by the Operations Department prior to 08:00 a.m. to ensure they are in good working order. Included with the walk downs is the refueling of the machines. Any discrepancies are immediately attended to by Operations, Maintenance, or an outside contractor, if necessary. There is an established preventive maintenance program performed on a routine basis by an outside heavy equipment contractor. This program consists of scheduled minor and major maintenance for both the front end loaders.

5.5 Contingency

In the unlikely event that the facility experiences equipment failure or malfunction that could result in major tipping floor delays, the facility will take the steps necessary to minimize truck waiting times. Any waste being brought to the site from outside Essex County will be reduced to the extent practicable. Essex County will be notified that an emergency condition exists and that diversion of a percentage of refuse trucks from the facility may be required. The County will be provided with updates on the problem as it is being resolved to assist in the earliest possible resumption of normal activity.

References

Flow Diagrams

None

Control Logic Diagrams

None

Electrical Diagrams

None

Vendor Manuals

Deutsch Babcock Anlangen - Operating Instructions

Vendor Drawings

Harnischfeger P & H Operations Manual CB-29777

Figure 1 Site Plan

Figure 2 Tipping Bay

Figure 3 Refuse Bunker

Figure 4 Refuse Crane

Figure 5 Holding/Closing Drive System

Figure 6 Magnetorque Brake

Figure 7 Orange Peel Grapple

Figure 8 Limit Switches

COVANTA
Powering Today. Protecting Tomorrow.

Covanta Essex Company
183 Raymond Boulevard
Newark, NJ 07105
Tel: 973-344-0900
Fax: 973-344-4999

May 10, 2022

Mr. Anthony Fontana, Chief
NJ Department of Environmental Protection
Bureau of Solid Waste Permitting
P.O. Box 420
Mail Code: 401-02C
401 East State Street
2nd Floor, West Wing
Trenton, NJ 08625-0420

Subject: Application for a Solid Waste Facility Permit Renewal
Covanta Essex Company
Essex County Resource Recovery Facility
Program Interest Number: 133546
Permit No. RRF200001
Response to Second Technical Notice of Deficiency

Dear Mr. Fontana:

On behalf of Covanta Essex Company, the following responses are being provided to the questions and comments received in the Second Technical Notice of Deficiency letter dated April 7, 2022 and received on April 12, 2022 regarding the above referenced permit application. The comments and responses are provided below:

Comment No. 1
O&M Manual, Operating Procedure No. 3, page OP3-7:
Section 3.0 number 6 states, "Maximum flue gas temperature at the ESP inlet (4-hour average) shall not exceed 17 degrees C (30 degrees F) above the maximum demonstrated temperature (4-hour average) observed during the most recent dioxin/furan compliance test." Please revise or delete this item as the electrostatic precipitator has been replaced by the baghouse at the facility.

Covanta Response:
Section 3.0 item 6 has been revised to replace "ESP" with "baghouse" as follows (bolded text has been added and text in strikeout has been deleted):

6.0 **Flue Gas Temperature:** Maximum flue gas temperature at the ~~ESP~~ **baghouse** inlet (4-hour average) shall not exceed 17 degrees C (30° F) above the maximum demonstrated temperature (4-hour average) observed during the most recent dioxin/furan compliance test. Compliance shall be determined through continuous monitoring and 4-hour block averages.

The revised page OP3-7 is included as Attachment 1.

Comment No. 2
O&M Manual, Waste Flow Control Plan, page API3-7:

a. Section C.1.f, number 4 states, "The sealed containers containing the used baghouse filter bags are to be transported to the tipping floor and discharged into the refuse pit as soon as possible." In order to avoid RCRA hazardous waste applicability, please revise this language to include a clear time limit for the baghouse filter disposal, instead of the indeterminate language of "as soon as possible."

b. Section C.1.f. – Please add a provision in this section to specify a limit on the number of baghouse filters that can be replaced and discharged into the refuse pit at once. Also include a provision that the replacement of the baghouse filters shall be staggered in order to prevent potential emission spikes if all the baghouse filters are replaced and burned at the same time.

Covanta Response:
Section C.1.f has been revised as follows (bolded text has been added and text in strikeout has been deleted):

f. Used filter bags from the boiler baghouses

1) When disposing of used filter bags from any of the boiler baghouses, bags must be shaken, blown or pulsed prior to removal to remove as much loose ash residue as possible.
2) Bags are to be removed from the cell plate and placed into sealed containers (double plastic bags or fiber drums) within the baghouse compartment or within an enclosure that prevents direct release of ash to the environment. During removal of bags, procedures must be in place to avoid the emission or spillage of any loose ash into the environment.
3) The baghouse module qualifies as "preventing a release" if the filter bags are immediately rolled up and placed in plastic bags or drums.
4) The sealed containers containing the used baghouse filter bags are to be transported to the tipping floor and discharged into the refuse pit ~~as soon as possible~~ **no longer than 48 hours after the filter bags are removed from the baghouse module**. The transporting of bags to the tipping floor shall only be performed by facility personnel. Third-party contractors shall not be used for this task.
5) The container or bag that the used filter bags are placed into should be marked with a red X using spray paint or similar markings to allow for easy identification by the refuse crane operator once placed in the refuse pit.
6) **A maximum of 608 baghouse filter bags (equivalent to 2 full baghouse modules) are to be replaced and transported to the tipping floor for destruction per day. When feeding the used baghouse filter bags to a boiler for destruction, feeding of the bags must be staggered in order to prevent potential emission spikes from combustion of the used filter bags.**

The revised section API3, Waste Flow Control Plan, is included as Attachment 2.

Comment #3
O&M Manual, Purple Plume Mitigation Plan: Attachment 1, Section A.3.2 – Other Type 10 and Type 27 Waste Inspections states the goal is to, "Prevent iodinated waste from industrial or commercial generators from being mixed in the pit." Please indicate whether Covanta has updated its Type 27 Waste approval protocol to include iodinated waste as a prohibited substance for acceptance at the facility. Also, please include in the Purple Plume Mitigation Plan a copy of Covanta Material Characterization Forms for Type 27 Waste approvals and the Industrial Waste Survey for Type 27 Waste approvals.

Covanta Response:
The Covanta Type 27 waste approval protocol does include iodinated waste as a prohibited substance for acceptance at the facility. As part of the protocol, customers that request approval to dispose of their Type 27 waste at any Covanta facility must submit a Material Characterization Form (MCF) to the Covanta Environmental Solutions (CES) Environmental team that is responsible for screening all waste types for destruction at Covanta Waste to Energy (WtE) facilities. A copy of the Covanta MCF is included as Attachment 3. If iodine in any concentration is identified in Section 4 of the form as being in the waste, the waste is determined to be an unacceptable waste type for destruction in any WtE facility which includes the Covanta Essex facility. Additionally, for any waste that is proposed to be disposed of at the Covanta Essex facility, approval from the Environmental Specialist and the Facility Manager must also be given to the CES Environmental team after an additional review of the MCF and any other relevent information before the customer is given an approval to bring their waste to the facility. A copy of the MCF is now included in the Purple Plume Mitigation Plan, Section API3A, as Attachment 8 along with a copy of the 1993 Industrial Waste Survey for Type 27 waste conducted by the Essex County Utilities Authority (ECUA). Also, a new section 1.8 has been added to the Purple Plume Mitigation Plan, Section API3A, to outline the Type 27 waste approval protocol as follows:

1.8 Type 27 Profiled Waste

Profiled Waste, also referred to as Special Waste, is Type 27 waste that is delivered to the Covanta Essex facility for destruction. Prior to being approved for delivery to the Covanta Essex facility, this waste is screened by the Covanta Environmental Services (CES) Environmental team to ensure that it does not contain any prohibited substances.

As part of the approval protocol, customers that request approval to dispose of their Type 27 waste at any Covanta facility must submit a Material Characterization Form (MCF) to the Covanta Environmental Solutions (CES) Environmental team that is responsible for screening all waste types for destruction at Covanta Waste to Energy (WtE) facilities. A copy of the Covanta MCF is included as Attachment 8 along with the ECUA Industrial Waste Survey for Type 27 waste. If iodine in any concentration is identified in Section 4 of the form as being in the waste, the waste is determined to be an unacceptable waste type for destruction in any WtE facility which includes the Covanta Essex facility. Additionally, for any waste that is proposed to be disposed of at the Covanta Essex facility, approval from the Environmental Specialist and the Facility Manager must also be given to the CES Environmental team after an additional review of the MCF and any other relevent information before the customer is given an approval to bring their waste to the facility.

The revised Purple Plume Mitigation Plan is included as Attachment 3 to this response.

If you have any questions regarding these responses, please do not hesitate to contact me.

Sincerely,

Patricia Earls
New Jersey Regional Environmental Manager

cc: Kimberly Beccia, Bureau of Solid Waste Permitting
Tom Byrne, Bureau of Solid Waste Permitting
Gina Lugo, Bureau of Solid Waste Compliance & Enforcement
Rajendra Gandhi, Bureau of Solid Waste Compliance & Enforcement
Jeffrey Meyer, Bureau of Air Compliance & Enforcement - Northern

APPLICANT'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit or vehicle registration for which I may be seeking approval or now hold.

David Blackmore
Print/Type Applicant/Owner Name


Signature of Applicant/Owner

5/9/22
Date

Facility Manager
Title

David Blackmore
Print/Type App./Operator Name


Signature of Applicant/Operator

5/9/22
Date

Facility Manager
Title

Print/Type Co-Applicant Name

Signature of Co-Applicant

Date

Title

Attachment 1

3.0 Precautions and Limitations (Cont')

4. **Nitrous Oxides**: Maintain NO_x emissions less than 300 ppm on a one (1) hour average when there is an equipment malfunction and < 155 ppmdv for 24-hour average.

5. **Maximum Load Level:** Maximum load (4-hour average) shall not exceed 110 percent of the maximum load (4-hour average), demonstrated during the most recent dioxin/furan compliance test.

6. **Flue Gas Temperature:** Maximum flue gas temperature at the baghouse inlet (4-hour average) shall not exceed 17 degrees C (30° F) above the maximum demonstrated temperature (4-hour average) observed during the most recent dioxin/furan compliance test. Compliance shall be determined through continuous monitoring and 4-hour block averages.

I. Per the NJDEP regulations, the following conditions require that you **stop feeding refuse to the boiler.**

1. Failure of a baghouse which results in an opacity reading exceeding 10% for any 6 minute period. Note if only one of the baghouse modules fails and can be isolated from service so that there is no excess opacity, waste feeding to the boiler can resume.

J. Take action to ensure that the scrubber system is repaired immediately should the sulfur dioxide ($S0_2$) emissions:

1. Exceed 94 ppmdv SO_2 average and not achieve 70% removal SO_2 removal (average) during any one (1) hour period.

2. Exceed 29 ppmdv SO_2 average for a 24-hour geometric and less than 75% removal.

K. Within one (1) hour after charging and igniting refuse on start up, the temperature of the flue gas, three second downstream of the secondary air injection point, must be 1136°F.

Attachment 2

COVANTA
ENERGY
for a cleaner world

WASTE FLOW CONTROL PLAN

Revision 7, April 2015
Revision 8, June 2021
Revision 9, January 2022

VOLUME IX, CHAPTER 3

Approved by: _____ **Date:** 1/10/22

COVANTA ESSEX COMPANY
OPERATIONS AND MAINTENANCE MANUAL
VOLUME IX - CHAPTER 3

ESSEX COUNTY RESOURCE RECOVERY FACILITY
WASTE FLOW CONTROL PLAN

Revision 9, January 2022

Waste Flow Control

The following contains a discussion of the waste delivery and flow path through the facility. Included in this discussion are measures utilized to minimize the processing of prohibited waste, to handle incoming waste flow during periods of emergencies and/or equipment breakdown or shutdown, and to describe the management of internally generated plant wastes.

A. Waste Deliveries

A.1 Permitted Waste Types

The following solid waste materials, as identified by waste ID numbers and defined in N.J.A.C 7:26-2.13(g) may be accepted for disposal:

TYPE 10	Municipal Waste (household, commercial and institutional)
TYPE 23	Vegetative Waste (except bulk quantities)
TYPE 25	Animal and Food Processing Waste (small quantities only, not large quantities or full truck loads)
TYPE 27	Dry Industrial Waste (except asbestos and asbestos containing wastes; dry non-hazardous pesticides; contaminated soils; hazardous waste; radioactive waste; and Type 27 from districts which have complied with an Industrial Waste Survey.

A.2 Prohibited Waste Types

The following solid and liquid waste materials, as identified by waste ID numbers and defined in N.J.A.C 7:26-2.13(g) and (h), regulated medical waste classes as defined in N.J.A.C 7:26-3A.6(a), and bulk recyclables as defined in N.J.A.C. 7:26A are specifically prohibited from disposal at the facility:

TYPE 12	Dry Sewage Sludge
TYPE 13	Bulky Wastes
TYPE 23	Vegetative Waste (Bulk quantities)
TYPE 25	Animal and Food Processing Waste (Large quantities or full truck loads)
TYPE 27	Dry Industrial Wastes
TYPE 72	Bulk liquid and Semi-Liquids
TYPE 73	Septic Tank Clean-out Wastes
TYPE 74	Liquid Sewage Sludge

Regulated Medical Waste (RMW), all classes, N.J.A.C 7:26-3A.6 (a)
Bulk Recyclables N.J.A.C. 7:26A
Iodine containing waste of any kind

A.3. Waste Flow

On-site traffic control is maintained to provide for orderly vehicular movement on the Facility grounds. Lane delineations, signals, signs, barriers ensure a controlled flow of traffic delivering waste to the Facility through the scales to the tipping floor, then leaving the tipping floor and exiting the Facility through the scale. Trucks carrying ash residue, recovered metals, unprocessible wastes, bypass wastes and/or chemical deliveries are similarly controlled and directed to minimize waste delivery traffic. Signs are posted indicating the maximum speed limit. A Facility traffic flow is represented in Appendix 1.

The control of prohibited waste is a multi—layered approach incorporating the cooperation of customers, the haulers, and Covanta Essex. One mechanism is through the guidance of the Essex County Solid Waste Management Plan, through which the company has determined which industrial wastes are prohibited at the Essex County Resource Recovery Facility.

In order to minimize prohibited waste from entering the facility, a HAULERS HANDBOOK (**copy attached as Appendix 2a**) has been developed which outlines and explains the waste acceptance criteria at the facility. This Handbook has been sent to all registered haulers utilizing the facility. The Handbook will be provided to new haulers. An abstract (as provided in Appendix 2) to the handbook pertaining to waste acceptance will be available at the scale house.

In addition, signs have been prominently posted on the facility's access road to indicate which wastes are acceptable. The signs read as follows:

THIS FACILITY RECEIVES AND BURNS ONLY HOUSEHOLD WASTE, COMMERCIAL WASTE AND INDUSTRIAL WASTE THAT DOES NOT CONTAIN HAZARDOUS WASTE – AS IDENTIFIED UNDER RCRA. INSPECTIONS WILL BE DONE TO ENSURE COMPLIANCE.

THIS FACILITY IS NOT PERMITTED TO ACCEPT BULKY WASTE. INSPECTIONS WILL BE PERFORMED TO ENSURE COMPLIANCE.

The first review of the paperwork and delivery vehicles is provided by the facility's scale house personnel. The origin and disposal (O&D) form, shown in Appendix 3, carried by the hauler denotes the origin and waste type of the material being delivered. At this time, the delivery vehicle is also checked for weight, proper registration, decals and is automatically scanned for radioactivity. If the review of documents and vehicle requirements proves satisfactory, the load information is entered into the scale house computer and the truck is released to proceed to the tipping bay. The scales are integrated into a computerized weighing system and weights of each load are recorded. Any problems encountered are brought to the attention of the appropriate supervisor.

If a delivery vehicle arrives at the facility's scale house and the O&D form indicates that it is a full truck load of Type 25 waste, the driver will be notified that the truck will be prohibited from dumping the load for processing at the facility and must be diverted to another location. The driver will receive instructions based on a previously determined agreement with the hauling company for delivering the waste to one of Covanta's New Jersey transfer stations which are permitted to accept Type 25 waste.

A.4. Tipping Floor Inspections:

Once the load has exited the scale and proceeded to the tipping floor (the waste receiving area), the load is subject to a visual inspection. Inspections are performed on a random basis by trained plant personnel on a minimum of 10% of trucks received at the facility per day. The purposes of the inspection are twofold: 1) to identify and remove prohibited or unprocessible materials prior to initiation of processing and 2) to ensure that the waste delivery vehicle is properly registered and decaled.

Under the visual inspection program, a truck being inspected will be observed for proper decals and for prohibited or unprocessible waste types as the truck unloads onto the tipping bay floor. For palletized loads of waste materials, a random sampling of the waste material will be checked against the approval paperwork (see Section D). With the inspection program, any hauler may be requested to unload contents of their truck on the tipping floor for visual inspection of waste. Once the inspection is completed, the acceptable portion of the load is pushed into the refuse pit by use of heavy equipment. Prohibited or unprocessible materials are handled as described below in Section 4. If the entire portion of the load is acceptable, the truck is released and returned to the scale house to weigh out.

All MSW loads received from hospitals are subject to inspection to check for iodine containing material in the waste which is prohibited. The procedure for these inspections includes pictures of typical items that may be found in hospital waste that could contain iodine to educate and train tipping floor operators. The waste will be raked as thinly as possible so that most of the waste is visible while performing these inspections. The current Hospital Load inspection procedure is included in Appendix 5 to this Plan.

Inspections will be conducted where they will least interfere with existing operational demands and flow of truck traffic. This provides for use of the tipping floor relative to the distribution of waste in the bunker and provides flexibility with regard to activities on the tipping floor.

All inspections will be recorded and these records will be used to evaluate carrier compliance and performance. An example of an inspection form in provided in Appendix 5. The enforcement of the inspection program is conducted primarily by Covanta Essex personnel. Regularly scheduled inspections by the NJDEP Solid Waste Enforcement Division also serve as a spot check of the inspection program.

A.5 Procedure for Removing Prohibited or Unprocessible Waste:

If prohibited or unprocessible waste is identified during the visual inspection, it will be separated or isolated as required.

If bulk recyclables as defined in N.J.A.C. 7:26A are identified, the vehicle will be reloaded and the material will be rejected. Class A materials consist of metals, glass, plastics and corrugated cardboard. Class B, C, and D materials would also not be acceptable at the facility due to the fact that they fit the description of ID 13, ID 23 (bulk) and ID 72.

If suspected hazardous waste, regulated medical waste (RMW) or prohibited dry industrial (Type 27) is identified, Tipping Hall personnel will initiate action to ensure proper handling of the material. If practicable and can be done safely, this material is separated from the acceptable portion of waste. If the generator can be identified and the NJDEP grants approval, the prohibited material can be rejected to the original generator. If the generator is not positively identified, the material will be secured and moved to the secured prohibited waste storage area (identified in Appendix 3) that is located a safe distance from the active disposal area. Arrangements for identification and disposal will be handled through qualified vendors.

In the case of bulky waste, the waste will be separated manually or by the use of a front-end loader. The bulky waste either be immediately rejected to the hauler or placed into the bulk storage/transport container. This container is routinely delivered to the authorized bulk acceptance site. The container is stored on the south side of the tipping floor next to Bay 15. (See Appendix 3 for arrangement drawing).

If a visual inspection spots an unidentifiable industrial container in the refuse pit, it can be removed with the overhead crane and lowered to the extended bucket of the front-end loader. The container will be separated using all necessary precautions and moved to the unprocessible or bulky waste storage area as identified in Appendix 3. Upon the identification of a bulky item in the refuse pit, the item will be picked-up by the overhead crane and deposited on the charging deck. Bulky items would be removed as described above.

If a visual inspection indicates a small quantity of Type 25 waste in the load on the floor, the front end loader operator will be notified and the load would be pushed into the pit immediately by the front end loader. After the load has been removed from the tipping floor, a bleach solution will be applied to the affected tipping floor area and front end loader bucket for disinfection.

If iodine containing material is discovered in a waste load on the tipping floor, the waste will be separated manually or by the use of a front-end loader if needed. The iodine containing waste will either be immediately rejected to the hauler with clear instructions that this waste is not to be delivered the the facility again or other arrangements will be made to have the waste transported to a landfill that can accept the waste.

A.6. Special Waste

The Facility offers secured destruction for a variety of materials including APHIS waste, pharmaceuticals, health care products, documents and non-hazardous industrial wastes.

a. Animal and Plant Health Inspection Services (APHIS) waste generated from international sources. These loads may originate from the numerous airports or shipping ports located in the area. A separate procedure for handling (attached here as Appendix 6) APHIS wastes is located in the Safe Operating Procedures (SOP) Manual.

b. Pharmaceuticals, Health Care Products & Industrial Wastes are accepted at the Facility for assured destruction. This material is screened for acceptability prior to approval and receipt at the Facility. A procedure for handling this type of material is located in the Safety Manual, Volume 10

of the O&M Manual. Provided in Appendix 7 is Plant Specific Operating Procedure #42 Handling Special Waste Deliveries.

B. Refuse Flow By—Pass Procedure

Since the majority of the potential equipment malfunctions or emergencies are not expected to affect waste flow, the Facility will first utilize the capacity of the waste pit to handle incoming waste flow in the event of an unplanned malfunction or outage. The bunker is designed to store an estimated 14,000 tons of refuse, enough for approximately four days of operation.

In the event that the Facility is unable to accept and dispose of Acceptable Waste whether as a result of scheduled downtime for maintenance or otherwise and the permits do not authorize use of the Facility (or a portion thereof) for transfer operations (or if the permits do authorize such use, such as transfer facilities are not operational), the Essex County Utilities Authority (ECUA) will arrange for Alternate Disposal Facilities to be available for disposal of such Acceptable Waste. After being informed by Covanta Essex that waste is unable to be accepted at the Facility, the ECUA would in turn call individual municipalities and contracted haulers to redirect to the appropriate by-pass site. The haulers are instructed as to the proper procedures to follow under this condition. They will be supplied with routes from Covanta Essex and from their respected origin sites to the by-pass location. Covanta Essex will supply the ECUA with updates as to when waste acceptance will resume.

During a short term situation which may affect the acceptance of waste into the tipping hall (i.e., pit fire, two cranes down, truck accident) no waste will be kept on the floor, other than what has been thrown—down for routine inspections, without seeking approval from the NJDEP. Space restrictions inside the facility limit staging of trucks in case of short term outages to road "A", which leads to the tipping hall, as shown in Appendix 4.

During a situation which may affect the acceptance of waste into the tipping hall (i.e., bunker (pit) fire, hazardous material release, trucking accident) the refuse trucks will first be held at the entrance gate. The trucks in line will remain in place. If it appears that the situation will not be solved quickly, NJDEP will be consulted as part of the decision making process.

C. Plant Waste Management -All Sources

Management of internally generated facility waste is best categorized in terms of waste disposal methods. The Essex facility has the capacity to safely process certain amounts and types of waste materials. Other waste types, including recyclables, will be handled through off-site disposal.

C.1. INTERNAL DISPOSAL

a. Use of incineration for waste types ID 10 non— recyclable trash, ID 23 vegetative waste (except for leaves), ID 25 animal and food processing waste, and ID 27 (dry industrial waste) allowed by the Solid Waste Permit.

b. Use of process design and water balance to absorb normally generated industrial wastewater for wetting of ash. The storm water retention system is also used to provide water for low quality use.

c. Waste bulk liquid oils generated from equipment maintenance will be disposed off site to Class D used oil facilities in the State of New Jersey, or other similarly licensed facilities located outside of the State of New Jersey.

d. Use of incineration for waste oil debris and solids generated from spills, equipment maintenance and housekeeping.

e. Use of incineration for disposal of various sump contents.

f. Used filter bags from the boiler baghouses

1) When disposing of used filter bags from any of the boiler baghouses, bags must be shaken, blown or pulsed prior to removal to remove as much loose ash residue as possible.
2) Bags are to be removed from the cell plate and placed into sealed containers (double plastic bags or fiber drums) within the baghouse compartment or within an enclosure that prevents direct release of ash to the environment. During removal of bags, procedures must be in place to avoid the emission or spillage of any loose ash into the environment.
3) The baghouse module qualifies as "preventing a release" if the filter bags are immediately rolled up and placed in plastic bags or drums.
4) The sealed containers containing the used baghouse filter bags are to be transported to the tipping floor and discharged into the refuse pit no longer than 48 hours after the filter bags are removed from the baghouse module. The transporting of bags to the tipping floor shall only be performed by facility personnel. Third-party contractors shall not be used for this task.
5) The container or bag that the used filter bags are placed into should be marked with a red X using spray paint or similar markings to allow for easy identification by the refuse crane operator once placed in the refuse pit.
6) A maximum of 608 baghouse filter bags (equivalent to 2 full baghouse modules) are to be replaced and transported to the tipping floor for destruction per day. When feeding the used baghouse filter bags to a boiler for destruction, feeding of the bags must be staggered in order to prevent potential emission spikes from combustion of the used filter bags.

C.2. EXTERNAL DISPOSAL

a. Use of solid waste disposal contractor for waste Types ID 13 (bulky waste), through the appropriate transfer station.

b. Use of sanitary sewer system for sanitary/gray discharge and "upset condition" industrial wastewater (with approval from PVSC).

c. Use of recycling contractor for designated Essex County recyclables including newspapers, glass containers, aluminum, old corrugated containers, office paper and ferrous scrap.

d. Use of appropriately licensed vendors for:

1) waste degreaser (D001);
2) spent batteries;
3) fluorescent lamps/bulbs and other mercury containing devices;
4) spent phosphoric acid sludge (D002).

e. Use of one or combination of the following methods for non—hazardous empty drum disposal: (1) return to supplier; (2) establishment of reuse procedure; and/or (3) deheading of container and crushing prior to recycling disposal as ferrous scrap.

f. Use of contract for Essex County ash residue disposal. Ash will be loaded and transported 24 hours per day, six days a week. Ash residue and recovered metals (contained in truck bodies or containers) can be stored on the tipping floor during Sundays only.

g. All refuse hauler trucks, ash hauler trucks, metal hauler trucks, and bulky waste hauler trucks leaving the facility shall scale out on one of the outbound truck scales at the scalehouse. All other hauler trucks leaving the site for any reason are required to stop at the scale house for authorization from the scale house attendant to leave prior to departing from the site.

WASTE FLOW CONTROL PLAN

APPENDIX 1

(Appendix 1)

UNACCEPTABLE/UNPROCESSIBLE WHICH CANNOT BE ACEPTED AT THE ESSEX COUNTY RESOURCE RECOVERY FACILITY.

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE SOLID WASTE MANAGEMENT PLAN OF ESSEX COUNTY REGULATES THE PERMIT OF THE ESSEX COUNTY RESOURCE RECOVERY FACILITY TO ACCEPT ONLY HOUSEHOLD, NON-HAZARDOUS INDUSTRIAL/COMMERCIAL WASTE, CERTAIN VEGETATIVE WASTE (LEAVES ARE EXCLUDED), AND ANIMAL AND FOOD PROCESSING WASTE (EXCEPT LARGE QUANTITIES OR FULL LOADS). UNACCEPTABLE/UNPROCESSIBLE WASTE WHICH CANNOT BE RECEIVED INCLUDES ALL HAZARDOUS WASTE, CERTAIN NON-HAZARDOUS WASTES AND ALL MEDICAL/INFECTIOUS WASTES.

UNACCEPTABLE NON-HAZARDOUS INCLUDE BUT ARE NOT LIMITED TO:

BATTERIES such as dry cells, mercury batteries, vehicle batteries.

WHITE GOODS such as refrigerators, stoves, dishwashers, washers and dryers.

BULKY GOODS such as bed springs, mattresses, air conditioners, hot water heaters, water storage tanks, furnaces, oil storage tanks, any compressed storage tank, children swing sets, vehicle frame parts, crank cases, transmissions, engines, lawn equipment, snow blowers, bikes, file cabinets, metal furniture, clean fill, metal piping, fuel containers.

LARGE QUANTITIES OR FULL TRUCK LOADS OF TYPE 25 WASTE

WASTE CONTAINING IODINE IN ANY QUANTITY

UNACCEPTABLE MEDICAL/INFECTIOUS WASTES INCLUDE BUT ARE NOT LIMITED TO:

SURGICAL AND OBSTETICAL WASTES

PATHOLOGICAL WASTES such as human tissue, human anatomical parts.

BIOLOGICAL WASTES such as excretions, suctionings, secretions, disposable medical supplies that have come into contact with such wastes.

BLOOD SOILED MATERIALS

RENAL DIALYSIS WASTES such as tubing and needles.

UN-AUTOCLAVED OR UNSTERILIZED serums or vaccines, lab waste, sharp instruments such as hypodermic needles intravenous needles and tubing.

UNACCEPTABLE HAZARDOUS WASTE INCLUDING BUT NOT LIMITED TO:

DRUMS OR OTHER LARGE ENCLOSED STEEL, METAL OR PLASTIC DRUMS OR OTHER LARGE ENCLOSED STEEL, METAL OR PLASTIC CONTAINERS.

BULK SLUDGES OR WET SOLIDS NOT CHARACTERISTIC TO MUNICIPAL WASTE.

LARGE AMOUNTS OF LIQUIDS OR OIL SOAKED SOLIDS OR SORBENTS, EXCEPT FOR SOLIDS OR SORBENTS CONTAINING OILY RESIDUE WHICH HAVE BEEN CERTIFIED BY THE GENERATOR OF THE WASTE TO BE NON-HAZARDOUS.

MILITARY ORDINANCE OR OTHER EXPLOSIVES.

PRESSURIZED CONTAINERS.

ANY SUSPECT CLOSED INDUSTRIAL PACKAGING.

COVANTA ESSEX COMPANY

WASTE FLOW CONTROL PLAN - APPENDIX 2

COVANTA ESSEX WASTE LOAD INSPECTION REPORT

INSPECTION TYPE: (CIRCLE ONE) VISUAL (ON FLOOR) CAMERA (TIPPING BAY OFFICE)

BAY ASSIGNMENT: 2 3 4 5 6 7 8 9 10 11 12 13 14 15 CIRCLE BAY # ASSIGNED

INSPECTOR:	VEHICLE DATA:		COMPANY VEHICLE #	
DATE:	TYPE OF VEHICLE #	NJDEP DECAL	TRUCK #	NJ DEP # *(Painted)*
TIME:	TRUCK			
HAULER:	ROLL-OFF		LIC PLATE # FRONT	REAR
TAG#:	TRANSFER			
WASTE TYPE:	ACCT. #		HOSPITAL WASTE?	YES NO

UNACCEPTABLE WASTE TYPES AND IDENTIFIERS

POTENTIALLY HAZARDOUS:

LIQUID SOAKED DEBRIS _____
EXPLOSIVES _____
INDUSTRIAL CONTAINERS _____
RADIOACTIVE MATERIAL _____
DRY/POWDERED MATERIAL _____
PRESSURIZED VESSELS _____
WARNING LABELS _____
MOTORS _____
PAINTS _____
WET SOLIDS _____
UNUSUAL ODOR _____

IODINE WASTE:

LIQUID IODINE _____
ANTISEPTIC IODINE_____
- BETADINE ANTISEPTIC _____
- POVIDONE IODINE _____

MEDICATIONS W/IODINE _____
DYES OR INKS _____
PHOTO FILM/CHEM _____
INDUSTRIAL CHEMICALS _____
OTHER _____

REGULATED MEDICAL WASTE:

CULTURES AND STOCKS (CLASS 1) _____
PATHOLOGICAL WASTE (CLASS 2) _____
HUMAN BLOOD & BLOOD PRODUCTS (CLASS 3) _____
SHARPS (CLASS 4) _____
ANIMAL WASTE (CLASS 5) _____
ISOLATION WASTE (CLASS 6) _____
UNUSED SHARPS (CLASS 7) _____

RECYCLABLES:

ALUMINUM ____ CARDBOARD _____ PLASTIC ___ GLASS ___ BULK LOAD (100%) ____

BULKY WASTE (TYPE 13):

APPLIANCES _____
TAR PAPER/SHINGLES _____
METAL PRODUCTS _____
SHEET ROCK _____
BALES _____
BED SPRINGS _____
RUBBER PRODUCTS _____
C & D WASTE _____
AUTO PARTS _____
OTHER (SEE COMMENTS) _____
CEILING TILES _____

TYPE 27 - UNACCEPTABLE PORTIONS

NJDEP PROHIBITED WASTE _____
NON-RESPONDENT/INSUFFICIENT TO SURVEY _____
HAZARDOUS IMPACT ON EMISSIONS ___
HAZARDOUS WASTE _____
HAZ. EFFECT ON ASH _____
NON-COMBUSTIBLES _____

OVERALL RESULTS:

ACCEPTABLE LOAD _____ UNACCEPTABLE LOAD _____ DRIVER SAFETY VIOLATION _____

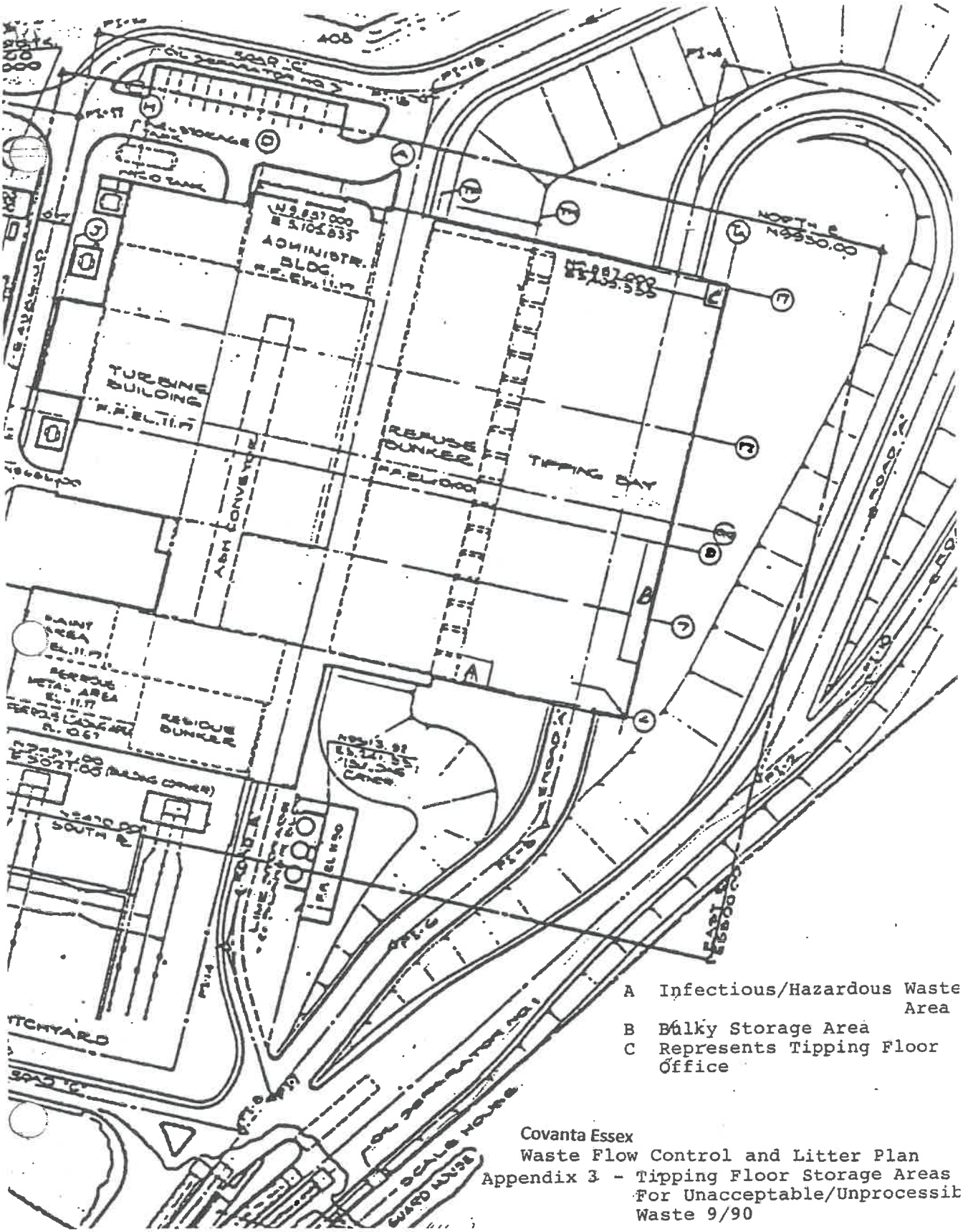
COMMENTS:

FOR REJECTED LOADS CONTACT ONE OF THE FOLLOWING INDIVIDUALS IMMEDIATELY UPON REJECTION:

1) SHIFT SUPERVISOR ON DUTY		
2) ENVIRONMENTAL SPECIALIST		
2) OPERATIONS MANAGER		

*NOTE: CONTACT IN THE ORDER LISTED / CHECK BOX OF THE INDIVIDUAL THAT WAS CONTACTED

PLEASE INCLUDE PICTURES OF ALL UNACCEPTABLE WASTE



A Infectious/Hazardous Waste Area

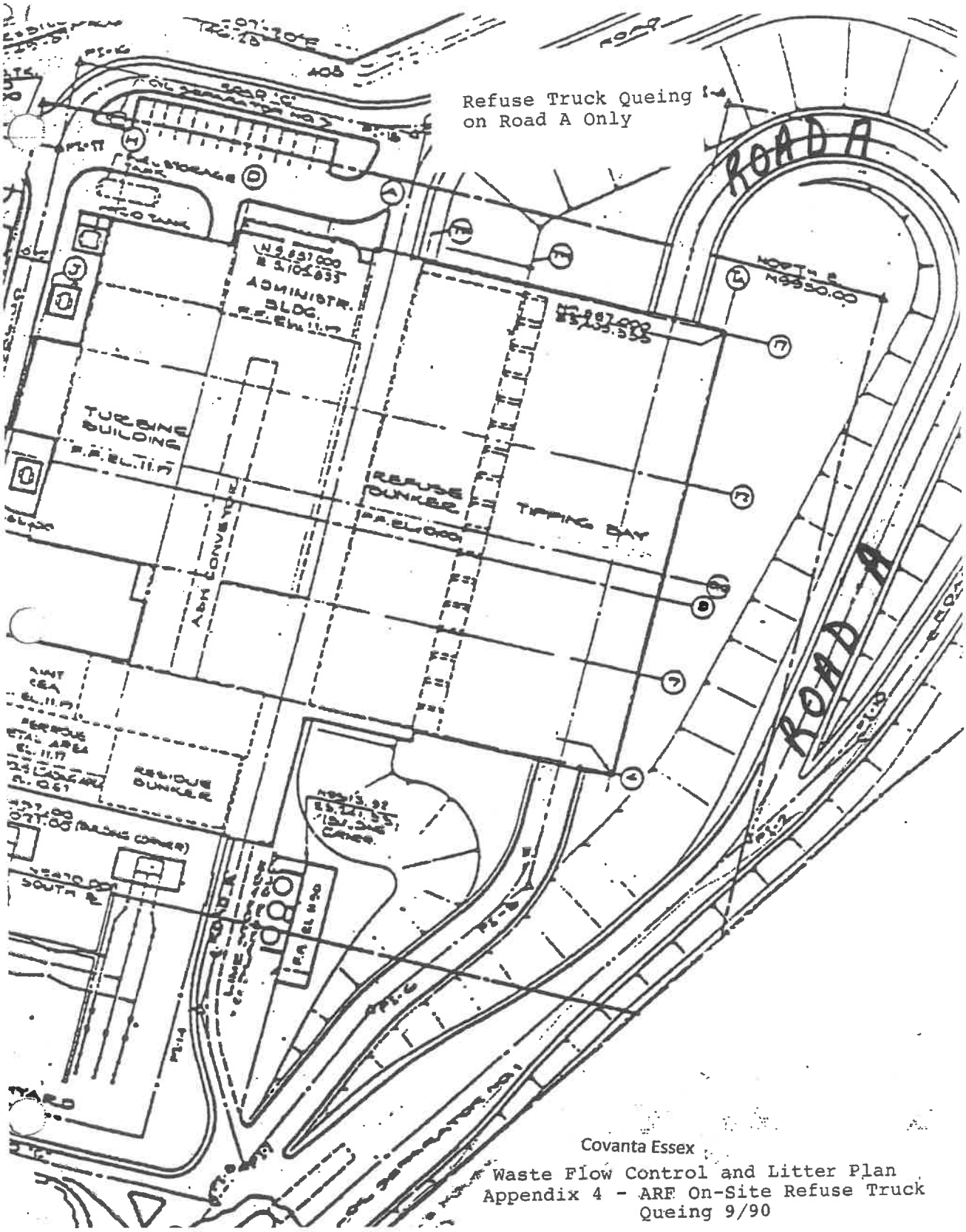
B Bulky Storage Area

C Represents Tipping Floor Office

Covanta Essex

Waste Flow Control and Litter Plan

Appendix 3 - Tipping Floor Storage Areas For Unacceptable/Unprocessib Waste 9/90



Covanta Essex

Waste Flow Control and Litter Plan
Appendix 4 - ARF On-Site Refuse Truck Queing 9/90

COVANTA ESSEX HOSPITAL LOAD INSPECTION PROCEDURE

1. FLAGGING LOADS AT SCALEHOUSE

a. Haulers delivering from hospitals in Essex County will be identifying loads from hospitals on the O&D forms going forward. The current known haulers are but not limited to:
   i. Interstate Waste Services (IWS)
   ii. T. Farese
   iii. LT Roselle; and
   iv. Giordano Company
b. These loads are typically compactor loads that contain 100% hospital waste.
c. The scalehouse operator is to make a note on the stage ticket that the load is from a hospital by marking "Hospital" on the ticket for the tipping floor operator.

2. WASTE INSPECTIONS ON THE TIPPING FLOOR

a. Once a notification is received from the scale house or the "Hospital" notation is observed on the stage ticket at the North entrance door, the tipping floor operator will have Bay #4 cleared if there is waste in the bay so that the hospital load can be dumped into Bay #4 for a closer inspection. Hold the truck at the door until Bay 4 is ready to receive the load.
b. Once the load is dumped into Bay 4 and the truck has left the bay and it is safe to do so, the tipping floor operator will walk over to Bay 4 for a closer visual inspection of the load. The "Covanta Essex Hospital Load Inspection Form" (attached) will be used to document the inspection. To provide for the operator's safety, no loads are to be dumped in Bay 3 or Bay 5 during the inspection.
c. A visual inspection of the load will be conducted to determine if there are any containers of iodine containing material or any medications which contain iodine. The operator will use the visual aids provided for examples of this material to determine if it is visibly present in the load.
   i. The inspector will conduct a visual inspection only and will not handle the load or the materials directly.
   ii. The inspector may use a long handled tool such as a fire hook to move materials as needed. The waste will be raked as thinly as possible so that most of the waste is visible.
d. If nothing is observed that appears to contain iodine, the operator will note that the load is acceptable on the inspection form and the load can be pushed into the refuse pit.
e. If material is identified that may contain iodine, the operator will note this on the inspection form and will contact the Shift Supervisor, Chief Engineer, and/or Environmental Specialist for further instructions. The load is to be left in Bay 4 until the material can be examined by one of the above supervisors.
f. If it is determined that the material does appear to contain iodine, the material will be isolated in the unacceptable waste container on the tipping floor for alternate disposal.
g. The customer, hauler, and Essex County will be notified of the material observed in the compactor.

COVANTA ESSEX COMPANY
SAFE OPERATING PROCEDURE #41
APHIS COMPLIANCE AGREEMENT

Revision 8 – September 2018

I. INTRODUCTION

1. International waste brought into the United States may contain certain dangerous plant diseases and/or insect pests. This waste is referred to as **"regulated garbage"** which is regulated by the Department of Homeland Security, Customs and Border Protection (CBP) under the authority of the Animal and Plant Health Inspection Service (APHIS). The purpose of this SOP is to alert Covanta Essex personnel to that fact and to instruct personnel how to minimize potential uncontrolled contamination.

2. This does not include U.S. Customs seizures, which are typically packaged and palleted, unless packages are broken open. If packages open, exposing waste, equipment and floor must be disinfected, as necessary. Seizures are handled as Special Waste.

II. SPECIAL SAFETY ASPECTS/PRECAUTIONS

1. Do not handle APHIS regulated garbage – especially with bare hands. Use hand tools to inspect or manipulate the load.

2. Equipment used to manipulate regulated garbage must be disinfected after use. This includes tools, loader bucket, and the floor. Grapple should be disinfected prior to maintenance or repair activities if feasible or at least once at the end of each shift.

3. A mixture of the disinfectant is to be kept on the floor at all times. An APHIS authorized disinfectant must be used which includes either of the following:
   a. Clorox bleach (chemical name: sodium hypochlorite). Undiluted Clorox bleach must be 8.25% sodium hypochlorite.
   b. Virkon S, which is a livestock disinfectant, in a 1% solution.

4. Either disinfectant must be mixed into a dilute solution – Virkon S comes in powder form while bleach comes in liquid form. Due to the handling hazards of Virkon S in powder form, bleach will be used to disinfect the waste.

5. According to the Compliance Agreement with USDA, the bleach solution is a mixture of 1.0 part bleach (which is 8.25% sodium hypochlorite) in 9.0 parts water (example: 8 ounces Clorox to 72 ounces water) and must be prepared each day for maximum effectiveness. A typical garden sprayer will be used for application.

6. In the event of a spill of APHIS regulated garbage outside the facility, APHIS/CBP will be notified by calling (908) 986-9200. Cleaning and disinfection of the area of the spill with the above listed disinfectant must be performed immediately using the procedures listed in section V.

III. PERSONAL PROTECTIVE EQUIPMENT

1. Standard PPE (safety glasses, safety shoes, hearing protection).

2. Safety vest (for tipping floor).

3. Required disinfecting PPE: Tyvek suit with hood, disposable boot covers, yellow hard hat, nitrile gloves, chemical resistant gloves, face shield, and N95 respirator.

Note: Review Donning/Removal of PPE procedure – Attachment 1

IV. PROCEDURE

1. Fuel Handling Supervisor or designee and Control Room should be notified when load arrives on site.

2. Bay 4 will be used for all APHIS regulated loads, if available, and disinfectant should be staged in the area. This bay does not have to be dedicated to APHIS regulated loads.

3. Bay 12 will be used only when the North Refuse Crane is out of service and the South Refuse Crane will be used to charge waste.

4. Once the truck is accepted, the crane operator is to be notified as to which bay the material will be dumped into.

5. When possible, before the material is dumped into the pit, the crane operator must dig down into the trench area where the material will be dumped to create a hole for the APHIS regulated waste to be dumped into.

6. The APHIS regulated load should be pushed into the pit as soon as possible.

7. When unloading the APHIS regulated waste on the tipping floor, stage other dry, non-APHIS regulated waste in the area in front of bay 4 or 12 so that this dry waste can be mixed with the APHIS regulated waste if wet using the front end loader. The mixed waste should then be treated as APHIS regulated waste and pushed into the pit as soon as possible. In no case should APHIS waste be held for more than 72 hours.

8. Once in the pit, the load should be charged to a boiler as soon as possible. The crane operator must notify the Control Room before feeding any APHIS regulated waste. Ensure that the entire load is charged by digging down in the trench as necessary. Check that there is no residual material left on tipping floor.

9. If the APHIS regulated waste is wet and requires further mixing with dry waste, the waste should be taken from another area of the pit to the area where the APHIS regulated waste is and mixed in the trench. The APHIS regulated waste is not to be moved to any other areas of the pit once it has been dumped into the pit. Ensure that the entire mixed load is charged by digging down in the trench as necessary.

10. At least once per shift, the front end loader bucket, the floor, and any tools used to manipulate the APHIS regulated waste must be disinfected with the bleach solution described in section II.5 using the sprayer and this must be documented in the logsheet.

11. Before performing any maintenance on the front end loader, the loader bucket must be disinfected with the bleach solution described in section II.5 using the sprayer and this must be documented in the logsheet.

12. Before using the premixed bleach solution as a disinfectant, agitate the solution thoroughly.

13. If any residual material is observed on the floor, it should be pushed into the pit immediately. The crane operator will be notified and Steps 5-10 will be repeated as necessary.

14. At least once per shift and before performing maintenance/inspections/greasing, the grapple of the refuse crane that has charged APHIS regulated waste to a boiler must be disinfected with the bleach solution described in section II.5 using the sprayer and this must be documented in the logsheet.

15. When disinfecting the grapple, the following procedure will be used:

    a. Place the grapple on the charging deck in the open position.
    b. Using the sprayer, spray the interior surface of the grapple tines starting at the top pivot point and working down.
    c. Spray the overhead center hub as a last step in interior disinfection.
    Note: While spraying, do not stand under surfaces being sprayed.
    d. Spray the exterior surface of the grapple tines to complete the grapple disinfection.

V. SPILL RESPONSE PROCEDURES

1. The Fuel Handling Supervisor and Environmental Engineer or designee should be notified when a spill of regulated waste occurs in an area other than the tipping floor.

2. When a spill occurs, sweep up or scrape off as much of the contaminant as possible with a whisk broom and dust pan or shovel.

3. Apply absorbent material if needed (paper towel, etc.).

4. Place the sweepings, scrapings, and absorbent material in a 3 mil leak-proof plastic bag for incineration.

5. Free surfaces of grease or dirt when applicable.

6. Scrub the contaminated area or areas where the spill occurred using a detergent solution.

7. Flush the scrubbed surfaces with clean water.

8. When using the premixed bleach solution described in section II.5 as a disinfectant, agitate the solution thoroughly.

9. Apply disinfectant generously covering the entire area and allow it to remain on the surface for at least 5 minutes.

10. Rinse the surface with clean water and allow the surface to dry.

11. Dispose of all refuse, sweepings, and scrapings that are in the plastic bag in the pit for incineration.

VI. RECORDKEEPING REQUIREMENTS

1. When the APHIS approved hauler arrives at the scale house at the facility entrance, the origin and disposal (O&D) form carried by the hauler must be presented to the scale house personnel. This denotes the hauler name and origin and waste type of the material being delivered. If the review of documents and vehicle requirements proves satisfactory, the load information is entered into the scale house computer, a loop ticket is issued and highlighted as APHIS regulated waste, and the truck is released to proceed to the tipping bay. The scales are integrated into a computerized weighing system and weights of each load are recorded. Also recorded are the date and time the load of regulated garbage was received, the hauler name, and identification of the waste as international waste so that it is processed according to the USDA Compliance Agreement requirements.

2. Records must be kept of the dates that the bleach solution disinfectant is used in association with the handling of regulated garbage. Log sheets (shown on pages 5 and 6) will be maintained on the tipping floor and in the North Refuse Crane which will include the following information on disinfectant use:

   a. Date of use
   b. Location of use
   c. Name of disinfectant used
   d. Volume and concentration of sanitizer used

3. Documentation including date and time of notification of APHIS and US Customs and Border Protection (CBP) if there is any spillage of regulated garbage outside of the facility and the name of the employee making the notification must be maintained.

4. Records must be kept for three (3) years from the date of disinfectant or sanitizer usage.

VII. EMERGENCY BACK-UP PLAN

In the event that the facility is not able to accept waste due to a malfunction or outage, the local APHIS/CBP office will be notified immediately at (908) 986-9200 and will be advised in advance, as to the use of the following pre-arranged approved backup system:

Covanta Union, Inc.
1499 Route 1 North
Rahway, NJ 07065
(732) 499-0101

APPROVED:

Plant Manager	9/17/18 Date
Operations Manager	9/13/18 Date
Safety & Training Supervisor	9/13/2018 Date
Environmental Specialist	9/13/18 Date

DISINFECTION OF APHIS REGULATED WASTE HANDLING EQUIPMENT

Disinfectant Used: Bleach Solution (1 part bleach, 9 parts water)
Location of Use: Tipping Floor – Front End Loader Bucket and Bay 4 Floor

Date of Use	Volume Used (gallons)

DISINFECTION OF APHIS REGULATED WASTE HANDLING EQUIPMENT

Disinfectant Used: Bleach Solution (1 part bleach, 9 parts water)
Location of Use: North Refuse Crane – Grapple

Date of Use	Volume Used (gallons)

DISINFECTION OF APHIS REGULATED WASTE HANDLING EQUIPMENT

Disinfectant Used: Bleach Solution (1 part bleach, 9 parts water)
Location of Use: South Refuse Crane – Grapple

Date of Use	Volume Used (gallons)

ATTACHMENT 1
CORRECT DONNING AND REMOVAL OF PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR EBOLA

For most work tasks requiring PPE to protect a worker from exposure to Ebola virus, put on personal protective equipment in the following order:

1. Gown or Tyvek (if using double gloves, put on first pair before gown or Tyvek)
2. Mask (or respirator, when appropriate)
3. Face shield or goggles
4. Gloves

Remove PPE in a way to avoid self-contamination. This may include removing outer gloves simultaneously with the gown or Tyvek suit, decontaminating PPE between removal steps, or other measures. The order of PPE removal may vary depending on the type of PPE a worker uses, the nature of the work tasks being performed, and which devices or garments are contaminated, among other factors.

After use, remove and place suits, gloves, and disposable masks in a labeled waste container, as appropriate. Wash hands with soap and water, or use an alcohol-based hand gel if soap and water are not available. Reusable goggles, face shields, respirators, and other equipment must be decontaminated before re-use.

COVANTA ESSEX COMPANY
WASTE FLOW CONTROL PLAN
APPENDIX 7

Plant Specific Operating Procedure #42

Attachment 3

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PURPLE PLUME MITIGATION PLAN

Original, January 2022

VOLUME IX, CHAPTER 3A

Approved by: _____ **Date:** 1/10/22

COVANTA ESSEX COMPANY

API3A-1

OPERATIONS AND MAINTENANCE MANUAL
VOLUME IX - CHAPTER 3A

PURPLE PLUME MITIGATION PLAN

Original, January 2022

Purple Plume Mitigation

On December 20, 2019, Covanta Essex submitted a Purple Plume Prevention Plan to NJDEP (see Attachment 1) outlining planned efforts to eliminate the occurrence of purple plumes which occur when iodine containing waste is combusted. This was the basis of the requirements included in this Purple Plume Mitigation Plan (Plan) outlined below.

Iodine containing waste is prohibited from being delivered to the Covanta Essex facility. The following plan includes protocols and procecures to prevent the delivery of iodinated waste to Covanta Essex and procedures and training at Covanta Essex to prevent processing of any iodinated waste delivered to Covanta Essex and deposited in the tipping floor area.

1.0 Procedures to increase education and outreach

1.1 Distribution of Flyers

Covanta Essex distributes informational flyers (see Attachment 2) to the Essex County Utility Authority (ECUA) at least annually which ECUA includes in their billing invoices to all Essex county haulers to alert them of the problem created by the presence of iodine in waste delivered to Covanta Essex. Flyers are also sent to all the commercial haulers and the Department of Sanitation of New York (DSNY) at least annually that deliver waste to Covanta Essex.

These informational flyers may also be sent to local businesses identified using the Virtual Drive-By Procedure described in Section 2.1 below to educate them about iodine containing materials in the waste stream, and Covanta will also offer assistance to interpret any reagent SDS sheets.

1.2 Hospital Outreach

The following hospitals are known to deliver waste to the facility and will be sent the informational flyers referenced in section 1.1 above on an annual basis to continue to inform them that iodine containing waste is prohibited from being delivered to the Covanta Essex facility:

- St. Barnabas Medical Center, Livingston NJ
- Clara Mass Medical Center, Belleville, NJ
- Beth Israel Medical Center, Newark, NJ
- St. Michael's Medical Center, Newark, NJ
- UMDNJ Hospital, Newark, NJ
- East Orange General Hospital, East Orange NJ
- VA Medical Center, East Orange, NJ

1.3 Essex County Solid Waste Advisory Committee (SWAC) Outreach

When necessary, Covanta Essex will solicit route information from members of the Essex County SWAC where commercial stops are incorporated into municipal routes. This information is used in the "Virtual Drive-By" procedure discussed in Section 2.1 below.

1.4 Website Link

A website link has been created by Covanta Essex that lists all waste types that are prohibited from being accepted at Covanta Essex including waste that contains iodine. This link will be maintained on the website with the most current informaiton. This link will be included on all correspondence with ECUA, DSNY and all haulers delivering waste to the Covanta Essex facility. The link address is https://info.covanta.com/prohibited-wastes.

1.5 Troy Chemical Outreach

Covanta Essex used the "Virtual Drive-By" procedure discussed in Section 4.2 to identify Interstate Waste Services (IWS) as the waste hauler for Troy Chemical who was identified as the source of the iodinated waste after the April 7, 2020 purple plume event. Covanta Essex has reached out to Troy Chemical numerous times since then to inform them that IPBC and any other iodine containing compounds in their waste are not acceptable to be delivered to Covanta Essex. Troy Chemical has not responded to Covanta Essex. After receiving no response, Covanta Essex contacted IWS and instructed them to divert all waste from Troy Chemical to another disposal location. Future attempts to contact Troy Chemical will only be made in the event that waste from their Newark facility is discovered in any loads delivered to the facility.

1.6 Outreach via Covanta Invoicing

Covanta Essex has created invoice templates for its non-Essex County commercial waste haulers and other haulers that are billed directly by Covanta which include the above referenced website link for prohibited waste types. These will be used for all future billing cycles. The website link address is listed in section 1.4 above. A copy of an invoice containing the website link is included as Attachment 3 to this Plan.

1.7 Plant Signage for Prohibited Waste

The signs posted on the scalehouse that list all the prohibited waste types for the Covanta Essex facility shall include iodine containing waste as a prohibited waste type. The signage shall be updated as needed.

1.8 Type 27 Profiled Waste

Profiled Waste, also referred to as Special Waste, is Type 27 waste that is delivered to the Covanta Essex facility for destruction. Prior to being approved for delivery to the Covanta Essex facility, this waste is screened by the Covanta Environmental Services (CES) Environmental team to ensure that it does not contain any prohibited substances.

As part of the approval protocol, customers that request approval to dispose of their Type 27 waste at any Covanta facility must submit a Material Characterization Form (MCF) to the Covanta Environmental Solutions (CES) Environmental team that is responsible for screening all waste types for destruction at Covanta Waste to Energy (WtE) facilities. A copy of the Covanta MCF is included as Attachment 8. If iodine in any concentration is identified in Section 4 of the form as being in the waste, the waste is determined to be an unacceptable waste type for destruction in any WtE facility which includes the Covanta Essex facility. Additionally, for any waste that is proposed to be disposed of at the Covanta Essex facility, approval from the Environmental Specialist and the Facility Manager must also be given to the CES Environmental team after an additional review of the MCF and any other relevent information before the customer is given an approval to bring their waste to the facility.

2.0 Procedures to identify potential generators/sources of iodine containing waste, 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

2.1 Virtual Drive-By Procedure

Covanta Essex has developed a detailed procedure to identify potential generators/sources of iodinated wastes in the facility's service area. These steps are summarized below:

Step	Action	Output	Covanta Essex Responsibility
1	Conduct Virtual Drive-By using Google Maps and going street by street and documenting: • the location (town, city) • business name and type • website address • contact information • list of products that may contain iodine.	List of businesses that potentially use iodine in their operation. Business types may include: • Large scale chemical companies; • Hospitals/Medical Labs • Printing companies • Veterinary clinics • College chemistry labs • Research facilities • Photography studios	Covanta support staff
2	Identify businesses that have waste delivered to Covanta Essex	Smaller pool of companies/haulers to investigate	Business Manager
3a	Contact hauler/generator to confirm that they delivered iodine-containing waste. If confirmed, then develop a plan to re-route source to a transfer station, ban their deliveries, or remove the iodine material from their waste stream	Confirmation of source	Business Manager

3b	Use the New Jersey's Community Right To Know database to check the inventory of target businesses for iodinated compounds	Confirmation of iodine-containing compounds on site	Environmental Specialist
4	Distribute flyers to customers/haulers	Educate waste generators/sources	Business Manager
5	Update waste screening protocols and train Covanta business units in screening non-residential waste approvals for targeted businesses and iodine containing wastes	Updated waste approvals	Covanta Business Units/Environmental Specialist

This procedure will be implemented in the event of any future purple plume events at the facility to identify the generator of the iodine containing waste.

2.2 Increased Hospital Load Inspections and Throwdown Inspections

All MSW loads received from hospitals are subject to inspection to check for iodine containing material in the waste which is prohibited. The procedure for these inspections includes pictures of typical items that may be found in hospital waste that could contain iodine to educate and train tipping floor operators. In a letter dated November 5, 2019 to NJDEP, Covanta Essex submitted its Hospital Waste Load inspection procedure and the original form used to identify loads of iodinated waste received at the facility. The Hospital Waste Load inspection procedure has been updated and now includes the following additional requirement that the waste will be raked as thinly as possible so that most of the waste is visible while performing the inspection. The current Hospital Load inspection procedure is included as Attachment 4 to this Plan. The standard throwdown inspection form for all waste load inspections has been updated and now also includes a section for identification of iodine containing waste as unacceptable waste and can also be used to document all hospital waste inspections. This form will now be used to document all waste load inspections, including Hospital waste load inspections. The updated form is included in Attachment 5.

Throwdown inspections are required to be performed on a minimum of 10% of all waste loads received per day. The inspections shall be done on a random basis throughout each shift.

2.0 Digital Camera Use

Between 2018 and 2019, Covanta Essex installed 10 HD digital cameras on the tipping floor. Four of the 10 cameras have additional pan, tilt and zoom (PTZ) capability. This PTZ capability allows for greater visual observation of loads. Additionally, 3 new HD digital cameras were installed over each of the three boiler feed chute hoppers. All recorded video footage by the cameras is stored and available for review for 40 days.

Covanta Essex plans to also install 7 additional HD digital cameras on the East Wall of the tipping floor, 4 additional HD digital cameras on the North side of the refuse pit, and 3 additional HD digital cameras on the South side of the refuse pit as part of the planned fire system upgrade to be installed in 2022. A diagram of the current and proposed loccations of all

cameras on the tipping floor and refuse pit are included as Attachment 6 to this Plan.

3.1 Tipping Floor Monitoring

The tipping bay office is located inside the North entrance of the tipping floor. For each operations shift, one tipping floor operator is stationed at the North entrance and a second operator operates the front end loader. Once the load has exited the scale and proceeded to the North entrance to the tipping floor (the waste receiving area), the truck is required to present a scale ticket to the operator at the entrance and is inspected for proper decals. Once approved, the truck is then assigned a bay where it can deposit its load of waste.

The computer monitor located in the tipping bay office displays all tipping floor camera views which allows the tipping floor operator that is stationed at the North entrance to view all bays where waste is deposited. The operator can zoom in on any load using the cameras equipped with PTZ capability and can visually inspect the load for prohibited or unprocessible waste types as the truck unloads onto the tipping bay floor. The use of the cameras in addition to the throwdown inspections allows for greater visibility of all loads delivered to the tipping floor so that unprocessible waste can be identified and prevented from being processed.

3.0 Training

4.1 Annual Environmental Training

A training program is conducted annually to review all sections of the Environmental Compliance Operating Manual (ECOM) and is provided by the Environmental Specialist to all Covanta Essex employees who have responsibilities affecting the operation of the facility, including, but not limited to chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel and crane/load handlers. Section 3 of the ECOM covers types of waste that are acceptable and unacceptable at the facility, including waste with iodine, and required procedures for inspecting waste loads on the tipping floor, handling any unacceptable waste that is identified on the tipping floor, and management of the refuse pit by the refuse crane operators.

4.2 Waste Inspection and Camera Use Training

Refresher training will be provided to tipping floor attendants and refuse crane operators on completing inspections focused on MSW loads from hospitals on both the tipping floor and within the refuse pit on an annual basis. Training will include a review of inspection methods and proper completion of the throwdown inspection sheet and procedures for rejecting unacceptable and prohibited waste including iodine containing waste. The training will also include a review of the use of the cameras on the tipping floor for monitoring of loads.

4.3 Control Room Operator Purple Plume Response Procedure

All Control Room Operators (CROs) have been provided a procedure detailing response steps to be taken if a purple plume event occurs to minimize the impact of the event on opacity. The procedure is in a binder that is kept in the control room for easy access to all CROs when

needed if an event occurs. This procedure is also included in Attachment 7 to this plan.

5.0 Annual Review of Plan

The Purple Plume Mitigation Plan shall be reviewed on an annual basis to assess whether further improvements or enhancements could be made to ensure that iodine containing waste is not processed at the Covanta Essex facility.

Attachment 1

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Covanta Essex Company
183 Raymond Blvd
Newark, NJ 07105
Tel 973 344 0900

VIA E-MAIL AND CERTIFIED MAIL

December 20, 2019

Richelle B. Wormley, Director
Division of Air Enforcement
New Jersey Department of Environmental Protection
401 East State Street, Mail Code 401-04B
P.O. Box 420
Trenton, New Jersey 08625-0420
richelle.wormley@dep.nj.gov

Michael Hastry, Director
Division of Waste Enforcement, Pesticides and
Release Prevention
New Jersey Department of Environmental Protection
9 Ewing Street, Mail Code 09-03
P.O. Box 420
Trenton, New Jersey 08625-0420
michael.hastry@dep.nj.gov

Re: Covanta Essex Company – Draft Purple Plume Prevention Plan

Dear Ms. Wormley and Mr. Hastry:

On behalf of Covanta Essex Company ("Covanta"), I am writing in furtherance of our meeting on December 10th to discuss Covanta's ongoing efforts to prevent purple (iodinated) plumes at the Essex County Resource Recovery Facility ("Facility") located at 183 Raymond Boulevard in Newark. Covanta understands and appreciates the concerns expressed by the Ironbound Community Corporation and the New Jersey Department of Environmental Protection ("DEP") regarding these atypical visible emissions, and we are committed to finding a solution to prevent their occurrence.

As explained in the presentation that we shared with you last week, a copy of which is attached, a plume with a pink to purple color is caused when sufficient quantities of iodine are present in municipal solid waste and/or other nonhazardous waste (Type 10 and 27) that is combusted in the Facility's boilers. Covanta has been working rigorously to develop a two-pronged solution to prevent the occurrence of purple plumes: (1) develop a robust set of plans and procedures to prevent delivery of iodinated waste to the Facility in the first instance, and (2) in the event that iodinated waste nevertheless makes its way into the boilers, to have a system in place to reduce iodine emissions and thus minimize the formation of a purple plume.

The purpose of this letter is to present in DRAFT form our proposed strategy to address the five (5) specific action items identified by DEP for inclusion in Covanta's Purple Plume Prevention Plan:

1. Review and evaluate efforts made to date/planned to identify potential generators/sources of iodinated waste to prevent further deliveries of such waste to the Facility.
2. Review and evaluate the effectiveness of waste acceptance practices and other Best Management Practices (BMP) to screen/manage waste once it arrives at the Facility.
3. Evaluate potential human health risks associated with purple plume emissions.
4. Review and evaluate Covanta's community outreach practices in general, as well as upon occurrence of a purple plume event.
5. Review and evaluate the safety and efficacy of the proposed purple plume mitigation system

In response to DEP's request, Covanta will secure the services of independent contractors to review past and present efforts to prevent purple plume events, results obtained to date, and other ideas for consideration. Purple plumes are not acceptable to us and we welcome all efforts to prevent delivery of iodinated waste to the Facility.

Covanta's proposed approaches to the five action items, further detailed in Covanta's Purple Plume Prevention Plan attached, are as follows:

- The attached responses to action items 1 and 2 identify a wide range of efforts already implemented by the Facility to identify potential sources of iodinated waste, to prevent delivery of such waste to the Facility, and to detect the presence of iodinated waste on the Facility's tipping floor to keep it from reaching the boilers. Those efforts are continuing; however, to date we have not identified a generator of iodinated waste that can be linked to the plume events at the facility. We are also installing high resolution digital cameras that will record all waste charged to a boiler. If a purple plume should develop, those cameras and back up files would assist in identifying the nature of the waste and potential identification of the source (hauler/generator). Other technology-based solutions under consideration include iodine monitors in the pit area.

- The response to action item 3 will include 2 parts with Part 1 being an assessment of ground level impacts of iodine and Part 2 being an assessment of established iodine exposure standards. Part 1 will be based on a recently completed facility-wide risk screening assessment completed in connection with the Facility's Title V operating permit renewal. That report -- "Air Quality Evaluation and Modeling Report, Hazardous Air Pollutants Risk Assessment" -- was submitted to DEP on October 4, 2018. The report includes ambient impacts determined from dispersion modeling using the U.S. Environmental Protection Agency AERMOD model, and was designed to correlate facility operating conditions with short term and long term ground level impacts. The results from Part 1 will be compared to established iodine exposure standards and will serve as the foundation for a timely and complete evaluation of potential human health risks associated with purple plumes.

- The Facility's response to action item 4 identifies all recent community outreach efforts. With regard to purple plume events, Covanta has engaged with local and regional media including the *Star-Ledger*, *Newark Patch*, News 12 NJ and CBS 2 New York to educate the public and explain the events. The facility also created an educational flyer/poster used for outreach to customers, haulers and hospitals that explains the type of waste that may contain iodine and provides

contact information to discuss alternative disposal options. We will be formulating a plan for alerting the local community in the event of a purple plume. In the meantime, the annual Open Public Meeting for the Facility occurred at the Blueprint Café (369 Raymond Boulevard, Newark), on December 18, 2019, during which we responded to questions from the public based on currently available information.

- In response to action item 5, the Facility has been actively involved in the development of a possible purple plume prevention technology. A test skid for one boiler (unit) is currently scheduled for delivery in the January-February time frame with testing scheduled to occur sometime in the 1st quarter of 2020. Testing would be limited to demonstrating that the injection of sodium thiosulfate solution promotes the formation of sulfur dioxide, which in turn reacts with iodine to prevent a plume from developing. This mitigation technology is in the development phase and would only be used when a plume is developing; it would not be in operation on a continuous basis. Implementation on all 3 combustion units at the Facility would occur only following a complete evaluation of the technology, and subject to any necessary DEP approvals.

We are evaluating qualified independent contractors so that we can implement their review as soon as we arrive at a final plan. We expect that each action item may require its own contractor or contractors and that each action will also have its own implementation schedule. The plan is to implement each as soon as possible.

We look forward to your feedback on this draft action plan however that does not mean that we have stopped researching the issues. Efforts on each of the five action items are continuing and will continue as we wait for your response. We are available to discuss at your convenience.

If you have any questions, please contact Patricia Earls at 973-817-7322 or pearls@covanta.com.

Sincerely,

David Blackmore
Facility Manager

Cc: Anthony Fontana, Solid Waste Permitting
(anthony.fontana@dep.nj.gov)
Jeffrey Meyer, Northern Regional Air Enforcement Field Office
(jeffrey.meyer@dep.nj.gov)
Kenneth Ratzman, Air Quality Permitting
(kenneth.ratzman@dep.nj.gov)
Scott Michenfelder, Northern Regional Air Enforcement Field Office
(scott.michenfelder@dep.nj.gov)
Brian Bahor, Covanta
Jack Bernardino, Covanta
Patricia Earls, Covanta

DRAFT

Covanta Essex Purple Plume Prevention Plan

Action Item	Action
1	Review and evaluate efforts made to date/planned to identify potential generators/sources of iodinated waste to prevent further deliveries of such waste to the Facility.
2	Review and evaluate the effectiveness of waste acceptance practices and other Best Management Practices (BMP's) to screen/manage waste once it arrives at the Facility.
3	Evaluate potential human health risks associated with purple plume emissions.
4	Review and evaluate Covanta's community outreach practices in general, as well as upon occurrence of a purple plume.
5	Review and evaluate the safety and efficacy of the proposed purple plume mitigation system.

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DRAFT Action Item # 1

1.0 Action

Review and evaluate efforts made to date/planned to identify potential generators/sources of iodinated waste to prevent further deliveries of such waste to the Facility.

1.1 Purpose

An independent contractor will review past and ongoing efforts to identify generators who could be the source of iodinated waste causing colored plumes.

1.2 Goal

Prevent further deliveries of iodinated waste.

1.3 Scope of contractor review

1.3.1 Background

Table 1 summarizes the outreach and inspection plan including a brief summary of efforts to date by Covanta Essex to investigate generators and haulers and inspections at Covanta Essex. This plan is an evolving work-in-progress and is updated to include lessons learned and new information and ideas.

1.3.2 Scope of contractor review

The independent contractor will review efforts outlined in Table A to identify and contact generators and to inspect deliveries of hospital waste and other non-hazardous waste known as Type 10 & 27. Contractor's review should consider any new ideas or approaches that would improve that outreach effort to prevent deliveries and/or activities at site to inspect waste deliveries.

Table A Outreach and Inspection Plan for Iodine Bearing Waste

A.1 Purpose

To minimize or eliminate the presence of iodine in the MSW that is received and processed at the Facility, the following actions have been and continue to be implemented by Covanta Essex:

A.2 Outreach to generators

Direct contact with generators and haulers where possible

Goal	Activity
Inform haulers and customers that iodine in waste is not acceptable	A flyer in English and Spanish has been distributed to the Essex County Utility Authority (ECUA) and has been included in their billings to all Essex County haulers
	That same flyer was mailed to all the commercial haulers that deliver waste to the Facility
	That same flyer has also been sent to the Department of Sanitation of New York (DSNY)
	Covanta hosted its annual Hauler Day at the Facility on 11/21/19 and the flyer was also handed out to drivers on the tipping floor that day.
Transfer Station waste	Transfer stations in Paterson and Totowa owned by Covanta affiliates separate out hospital waste from other waste and divert this waste to landfill to minimize amount of this waste sent to the Facility.
Direct outreach by phone to hospitals that have waste delivered to the Facility. Major hospitals include;	• St. Barnabas Medical Center, Livingston, NJ • Clara Maass Medical Center, Belleville, NJ • Beth Israel Medical Center, Newark, NJ • St. Michael's Medical Center, Newark, NJ • UMDNJ Hospital, Newark, NJ • East Orange General Hospital, East Orange, NJ • VA Medical Center, East Orange, NJ
Contacted Interstate Waste Services (IWS), the hauler for:	• St. Barnabas Medical Center, Livingston, NJ • Clara Maass Medical Center, Belleville, NJ • Beth Israel Medical Center, Newark, NJ
	IWS is to distribute our iodine flyer to the hospitals
Other hospitals	Attempting to reach out to others – but identifying responsible party for handling and disposal of waste is not always clear. With the help of the Essex County SWAC, we have enlisted the services of their consultant, Mr. Wayne DeFeo, to assist in contacting hospitals in Essex County that have waste delivered to the Facility.
Findings to date	One empty bottle and one small packet of povidone iodine solution from UMDNJ from tipping floor inspection

Identify other sources of iodinated waste.

Goal	Activity
Identify other generators beyond hospitals	Evaluating generators in Essex County, Passaic County and New York City
	Medical service providers including dental offices, veterinary hospitals and offices, urgent care facilities, surgery centers, dialysis centers, doctor's offices, and X-ray contrast media producers
	Adding chemical companies and food manufacturers
	Compare waste delivery schedule with past plume events

A.3 Facility Inspections

A.3.1 Hospital Waste Inspections

Goal	Activity
Prevent iodinated waste from hospitals from being mixed in the pit	Haulers have to identify loads from hospitals on the Origin and Disposal form that is presented to the scale house. The name of the hospital is specified on the form and this is noted on the stage ticket by the scale house operator
	Tipping floor inspections of loads with stage ticket marked "Hospital"
	Waste is pushed into the pit ONLY after the load is inspected and cleared for acceptance

A.3.2 Other Type 10 and Type 27 Waste Inspections

Goal	Activity
Prevent iodinated waste from industrial or commercial generators from being mixed in the pit (a)	Haulers have to identify Type 27 loads on the Origin and Disposal form that is presented to the scale house. The stage ticket is marked "Type 27" by the scale house operator
	Tipping floor inspections are performed on these loads on the tipping floor.
	Waste is pushed into the pit ONLY after the load is inspected and cleared for acceptance
	A review of customers delivering waste to the Facility either the day before or the day of a purple plume event for the last 5 years was performed to determine if there was any pattern that might indicate a potential source of iodine. A list of customers was generated and will now also be the target of detailed inspections. These customers include both Type 10 and Type 27 waste types. This is in addition to the normal inspections which is performed on 10% of the incoming trucks per day.

(a) Iodine has many uses including as an additive to nutrition products, and a wide range of medical, agricultural, and industrial applications. The leading application of iodine is in the production of X-ray contrast media (22%). Another application of iodine is in polarizing film in liquid crystal display (LCD) screens, where iodine is incorporated as a polyiodide (I_3^- or I_5^-). Potassium iodide is used in iodine tablets to be taken during nuclear accidents to protect the thyroid against exposure to radioactive iodine. Iodine based biocides are often used in paints as an in-can preservative as well as to prevent mold growth after application. Other applications include pharmaceuticals, disinfectant iodophors and povidone-iodine, fluoride derivatives, heat stabilization of nylon, or as process enabler in polymerization of plastics or other processes requiring chemical synthesis. An additional use of iodine is in Red Dye #3 which is a dye used in various food products and printing ink. Red dye #3 contains 58% iodine.

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DRAFT Action Item # 2

2.0 Action

Review and evaluate the effectiveness of waste acceptance practices and other Best Management Practices (BMP) to screen/manage waste once it arrives at the Facility

2.1 Purpose

Evaluate existing practices to investigate content of trucks delivered to the facility.

2.2 Goal

If an iodinated waste is delivered to the facility, prevent it from being combusted.

2.3 Scope of contractor review

Review existing practices and procedures. Review must consider health and safety of personnel on site while facility is conducting normal business practices.

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DRAFT Action Item # 3

3.0 Action

Evaluate potential human health risks associated with purple plumes.

3.1 Purpose

An independent contractor will review results from the recent dispersion modeling report to determine the ground level impacts of iodine and possible health impacts.

3.2 Goal

Estimate the ground level impact of iodine and how it compares with documented heath-based standards.

3.3 Scope of contractor review

3.3.1 Background

Covanta recently completed a facility-wide risk screening assessment in connection with the Facility's Title V operating permit renewal. That report -- "Air Quality Evaluation and Modeling Report, Hazardous Air Pollutants Risk Assessment" -- was submitted to DEP on October 4, 2018. This report is described as a second-level risk screening assessment which determined ambient impacts from dispersion modeling from application of U.S. Environmental Protection Agency's AERMOD model. Second-level screening is a more rigorous evaluation as compared to first-level screening which uses dispersion look-up tables and DEP's risk screening spreadsheet.

The report was designed to correlate facility operating conditions with short term and long term ambient impacts. The results provide the ability to estimate ambient level iodine concentrations for comparison with established iodine exposure standards.

3.3.2 Scope of contractor review

The response to action item 3 will include 2 parts with Part 1 being an assessment of ground level impacts of iodine and Part 2 being an assessment of established iodine exposure standards. Part 1 will be based on the recently completed facility-wide risk screening assessment "Air Quality Evaluation and Modeling Report, Hazardous Air Pollutants Risk Assessment" completed in connection with the Facility's Title V operating permit renewal.

Part 2 will include a survey of recognized exposure standards for iodine for comparison with estimate ground level impacts.

DRAFT Action Item # 4

4.0 Review and evaluate Covanta's community outreach practices in general, as well as upon occurrence of a purple plume.

4.1 Purpose

Ensure effectiveness of community outreach practices, including timely communication in the event of a purple plume.

4.2 Goal

Covanta, along with Corporate Outreach and Communication resources will continue to plan community outreach activities as has been done historically. In addition, Covanta will investigate methodologies for communicating relevant operational information, including incidents involving a purple plume, to the community.

4.3 Scope

Develop outreach activities and present options on an immediate notification in the event of a purple plume.

4.3.1 Background

Community Outreach is typically targeted at developing long term, meaningful relationships with various members and groups within the community. Covanta has participated in a number of events to support various initiatives and address issues within its community.

Historically, operational information, whether routine or a deviation have not been communicated to the community directly, unless triggered as part of a specific incident with possible immediate impacts to the community or environment.

4.3.2 Scope of Contractor Review – general community outreach

An Agency with expertise in Marketing and Communications will review the Facility's outreach activities and communication actions including options on an immediate notification in the event of a plume.

Goal	Activity
Plan Community Outreach Activities	Follow past practice to develop an outreach strategy appropriate for the facility stakeholders and local community.
Investigate Communication Methodologies	Determine what information and what timeframe is appropriate to communicate to the community.
	Investigate communication technologies appropriate for large scale communication of information.

Examples of previous outreach activities in 2018 and 2019 that would be reviewed to determine appropriateness for 2020 include:

1.0 Meet periodically with stakeholders:
- Essex County Utilities Authority
- Essex County Executive
- City of Newark
- Ironbound Community Corporation
- Ironbound Business District
- Newark Board of Education

2.0 Member Essex County Solid Waste Advisory Committee

3.0 Member Newark Regional Business Partnership

4.0 Accept Pharmaceutical Takeback:
- Newark Police
- Essex County
- New Jersey Field Office DEA

5.0 Board member and Participant in NJ Clean Communities Program (includes litter cleanup at Valisburg Park)

6.0 Food Drive to benefit Pierre Toussaint Food Pantry Newark

7.0 Event Sponsor
- Millburn Township Earth Day
- Essex County Parks Earth Day
- Holiday Lights at Turtleback Zoo
- Giraffe Exhibit at Turtleback Zoo

8.0 Coordinate with Go Green Initiative pilot in Newark City School District. Provide support for Sustainable Jersey School Certification

9.0 Sustainable Jersey Sponsor

10.0 Donated reusable water bottles to Miller Street School for field trip and to teach about waste reduction

11.0 Conduct tours for visitors from NJIT, Rutgers, other community groups

12.0 Host Annual Open House

13.0 Sponsor 4E-waste collection events (1 in Ironbound)

14.0 Install Rain Garden at St. Benedict's School in Newark

15.0 Newark Sustainability Summit Participant

16.0 Hosted a 4-week summer program for Boys and Girls Club

17.0 Publish Quarterly Newsletter to the Community & Stakeholders

4.3.3 Scope of Contractor Review – community outreach for an event

An Agency with expertise in Marketing and Communications will review Covanta's proposed outreach activities and communication actions including options on an immediate notification in the event of a plume.

Goal	Activity
Evaluate Outreach and Communication Plan	Engage an Agency with Marketing and Communications expertise to review Covanta Essex's proposed outreach activities and communication actions, which will include an option for notification in the event of a plume.

DRAFT: Action Item # 5

5.0 Review and evaluate the safety and efficacy of the proposed purple plume prevention system

5.1 Purpose

An independent contractor will review the plan to use sodium thiosulfate to prevent a purple plume. Note that the addition of sodium thiosulfate is proposed only during a purple plume event and would not be in continuous operation.

5.2 Goal

Evaluate viability of sodium thiosulfate and other possible options for preventing the plume.

5.3 Scope of contractor review

5.3.1 Background

A colored plume with a pink to purple color is due to iodine in municipal solid waste and/or other nonhazardous waste (Type 10 and 27) that is combusted in a municipal waste combustor (MWC) at the Facility. Iodine is converted to a component of flue gas including I_2 which is the form that promotes a pinkish/purplish plume. Control of I_2 requires mitigation technology in an addition to the existing air pollution control systems. The proposed sodium thiosulfate (ST) system would only inject a ST solution when needed, it would not be in continuous operation.

ST prevention was initially used at a hazardous waste incinerator in Ohio where it is added to a wet scrubber only when iodinated waste is incinerated. That facility has the advantage of knowing when iodinated waste is being combusted because such waste is accepted for disposal as part of that company's normal business. In contrast, Covanta does not purposefully accept iodinated waste for disposal and any delivery of iodine occurs as a constituent of MSW. Application of ST at a MWC was initially evaluated at Covanta's sister facility in Lancaster, PA as a "proof of concept" that ST would breakdown and form SO_2 which is known to react with I_2. Initial efforts at the Covanta Lancaster facility have demonstrated the potential for ST as a prevention strategy however there are significant design differences between the Covanta Lancaster and Covanta Newark facilities including the equipment (grate, furnace and boiler), MSW quantity and origin and flue gas residence time and temperature through the system. We are not assuming that the ST prevention technology information from Covanta Lancaster translates directly to the Newark Facility and are therefore proposing to implement ST technology on one unit to confirm its potential as an I_2 mitigation technology.

Covanta has conducted R&D tests to evaluate the optimum injection location however that is a work in progress. Covanta is also using three consultants affiliated with universities to evaluate the basic ST prevention strategy and other issues that may impact its effectiveness.

5.3.2 Scope of contractor review

Independent contractors have already been involved in various aspects of the prevention design and optimization. The new independent contractor will be tasked to review the entire strategy and to consider alternative solutions. The scope of the contractor's review will include but not be limited to general mitigation chemistry, ST injection strategy and alternative prevention strategies.

AGENDA

Covanta Essex Purple Plume Management Plan
December 10, 2019 Meeting
Covanta Essex and NJDEP

Purpose - provide responses to questions posed by NJDEP -

- What actions Covanta has taken to date to identify source(s) of iodine
- Describe why SO2 levels drop to near zero right before and during purple plume events. Is the SO2 being converted to sulfuric acid for example?
- Can Covanta quantify how much iodine would be needed to generate a purple plume for about 3 hours (e.g. June 2019 event)?
- Background info on sodium thiosulfate contemplated for mitigation of purple plumes. What type of emissions are produced?

Goals:

- Identify underlying knowledge about iodine plume – its origin and mitigation
- Identify steps to prevent and mitigate purple plumes from iodinated waste
- Solicit NJDEP feedback on mitigation with generators

Covanta Essex : Purple plume management strategy

Situation:
Opacity exceedances correlated with purple plumes are presumably due to iodine in MSW delivered to the facility

Remedy: A two part solution

Part 1: Prevent delivery of iodinated waste to Covanta Essex

Refer to handout “Outreach and Inspection Plan for Iodine Bearing Waste Covanta Essex County Resource Recovery Facility (ECRRF)

Part 2 : Evaluate plume mitigation technology

a. Theory and Research
b. Field program results
c. Next steps

Part 1: Outreach as purple plume management strategy

Purpose of outreach plan

To minimize or eliminate the presence of iodine in the MSW that is received and processed at the Essex County Resource Recovery Facility (ECRRF), the following actions have been and continue to be implemented by Covanta Essex Company.

Plan Outline

1.0 Outreach to generators

- Direct contact with generators and haulers where possible

2.0 Inspections

- Other Type 10 and 27 Waste Inspections
- Hospital Waste Inspections

3.0 Other

- Managing any collected iodine Waste
- Technology Upgrades

Part 1: Outreach as purple plume management strategy

1.0 Outreach to generators - Direct contact with generators and haulers where possible

Goal	Activity
Inform haulers and customers that iodine in waste is not acceptable	A flyer in English and Spanish has been distributed to the Essex County Utility Authority (ECUA) which has been included in their billings to all Essex county haulers
	That same flyer was mailed to all the commercial haulers that deliver waste to the ECRRF
	That same flyer was also been sent to the Department of Sanitation of New York (DSNY)
	Covanta hosted its annual Hauler Day at the Essex facility on 11/21/19 and the flyer was also handed out to drivers on the tipping floor that day.
Transfer Station waste	Covanta owned transfer stations in Paterson and Totowa separate out hospital waste from other waste and divert this waste to landfill to minimize amount of this waste sent to ECRRF.
Direct outreach by phone to hospitals that have waste delivered to Covanta Essex. Major hospitals include;	• St. Barnabas Medical Center, Livingston, NJ • Clara Maass Medical Center, Belleville, NJ • Beth Israel Medical Center, Newark, NJ • St. Michael's Medical Center, Newark, NJ • UMDNJ Hospital, Newark, NJ • East Orange General Hospital, East Orange, NJ • VA Medical Center, East Orange, NJ
Contacted Interstate Waste Services (IWS), the hauler for;	• St. Barnabas Medical Center, Livingston, NJ • Clara Maass Medical Center, Belleville, NJ • Beth Israel Medical Center, Newark, NJ
	IWS is to distribute our iodine flyer to the hospitals
Other hospitals	Attempting to reach out to others – but identifying responsible party for handling and disposal of waste is not always clear. With the help of the Essex County SWAC, we have enlisted the services of their consultant, Mr. Wayne DeFeo, to assist in contacting hospitals in Essex County that have waste delivered to the ECRRF.
Findings to date	One empty bottle and one small packet of povidone iodine solution from UMDNJ from tipping floor inspection

Part 1: Outreach as purple plume management strategy

-

2.0 Inspections

2.1 Hospital Waste Inspections

Goal	Activity
Prevent iodinated waste from hospitals from being mixed in the pit	Haulers have to identify loads from hospitals on the Origin and Disposal form that is presented to the scale house. The name of the hospital is specified and this is noted on the stage ticket by the scale house operator
	Tipping floor inspections of loads with stage ticket marked "Hospital"
	Waste is pushed into the pit ONLY after the load is inspected and cleared for acceptance

2.2 Other Type 10 and 27 Waste Inspections

Goal	Activity
Prevent iodinated waste from industrial or commercial generators from being mixed in the pit (a)	Haulers have to identify Type 27 loads on the Origin and Disposal form that is presented to the scale house. The stage ticket is marked "Type 27" by the scale house operator
	Tipping floor inspections are performed on these loads on the tipping floor.
	Waste is pushed into the pit ONLY after the load is inspected and cleared for acceptance
	A review of customers delivering waste to the Essex facility either the day before or the day of a purple plume event for the last 5 years was performed to determine if there was any pattern that might indicate a potential source of iodine. A list of customers was generated and will now also be the target of detailed inspections. These customers include both Type 10 and Type 27 waste types.
	Based on research on other uses of iodine, we've notified commercial haulers to note customers that manufacture X-ray contrast solution, film and food products.

Part 1: Outreach as purple plume management strategy

2.2 Continued

(a) Possible sources of iodine from medical, agricultural, and industrial applications include; 1) iodine is in the production of X-ray contrast media, 2) polarizing film in liquid crystal display (LCD) screens, 3) Potassium iodide is used in iodine tablets to be taken during nuclear accidents, 4) Iodine based biocides are often used in paints as an in-can preservative as well as to prevent mold growth after application, 5) pharmaceuticals, disinfectant iodophors and povidone-iodine, fluoride derivatives, heat stabilization of nylon, or as process enabler in polymerization of plastics or other processes requiring chemical synthesis and 6) Red Dye #3 which is a dye used in various food products and printing ink. Red dye #3 contains 58% iodine.

3.0 Other

3.1 Managing any collected iodine Iodine Waste

- Iochem Coporation, the largest producer of medical grade iodine in North America, has offered to take any recovered iodine in BULK quantities for free at their facility in Oklahoma. They will consider smaller quantities in bottles depending on the quantity.
- In the event that Covanta identifies hospitals or other sources that need assistance with disposal of any expired iodine containing material, this can be an alternative for disposal of that material in an environmentally sound way.

3.2 Technology Upgrades

Goal	Activity
Hi definition cameras on tipping bay and hoppers	Installed one camera over Bay 2 on tipping floor with high definition zoom capability to provide an additional tool to see waste in tipping bays. Can also record footage for review after a purple plume event. Plan is to install additional cameras on tipping floor and over boiler feed hoppers.

Part 2: Plume mitigation technology – theory and research -

Background:

- Iodine is known to generate a pink/purple plume when it is present as diatomic iodine - I_2
- Observations at Covanta Essex and elsewhere have identified a unique characteristic of iodine where it reacts with SO_2
- The primary chemical reaction under consideration;

EQN 1 : $I_2\ (g) + SO_2\ (g) + 2\ H_2O = 2\ HI + H_2\ SO_4$

- Equation 1 establishes that iodine (I_2) reacts with SO_2 on a 1:1 molar basis
- Equation 1 explains why SO_2 goes to "zero" when a purple plume develops (see following slide of Oct 10th event as an example)
- If H_2SO_4 was generated, it would be removed by the semi dry scrubber system
- Hydrogen iodide (HI) is a very reactive gas (similar to HCl) and would dissolve quickly in water and react with calcium hydroxide

Additional research;

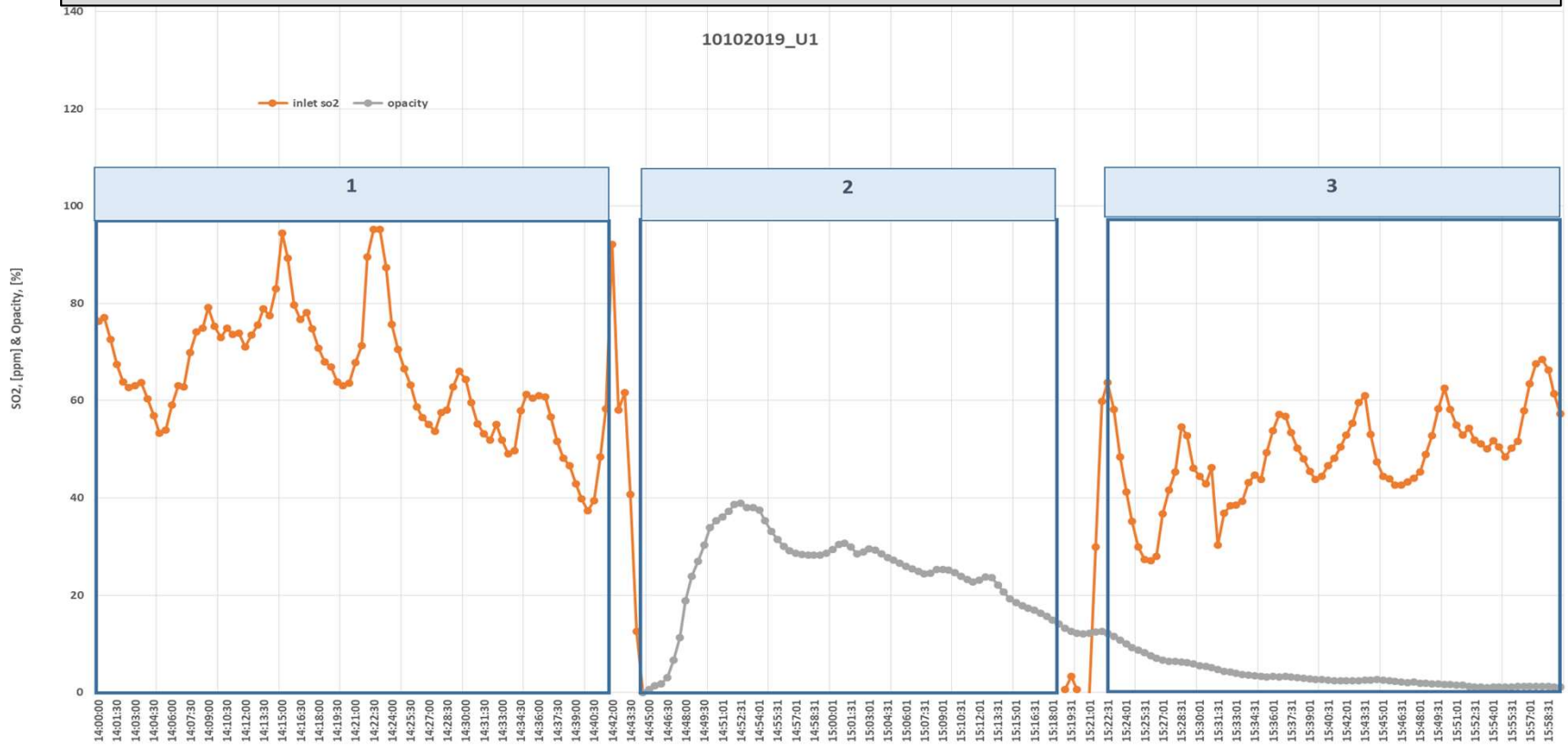
1. Utilization of corporate resources and independent 3rd parties to research;
   - Potential causes of colored plumes
   - Potential mitigation technology/chemistry for colored plumes
   - Iodine behavior
2. Effectiveness of sodium thiosulfate at Covanta Lancaster

Part 2: Plume mitigation technology

– October 10, 2019 as example of SO_2 and I_2 reaction -

Observations

- Average SO2 concentration pre and post plume is ~ 40 to 50 ppmdv7
- SO2 during plume is zero



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Part 2: Evaluation of June 19, 2019 Opacity event

OPACITY DATA					Average
CEM time	L1	L2	L3	Average	
12:12	0	2	1	1	
12:18	0	12	3	5	
12:24	0	27	13	13	
12:30	1	34	20	18	18.5
12:36	1	25	15	14	
12:42	1	32	16	16	
12:48	2	50	21	24	
12:54	3	39	39	27	
13:00	6	27	35	23	
13:06	6	23	32	20	
13:12	7	22	25	18	
13:18	8	18	22	16	
13:24	7	16	18	14	
13:30	7	16	15	13	
13:36	7	15	16	13	
13:42	5	15	16	12	
13:48	4	12	15	10	
13:52	4	11	18	11	
14:00	3	13	17	11	
14:06	3	17	10	10	
14:12	3	17	10	10	
14:18	2	26	9	12	
14:24	2	17	9	9	
14:30	2	12	10	8	
AVG	3.5	20.8	16.9	13.7	

Overview

- All 3 MWC units had elevated opacity readings and pink or purple colored plume
- Unit 2 and 3 had opacity above the opacity limit of 10 % as a 6-minute average
- The maximum 1-hour average opacity was estimated to be 18.5 % and correlated to 30 ppm of I_2 at actual stack conditions
- 30 ppm of stack I2 was initially estimated to create a maximum 1-hour ground level concentration of 0.0045 ppm when using dispersion modeling results from a recent air toxics analysis (March 2019).
- Ambient impacts were below NJ DOH workplace references for I_2 (OSHA, NIOSH and ACGIH)
- Current estimate of average I_2 was ~ 18 ppm, actual concentration, during maximum hour
- I_2 behavior is being researched

Covanta Essex : Essex test plan

Background

- Sodium thiosulfate (ST) is used at a hazardous waste incinerator in Ohio where it is added to a wet scrubber
- Application of ST at a municipal waste combustor at Covanta Lancaster was novel idea that was based on adding SO_2 to facilitate reduction of I_2
- Grate/furnace design of Covanta Lancaster and Covanta Essex are different (see next slide)
- Covanta Lancaster has semi dry scrubbing technology, somewhat similar to Covanta Essex however details are different
- "full scale" R&D test has demonstrated the potential to mitigate purple plumes though not conclusive. Questions remain which is the driving force behind additional test program.

ST strategy

- Chemical reaction: $Na_2S_2O_3 + 2HCl \rightleftharpoons 2NaCl + S + SO_2 + H_2O$
- Store ST as 30 weight % solution
- Inject only when necessary

Covanta Essex Plan

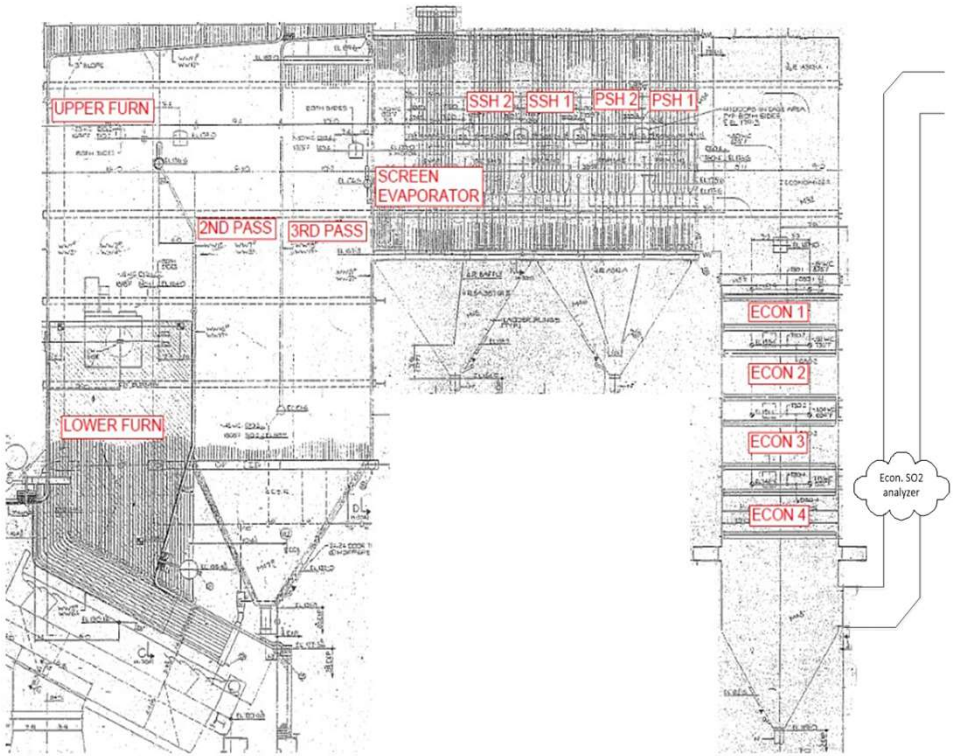
- Deliver test skid (pumps, valves, etc.) in Q1 2020.
- Conduct demonstration test in Q1 or early Q2 2020 to understand effectiveness in converting ST to SO_2
- Continue to learn from other ongoing efforts at Covanta Lancaster.

Grate/furnace/boiler: Covanta Lancaster and Essex

Different design, waste and operating conditions create different flue gas velocities, residence time and temperature profile through unit – therefore separate evaluation required

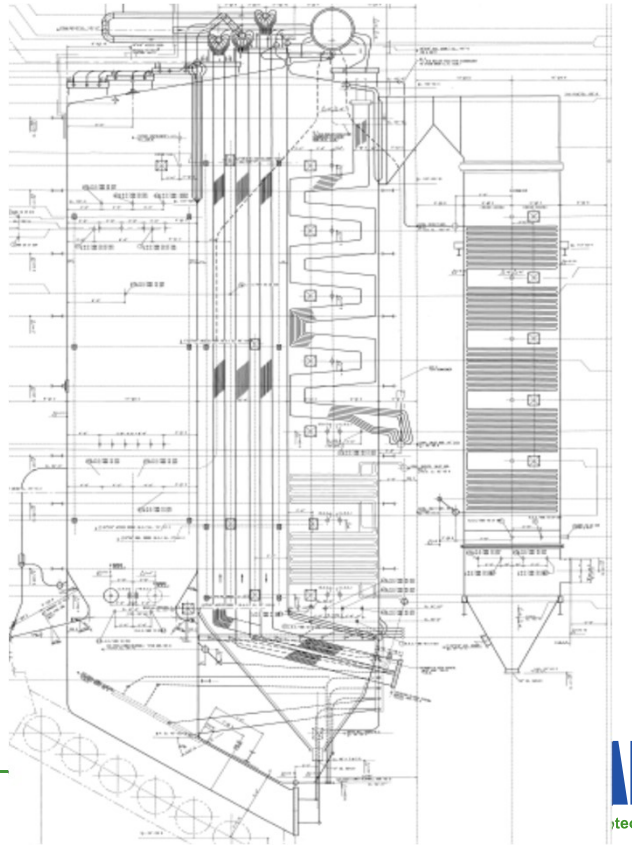
Covanta Lancaster

- Martin Gmbh grate/furnace/boiler
- Three units, each rated at nominal 400 TPD



Covanta Essex

- DBA roller grate/furnace/boiler
- Three units, each rated at nominal 933 TPD



Covanta Essex : Summary and Conclusions

Summary

- A 2-part program is being implemented to prevent purple plumes at Covanta Essex;
  1. Outreach efforts to prevent deliveries of iodinated waste to Covanta Essex.
  2. Evaluation of mitigation technology to control an opacity event if iodinated waste is delivered and combusted.
- Outreach efforts to waste generators, haulers and others have been underway and are being expanded.
- Mitigation technology is under investigation where injection of sodium thiosulfate is used to remove iodine from flue gas
- Deliver test skid (pumps, valves, etc.) in Q1 2020.
- Conduct demonstration test in Q1 or early Q2 2020 to understand effectiveness in converting ST to SO_2
- Additional research is being conducted in parallel thru independent 3rd parties on causes and control of colored plumes

Conclusions

- Existing outreach and communication is being expanded but at present we have not identified any sources of waste that could cause the colored plumes
- Sodium thiosulfate is being evaluated as a mitigation technology however implementation at Covanta Essex requires a field test program to evaluate its effectiveness.

Attachment 2

What is the Purple Plume?

Visible evidence that iodine is in the waste stream

WE NEED YOUR HELP!!

Please Keep Iodine Out of the Waste Stream

We need your help in preventing iodine from getting into the waste that you deliver to the Covanta Essex Energy-from-Waste facility. Combustion of iodine can lead to the discharge of unwanted, visible Pink/Purple plumes from the facility stack.

If you have waste that contains iodine, please contact Jack Bernardino at 732-956-1436.

Covanta Essex thanks you for your cooperation!

183 Raymond Blvd
Newark, NJ 07105

COVANTA

¿QUE ES UN HUMO COLOR PURPURA?

Es la evidencia visible de que los residuos contienen yodo.

¡Necesitamos Tu Ayuda!

Por favor mantenga el yodo fuera del flujo de residuos

Necesitamos tu ayuda para evitar que el yodo ingrese a los desechos que usted deposita en las instalaciones de Covanta Essex Energy- from Waste. La combustión de yodo puede conducir a visibles descargas de humos no deseados, color rosado / púrpura de la pila de chimenea.

Si tiene desechos que contienen yodo, comuníquese con Jack Bernardino al 732-956-1436.

¡Covanta Essex gracias por su cooperacion!

183 Raymond Blvd
Newark, NJ 07105

COVANTA

Attachment 3

COVANTA
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INVOICE

Invoice: 376080ESSEX
Invoice Date: 12/15/21
Page: 2 of 2

Original

Line	From Date PO Ref#	To Date	Ticket # Manifest#	Approval #	Description Origin/ destination	Qty Truck#	UOM	Unit Amount	Net Amount
1	12/09/2021	12/09/2021	2305107	13149	Aphis Waste Ton-Indirect Feed International - 9900	0.230 11953	TON		
2	12/10/2021	12/10/2021	2305371	13149	Aphis Waste Ton-Indirect Feed International - 9900	7.170 11941	TON		
3	12/15/2021	12/15/2021	2306518	13149	Aphis Waste Ton-Indirect Feed International - 9900	7.250 11941	TON		
					Recycle Tax	14.650			
					Environmental, Insurance and Sec Recovery Fee	14.650			

Total Amount:

Remittance Information:

Use following for ACH : JPMORGAN CHASE BANK N.A.
Chicago, IL
Bank/ABA/Routing # : 071000013, Bank Acct. # : 675522767
Account name: **Covanta Energy, LLC**
Reference: Customer No.:COV13680 Invoice No.: 376080ESSEX

Use following for WIRE : JPMORGAN CHASE BANK N.A.
New York, NY
Bank/ABA/Routing # : 021000021, Bank Acct. # : 675522767
Account name: : **Covanta Energy, LLC**
Reference: Customer No.:COV13680 Invoice No.: 376080ESSEX

For overnight and local courier, the following address is required:
JPMorgan Attn: Lockbox Covanta Energy, LLC, Lockbox # : 28893
4 Chase Metrotech Center - 7th floor East
Brooklyn, NY 11245

ALL REMITTANCES MUST REFERENCE Customer No.:COV13680 Invoice No.: 376080ESSEX.
PLEASE EMAIL ALL PAYMENT REMITTANCE INFORMATION TO customerpayments@covanta.com

Help us prevent unacceptable waste at Covanta Essex. Click https://info.covanta.com/prohibited-wastes for more info.

Attachment 4

COVANTA ESSEX HOSPITAL LOAD INSPECTION PROCEDURE

1. FLAGGING LOADS AT SCALEHOUSE

a. Haulers delivering from hospitals in Essex County will be identifying loads from hospitals on the O&D forms going forward. The current known haulers are but not limited to:
   i. Interstate Waste Services (IWS)
   ii. T. Farese
   iii. LT Roselle; and
   iv. Giordano Company
b. These loads are typically compactor loads that contain 100% hospital waste.
c. The scalehouse operator is to make a note on the stage ticket that the load is from a hospital by marking “Hospital” on the ticket for the tipping floor operator.

2. WASTE INSPECTIONS ON THE TIPPING FLOOR

a. Once a notification is received from the scale house or the “Hospital” notation is observed on the stage ticket at the North entrance door, the tipping floor operator will have Bay #4 cleared if there is waste in the bay so that the hospital load can be dumped into Bay #4 for a closer inspection. Hold the truck at the door until Bay 4 is ready to receive the load.
b. Once the load is dumped into Bay 4 and the truck has left the bay and it is safe to do so, the tipping floor operator will walk over to Bay 4 for a closer visual inspection of the load. The “Covanta Essex Hospital Load Inspection Form” (attached) will be used to document the inspection. To provide for the operator’s safety, no loads are to be dumped in Bay 3 or Bay 5 during the inspection.
c. A visual inspection of the load will be conducted to determine if there are any containers of iodine containing material or any medications which contain iodine. The operator will use the visual aids provided for examples of this material to determine if it is visibly present in the load.
   i. The inspector will conduct a visual inspection only and will not handle the load or the materials directly.
   ii. The inspector may use a long handled tool such as a fire hook to move materials as needed. The waste will be raked as thinly as possible so that most of the waste is visible.
d. If nothing is observed that appears to contain iodine, the operator will note that the load is acceptable on the inspection form and the load can be pushed into the refuse pit.
e. If material is identified that may contain iodine, the operator will note this on the inspection form and will contact the Shift Supervisor, Chief Engineer, and/or Environmental Specialist for further instructions. The load is to be left in Bay 4 until the material can be examined by one of the above supervisors.
f. If it is determined that the material does appear to contain iodine, the material will be isolated in the unacceptable waste container on the tipping floor for alternate disposal.
g. The customer, hauler, and Essex County will be notified of the material observed in the compactor.

Attachment 5

COVANTA ESSEX WASTE LOAD INSPECTION REPORT

INSPECTION TYPE: (CIRCLE ONE) VISUAL (ON FLOOR) CAMERA (TIPPING BAY OFFICE)

BAY ASSIGNMENT: 2 3 4 5 6 7 8 9 10 11 12 13 14 15 CIRCLE BAY # ASSIGNED

INSPECTOR:	VEHICLE DATA:		COMPANY VEHICLE #	
DATE:	TYPE OF VEHICLE	NJDEP DECAL #	TRUCK #	NJ DEP # *(Painted)*
TIME:	TRUCK			
HAULER:	ROLL-OFF		LIC PLATE # FRONT	REAR
TAG#:	TRANSFER			
WASTE TYPE:	ACCT. #		HOSPITAL WASTE?	YES NO

UNACCEPTABLE WASTE TYPES AND IDENTIFIERS

POTENTIALLY HAZARDOUS:

LIQUID SOAKED DEBRIS _____
EXPLOSIVES _____
INDUSTRIAL CONTAINERS _____
RADIOACTIVE MATERIAL _____
DRY/POWDERED MATERIAL _____
PRESSURIZED VESSELS _____
WARNING LABELS _____
MOTORS _____
PAINTS _____
WET SOLIDS _____
UNUSUAL ODOR _____

IODINE WASTE:

LIQUID IODINE _____
ANTISEPTIC IODINE_____
- BETADINE ANTISEPTIC _____
- POVIDONE IODINE _____

MEDICATIONS W/IODINE _____
DYES OR INKS _____
PHOTO FILM/CHEM _____
INDUSTRIAL CHEMICALS _____
OTHER _____

REGULATED MEDICAL WASTE:

CULTURES AND STOCKS (CLASS 1) _____
PATHOLOGICAL WASTE (CLASS 2) _____
HUMAN BLOOD & BLOOD PRODUCTS (CLASS 3) _____
SHARPS (CLASS 4) _____
ANIMAL WASTE (CLASS 5) _____
ISOLATION WASTE (CLASS 6) _____
UNUSED SHARPS (CLASS 7) _____

RECYCLABLES:

ALUMINUM ____ CARDBOARD _____ PLASTIC ___ GLASS ____ BULK LOAD (100%) ____

BULKY WASTE (TYPE 13):

APPLIANCES _____
TAR PAPER/SHINGLES _____
METAL PRODUCTS _____
CEILING TILES _____
SHEET ROCK _____
BALES _____
BED SPRINGS _____
RUBBER PRODUCTS _____
C & D WASTE _____
AUTO PARTS _____
OTHER (SEE COMMENTS) _____

TYPE 27 - UNACCEPTABLE PORTIONS

NJDEP PROHIBITED WASTE _____
NON-RESPONDENT/INSUFFICIENT TO SURVEY _____
HAZARDOUS IMPACT ON EMISSIONS ___
HAZARDOUS WASTE _____
HAZ. EFFECT ON ASH _____
NON-COMBUSTIBLES _____

OVERALL RESULTS:

ACCEPTABLE LOAD _____ UNACCEPTABLE LOAD _____ DRIVER SAFETY VIOLATION _____

COMMENTS:

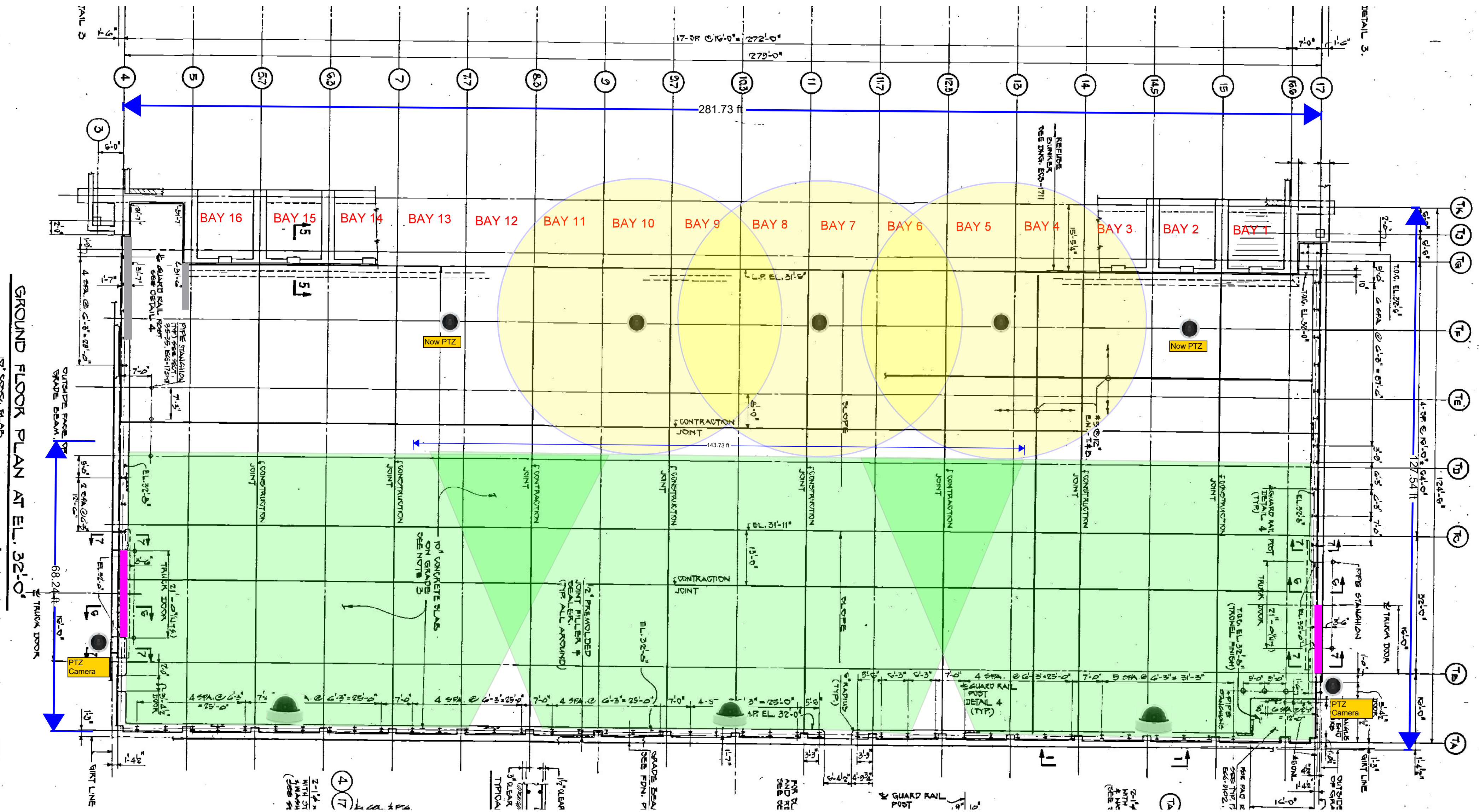
FOR REJECTED LOADS CONTACT ONE OF THE FOLLOWING INDIVIDUALS IMMEDIATELY UPON REJECTION:

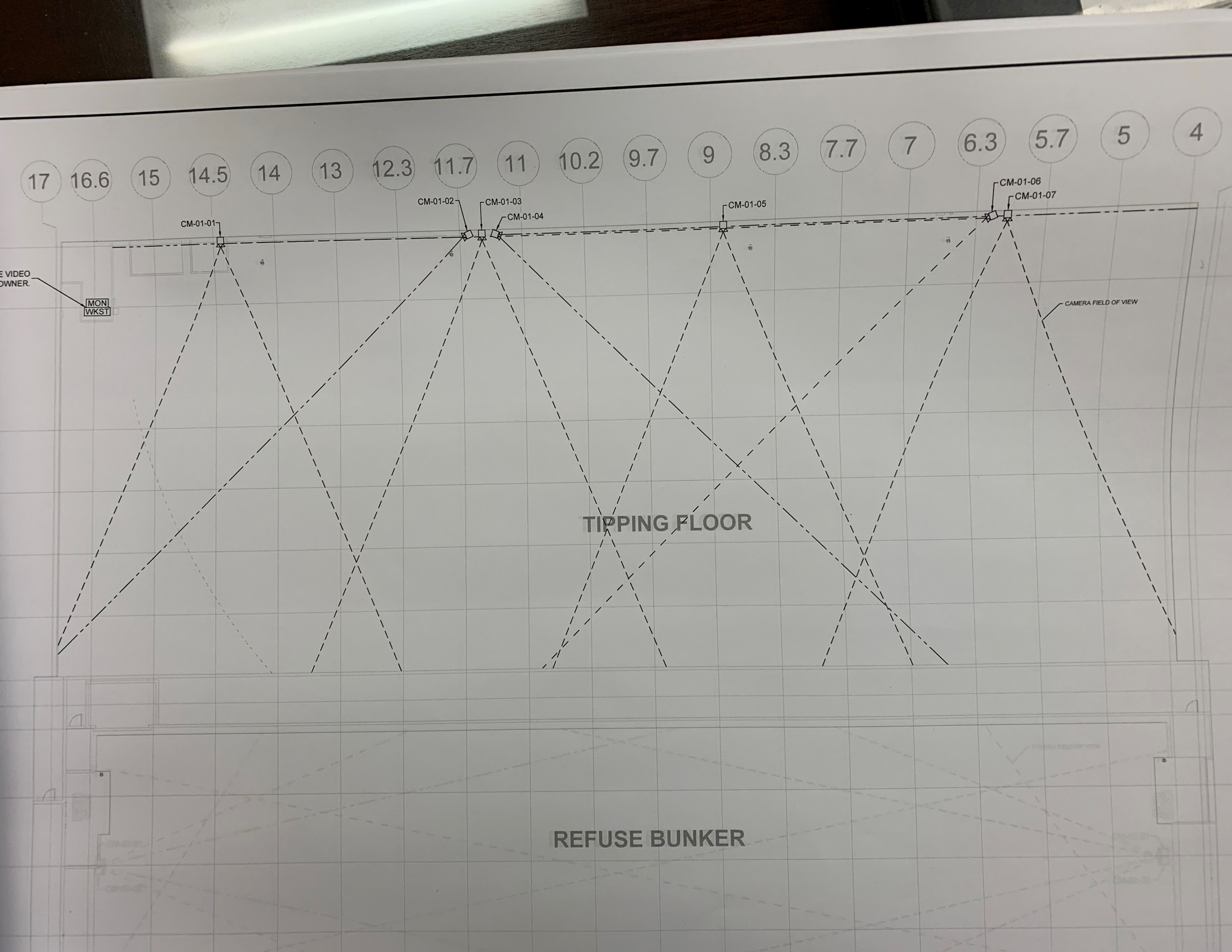
1) SHIFT SUPERVISOR ON DUTY		
2) ENVIRONMENTAL SPECIALIST		
2) OPERATIONS MANAGER		

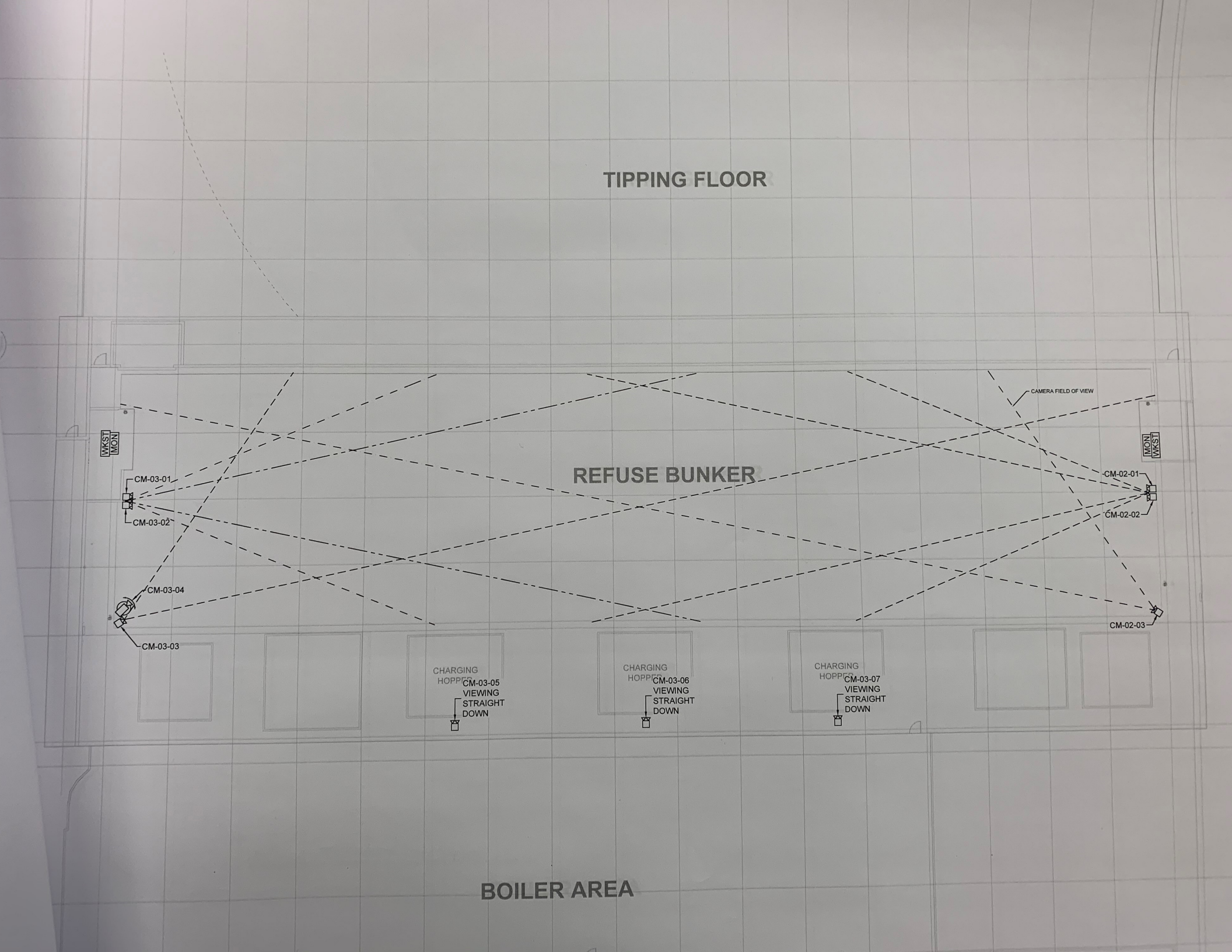
*NOTE: CONTACT IN THE ORDER LISTED / CHECK BOX OF THE INDIVIDUAL THAT WAS CONTACTED

PLEASE INCLUDE PICTURES OF ALL UNACCEPTABLE WASTE

Attachment 6


GROUND FLOOR PLAN AT EL. 32'-0"
281.73 ft
143.73 ft
68.24 ft
127.54 ft
BAY 16
BAY 15
BAY 14
BAY 13
BAY 12
BAY 11
BAY 10
BAY 9
BAY 8
BAY 7
BAY 6
BAY 5
BAY 4
BAY 3
BAY 2
BAY 1
Now PTZ
Now PTZ
PTZ Camera
PTZ Camera
17-SP. @ 16'-0" = 272'-0"
279'-0"
CONTRACTION JOINT
CONSTRUCTION JOINT
TRUCK DOOR
SLOPE
EL. 31'-11"
L.P. EL. 31'-6"
GIRT LINE
GUARD RAIL POST


17
16.6
15
14.5
14
13
12.3
11.7
11
10.2
9.7
9
8.3
7.7
7
6.3
5.7
5
4
CM-01-01
CM-01-02
CM-01-03
CM-01-04
CM-01-05
CM-01-06
CM-01-07
E VIDEO
OWNER.
MON
WKST
CAMERA FIELD OF VIEW
TIPPING FLOOR
REFUSE BUNKER


TIPPING FLOOR
REFUSE BUNKER
BOILER AREA
WKST
MON
MON
WKST
CAMERA FIELD OF VIEW
CM-03-01
CM-03-02
CM-03-04
CM-03-03
CM-02-01
CM-02-02
CM-02-03
CHARGING
HOPPER
CM-03-05
VIEWING
STRAIGHT
DOWN
CHARGING
HOPPER
CM-03-06
VIEWING
STRAIGHT
DOWN
CHARGING
HOPPER
CM-03-07
VIEWING
STRAIGHT
DOWN

Attachment 7

Response Steps for a Purple Plume Event

An alarm to alert the operator that a purple plume event may be happening has been added to Citect. The alarm is based on inlet SO2 dropping to a very low level compared to where it was several minutes earlier. This alarm will clear when inlet SO2 increases to a more normal level. The alarm will only function when the affected controller is in AUTO. This may occur shortly before or at the same time that opacity levels begin to spike.

The following response steps should be taken when this alarm comes in or when a visible observation of a purple plume is made:

1. When the alarm comes in on Citect for a purple plume indicated by a rapid decrease in inlet SO2, pull up the control screen for purple plume in Citect for the affected boiler.

2. Pull up the trend screen on Citect called “Purple Plume” for the affected boiler to verify a rapid decrease in SO2 and increase in opacity.

3. Check stack camera to get a visual observation of a purple plume if possible.

4. If alarm is verified by step 2 and/or step 3 above, decrease furnace draft to a setpoint of -0.1. Reduce the steam flow setpoint by 20 klb/hr until opacity begins to decrease.

5. Do <u>not</u> increase lime slurry flow. <u>Reduce</u> lime slurry flow until the event is over.

6. Report any opacity exceedance to NJDEP Hotline within 15 minutes of the end of the first 6 minute averaging period that is above the 10% limit. When the event is over, if there are additional exceedances, another call must be made to the Hotline to follow up on the previous notification with the updated exceedance information.

Note: Based on the trends from some of the past events, inlet SO2 has been seen to increase after a few minutes, only to drop back to near zero several minutes later and/or to be jumping up and down at a level below where it was prior to the event. This is most likely due to more than one pocket of the source of the iodine in the fuel stream. Therefore, at the present time the alarm has been implemented, but control logic has not.

Purple Plume Opacity Decision Tree

Purple Plume Alarm in Citect

- Based on inlet SO2 dropping to a very low level compared to where it was several minutes earlier.
- Only functions when the affected controller is in AUTO.

Purple Plume Alarm is Triggered in Citect?

Yes

Pull up the control screen for purple plume in Citect for the affected boiler.
Pull up trend on Citect called "Purple Plume" for Boiler that is alarming. Determine if inlet SO2 is rapidly decreasing and opacity is increasing indicating a real purple plume event

Check stack camera to get a visual observation of plume if possible.

Can purple plume be verified in either of the above steps?

No

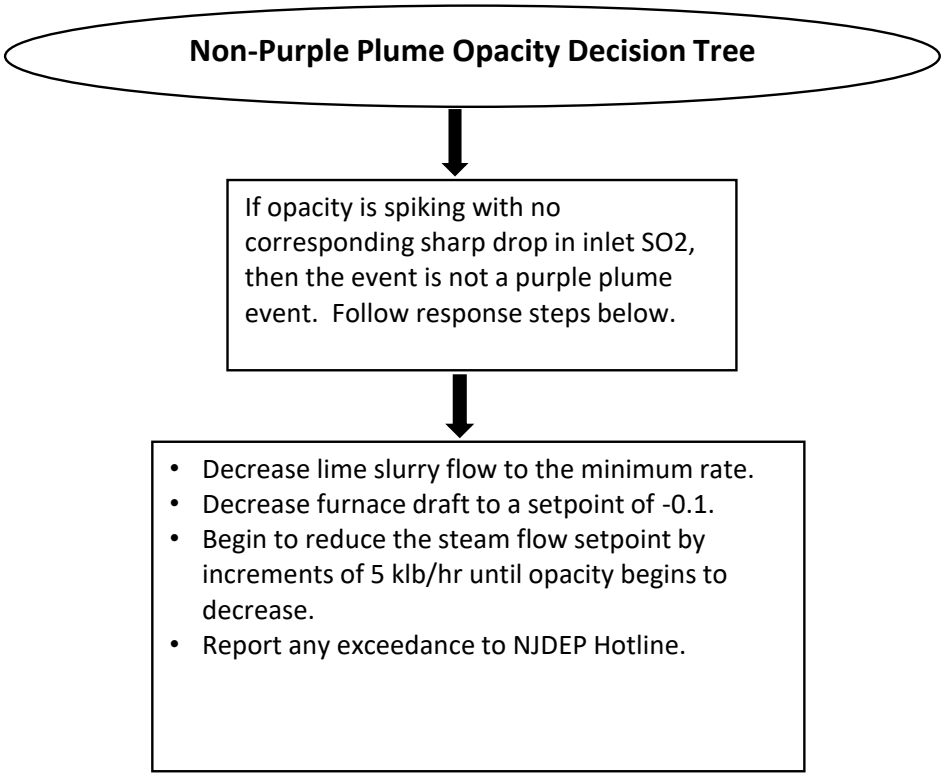
Treat event like any other opacity spike

Yes

- Decrease furnace draft to a setpoint of -0.1.
- Reduce the steam flow setpoint by 20 klb/hr until opacity begins to decrease.
- Reduce lime slurry flow. Do not increase slurry flow.
- Report any exceedance to NJDEP Hotline.

No

Treat event like any other opacity spike


Non-Purple Plume Opacity Decision Tree
If opacity is spiking with no corresponding sharp drop in inlet SO2, then the event is not a purple plume event. Follow response steps below.
• Decrease lime slurry flow to the minimum rate.
• Decrease furnace draft to a setpoint of -0.1.
• Begin to reduce the steam flow setpoint by increments of 5 klb/hr until opacity begins to decrease.
• Report any exceedance to NJDEP Hotline.

Attachment 8

COVANTA
Environmental
Solutions

Material Characterization Form (MCF)

Section 1 - General Customer Information REQUIRED SECTION *(If multiple generating or shipping locations, include a list as an attachment)*

Generator Company Information

Company Name _____

Address _____

City _____ State _____ Zip Code _____

Phone # _____ Fax # _____

Service Company Information

Company Name _____

Address _____

City _____ State _____ Zip Code _____

Phone # _____ Fax # _____

Primary Contact Information - *Enter the contact information for the person who can answer questions about the waste and process.*

Contact Name _____

Title _____

Company Name _____

Phone # _____ E-mail _____

Billing Information - *Identify where Covanta should forward invoices:*

☐ *Generator's Address;* ☐ *Service Company's Address; or* ☐ *other*

Address _____

City _____ State _____ Zip Code _____

Contact Name _____

Phone # _____ E-mail _____

Will a PO Number be required? ☐ *No* ☐ *Yes*

☒ ***Service Company Authorization***

On Behalf of the Generator of the waste profiled herein, I hereby authorize the aforementioned Service Company; and/or ☒ Covanta Environmental Solutions to complete Covanta's Material Characterization Form (MCF) and all other necessary forms for the disposal of the non-hazardous waste described on them. Furthermore, I understand that the completion of this authorization provides consent to characterize and profile this waste.

Generator's Representative

Name _____

Title _____ _____ _____

Signature *Date*

Section 2 - Waste Stream Information

2.1 - Name of Waste - An answer on this item is **REQUIRED** _____

2.2 - Physical Form - An answer on this items is **REQUIRED**

☐ Consumer Packaged ☐ Bulk ☐ Solid (Non-Dusting) ☐ Powder ☐ Waxy Solid ☐ Liquid ☐ Semisolid ☐ Other: _____

2.3 - Other Physical Characteristics

Odor: _____ Flash Point (°F): _____ pH: _____ Heating Value (in BTUs/lb): _____ ☐ Estimated; or ☐ Measured

2.4 - Container Type - An answer on this items is **REQUIRED**

☐ Steel Drums ☐ Plastic (Poly) Drums ☐ Fiber Drums ☐ Supersacs ☐ Cubic Yard Boxes ☐ Totes ☐ Pails ☐ Other: _____

2.5 - Quantity per Delivery _____

2.6 - Frequency _____

2.7 - Delivery Vehicle _____

2.8 - Waste Process Description

Provide a detailed description of the waste generating process. Describe the materials used to generate the waste, as well as, any other chemical or physical constituents that may be present as a result of commingling or contamination. Provide a process flow diagram if possible. Attach additional pages if necessary.

Name of Waste: _____

Section 3 - Regulatory Waste Classification

3.1 Is the profiled waste an EPA **RCRA Listed Hazardous Waste** per 40 CFR 261? ☐ NO ☐ YES - **STOP, Waste is unacceptable**

3.2 Is the profiled waste an EPA **RCRA Characteristic Hazardous Waste** per 40 CFR 261? ☐ NO ☐ YES - **STOP, Waste is unacceptable**

3.3 Is the profiled waste a "Hazardous Waste" as defined by the State of Origin? ☐ NO ☐ YES - specify State ID: _____

3.4 Does the waste meet the definition of any of the following in the State of Origin? *(Check all that apply)*:

☐ None ☐ Special Waste ☐ Residual Waste ☐ Regulated Waste - State Waste Code: _____ ☐ Other: _____

3.5 Does the waste meet the exemption criteria from any of the following? *(Check all that apply. A separate addendum may be required)*

☐ Aqueous Solution (<24% Alcohol and >50% Water) ☐ Non-Terne Plated Used Oil Filters ☐ RCRA Empty ☐ Other: _____

3.6 Please describe how the previous questions were answered *(Check all that apply)*

☐ Analytical Data ☐ Generator Knowledge ☐ Other: _____

3.7 Please select any of the following terms that are associated with the profiled waste *(Check all that apply)*

☐ Household Hazardous Waste (HHW) ☐ FIFRA ☐ DOT Reg. ☐ OSHA ☐ CERCLA Site ☐ Radioactive ☐ Treated Medical Waste

Section 4 - Waste Composition

4.1 - Constituents - An answer on this item is **REQUIRED**.
Identify the *TOTAL* concentration of the following constituents, if present in the profiled waste. Report ***TOTAL*** concentration results as weight percent (wt.%) or ppm. ***Do not report TCLP results in this section.*** If a constituent is not applicable, please identify it by noting "N/A"; if not present, please mark it as zero (0). If the profiled waste stream is made up of several components, products or materials, please estimate these constituents' concentrations using generator knowledge or supporting information.

☐ N/A for all constituents below ☐ Zero (0) for all constituents below

Bromine	ppm		Antimony	ppm	
Chlorine	wt.%		Beryllium	ppm	
Fluorine	ppm		Cobalt	ppm	
Iodine	ppm		Copper	ppm	
Nitrogen	wt.%		Manganese	ppm	
Sulfur	wt.%		Nickel	ppm	
Arsenic	ppm		Vanadium	ppm	
Barium	ppm		Zinc	ppm	
Cadmium	ppm		Aluminum Oxide	ppm	
Chromium	ppm		Silicates	ppm	
Lead	ppm		Silicone	wt.%	
Mercury	ppm		Titanium Dioxide	wt.%	
Selenium	ppm		Water	wt.%	
Silver	ppm		Alcohol	wt.%	

4.2 - Composition - An answer on this item is **REQUIRED**.
Identify the components that make up the profiled waste. If packaging is considered as a component of the waste, please estimate the waste's packaging range. Attach additional pages if needed.

Component	Range (wt.%)
TOTAL COMPOSITION	≥100

Section 5 - Non-Hazardous Waste Certification

I certify, as an Authorized Representative of the Generator, that this document, including all completed forms and all pertinent addenda, accurately represent and describe the waste stream outlined. The information submitted is true, accurate and complete, and no available information has been omitted or falsified. I further certify that the profiled waste is non-hazardous based upon Federal, State and Local Regulations.

Generator's Authorized Representative

Name _____

Title _____

Company _____ _____ _____

Signature Date

PMK Group
CONSULTING ENGINEERS

REPORT OF ENVIRONMENTAL CONSULTING SERVICES

1993 ESSEX COUNTY UTILITIES AUTHORITY WASTE SURVEY

PREPARED FOR:

THE ESSEX COUNTY UTILITIES AUTHORITY
120 FAIRVIEW AVENUE
CEDAR GROVE, NEW JERSEY 07009

PREPARED BY:

PMK GROUP
493 LEHIGH AVENUE
UNION, NEW JERSEY 07083

Eugene E. Brandt

EUGENE E. BRANDT
PROJECT ENGINEER

JAMES FERRIS, P.E.
PRINCIPAL/VICE PRESIDENT

April, 1994

4923R8

PMK Group
CONSULTING ENGINEERS

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PMK Group
CONSULTING ENGINEERS

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(cont.)

SECTION I: PROJECT BACKGROUND

The 1993 Essex County Utilities Authority Waste Survey was conducted by the Essex County Utilities Authority (ECUA) to partially fulfill the requirements of Condition 26 of the Certificate of Approved Registration and Engineering Design Approval (CAREDA) for the Essex County Resource Recovery Facility (ECRRF or the "Facility") located in Newark, New Jersey. Condition 26 of the CAREDA required the Registrant (American Ref-Fuel Company of Essex County) to establish and maintain a program to detect and remove unauthorized wastes in the industrial waste stream from entering the ECRRF. Unauthorized wastes were defined in Condition 2 of the CAREDA and are identified by their New Jersey Department of Environmental Protection and Energy (NJDEPE or the "Department") identification numbers (see Appendix A to this report for a description of waste materials listed by their NJDEPE ID number, and a copy of the CAREDA).

Specifically, Part (a) of Condition 26 of the CAREDA required the following:

1. Identification of all haulers handling NJDEPE Waste Type ID 27.

2. A determination of the sources of NJDEPE Waste Type ID 27.

3. A notification to all firms capable of generating NJDEPE Waste Type 27 within the service area requiring them to provide appropriate descriptions of the waste which they generate.

In the Summer/Fall of 1990, the Essex County Division of Solid Waste Management (predecessor to the ECUA) conducted the 1990 Essex County Industrial Waste Survey to establish a program to meet the requirements stated above.

Additional goals established by Essex County for the 1990 Industrial Waste Survey were to provide information about the County's industrial waste stream which would be useful in maintaining the operation of the RRF in compliance with the facility's Air Pollution Control Permit and the requirements of the Resource Conservation Recovery Act (RCRA) for the residual ash.

Specifically, additional goals of the 1990 Industrial Waste Survey were to:

1. Identify potential sources of waste materials, which when incinerated, would be likely to cause or contribute to the emission of various air pollutants in excess of the limits established in the facility's Air Pollution Control Permit.

2. Identify potential sources of waste materials, which when incinerated, would be likely to cause or contribute to the residual ash being classified as hazardous under the provisions of RCRA and/or as outlined in Condition 39 of the CAREDA.

The 1990 Industrial Waste Survey was completed near the end of 1990.

Realizing that inevitable changes that occur in industrial operations over time will alter the characteristics of the waste stream generated by those industries, the ECUA initiated the 1993 ECUA Waste Survey in March of 1993 to update the data gathered during the 1990 Industrial Waste Survey.

The goals of the 1993 ECUA Waste Survey were similar to the goals of the 1990 Industrial Waste Survey. However, the 1993 ECUA Waste Survey was also designed to partially fulfill the requirement for removal of "materials of concern" stated in the NJDEPE's Certification of the September 9, 1992 amendment to the Essex County District Solid Waste Management Plan (the "Certification"). This requirement is more fully described below.

The NJDEPE, in its Certification, ordered Essex County to submit a report to the Department outlining plans and specific timetables for the removal of "materials of concern" from the solid waste stream being directed to and processed at the Essex County Resource Recovery Facility. Specifically, at a minimum, the plan was to address:

1. Efforts already being used by the County for removal of toxic materials from the waste stream, particularly mercury;

2. Specific plans and timeframes for the removal and separate management of consumer batteries, fluorescent light bulbs, thermometers, and thermostats, all of which contain mercury and other heavy metals;

3. An inventory of potential generators of the above materials, such as jewelers, hospitals and large commercial/institutional/industrial buildings and plans for education and separate collection/drop-off of these materials;

4. Specific plans and timeframes for the removal of wallboard; grass and other yard wastes from the incoming waste stream toward further reducing sulphur dioxide (SO_2) and nitrogen oxide (NO_x) emissions;

5. An inventory of large generators of wallboard and plans for education and separate collection/drop-off and disposal (non-incineration) of this material;

6. Plans for implementing a combination of grass cut-it and leave-it programs, backyard composing and/or compost facility development or expansion plans to include management of grass clippings. This must include an inventory of existing facilities which accept grass for composing, as well as a listing of all landscapers operating within the County;

7. Specific plans and timeframes for developing comprehensive recycling and waste diversion programs which support the prohibition from acceptance at the ECRRF of paints, tires, electronics and vehicular materials, such as batteries, from the residential, commercial, institutional and industrial sectors to further reduce the potential for toxic materials entering the facility; and

8. Specific plans and schedules for expanding existing household hazardous waste collection programs and/or the development of a permanent household hazardous waste collection facility and management program for the County.

The "Materials of Concern" that the material separation program was meant to address included:

1. Solid waste materials containing heavy metals (including but not limited to mercury). Examples of these types of materials include consumer batteries, fluorescent light bulbs, thermometers, thermostats, consumer electronics, and vehicular materials.

2. Solid waste materials which, when incinerated, contribute to the emission of sulphur dioxide (SO_2) and nitrogen oxides (NO_x). Examples of these types of materials include tires, wallboard, grass and other yard wastes.

3. Hazardous waste materials which may potentially be delivered to the facility.

The 1993 ECUA Waste Survey was designed to generate data in order to provide a mechanism for prohibiting generators of "materials of concern" from delivering those materials to the ECRRF.

SECTION II: SERVICES PROVIDED BY CONSULTANT

The PMK Group (PMK) was retained by the ECUA to provide technical assistance in conducting and analyzing the results of the 1993 ECUA Waste Survey.

The services provided by PMK were conducted in two phases, and included the following:

Phase I – Preparation of Survey Form and Mailing List

PMK reviewed the 1990 Industrial Waste Survey Form and provided specific recommendations for modifications to the form. The review addressed the following criteria:

1. That the form would provide information which would be useful in complying with the CAREDA requirements, and which would provide information useful in complying with the Facility's Air Pollution Control Permit, RCRA and other applicable regulations.

2. That the form contained the appropriate questions which would provide the ECUA with as much information as possible concerning generators of unauthorized waste.

3. That the form generally contained questions that yielded information useful to the ECUA in the operation of the ECRRF and in the general operation of the County's solid waste management program.

4. That the form was presented to the production and service industries and health care facilities in such a way as to maximize response and cooperation, and minimize confusion regarding the intent of the survey.

5. That the form was structured so that responses could be efficiently organized into a computerized database.

6. That the form would generate data relative to the NJDEPE's requirement for removal of "materials of concern."

PMK also prepared the mailing list for the 1993 ECUA Waste Survey. The mailing list prepared by PMK for the 1993 ECUA Waste Survey was significantly expanded from the mailing list utilized for the 1990 Industrial Waste Survey. This was done to partially address the NJDEPE's requirement for removal of "materials of concern," and to broaden the database of information available to the ECUA concerning the waste streams generated by service and production industries and health care facilities located within the County.

The mailing list for the 1993 ECUA Waste Survey was compiled from the following sources:

1. The mailing list utilized for the 1990 Industrial Waste Survey.

2. A list provided by the Essex County Department of Planning and Economic Development of industries in Essex County.

3. The Essex County entries contained in the New Jersey Directory of Manufacturers, 1992–1993 edition, published by Commerce Register, Inc.

4. The Essex County entries contained in the 1993 edition of McRae's Industrial Directory, published by BRP Publications, Inc.

5. A list supplied by the State of New Jersey Department of Environmental Protection and Energy, Division of Environmental Safety, Health and Analytical Programs, of facilities in Essex County required to submit information relative to the Community Right to Know Survey for 1992.

6. The following lists provided by the State of New Jersey Department of Health for Essex County:

    a. Licensed Adult Day Health Care Facilities
    b. Licensed Psychiatric Hospitals
    c. Medical Day Care Programs in Licensed Facilities
    d. Licensed Long Term Care Facilities/Licensed Home for the Aged
    e. Licensed Ambulatory Care Facilities
    f. Licensed Residential Alcoholism Treatment Facilities
    g. Licensed Residential Drug Treatment Facilities
    h. Licensed General, Special, and Comprehensive Rehabilitation Hospitals

<u>Phase II – Review and Follow-Up of Survey Responses</u>

Completed survey forms were received by the ECUA, and were subsequently forwarded to PMK. Upon receipt, we provided the following services:

1. We organized the responses into a computerized database in order to efficiently evaluate the information, and enable the ECUA to retrieve, utilize, and update the information in the future.

2. We reviewed each form transmitted for content and completeness.

3. Based on our knowledge of specific industrial, commercial, and institutional processes and the waste which those processes typically generate, we analyzed a sampling of the responses in detail in order to evaluate the accuracy of the information provided.

4. We requested additional information from selected facilities whose responses to specific questions on the survey did not appear to coincide with the anticipated nature of their operations. In addition, follow-up contact was made with those facilities who did not respond to the survey.

5. We conducted on-site inspections at targeted facilities suspected of generating NJDEPE Type ID-27 waste in the prohibited categories.

6. We provided specific recommendations to the ECUA regarding those facilities which should not be allowed to have their solid waste delivered to the ECRRF based on our review of the survey forms relative to the criteria established in the CAREDA, and in the NJDEPE's requirement for removal of "materials of concern."

Details regarding the execution and results of our services for each of these items are presented in the following sections of this report.

SECTION III: EXECUTION AND RESULTS - PHASE I - PREPARATION OF SURVEY FORM AND MAILING LIST

PMK reviewed the 1990 Industrial Waste Survey Form. The review focused on content, structure and conformance with regulatory requirements, as previously outlined in this Report. Based upon this review, PMK designed and generated a new form. This proposed new form was transmitted to the ECUA for review and comment. The form was revised by PMK to incorporate the ECUA's comments, and the final 1993 ECUA Waste Survey Form was transmitted to the ECUA on July 29, 1993.

The 1993 ECUA Waste Survey Form utilized for this project, as well as the correspondence and accompanying information transmitted with the form to the selected Essex County service and production industries and health care facilities, is provided in Appendix B to this report.

The mailing list developed by PMK contained 4,245 entries and was transmitted to the ECUA on August 20, 1993. The mailing list was also transmitted to the ECUA in electronic format on a computer diskette which was utilized to generate mailing labels.

SECTION IV: PROCEDURES USED FOR MAILING, RECEIPT AND HANDLING OF SURVEY FORMS

A draft transmittal letter to accompany the 1993 ECUA Waste Survey Form was developed by the ECUA and was forwarded to PMK for review and comment. PMK provided specific recommendations for revision of the draft transmittal letter to the ECUA on August 18, 1993.

The 1993 ECUA Waste Survey Form and transmittal letter was transmitted by certified mail by the ECUA on or about September 21, 1993 to those service and production industries and health care facilities appearing on the mailing list developed by PMK.

The completed survey forms were received by the ECUA and the original forms were periodically forwarded to PMK for technical review and follow up.

As stated in the transmittal letter accompanying the form, service and production industries and health care facilities were encouraged to telephone either PMK or the ECUA with any questions or problems they had in completing the form. PMK handled an average of approximately 350 such telephone calls per week within the first 3 weeks after the forms were mailed. In general, the questions concerned the definition of solid waste, as well as which solid waste materials were reportable on the survey form. Identification of waste materials by the correct NJDEPE identification number was also a typical problem encountered. In general, most facilities did not know their SIC number. Additionally, many facilities did not believe that the survey pertained to them.

SECTION V: EXECUTION AND RESULTS – PHASE II – REVIEW AND FOLLOW UP OF SURVEY RESPONSES

1. Organization of Computerized Database

The responses to the 1993 ECUA Waste Survey that were transmitted to our office were subsequently organized into a computerized database. The software used for this purpose was a commercially available application called Paradox, Relational Database, Release 3.5, Copyright (C) 1985, 1990 by Borland International, 1800 Greenhills Road, P.O. Box 660001, Scotts Valley, CA 95066–0001.

The data provided on the 1993 ECUA Waste Survey Forms was organized into three distinct database tables.

Appendix C to this report contains a detailed description of the database and its structure including:

1. The minimal computer system requirements necessary to use the Paradox program.
2. The names and content of each Paradox table.
3. The special codes used in data entry.
4. A 1993 ECUA Waste Survey Form color–coded to designate the information contained in each Paradox table.

2. Analysis of Responses

Each 1993 ECUA Waste Survey Form received by PMK was reviewed for content and completeness. The review process focused on identifying facilities whose waste products consisted of either:

1. NJDEPE waste types in the prohibited categories as defined by the CAREDA;
2. "Materials of concern" as previously defined, or;
3. Materials present in typical solid waste that, if delivered to the Resource Recovery Facility, could potentially contribute to the emission of regulated components of the Facility's Air

inspection. Any additional information obtained was documented by PMK and utilized in the evaluation and classification of the facility.

A follow-up letter was developed by PMK to be sent to those facilities who did not respond to the 1993 ECUA Waste Survey.

The follow-up letter was subsequently transmitted by the ECUA via certified mail on or about November 8, 1993 to those facilities which had not returned a survey form.

A copy of the follow-up letter is provided in Appendix D to this Report.

4. On-site Inspection Procedures

On-site inspections were conducted at selected facilities in order to gather additional information concerning a facility's operations or waste products, and/or to verify the accuracy of a facility's responses.

Facilities were selected for on-site inspections based on the following criteria:

1. The facility returned a survey form, and our review indicated:

    a. the form contained information provided by the facility which indicated that the facility could potentially generate problematic waste materials, and sufficient information was not provided to indicate that the potentially problematic waste materials would be segregated from any acceptable materials and properly handled (i.e., disposed at facilities other than the ECRRF, recycled, reused, etc.), or

    b. the waste products reported by the facility did not coincide with those anticipated based on the nature of the operations, as indicated by their SIC number or as reported in question 8 on the survey form, and the anticipated waste products could potentially be problematic waste materials.

Once a facility was targeted for inspection, the facility representative listed was contacted by telephone to schedule an inspection.

On-site inspections were conducted with the understanding that there was no specific regulatory or statutory authority granting the ECUA (or its representatives or agents) access to private facilities in the County for the purpose of conducting an on-site inspection of the facility's waste.

However, since the ECUA has the responsibility for implementing the County's management of non-hazardous solid waste generated within the County, it has the authority to exclude waste from the ECRRF. Since the ECUA would be basing its decision of acceptability of waste on the results of the 1993 ECUA Waste Survey, incomplete or inaccurate information provided by a facility on the survey form could result in that facility's waste being prohibited from the ECRRF. Therefore, facilities selected for an on-site inspection were informed that their participation was voluntary, but that their lack of cooperation might unnecessarily preclude their waste from being delivered to the ECRRF.

Representatives from PMK performed the on-site inspection as arranged with the facility representative. The inspection consisted of a brief visual observation of the facility's operations, interviews with facility representatives, and a review of the facility's waste collection and handling procedures. The results of the on-site inspection were documented by PMK and used in the evaluation and classification of the facility's waste.

Samples of waste materials were not gathered for laboratory analysis during the on-site inspections. The visual observations of our inspection personnel, combined with descriptions, and/or laboratory analysis results provided by facility representatives, were found to be adequate to characterize questionable waste materials without further sampling.

Appendix E to this Report provides a list of those facilities that were inspected.

5. Facility Categorization

A. Criteria

Based on our evaluation of a facility's responses on the 1993 ECUA Waste Survey Form, any additional information obtained from the facility, and/or the results of our on-site inspection, each facility was placed into one of the eight categories described in Section V.2 of this Report. A description of the categories, and the criteria used to place a facility in the category are presented below.

Category 0 – Non-Applicable Facilities

All facilities which reported being out-of-business or having moved out of the County were placed in this category. Other facilities not specifically targeted for this survey (such as schools) were also placed in this category.

Category 1 – Facilities Generating Prohibited NJDEPE Waste Types

All facilities who reported generating, were observed to generate, or were suspected of generating NJDEPE waste types in the prohibited categories or Regulated Medical Waste and who did not report separating or were not observed to separate the prohibited waste from acceptable waste were placed in this category.

Category 2 – Facilities Generating Hazardous Waste

All facilities who reported generating, were observed to generate, or were suspected of generating hazardous waste as defined in N.J.A.C. 7:26–1.4, N.J.A.C. 7:26–8 and 40 CFR 261, and who did not report or were not observed to have a designated hauler for the hazardous waste were placed in this category.

Category 3 – Facilities Generating Waste materials which, when incinerated, could potentially cause the residual ash to be characterized as hazardous

All facilities who reported generating, were observed to generate, or were suspected of generating waste materials containing significant quantities of heavy metals or chlorinated hydrocarbons, and who did not have, or report having, a designated recycler or waste hauler for the suspect problematic materials were placed in this category.

Typical materials considered problematic for this category included, but were not limited to, paints, pigments, batteries, polyvinyl chloride, inks, and consumer electronics.

Category 4 – Facilities Generating Waste materials which, when incinerated, could potentially generate regulated components in excess of allowable air emission limits

All facilities who reported generating, were observed to generate, or were suspected of generating, problematic waste materials containing significant quantities of sulfur, chlorine, fluorine, and various heavy metals and organics, and who did not have or report having a designated recycler or waste hauler for the problematic material were placed in this category.

Typical materials considered problematic for this category included, but were not limited to, polyvinyl chloride, teflon, rubber, paint, thermometers, consumer electronics, "materials of concern" and batteries.

Category 5 – Facilities Generating Non-combustible materials

All facilities who reported generating, were observed to generate, or were suspected of generating waste materials considered non-combustible at 1,000 degrees Fahrenheit, and who did not have, or report having, a designated recycler or waste hauler for this waste were placed in this category.

Typical materials considered problematic for this category included, but were not limited to, glass, ceramics, certain construction demolition debris (i.e. concrete, masonry, etc.), and metals.

Category 6 – Facilities Providing Insufficient Information

All facilities whose Waste Survey Forms contained insufficient information to evaluate the "acceptability" of their waste materials were placed in this category.

Category 7 – Facilities Generating Acceptable Waste

All facilities who did not report generating, were not observed to generate, or were not suspected of generating problematic waste materials which could potentially be delivered to the ECRRF.

Category 8 – Facilities Generating No Waste

All facilities who reported not generating any solid waste from the facility of any kind were placed into this category. These facilities were primarily limited to unoccupied buildings.

Appendix F to this Report contains the 1993 ECUA Facility Waste Categorization indicating into which category each facility was placed.

B. Notification

In order to notify a facility that their problematic waste materials could not be delivered to the ECRRF, PMK prepared notification letters for transmittal by the ECUA to the subject facilities. The notification letters will advise each facility of their responsibilities regarding the disposal of problematic solid waste in accordance with applicable waste flow regulations.

Appendix G to this Report contains a copy of the notification letters and a list of facilities to which each letter should be sent.

SECTION VI: NUMERICAL SUMMARY OF SURVEY RESPONSES

A numerical summary of the results of the 1993 ECUA Waste Survey is provided below.

	NUMBER	% OF ADJUSTED TOTAL[2] MAILED	% OF TOTAL RESPONSES
Survey forms mailed by the ECUA	- 4,245	NA	NA
Survey forms not deliverable by U.S. Postal Service	617	NA	NA
Duplicate forms mailed by the ECUA[1]	163	NA	NA
Survey forms received as of March 15, 1994	2134	61.6	100
Category 0 Facilities	191	5.5	9.0
Category 1 Facilities	136	3.9	6.4
Category 2 Facilities	11	0.3	0.5
Category 3 Facilities	13	0.4	0.6
Category 4 Facilities	199	5.7	9.3
Category 5 Facilities	372	10.7	17.4
Category 6 Facilities	378	10.9	17.7
Category 7 Facilities	817	23.6	38.3
Category 8 Facilities	17	.05	0.8

FOOTNOTES

1
In addition to the 617 survey forms which were not deliverable by the U.S. Postal Service, 163 facilities appearing on the 1993 ECUA Waste Survey mailing list were determined to be duplicates (i.e., facilities doing business under duplicate names).

2
Adjusted Total Mailed = Survey forms mailed by the ECUA (4, 245), minus Survey forms not deliverable by U.S. Postal Service (617), minus Duplicate forms mailed by the ECUA (163) = 3,465 Survey forms.

A numerical comparison of the results of the 1993 ECUA Waste Survey vs. the 1990 Industrial Waste Survey is provided below.

	1993 ECUA Waste Survey	1990 Industrial Waste Survey
Survey forms mailed by the ECUA (Essex County Division of Solid Waste Management in 1990)	4,245	1370
Response rate (expressed as a percentage of the number of deliverable, non-duplicate survey forms mailed)	61.6%	59.4%
Facilities generating acceptable waste (expressed as a percentage of the number of survey forms received)	38.3%	53.5%
Facilities generating unacceptable solid waste due to a hazardous waste constituent (expressed as a percentage of the number of survey forms received)	0.5%	2.3%
Facilities generating unacceptable solid waste due to a prohibited waste type (other than hazardous waste) or a problematic waste type (expressed as a percentage of the number of survey forms received)	33.7%	24.9%

Continued on Next Page

	1993 ECUA Waste Survey	1990 Industrial Waste Survey
Facilities providing insufficient information (expressed as a percentage of the number of survey forms received)	17.7%	13.1%
Facilities reporting either being out of business, or having moved out of the county (expressed as a percentage of the number of survey forms received)	9.0%	6.1%

The decrease in the percentage of facilities generating acceptable waste from the 1990 Industrial Waste Survey to the 1993 ECUA Waste Survey can partially be explained by the following two factors:

1. The number of waste material types considered to be "problematic" (as previously defined) for the 1993 ECUA Waste Survey was expanded from the number of waste material types considered to be "problematic" for the 1990 Industrial Waste Survey. This was done to address the NJDEPE's requirement to remove "materials of concern" from the waste stream being processed at the ECRRF; and

2. The 1993 ECUA Waste Survey included landscape contractors and auto repair shops/service stations (whereas the 1990 Industrial Waste Survey did not specifically target these types of facilities). Based upon a review of the 1993 ECUA Waste Survey Forms, a large number of these types of facilities generated prohibited or "problematic" waste types.

SECTION VII: LIMITATIONS OF THE 1993 ECUA WASTE SURVEY

The 1993 ECUA Waste Survey was performed to provide the ECUA with information concerning the general characteristics of the solid waste stream generated within Essex County by service and production industries and health care facilities, and to evaluate potential sources of waste materials which may be "problematic" as previously defined. The information and survey results presented herein are solely and exclusively for the use of ECUA in evaluating "problematic" waste stream origins and is not intended for use in projecting estimated quantities of solid waste which may be delivered to the ECRRF.

The results and conclusions presented as part of the 1993 ECUA Waste Survey were based on information provided by representatives of the facilities surveyed, as well as limited visual inspections of existing conditions at targeted facilities. Consequently, the accuracy of the results and conclusions drawn from this information is inherently based on the accuracy of the information that was provided.

The facilities targeted for on-site inspection were identified based on information provided by the facility. As the ECUA does not have the regulatory authority to inspect a facility without the expressed permission of the facility, inspections were only performed at facilities which allowed the on-site inspection, and with sufficient advanced notice. Consequently, waste disposal protocol observed during the performance of these inspections may not be indicative of the daily handling of the facility's waste stream, and may not be an accurate reflection of the facility's disposal practices.

The results and conclusions presented as a result of the 1993 ECUA Waste Survey are only relevant to the dates of the individual responses and the time of our selected site visits. Inevitable changes in operations at service and production industries and health care facilities located in Essex County as well as continual turnover will likely result in variations in the characteristics of the solid waste flow within the County.

SECTION VIII: RECOMMENDATIONS

It is recommended that the following procedures be implemented to aid in preventing unacceptable waste materials from being delivered to the Resource Recovery Facility:

1. The facilities who generate problematic waste materials which may be delivered to the ECRRF, as determined by the information provided on the 1993 ECUA Waste Survey Forms should be prohibited from delivering any of their solid waste materials to the ECRRF. This prohibition should remain in effect until the ECUA can ensure that the problematic wastes will not be delivered to the ECRRF.

2. An educational program should be developed to inform facility managers and the general public about the operation of the Resource Recovery Facility and the acceptability of waste materials at the Facility. A program of this nature should contain specific information concerning the types of unacceptable waste, the reasons for that waste being unacceptable, and alternative disposal techniques for unacceptable waste materials. The program should also provide information about the recycling, composing, and household hazardous waste collection programs in effect in Essex County, stressing the continued importance of these methods of waste management as part of the County's overall solid waste management program.

3. The Waste Survey should be repeated on a bi-yearly basis. As previously noted, the results of the 1993 ECUA Waste Survey are only accurate during the time that the operations of the facilities surveyed remain substantially the same.

4. In addition to the procedures implemented to minimize the delivery of unauthorized waste materials to the ECRRF as a result of the 1993 ECUA Waste Survey, the following measures should be implemented to further aid in improving the quality of the waste material delivered to the ECRRF:

    a. The inspection and periodic sampling program established at the ECRRF to attempt to detect unauthorized waste being delivered to the Facility should be continued.

    b. The computerized database and/or the individual 1993 ECUA Waste Survey Forms should be utilized in conjunction with the inspection and sampling program, to aid in determining potential sources of unauthorized waste being detected at the ECRRF.

    c. On-site inspections should be conducted at facilities suspected of generating unauthorized waste being detected at the facility. These facilities, if found to generate unauthorized waste, should then be prohibited from delivering the unauthorized waste to the ECRRF.

PMK Group
CONSULTING ENGINEERS

APPENDIX A

DOCUMENT	NUMBER OF PAGES
Description of Waste Type by NJDEPE ID Number	3
Certificate of Approved Registration and Engineering Design Approval (CAREDA)	30

3. The facility operator shall verify that the form has been completed by a registered transporter, that the waste as identified by the transporter may be disposed of at the facility in compliance with the waste flow rules at N.J.A.C. 7:26-6.5 and the facility's registration, and, where applicable, the facility's computer recording of scale data is in conformance with the information supplied, and sign the completed form.

4. The facility operator shall retain all O and D forms for a minimum of one year and shall make them available for inspection by representatives of the department or the local health department at any time during normal working hours.

5. If an O and D form is not completed and signed by a registered transporter for each vehicle, or if the waste disposal would not be in compliance with the waste flow rules or the facility's registration, as required in (c)3. above, the facility operator shall deny the transporter the right to dispose of the solid waste at the facility.

(d) The following solid waste collection and disposal operations are exempt from complying with the provisions of (c) above:

1. Noncommercial industrial facilities which dispose of only solid waste generated by that industrial firm;

2. Municipally operated facilities which accept only solid waste which is collected by that municipality's transporters and which is generated within that municipality;

3. Sludge farming operations which accept only ID 12 solid waste and which report to the Division of Water Resources;

4. Recycling facilities which accept only recyclable materials which have been separated at the point of generation for sale or reuse; and

5. Operations exempt from registration pursuant to N.J.A.C. 7:26-3.3(a).

(e) Monthly summaries of wastes received shall be submitted by the owner/operator of each facility to the Division of Waste Management, on forms provided by the department (or duplication of same), no later than 20 days after the last day of each month.

(f) Upon approval of the department, those facilities qualifying for exemption under N.J.A.C. 7:26-4.8 may compute quantities of waste received by using an alternative, acceptable method.

(g) Waste identification and definition of solids include the following:

1. Solid wastes; waste ID number and definitions:

i. 10 Municipal (household, commercial and institutional): Waste originating in the community consisting of household waste from private residences, commercial waste which originates in wholesale, retail or service establishments, such as, restaurants, stores, markets, theatres, hotels and warehouses, and institutional waste material originated in schools, hospitals, research institutions and public buildings.

ii. 12 Dry sewage sludge: Sludge from a sewage treatment plant which has been digested and dewatered and does not require liquid handling equipment.

iii. 13 Bulky waste: Large items of waste material, such as, appliances, furniture, whole trees, branches, tree trunks and stumps. Also included are waste building materials and rubble resulting from construction, remodeling, repair and demolition operations on houses, commercial buildings, pavements and other structures. Discarded automobiles, trucks and trailers and large vehicle parts, and tires are included under this category.

iv. 23 Vegetative waste: Waste materials from farms, plant nurseries and greenhouses that are produced from the raising of plants. This waste includes such crop residues as plant stalks, hulls, leaves and tree wastes processed through a wood chipper.

v. 25 Animal and food processing wastes: Processing waste materials generated in canneries, slaughterhouses, packing plants or similar industries. Also included are dead animals.

vi. 27 Dry industrial waste: Waste materials resulting from manufacturing, industrial and research and development processes and operations, and which are not hazardous in accordance with the standards and procedures set forth at N.J.A.C. 7:26-8. Also included are nonhazardous chemical waste, and asbestos and asbestos-containing waste managed in accordance with 40 CFR 61 and N.J.A.C. 7:26-2.6.

(h) Waste identification and definition of liquids include the following:

1. Liquid wastes; waste ID number and definitions:

i. 72 Bulk liquid and semiliquids: Liquid or a mixture consisting of solid matter suspended in a liquid media which is contained within, or is discharged from, any one vessel, tank or other container which has the capacity of 20 gallons or more. Not included in this waste classification are septic tank clean-out wastes and liquid sewage sludge.

ii. 73 Septic tank clean-out wastes: Pumping from septic tanks and cesspools. Not included are wastes from a sewage treatment plant.

iii. 74 Liquid-sewage sludge: Liquid residue from a sewage treatment plant consisting of sewage solids combined with water and dissolved materials.

(i) The following waste types have been consolidated under other categories:

1. 11 Institutional (see 10, Municipal);
2. 14 Construction and demolition (see 13, Bulky Waste);
3. 5 Pesticides: (see 27, Dry industrial waste and N.J.A.C. 7:26-8);
4. 16 Hazardous waste containers (see N.J.A.C. 7:26-8);
5. 17 Dry hazardous waste (see N.J.A.C. 7:26-8);

6. 18 Dry nonhazardous chemical waste (see 27, Dry industrial waste;)

7. 19 Junked autos (see 13, Bulky waste);

8. 20 Tires (see 13, Bulky waste);

9. 21 Dead animals (see 25, Animal and food processing waste);

10. 22 Leaves and chopped tree wastes (see 23, vegetative waste);

11. 24 Tree stumps (see 13, Bulky waste);

12. 26 Oil spill cleanup wastes (see 27, Dry industrial waste and N.J.A.C. 7:26-8);

13. 28 Infectious waste (see N.J.A.C. 7:26-1.4 and the requirements established by the New Jersey Department of Health);

14. 70 Waste oil and sludges (see N.J.A.C. 7:26-8);

15. 71 Semisolid waste oils and sludge (see N.J.A.C. 7:26-8);

16. 75 Pesticide liquids (see 72, Bulk liquid and semiliquids and N.J.A.C. 7:26-8);

17. 76 Liquid hazardous waste (see N.J.A.C. 7:26-8)

18. 77 Liquid chemical waste (see N.J.A.C. 7:26-8).

R.1976 d.303, eff. November 1, 1976.
See: 8 N.J.R. 374(d), 8 N.J.R. 509(a).
As amended, R.1978 d.72, eff. February 27, 1978.
See: 9 N.J.R. 459(d), 10 N.J.R. 146(a).
As amended, R.1983 d.192, eff. June 6, 1983.
See: 14 N.J.R. 383(a), 15 N.J.R. 894(c).
(a)5 and new (c) added; existing (c)-(e) recodified (d)-(f).
As amended, R.1983 d.570, eff. December 5, 1983.
See: 15 N.J.R. 660(a), 15 N.J.R. 2040(b).
(d)-(f) Substantially amended.
As amended, R.1984 d.148, eff. April 2, 1984.
See: 16 N.J.R. 930(a).
Filed as emergency amendments to expire June 1, 1984: (a)6 and new (c) and (d) added, existing (c)-(f) redesigned (e)-(h); inspection by local health department added to (b), monthly summary submittal deleted. Also proposed concurrently.
As amended, R.1984 d.231, filed June 4, 1984.
See: 16 N.J.R. 930(a), 16 N.J.R. 1497(a).
Readoption with technical and substantive changes of R.1984 d.148, requiring solid waste transporters to provide landfill operators with documentation of origin and contents of waste load.
Amended by R.1985 d.65, effective February 19, 1985.
See: 16 N.J.R. 440(a), 17 N.J.R. 446(a).
(a)7 added.
Correction: Added text in (a) "resource recovery facilities and transfer stations".
See: 18 N.J.R. 983(a).

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WASTE MANAGEMENT
32 E. Hanover St., CN 028, Trenton, N.J. 08625

DR. MARWAN M. SADAT, P.E.
DIRECTOR

RICHARD C. SALKIE, P
ASSOCIATE DIRECTOR

CERTIFICATE OF APPROVED REGISTRATION
AND ENGINEERING DESIGN APPROVAL

Under the provisions of N.J.S.A. 13:1E-1 et seq. known as the Solid Waste Management Act, this registration is hereby issued to:

American Ref-Fuel Company of Essex County

FACILITY TYPE:	Resource Recovery Facility-Mass Burn Incinerator
LOT NO.(S):	28, 30, 32, 40, 56, 80; 29, 32, 35, 60, 90, 92
BLOCK NO.(S):	5000; 5001
MUNICIPALITY:	City of Newark
COUNTY:	Essex
FACILITY REGISTRATION NO.:	071424
EXPIRATION DATE:	December 10, 1990

This approval is subject to compliance with all conditions specified herein and all regulations promulgated by the Department of Environmental Protection.

This approval shall not prejudice any claim the State may have to Riparian land, nor does it permit the registrant to fill or alter or allow to be filled or altered, in any way, lands that are deemed to be Riparian, Wetlands, Stream encroachment or flood plains, or within the Coastal Area Facility Review Act (CAFRA) zone and the New Jersey Pinelands Protection Act of 1979 or allow the discharge of pollutants to waters of this State without first acquiring the necessary grants, permits or approvals from the Department of Environmental Protection.

This registration is non-transferable.

December 10, 1985
Date

Edward J. Londres, P.E.
Assistant Director
Engineering

Certificate of Approved Registration and Engineering Design Approval for the Essex County Resource Recovery Facility, City of Newark, Essex County, New Jersey, Facility Application Number 83-58.

This Certificate of Approved Registration and Engineering Design Approval is conditioned upon the compliance with the implementation of the following:

1. Permitted Waste Types

The following materials may be accepted for disposal at this facility:

Type	Waste
10	Municipal waste (household, commercial and institutional)
23	Vegetative waste
27	Dry industrial waste (except those prohibited subcategories listed below)

2. Prohibited Waste Types

The following materials are specifically prohibited for disposal at this facility:

Type	Waste
12	Dry sewage sludge
13	Bulky waste
25	Animal and food processing waste
27	Dry industrial waste (specifically the following subcategories only: Hazardous waste as defined in N.J.A.C. 7:26-1.4, N.J.A.C. 7:26-8 and 40 CFR 261 which is generated by small quantity generators (7:26-8.3); non-hazardous oil spill clean-up waste; dry non-hazardous pesticides; research and development process waste; asbestos containing materials such as ceiling tiles and insulation; and contaminated soils.)
72	Bulk liquid and semi-liquids
73	Septic tank clean-out wastes
74	Liquid sewage sludge

3. Referenced Engineering Plans

The construction and operation of this facility shall be in accordance with the provisions of N.J.A.C. 7:26-1 et seq. and the following submissions:

a. "Essex County Resource Recovery Project - Engineering Design Report - Essex County Resource Recovery Plant - Solid Waste Permit Draft Engineering Design" June 1983; prepared by the Economic Development Design Division and the Engineering Department of the Port Authority of New York and New Jersey.

b. "Proposal - Essex County Resource Recovery Facility - Volume II: Technical" prepared by Browning-Ferris Industries, Inc., dated January 1983.

c. "Essex County Resource Recovery Project - Engineering Design Report - Essex County Resource Recovery Plant - Solid Waste Permit Proposed Engineering Design", January 1984. Prepared by the Economic Development Design Division and the Engineering Department of the Port Authority of New York and New Jersey; received by Division of Waste Management on January 26, 1984; and including the "Addenda and Errata #1" dated September, 1984.

d. "Essex County Resource Recovery Project - Environmental Impact Statement" dated October 1983, with:

- "Volume 1 Technical Appendices"
- "Volume 2 Technical Appendices"
- "Volume 3 Technical Appendices"
- "Volume 4 Technical Appendices"
- "Volume 5 Technical Appendices":

"22. Impact on Local Streets in the Ironbound Community of Newark, New Jersey from Refuse Trucks Utilizing the Proposed Essex County Energy Recovery Plant" prepared by Kornheim and Ketcham and the Port Authority of New York and New Jersey, dated January 1984.

e. "Essex County Resource Recovery Project - Environmental Impact Statement - Responses to Comments" and accompanying drawings, received by the Division of Waste Management on June 25, 1984.

f. "Essex County Resource Recovery Project - Environmental Impact Statement - Responses to Comments No. 2" and accompanying drawings, received by the Division of Waste Management on October 23, 1984.

g. The following drawings prepared by Gibbs and Hill, Inc., sealed and signed by Frank D. Hutchinson, P.E. on September 19, 1984:

E1SC-0008	Proposed Site Access Plan
E1SC-0008-1	Proposed Site Access Grading
E1SC-0008-2	Proposed Site Access Drainage

h. The following drawings prepared by Gibbs and Hill, Inc., sealed and signed by Frank D. Hutchinson, P.E. on October 12, 1984:

BIM-0103	Water Balance Dry Scrubbers - No Export Steam
E1M0100-01	Symbol List and General Notes
E1M-0107-01	Flow Diagram-Main Steam and Auxiliary Steam Systems
E1M-0106	Flow Diagram-Boiler Feed, Condensate, Make-up and Return Condensate Systems
E1M-0108	Flow Diagram-Auxiliary Systems

i. The following drawings prepared by Gibbs and Hill, Inc., sealed and signed by Frank D. Hutchinson, P.E. on October 16, 1984:

E1E-0100-1	Main One Line Diagram-Symbols and Legend
E1M-0101	Three (3) Boiler Heat Balance No Export
E1E-0100	Main One Line Diagram

j. The following drawings prepared by Gibbs and Hill, Inc., sealed and signed by Paul P. DeRienzo, P.E. on November 8, 1984:

E1SC-0003	Proposed Site Grading, further revised and signed 3/21/85
E1SC-0001	Boring Location Plan
E1SC-0002	Proposed Site Plan, further revised and signed 3/21/85
E1SC-0007	Area Plot Plan
E1SC-0004	Proposed Site Drainage, further revised and signed 3/21/85
E1MP-0001	Proposed Oily Waste and Sanitary Sewers
E1MP-0002	Proposed Water and Fire Protection System
E1M-0002	General Arrangement Plan at EL. 11'-2"
E1M-0003	General Arrangement Plan at EL. 29'-2"
E1M-0004	General Arrangement Plan at EL. 49'-6"
E1M-0005	General Arrangement Plan at EL. 80'-1"
E1M-0005A	Miscellaneous Boiler Platforms
E1M-0006	General Arrangement Sections A-A, B-B, C-C, D-D

In case of conflict, the most recent revisions and supplemental information shall prevail over prior submittals and designs, and the conditions of this Certificate shall supersede those of the engineering design and environmental impact statement referenced above.

4. Facility Pre-Construction Requirements

Prior to initiating any site preparation work for facility construction, the Registrant shall comply with the following:

a. The real property to be used for facility construction shall be legally acquired by the Registrant, or a legal agreement (e.g. a legal lease agreement) to use the real property in question for the intended purpose shall be obtained. Proper documentation of legal ownership or use shall be submitted to the Department prior to initiating any site preparation work for facility construction.

b. An official confirmation from the City of Newark Water Department that the city can provide for the daily facility water demand and that an ample standby fire fighting water supply can be provided, shall be submitted to the Department prior to initiating any site preparation work for facility construction.

5. Facility Site Mitigation Measures Program
Phase I (to be completed prior to construction)

a. Initial site cleanup activities have been accomplished by the Newark Redevelopment and Housing Authority (NRHA). however, the "hot spots" identified during the exploratory trenching remain to be addressed; as well as a limited number of containers and mounded contaminated soil left on site by the cleanup contractor.

The Port Authority of New York and New Jersey (PA) shall enter into a Memorandum-of-Understanding (MOU) with the Department to sample, characterize and, if necessary, remove and dispose of contaminated substances in the following locations on site: 1) the oil spill area, 2) the "tire pile" area, 3) mounded soil pile, 4) six overpacked metal drums, and 5) two gas cylinders.

The MOU shall document the cleanup activities already accomplished by the NRHA and fully describe the remaining site cleanup activities required, based on sampling data acquired by the PA in November, 1985. The Department shall monitor any remaining cleanup activities to be undertaken by a PA contractor.

Phase II

b. After completion, to the satisfaction of the Department, of the phase I site cleanup program, the Registrant shall implement, during construction of the facility, a site mitigation measures program in accordance with the following provisions which are considered a condition of this approval:

i. The DEP "Phase II - Mitigation Measures During Construction" document (dated October 30, 1985). This document is attached as Appendix I of this Certificate.

ii. The action levels presented in the above document, which are Departmental cleanup action levels administered by the Hazardous Site Mitigation Administration (HSMA) and the Bureau administering the Environmental Cleanup Responsibility Act (ECRA), shall be met.

14. Operations and Maintenance Manual

A written operations and maintenance (O & M) manual shall be developed and maintained at the facility. The Final O & M Manual shall be submitted to the Department no later than three months prior to initiating the facility start-up and shakedown period. Start-up/shakedown operations shall not be initiated until formal approval of the submitted Final O & M Manual is granted by this Department.

The O & M Manual shall include the following:

a. A description of the proposed procedures for the operation of each major facility component;

b. Procedures to be followed during facility start-up;

c. Procedures to be followed during the planned and unplanned shutdown of facility operations;

d. Facility operations monitoring procedures, including the final process control measurement and instrumentation plan;

e. Facility security methods, including the use of communications and alarm systems;

f. An inspection plan, which shall include a schedule for inspecting all applicable aspects of facility operations necessary to ensure maximum facility availability and compliance with the conditions of this Certificate. The frequency of inspection shall be based on the rate of potential equipment deterioration or malfunction and the probability of an adverse incident occurring if the deterioration or malfunction goes undetected between inspections. Areas of the facility subject to spills (loading and unloading areas) and areas in which adverse environmental or health consequences may result if breakdown occurs shall be inspected daily, when in use. The inspection plan shall include a schedule for inspecting monitoring, safety and emergency equipment, security devices and process operating and structural equipment. The plan shall identify the types of problems which are to be looked for during the inspection, and the frequency of inspections;

g. A maintenance plan, which shall include a failure analysis for the facility operation, an analysis of spare parts inventory needs and schedules for anticipated repairs or major equipment replacement;

h. A description of the proposed measures to protect facility and other personnel from injury during operation;

i. A description of the proposed measures to control noise, litter, odor, rodents and insects at the facility;

j. A description of the proposed measures to handle incoming waste fl during periods of emergencies and/or equipment breakdown or shutdown;

k. A description of the proposed equipment and procedures to be utilized in preventing and fighting fires;

l. A contingency plan which delineates procedures for responding to fire, explosions or any unplanned sudden or non-sudden releases of harmful constituents to the environment. Copies of the contingency plan shall be submitted to the local police and fire departments, the local and county health departments and offices of emergency management.

The contingency plan shall contain a description of the actions facility personnel shall take in the event of various emergency situations; a description of arrangements made with the Department and local police and fire departments which allow for immediate entry into the facility by their authorized representatives should the need arise, such as in the case of response personnel responding to an emergency situation, and; a list of names, addresses and telephone numbers (office and home) of all persons qualified to act as an emergency coordinator for the facility. The list shall be kept up to date. Where more than one person is listed, one shall be named as a primary emergency coordinator and others shall be listed in the order in which they will assume responsibility as alternates.

m. A community relations plan which includes notification procedures in the event of an emergency situation, and a program for public information exchange.

If the Registrant is to implement any changes to the approved Final O & M Manual, the Department shall be notified of the change within twenty-four hours of the change occurring.

15. Facility Staffing

The facility shall maintain sufficient trained staff during each scheduled shift to assure the proper and orderly operation of all system components, along with the ability to handle all routine facility maintenance requirements. Such personnel shall have sufficient educational background, employment experience and/or training to enable them to perform their duties in such manner as to ensure the facility's compliance with applicable Department regulations and permits, the conditions of this approval, and the safe operations of the specific processes utilized at the facility.

The facility shall have a plant manager, operations manager, and maintenance manager on staff during at least one shift each twenty four (24) hour period. In addition, each scheduled shift shall have a fully trained and qualified shift foreman or shift supervisor who is designated and authorized to direct and implement all operational decisions during that shift and who shall also serve as the designated emergency coordinator for the implementation of any emergency procedures in accordance with Condition number 36 of this approval. The plant manager and/or operations manager shall also remain on-call at all times to provide assistance during emergency situations.

Additionally, the facility shall have a New Jersey licensed professional engineer on staff preferably to oversee the general facility operations. This engineer shall possess experience in the design and/or operation of the major system components or equipment that constitute the facility. This engineer may also serve as the plant manager or operations manager.

16. Facility Staffing Plan

A written facility staffing plan shall be developed by the Registrant and shall be included as a section of the Final Operations and Maintenance Manual prepared in accordance with Condition number 14 of this Certificate. The staffing plan shall contain the following information:

a. The job title for each position at the facility;

b. A written job description for each position, including duties and performance standards. The description shall include the requisite skills, education, and other qualifications deemed necessary of employees assigned to each position;

c. An explanation of the criteria and reasons used in selecting the required number and types of positions; and

d. A statement of the staffing provided for each operating shift, including the job titles and number of employees per each title, per each shift.

17. Facility Personnel Training

The Registrant shall comply with the following requirements pertaining to facility personnel training:

a. All personnel who are directly involved in facility waste management activities or who operate, service, or monitor any facility equipment, machinery or systems shall successfully complete an initial program of classroom instruction and/or on-the-job training that includes instruction in the operations and maintenance of the equipment, machinery and systems which they must operate, service or monitor in the course of their daily job duties, and which teaches them to perform their duties in a manner that ensures the facility's compliance with the requirements of N.J.A.C. 7:26-1 et seq. and the conditions of all Departmental permits issued to the facility.

b. The training program shall be directed by a person thoroughly familiar with the technology being utilized at the facility, the applicable waste regulations contained within N.J.A.C. 7:26-1 et seq., and the conditions of the facility's permits.

c. The training program shall ensure that facility personnel are able to effectively respond to any equipment malfunction or emergency situation that may arise. The training program shall provide instruction in the use of personal safety equipment, procedures for inspecting and repairing facility equipment, machinery and monitoring systems (including any emergency equipment), the use of communications and/or alarm systems, the procedures to be followed in response to fires, explosions or other emergencies, and the procedures to be followed during planned or unplanned shutdown of operations.

d. Facility personnel shall successfully complete the initial training program within six months after the date of their employment or assignment to the facility. Employees shall not work in unsupervised positions until they have completed the training program required herein.

e. Facility personnel shall take part in a planned annual review of the initial training program.

f. Training records that document the type and amount of training received by current facility personnel shall be kept until closure of the facility. Training records on former employees shall be kept for at least one year from the date the employee last worked at the facility.

g. The Registrant shall prepare a written training plan which includes the type and amount of both the initial and follow-up training to be provided to facility personnel. This written plan shall be included as a section of the Final Operations and Maintenance Manual prepared in accordance with Condition Number 14 of this Certificate.

18. New Jersey Department of Energy Requirements

The following New Jersey Department of Energy requirements and attached implementation schedule (Appendix II of this Certificate) are considered a condition of this approval and the Registrant shall aid and assist, to the extent possible, in Essex County's recycling plan implementation:

a. A Recycling Technical Advisory Committee will be established to advise the County in the development of recycling as stated in the approved District Solid Waste Management Plan. The Committee will be comprised of representatives from the Office of Recycling, Essex County, municipalities, the recycling industry, local recycling groups and others as appropriate.

b. The Recycling Development Schedule attached hereto will guide the development of recycling. The County, with the advice of the Technical Advisory Committee, will make its best efforts to meet the schedule and to update the schedule as necessary. In the event that the key milestones will not be met, the County will consult with the Committee in the development of a remediation plan designed to bring the program back to schedule. The remediation plan will be presented to the Office of Recycling within 60 days of the notification that the key milestones will not be met. The Office of Recycling will respond to the remediation plan within 60 days of its receipt.

The following are clarifications of the intent of the Recycling Development Schedule.

i. The initiation of the curbside collection program in conjunction with the Occupational Center of Essex County is scheduled for the fourth quarter of 1985. It is understood that this is contingent upon the receipt of the collection equipment, market commitments, and an agreement to proceed among all the involved parties.

ii. The draft Administration and Enforcement Strategy originally scheduled to be completed by October 31, 1985, has been revised to be completed by January 31, 1986.

c. It has been determined that the expansion of recycling will not have a detrimental impact on the operation of the resource recovery facility. It has also been determined that the materials recycling programs and waste-to-energy facilities are complementary and compatible. Therefore no individual municipality in Essex County shall be prohibited or penalized from expanding its source separation and materials recycling operations.

19. Certification of Construction

Prior to the acceptance of waste for processing, the Registrant shall retain the services of a licensed professional engineer registered in the State of New Jersey who shall certify in writing to the Department that he or his agent has personally examined each major phase of facility construction, and that said phase has been prepared and constructed in compliance with the documents, statements, designs and plans submitted in whole, or as a part of the application, as approved by the Department.

All certifications shall bear the raised seal of the licensed professional engineer, his signature, and the date of certification. The certification shall include the following statement: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

20. Facility Start-Up and Shakedown

The Registrant shall not initiate commercial operations at the facility until such time that a suitable start-up and shakedown period has demonstrated that the facility, as constructed, will operate in a satisfactory manner and in conformance with the operating standards as contained in the documents, statements, designs, and plans submitted as approved by the Department and in compliance with the conditions of this approval. The Registrant shall notify the appropriate Department personnel one (1) month prior to the initiation of the facility start-up and shakedown period.

21. Waste Delivery Schedule

Wastes shall be accepted for processing at the facility only in accordance with the following delivery schedule:

7:00 a.m. to 6:00 p.m. Monday – Saturday

Waste deliveries to the facility shall be scheduled in such a manner as to minimize truck queuing on the facility property. Under no circumstances shall delivery trucks be allowed to back up onto public roads.

22. Haulage Vehicles

The Registrant shall allow only vehicles properly registered with the Department for the transporting of wastes, to deliver and deposit wastes at the facility, or remove residues or unprocessible materials from the facility.

The Registrant shall act to prevent the continued acceptance of any haulage vehicles not equipped with exhaust silencer systems or that create excessive noise, by notifying the vehicle owners of the potential violation and by reporting these vehicles to the appropriate local authorities for enforcement action.

23. Waste Delivery Haul Routes

The Registrant shall designate primary refuse truck delivery routes from each collection area served by the facility. These routes shall consist of major arteries that transgress non-residential areas to the greatest extent possible. These routes shall be prescribed in the District Solid Waste Management Plan and shall be strictly enforced.

24. On-Site Traffic Control

On-site traffic control measures shall be implemented to provide for orderly vehicle movement on the facility grounds. The measures implemented shall include the appropriate use of lane delineations, signals, signs, and barriers. All on-site roadways used by refuse vehicles shall be constructed and paved in accordance with standards for heavy truck usage.

25. Waste Acceptance and Processing Rates

At no time shall wastes be delivered to the facility at a rate exceeding the facility's capacity to store and process such waste. Waste storage is allowed in only those areas specifically identified in the design for such purposes. Under no circumstances shall waste be deposited beyond the confines of the refuse storage bunker.

The facility shall not process waste at a rate greater than 835 tons per unit per day, or at a heat release rate exceeding 340 x 10^6 Btu per hour per unit, whichever is more limiting.

26. Unauthorized Waste

A program shall be established and maintained to detect and remove unauthorized wastes from the waste stream entering the facility. At a minimum, the program shall include the following steps:

a. Identification of all haulers handling waste type 27 and a determination of the sources of type 27 waste materials. All firms capable of generating type 27 waste within the service area shall be notified and required to provide appropriate descriptions of the waste which they generate.

Specific type 27 sources shall be excluded for disposal at the facility in accordance with the prohibited sub-categories of type 27 waste listed in Condition Number 2 of this Certificate. Appropriate chemical analyses shall be conducted on those sources questionable for disposal.

b. Continuous visual monitoring of the discharged waste shall be conducted by the tipping floor attendant. Additionally, visual monitoring shall be conducted by the crane operators as the waste is mixed and withdrawn from the refuse bunker for charging to the incinerator. The following materials shall be removed from the bunker if found by the visual inspection program:

- Drums or other large enclosed steel, metal or plastic containers

- Bulk sludges or wet solids not characteristic to municipal solid waste.

- Large amounts of oil or liquid soaked solids or sorbents.

- Military ordnance or other explosives.

- Pressurized containers.

- Any suspect closed industrial packaging.

Any suspected hazardous wastes, chemical drums, or liquids found in a load accepted at the facility shall not be returned to the generator. The discovery of any suspected hazardous wastes at the facility shall immediately be brought to the attention of the Division of Waste Management Field Operations Headquarters at (609) 292-5560.

27. Maintenance and Repair

Through an effective inspection, planned maintenance, repair and parts replacement program, the facility systems and related appurtenances shall at all times be kept in proper operating order. As part of this program, the Registrant shall maintain an inventory of spare parts and replacement equipment. Malfunction of instrumentation used to monitor process operation for environmental effects shall be considered a major equipment malfunction as defined in Condition number 36 of this approval, and actions shall be taken accordingly.

The results of all inspections shall be recorded in an inspection log. These records shall be maintained at the facility for a minimum of five years from the date of inspection. These records shall include the date and time of the inspection, the name of the inspector, a notation of observations and recommendations, and the date and nature of any repairs or other remedial actions taken. These records shall be made available for inspection by the appropriate representatives of the Department upon request.

28. Housekeeping

Routine housekeeping and maintenance procedures shall be implemented within the facility interior to prevent the excess accumulation of dust and debris, and to maintain general cleanliness in the working environment. The tipping floor shall be cleaned at least once daily.

Facility exterior grounds shall be maintained in a manner free of litter, debris, and accumulations of unprocessed waste, process end products and residues. All paved areas on-site shall be swept on a routine basis to minimize the accumulation of loose dust/dirt on the pavement surfaces.

Additionally, the Registrant shall conduct routine street cleaning on the public truck access routes in the immediate vicinity of the facility.

Unprocessed waste feedstock, facility process waste residues and effluents stored in pits, bins or similar containment vessels shall at all times be kept at levels that prevent spillage and overflow.

29. Building Exterior Facings & Landscaping

The exterior facings of all facility buildings or similar structures shall be maintained in a manner in keeping with the original design intent to enhance the appearance of the property.

All vegetation planted as part of the original landscaping plan shall be maintained and replaced as needed.

30. Wastewater Disposal

Wastewater discharge generated from facility operations shall be directed solely to the system designed and approved for the acceptance of such discharge, and shall comply with the provisions of the Passaic Valley Sewerage Commission authorization.

31. Noise Control

Noise control shall be implemented so that sound levels generated by the facility operation shall not exceed the standards set forth by the New Jersey State Noise Control Regulations under N.J.A.C. 7:29-1 et seq.

As part of this program, the Registrant shall implement noise abatement provisions at the facility which shall include, but not be limited to, the following:

a. The procurement of low-noise emission equipment;

b. The use of building wall and roofing materials in facility construction to provide appropriate sound absorption and isolation;

c. The installation of silencers on fans;

d. The installation of sound attenuating mufflers on all steam vents;

e. The isolation of particular noise sources, when necessary;

f. The location of air compressors in an acoustic room;

g. The installation of blow-off mufflers on all steam safety pressure valves to reduce venting noise levels by at least 25 dB(A);

h. The installation of blow-off mufflers on the lower pressure power-operated relief valves; and

i. Any other methods that may be needed to assure compliance with N.J.A.C. 7:29-1 et seq.

During the first week of full-scale facility operations, following the start-up and shakedown period, the Registrant shall conduct an adequate sound level survey to determine the facility's compliance with the property line sound level limits specified in N.J.A.C. 7:29-1 et seq. The survey shall be conducted during those time periods most representative of full-scale facility operations, and shall be managed by a firm qualified to conduct sound level surveys.

A detailed report outlining the survey methods, procedures, equipment utilized, and results obtained shall be submitted to the Department within thirty (30) days of the completion of the survey.

32. Odor Control

The operation of this facility shall not result in odors associated with solid waste being detected off-site by sense of smell in any area of human use or occupancy.

Tipping floor entrance and exit doors shall remain closed at all times other than the normal, scheduled refuse truck delivery hours.

The refuse storage pit and tipping area shall be maintained at a negative internal pressure to prevent the release of odors to the ambient air. Air drawn off from these areas shall be utilized in the combustion chambers.

If a facility outage or other condition results in an odor emission problem, a commercial/industrial strength odor masking agent shall be applied in the refuse bunker area. Should a total facility outage occur, and said outage is determined to be long-term in nature (that is, longer than 5 days), the Registrant shall remove all waste in storage at the facility and dispose of it at the appropriate disposal facility.

33. Vermin Control

The Registrant shall institute and maintain an effective vermin control program at the facility, directed by a qualified applicator of pesticides in accordance with the New Jersey Pesticide Control Code N.J.A.C. 7:20-1.1 et seq.

34. Fire Protection

The fire detection and protection system shall be maintained in operable condition at all times. Fire-fighting equipment shall be available on-site or on call to extinguish any and all fires. Fire-fighting procedures shall be posted, and shall include the telephone numbers of local fire, police, ambulance and hospital facilities.

35. Safety Procedures

The Registrant shall follow the Occupational Safety and Health Administration (OSHA) standards in the operation of this facility for the safety of employees and for other persons entering the premises. A copy of the operating safety procedures shall be posted on-site. Additionally, facility staff shall be trained to effectively respond to any equipment malfunction or emergency situation that may arise. This instruction shall include, where applicable:

a. The use of personal safety equipment;

b. Procedures for inspecting and repairing facility equipment, machinery, and monitoring systems, including any facility emergency equipment;

c. The use of communications or alarm systems;

d. The procedures to be followed in response to fires, explosions, or uncontrolled pollutant discharges; and

e. The procedures to be followed during planned or unplanned shutdown of operations.

36. Emergency Situations

An emergency situation is defined as the occurrence of a fire, explosion, or uncontrolled pollutant discharge to the environment. In the case of an emergency, the plant operator or the emergency coordinator identified in the contingency plan shall implement the following actions:

a. Immediately identify the character, exact source, amount, and extent of any discharged materials and notify appropriate state or local agencies with designated response roles, if their help is needed.

b. Concurrently, the plant operator or emergency coordinator shall assess possible hazards to public health or the environment that may result from the discharge, fire or explosion. This assessment shall consider both direct and indirect effects.

c. If the plant operator or emergency coordinator determines that the facility has had an uncontrolled discharge, a discharge above standard levels permitted by the Department, or a fire or explosion, he shall immediately notify appropriate local authorities and immediately notify the Department at (609) 292-7172.

When notifying the Department, report the type of substance and the estimated quantity discharged, if known, the location of the discharge, actions the person reporting the discharge is currently taking and/or proposing to take in order to mitigate the discharge, and any other information concerning the incident which the Department may request at the time of notification. An assessment shall be made by the Department and/or the local authorities regarding the possible need for evacuation of local areas.

Nothing in this condition shall be deemed to supersede any notification required pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10.23 et seq., or the air pollution notification required pursuant to P.L. 1985, c.12.

d. The plant operator shall take all reasonable measures to ensure that fires, explosions and discharges do not recur or spread to other areas of the facility. These measures must include, where applicable, the cessation of process operations and the collection and containment of released waste.

e. Immediately after an emergency, the plant operator or emergency coordinator shall provide for treating, storing or disposing of waste, contaminated soil or water, or any other material contaminated as a result of the discharge, fire or explosion.

f. The plant operator or emergency coordinator shall insure that no waste is processed until cleanup procedures are completed and all emergency equipment listed in the contingency plan is again fit for its intended use.

g. The plant operator or emergency coordinator shall notify the Department and appropriate local authorities when operations in the affected area(s) of the facility have been returned to normal.

Within 15 days after the incident, the plant operator or emergency coordinator shall submit a written report on the incident to the Department. The report shall include, but not be limited to: the name, address and telephone number of the facility; the date, time and description of the incident; the extent of injuries, if applicable, with names and responsibilities indicated; an assessment of actual damage to the environment, if applicable; an assessment of the scope and magnitude of the incident; a description of the immediate actions that have been initiated to clean up the affected area and prevent a recurrence of a similar incident; and, an implementation schedule for undertaking longer-term measures to effect cleanup and avoid recurrence of the incident, if applicable.

A major equipment malfunction is defined as an instance whereby a system control or equipment malfunction occurs that prevents the continual processing of waste in compliance with this approval. In the case of such an occurrence, the Registrant shall undertake corrective actions immediately and shall notify the Department within the working day.

The notification shall outline the cause of the malfunction, the corrective action taken, and the anticipated repair time. Wastes that cannot be accepted at the facility due to equipment or system malfunction or the occurrence of an emergency situation, or wastes already in storage at the facility that cannot be processed due to a long-term facility outage, shall be disposed of in accordance with the approved District Solid Waste Management Plan, at the facility designated to receive such wastes.

37. Security

Access to the site shall be restricted to only facility personnel and authorized visitors. Security procedures shall be implemented that provide for an effective means of controlling entry and exit at all times. Guards, attendants, visual monitors or locked gates shall be utilized at all site entrance and exit points. Security fencing with gate controls shall be installed around the entire facility perimeter. The fencing shall be metallic chain link, or its equivalent, and shall extend to a height of at least seven feet.

38. Process Residue Handling and Storage

All non-processible waste materials and process residues shall be stored within the confines of an enclosed facility building structure at all times prior to removal from the site. Interior storage of ash residue shall be restricted to the "ash removal facility" building; interior storage of recovered ferrous metal shall be restricted to the "ferrous metal storage building"; and unprocessible bulky waste materials (e.g. "white goods") storage shall be restricted to the "charging floor deck".

39. Residual Ash Monitoring

A residual ash monitoring program shall be established and implemented by the Registrant for the purpose of assessing the chemical characteristics of the residual ash generated by facility operation.

Prior to the initiation of the facility start-up and shakedown period, the Registrant shall identify a hazardous waste disposal facility capable of handling any ash residue generated that may be proven hazardous during the monitoring/analysis program. The Registrant shall present documentation to the Department which demonstrates the disposal facility's willingness and ability to accept the type and quantity of material that may be slated for disposal.

The sanitary landfill to be utilized for residual ash disposal (if the ash is characterized as non-hazardous) shall be identified by the Registr prior to the start-up and shakedown period, and documentation of the agre made with the sanitary landfill facility shall be submitted to the Depart for review and approval. The agreement shall be accompanied by the appro documentation indicating that the necessary waste flow directives have be obtained in conformance with the approved District Solid Waste Management

As a minimum, the residual ash monitoring program shall consist of the following:

a. During the first 8 weeks of the facility start-up and shakedown period, representative composite samples of the residual ash shall be collected on a daily basis and further composited into representative weekly and monthly samples. The weekly and monthly composite samples shall be analyzed for the following parameters:

i. EP toxicity in accordance with 40 CFR 261; and

ii. Total 2, 3, 7, 8 - TCDD using GC/MS/SIM (selected ion monitoring).

The Registrant shall retain an equivalent portion of each weekly and monthly composite sample collected during this 8 week period so that the Department may conduct follow-up analyses when necessary. The sam shall be clearly identified and stored at the facility for a perio 60 days from the date of sample collection.

During the first 8 weeks of the facility start-up and shakedown period, each week's residual ash shall be stored separately within the confines of the facility's ash bunker until the analytical results from that week's composite sample are received and a determination is rendered on the hazardous or non-hazardous nature of the material.

If the results of the analyses exceed the EP toxicity test limits, or exceed one (1) part per billion of 2, 3, 7, 8 - TCDD, or the residue material is otherwise determined hazardous by the Department based upon the analytical results, that ash residue shall be disposed of at the hazardous waste disposal facility secured by the Registrant for that purpose.

If the material is determined to be non-hazardous, it shall be disposed of at the sanitary landfill facility secured by the Registrant for that purpose.

To facilitate the overall evaluation of the ash monitoring results gathered during this 8 week facility start-up and shakedown period, the Registrant shall maintain the following operational records during the period on an hourly basis per each unit:

- average combustion gas temperature
- range of combustion gas temperatures
- average combustion gas residence time
- average grate speed
- tons of waste processed

Additionally, the crane operator shall log the date and time(s) that any unusual waste materials are charged to a particular incineration unit. These records shall be made available to the Department upon request.

b. At the completion of the initial 8 week start-up and shakedown period, the following sampling and analysis regimen shall be implemented unless otherwise advised by the Department:

During each month of facility operation, representative daily composite samples shall be collected, and further composited into a representative monthly composite sample. The following analyses shall be performed on each monthly composite sample:

i. EP toxicity in accordance with 40 CFR 261; and

ii. Total 2, 3, 7, 8 – TCDD using GC/MS/SIM (selected ion monitoring)

c. All analyses called for as a condition of this approval shall be performed by a laboratory approved and/or certified by the Department for the analysis of those specific parameters. All samples shall be collected from the ash residue conveyor after the ferrous recovery system, at the discharge point to the residue storage bunker, and must contain both bottom ash and fly ash wastes. To prepare the daily composite samples, one grab sample of sufficient size and of equal proportion shall be collected every hour and ultimately composited into the representative daily sample.

Analyses shall be performed in accordance with the procedures outlined in the most recent edition of Test Methods for Evaluating Solid Waste – Physical/Chemical Methods, U.S. EPA publication SW-846. The Registrant shall submit each set of analytical results to the Division of Waste Management immediately upon the receipt of said results. The following information shall accompany the analytical determinations:

- The date(s), exact time, and place of sampling, measurement, or analysis;

- The name of the individual(s) who performed the sampling, measurement, or analysis;

- The analytical techniques or methods used; and

- The signature and certification of the report by an appropriate authorized agent.

d. The Registrant shall retain the records of all analytical reports at the facility for a period of five (5) years from the date of measurement.

e. The Registrant shall increase the monitoring frequency and/or expand on the list of parameters for which testing is to be performed, should the type or quantity of waste types received for processing be significantly altered. The Department reserves the right to alter at its discretion, the list of test parameters, the methods of sample collection, the analytical procedures employed, and the frequency of sampling and analysis, as is deemed necessary.

f. The Registrant shall dispose of the facility generated residual ash at a facility authorized and permitted to receive the waste type identification number assigned to the residual ash pursuant to classification through analyses.

40. Ash Residue Removal

All ash residue removal trucks shall be covered to prevent spillover and windblow. Residue truck loading shall be done in a controlled manner. Excess water shall be drained from the ash residue prior to removal for disposal. Truck beds/containers shall be sealed in such manner as to prevent drippage.

To the maximum extent possible, ash residue removal operations shall be conducted during periods of off-peak traffic on the surrounding public roadways, and shall utilize major arteries that transgress non-residential areas wherever possible.

41. Operational Records

Records of facility operation shall be maintained on a daily basis by the Registrant and shall be submitted, as logged on a daily basis and tallied for the month, to the Division of Waste Management before the 15th of each month following the month for which the information was obtained. All such reports shall be signed, certified, and dated by the appropriate authorized agent for the facility. The information submitted shall include the following:

a. The weight of solid waste delivered to the facility for each waste type permitted by this Certificate;

b. The volume and weight of unprocessible solid waste removed for alternative disposal, and the facility receiving the waste for disposal;

c. Weight of solid waste processed through incineration;

d. The weight of ash residue removed for disposal, and the facility receiving the residue for disposal;

e. The quantity of steam generated (in pounds per day);

f. Electricity generated (KWH/day); and

g. Recovered ferrous metals (tons/day).

Operational records shall be maintained on the premises for a three (3) year period, and shall be made available for inspection by the appropriate representative of the Department upon request.

All printed records generated by the facility's monitoring and control systems through log printers, strip-chart recorders or other means, shall also be kept on file at the facility for a period of at least three years from the date of data collection, and such records shall be made available for inspection by the Department upon request.

42. Plans On-Site

One complete set of the approved engineering plans, engineering reports, the operations and maintenance manual, and the environmental impact statement, along with the conditions of registration shall be kept on file at the facility, and shall be available for inspection by Department personnel or its designated representatives.

43. Right of Entry

The Registrant hereby agrees, consents and authorizes representatives of the Department of Environmental Protection (hereinafter DEP) to make whatever inspections, searches and examinations of all premises occupied by it which may be impacted by the activities authorized by this approval whenever these representatives, in their discretion, consider such an inspection, search and/or examination necessary to determine the extent of compliance with any and all conditions of the approval. Any refusal to allow entry to the Department's representatives shall constitute grounds for either suspension and/or revocation of this approval. Furthermore, the Registrant hereby agrees, consents and authorizes the representatives of the Department to present a copy of this approval to any Municipal or State Police Officer having jurisdiction over the Registrant's premises in order to have said officer effectuate compliance with this right of entry, should the Registrant at any time refuse to allow entry to said DEP inspectors.

44. Accommodations for Department Inspector

The Registrant shall provide permanent office space at the facility to accommodate a Department inspector on a daily basis during all facility operating hours. The Registrant shall allow entry to the inspector at any time during the facility operating hours.

The inspector's work space shall be equipped with the appropriate computer hardware including a display screen, that will allow for access to the facility's automated process monitoring, control, and information system. The computer hardware system shall allow the inspector to observe the same operational and control information that is available to the facility operators stationed in the central control room. In addition, continuous emission monitoring data and temperature monitoring data shall be transmitted to the Department via a remote telemetry system, in accordance with the plan required by the "Permit to Construct, Install, or Alter Control Apparatus or Equipment and Certificate To Operate Control Apparatus or Equipment" issued by the Division of Environmental Quality. This plan shall receive approval of the Department prior to the start-up of facility operations.

45. Duration of Registration

This Certificate of Approved Registration and Engineering Design Approval is for a maximum period of five (5) years from the date of its issuance. This Certificate of Approved Registration and Engineering Design Approval can be renewed at that time upon proper application, provided that the operation will meet all Departmental requirements that may exist when the renewal application is made.

Upon Certificate expiration, waste delivery and processing activities shall cease and all wastes, process residues and effluents in storage shall be removed from the premises.

46. Conformance With The Solid Waste Management Plan

This approval is conditioned upon conformance with all requirements of the Essex County District and State Solid Waste Management Plans as adopted and promulgated pursuant to N.J.S.A. 13:1E-1 et seq., as amended. No wastes other than those designated to this facility under said plans may be accepted for processing/disposal. Similarly, waste residues generated by facility operation shall be disposed of in conformance with these solid waste management plans.

Failure to comply with any or all limitations heretofore mentioned will result in the Department seeking relief under N.J.S.A. 13:1E-1 et sec., the Solid Waste Management Act. Specifically each day of failure to so comply shall constitute a separate violation on the basis of which a fine shall be assessed and may result in loss of operating authority, pursuant to N.J.S.A. 13:1E-12.

The issuance of this approval and the conditions of operation identified herein shall not be interpreted as relieving the applicant of his responsibility to secure and maintain all other applicable Federal, State and local permits or similar forms of authorization relating to the construction and operation of this facility.

APPENDIX I

October 30, 1985

Essex County Resource Recovery Facility

Site Remedial Response

Phase II

Mitigation Measures During Construction

I. Testing for Contaminated Soils:

1. Oil Spill Area

a. Designation - Generally those soils in the southwest quadrant of the site, bounded by the Norpack property and the natural drainage swale and as far south as the railroad cut. Any soils in this area that will be disrupted by surface grading, trenching and/or excavating must be tested for contamination and could be subject to a waste characterization.

b. Testing and Mitigation Measures - All soils moved and exposed due to the construction operations mentioned above shall be sampled in accordance with a clearly defined soil sampling plan to provide representative samples. At a minimum, all soil samples collected shall be tested for and have contaminated waste removal action levels for the following parameters:

- total petroleum hydrocarbons @ 100 ppm (mg/kg)
- lead @ 200 ppm (mg/kg)

The testing for the above parameters should be done in accordance with Method 418.1, USEPA March 1979 for petroleum hydrocarbons, citing the modification for soil analysis, and "Test Methods for Evaluating Solid Waste, SW 846, 2nd Edition, July 1982" for lead. Should evidence of other toxic or contaminant parameters be established based on previous monitoring and investigations, testing for those parameters shall be performed and reported in accordance with standard USEPA and ASTM methodologies.

In the event that either of the above action levels are exceeded, the limits of the contaminated soil shall be defined through further testing and then any of those contaminated soils to be disrupted shall be properly collected, labelled, removed and disposed off the site. The fate of all disrupted soils in this Area will be determined by testing for the above parameters and application of the corresponding action levels.

If the above action levels are not exceeded, and no other toxics or contaminants are found, then the disrupted soils can remain on the site or be removed as determined for the construction operations.

2. Refuse Bunker Area

a. Designation - Generally those soils in the central portion of site covering an area of approximately 0.41 acres. The depth of excavation is designed for -70.0 feet MSL, which indicates that roughly 30 feet of soil throughout this area will be excavated for construction of a concrete refuse bunker. The soils to be disrupted are defined as heterogeneous fill material from the surface to the water table, an organic silt and clay layer, and medium to fine grained sands from the lower aquifer.

b. Testing and Mitigation Measures - All soils excavated for the refuse bunker mentioned above shall be sampled in accordance with a clearly defined soil sampling plan to provide representative samples. At a minimum, all soil samples collected shall be tested for and have contaminated waste removal action levels for the following parameters:

- total petroleum hydrocarbons @ 100 ppm (mg/kg)
- lead @ 200 ppm (mg/kg)

The testing for the above parameters should be done in accordance with Method 418.1, USEPA March 1979 for petroleum hydrocarbons citing the modification for soil analysis, and "Test Methods Evaluating Solid Waste, SW 846, 2nd Edition, July 1982" for lead. Should evidence of other toxic or contaminant parameters be established based on previous monitoring and investigations, testing for those parameters shall be performed and reported in accordance with standard USEPA and ASTM methodologies.

In the event that either of the above action levels are exceeded, the volume of contaminated excavated soil shall be defined through further testing and then those contaminated soils shall be properly collected, labelled, removed and disposed off the site. The fate of all excavated soils in this area will be determined by testing for the above parameters and application of the corresponding action levels.

If the above action levels are not exceeded, and no other toxics or contaminants are found, then the disrupted soils can remain on the site or be removed as determined for the construction operation.

II. Groundwater Monitoring:

1.a. Groundwater definition - The shallow fill aquifer zone, elev. +10.0 to -3.0 feet MSL, the intermediate sand aquifer zone, elev. -18.0 to -50 feet MSL and the bedrock aquifer starting at -60 feet MSL are continuous beneath the site.

1.b. Environmental Controls and Mitigation Measures - Certain existing monitoring wells will be protected and preserved for future use. It is recommended that three (3) wells in each aquifer be maintained for future sampling of the groundwater. The following wells shall be protected during construction: shallow monitoring wells RR-5, and RR-1, intermediate monitoring wells RR-6, RR-9, and RR-13, and bedrock monitoring wells RR-10A and RR-3A. Preferably monitoring well RR-2, which exhibited the highest level of volatile organic compounds at 16.5 ppm, should be maintained for sampling but the preliminary design drawings indicate this well is likely to be destroyed. Two more monitoring wells are required, pursuant to the original scope-of-work carried-out by the Port Authority. These wells are to be located on the northern boundary of the Ottilio landfill property adjacent to the site and shall be installed in accordance with standards established by the NJDEP Division of Water Resources.

The additional monitoring wells shall be installed on the southern boundary of the proposed facility site; one (1) shallow monitoring well and one (1) deep bedrock monitoring well to complete the well system as mentioned above. All other existing monitoring wells on-site that will be destroyed by construction operations will be appropriately sealed in accordance with standards established by the NJDEP Division of Water Resources.

The Department recognizes the need for a comprehensive plan for dealing with the contamination of groundwater resources in the Newark metropolitan area, but the application of long-term groundwater remediation by one facility in terms of accomplishing some regional water quality goal is not reasonable at this time.

III. Facility Construction

1. Mitigation Measures

a. All utility piping, especially water services, to be buried below the existing grade of the site property, shall be adequately reinforced or encased to protect against extreme conditions in the subsurface zone. The possibility of corrosive environments and/or pipe joint movement due to heavy traffic are conditions that merit consideration for extra protection of utilities underground.

b. Any work by Utility companies will require prior notification to these companies that hazardous and toxic materials are present in the site environment. The property owner or tenant operator must issue certified letters to the Utility companies apprising them of the existing site conditions and requiring a return response indicating their acknowledgement.

c. During construction, worker safety must be of primary concern especially when excavating and trenching at the site creating exposure to contaminated soils and groundwater. The adherence to the Occupational Safety and Health Administration (OSHA) regulations, specifically CFR 1926, subparts D and E, shall be established throughout the duration of the Project.

The above requirements should be incorporated into a comprehensive Health and Safety Plan dealing with activities during construction and environmental conditions while the facility is in operation.

d. After soils disruption is complete, representative soil samples shall be collected from the exposed surface to be built on or utilities placed on to record the levels of contamination in the soils left in-place.

e. Proper disposal of contaminated soils shall be determined by the New Jersey Division of Waste Management, Bureau of Hazardous Waste Planning and Classification.

APPENDIX II

ESSEX COUNTY RECYCLING PLAN
IMPLEMENTATION SCHEDULE

Revised and approved by the Office of Recycling 7/25/85

TASK	1984 4	1985 1	2	3	4	1986 1	2	3	4	1987 1	2	3
MATERIAL RECOVERY FACILITY												
Identify and Resolve Market Issues					X							
Release RFP						X						
Select Vendor							X					
Begin Construction								X				
Begin Operation										X		
BUY BACK CENTERS												
Review and Revise Strategy						X						
Completion of Buyback System												X
PUBLICITY AND EDUCATION including (Ongoing) workshops & seminars for communities and businesses	X	X	X	X	X	X	X	X	X	X	X	X
ESSEX CO/OCEC (Curbside Collection)												
First Municipal Program					X							
Second & Third Municipal Program							X					
Fourth Municipal Program								X				
Fifth Municipal Program									X			
ADOPT ADMINISTRATION AND ENFORCEMENT STRATEGY, including performance standards for urban, suburban, and commercial recycling						X (Draft)						
IMPLEMENT A & E STRATEGY and require all municipalities to meet recycling performance standards											X	
COMPOST PROGRAM												
Meet with Municipalities to develop strategy that provides for cooperative approach.					X	X	X					
Identify sites and assist in permit process						X	X	X				

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APPENDIX B

DOCUMENT	NUMBER OF PAGES
1993 ECUA Waste Survey Form	5
Transmitting Cover Letter	2

FOR ECUA USE ONLY

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

WASTE SURVEY

1. Facility Name: _____
2. Address: _____
_____
_____
3. Contact Person: _____
4. Title: _____
5. Phone #: _____ 6. Fax #: _____
7. Number of employees at the above location: _____
8. Briefly describe the nature of your facility's business or operations:
_____
_____
_____

Please indicate the following information for your facility:

9. Standard Industrial Classification (SIC) number: ☐☐☐☐
10. a. US EPA ID number (if applicable): ☐☐☐☐☐☐☐☐☐☐☐☐
b. NJDEPE Regulated Medical Waste generator ID number (if applicable): _____
11. If you have a US EPA ID number, are you a :

Fully Regulated Generator	☐	Transporter	☐
Small Quantity Generator	☐	Treatment, storage,	
Intermittent Generator	☐	disposal (TSD) Facility	☐

12. Sewerage Authority/Commission which services your facility:
_____
13. Wastewater/Water discharge permit number (if applicable): _____

14. If you are a manufacturer, please indicate the following for each raw material, feedstock, or consumable product used in your facility's operations (use additional sheets if necessary):

Name of Material	% of material used in final product	Is unused amount recycled	If yes, in-house or outside recycler
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___

15. Please list all organic and inorganic chemicals and process consumables (oil, solvents paint, etc.) which your facility uses in its operations (use additional sheets if necessary):

Name of Material	Is waste amount recycled	If yes, in-house or out-side recycler	If no, current treatment/ disposal method
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____

16. During operations, does your firm produce or dispose of any of the following (please check each item that applies) ?

Aerosol spray cans ____
Animal maintenance products ____
Antifreeze/Coolants ____
Asphaltic products (caulking, tar paper, etc.) ____
Automobile maintenance products (fluids, lubricants, additives, etc.) ____
Automobile parts ____
Cleaning products/polishes/waxes ____
Cosmetics (dyes, cosmetic removers, etc.) ____
Electronic components ____
Explosives ____
Fluorescent lights/fixtures ____
Glues ____
Heavy metals ____
Heavy metal containing products ____
High sulfur content materials ____
Household batteries ____
Lead-acid batteries ____
Metal cuttings or residuals ____
Mercury ____
Mercury-containing products ____
Petroleum contaminated soil ____
Pesticides/herbicides/fertilizers ____
Polyvinyl chloride (PVC) ____
Prescription or non-prescription drugs ____
Radioactive materials ____
Solder ____
Thermometers/thermostats ____
Tires or rubber products ____
Transformers ____
Wall board or sheetrock ____
Waste oil ____
Waste paint/solvents/stains/ varnishes ____
Yard waste ____

17. Does your facility generate waste(s) in the following categories ?

Category			Quantity per Month (in cubic yards, tons, or gallons–circle one)
Solid NJDEPE ID 10, 12, 13, 23, 25, 27	yes ___	no ___	_____ cy ton gal per month
Hazardous NJAC 7:26–8.1 et. seq.	yes ___	no ___	_____ cy ton gal per month
Sludge Industrial or Wastewater	yes ___	no ___	_____ cy ton gal per month
Wastewater	yes ___	no ___	_____ cy ton gal per month

18. Please identify the components of the waste your facility generates by their NJDEPE identification number, and their respective percentage and quantity (approximate). A list of the NJDEPE waste ID numbers and a brief description of each follow:

ID #	Description	Quantity per Month (in cubic yards, tons, or gallons–circle one)	Percent of total waste generated
10	Municipal (household, commercial, institutional)	_____ cy ton gal per month	_____ %
12	Dry sewage, sludge	_____ cy ton gal per month	_____ %
13	Bulky waste	_____ cy ton gal per month	_____ %
23	Vegetative waste	_____ cy ton gal per month	_____ %
25	Animal and food processing waste	_____ cy ton gal per month	_____ %
27	a. non–hazardous oil spill cleanup waste	_____ cy ton gal per month	_____ %
	b. small qty hazardous waste per NJAC 7:26–8.3	_____ cy ton gal per month	_____ %
	c. dry non–hazardous pesticides	_____ cy ton gal per month	_____ %
	d. research & development process waste	_____ cy ton gal per month	_____ %
	e. asbestos–containing waste	_____ cy ton gal per month	_____ %
	f. remaining dry industrial waste	_____ cy ton gal per month	_____ %
72	Bulk liquids & semi–liquids	_____ cy ton gal per month	_____ %
73	Septic tank cleanout waste	_____ cy ton gal per month	_____ %
74	Liquid sewage sludge	_____ cy ton gal per month	_____ %
NJAC 7:26–3A.6	Regulated Medical Waste	_____ cy ton gal per month	_____ %
NJAC 7:26–8.1 et. seq.	Hazardous Waste	_____ cy ton gal per month	_____ %

19. Please provide specific information concerning each liquid, solid, and semi-solid waste which your facility generates (use additional sheets if necessary):

Waste	Quantity per Month (in cubic yards, tons, or gallons–circle one)	Current treatment/ disposal method
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____

20. Please provide specific information concerning each NJDEPE registered waste hauler which your facility uses for waste disposal (use additional sheets if necessary):

Name of Hauler	Waste Type Transported	Disposal Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

21. Does any of your facility's solid waste consist of construction demolition debris (NJDEPE ID 13) yes ___ no ___ ?

22. Does your facility anticipate generating or receiving any construction demolition debris within the next two years yes ___ no ___ ?

23. Does any of your facility's waste contain asbestos or asbestos–containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods _____

_____

24. Is your facility a small quantity generator of hazardous waste per NJAC 7:26–8.3 yes ___ no ___ ? If yes, does your facility dispose of the waste as NJDEPE ID 27 _____ or Hazardous waste _____ ?

25. Does any of your facility's waste contain heavy metals or heavy metal containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

26. Does any of your facility's waste contain yard waste products (grass clippings, leaves, etc.) yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

19. Please provide specific information concerning each liquid, solid, and semi-solid waste which your facility generates (use additional sheets if necessary):

Waste	Quantity per Month (in cubic yards, tons, or gallons–circle one)	Current treatment/ disposal method
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____

20. Please provide specific information concerning each NJDEPE registered waste hauler which your facility uses for waste disposal (use additional sheets if necessary):

Name of Hauler	Waste Type Transported	Disposal Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

21. Does any of your facility's solid waste consist of construction demolition debris (NJDEPE ID 13) yes ___ no ___ ?

22. Does your facility anticipate generating or receiving any construction demolition debris within the next two years yes ___ no ___ ?

23. Does any of your facility's waste contain asbestos or asbestos–containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods _____

_____

24. Is your facility a small quantity generator of hazardous waste per NJAC 7:26–8.3 yes ___ no ___ ? If yes, does your facility dispose of the waste as NJDEPE ID 27 _____ or Hazardous waste _____ ?

25. Does any of your facility's waste contain heavy metals or heavy metal containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

26. Does any of your facility's waste contain yard waste products (grass clippings, leaves, etc.) yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

27. Does your facility generate Regulated Medical Waste (NJAC 7:26-3A.6) yes ___ no ___ ? If yes, does your facility utilize methods to disinfect and destroy the regulated materials, and then dispose of the residue as solid waste yes ___ no ___ ? If yes, please describe the methods utilized, and provide your NJDEPE Facility Registration ID number (use additional sheets if necessary): _____

_____

28. Does your facility currently practice on-site separation of hazardous and non-hazardous waste yes ___ no ___ not applicable ___ ?

29. Briefly describe the processes employed by your facility for segregating various waste types (include the methods used to separate recyclables, hazardous waste, bulky waste, etc. from the residual waste stream) _____

_____

_____

_____

30. Is there a seasonal fluctuation in the type or amount of liquid, solid, or semi-solid waste that your facility generates yes ___ no ___ ? If yes, please explain

_____

31. Do you understand that Essex County/NJDEPE waste flow orders require that all of your facility's acceptable waste (see attached definition) must be directed to the Essex County Resource Recovery Facility yes ___ no ___?

32. In your judgment, will it be necessary for any of your facility's waste to "bypass" the Essex County Resource Recovery Facility and be disposed of by other means (for example, are any components of the waste non-combustible; could any components cause damage to any part of the Essex County Resource Recovery Facility; or are any components generally not suitable for incineration due to emission or residue concerns)? Please include any substance which you may consider questionable in this regard (use additional sheets if necessary). _____

_____

_____

33. Does your facility believe that the information presented in this survey will be representative of the firm's operations and waste stream for the next two years yes ___ no ___? If no, please explain _____

_____

_____ _____

SIGNATURE OF INDIVIDUAL COMPLETING THIS FORM DATE SIGNED

_____

TYPED NAME AND TITLE OF INDIVIDUAL COMPLETING THIS FORM

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

NOTICE

TO: ALL ESSEX COUNTY SERVICE/PRODUCTION INDUSTRIES AND HEALTH CARE FACILITIES

FROM: Martin M. Lund, Jr., Director of Operations - ECUA

DATE: August 23, 1993

SUBJ: Essex County Utilities Authority - 1993 Waste Survey Form

****

Enclosed please find the Essex County Utilities Authority (ECUA) 1993 Waste Survey Form.

This Waste Survey is being conducted in accordance with the State of New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1, et seq. This Act mandates the County of Essex and its solid waste management implementation agency, the ECUA, be responsible for the management of all non-hazardous solid waste generated in the geographic boundaries of the County.

We therefore need your facility to complete this survey so that the ECUA may manage County waste flow in the most environmentally sound manner possible.

You may have received a similar waste survey form in 1990 from the County of Essex. The 1993 Waste Survey is being conducted to update and supplement the information gathered in 1990. Therefore, you should complete and return the 1993 Waste Survey form even if you completed and returned the 1990 form.

We ask that you complete the information requested and return it in the enclosed self-addressed envelope within seven (7) days.

Organizations that do not respond to the Waste Survey will be prohibited from using the Essex County Resource Recovery Facility for waste disposal and will be required to direct their waste to the Essex County/NJDEPE Designated Transfer Station.

We urge you to complete and return the survey as soon as possible.

To assist you in completing the survey, please find below the definition of "Acceptable Waste." This definition has been authorized by New Jersey Department of Environmental Protection and Energy (NJDEPE) and the resource recovery vendor - American Ref-Fuel Company of Essex County.

The PMK Group, Environmental Engineering Consultants have been retained by the ECUA and will be responsible for reviewing and analyzing the completed survey form. For technical information and further explanation concerning the survey, contact Mr. Gene Brandt of The PMK Group, (908) 686-0044, for administrative and waste flow information, contact Mr. Nicholas Maddaloni, Chief Sanitation Inspector - ECUA at 201-857-2350.

DEFINITION OF "ACCEPTABLE WASTE"

"Acceptable Waste" means that portions of solid waste which (a) is collected, including garbage, trash, rubbish, and refuse, (b) is branches, twigs, grass, and plant cuttings collected as part of municipal waste collections and (d) is described in the NJDEPE identification numbers 10, 23, and 27 (other than the following subcategories set forth in identification number 27; non-hazardous oil spill clean-up waste; dry, non-hazardous pesticides; dry, non-hazardous chemical waste; research and development process waste; and contaminated soil) in Section 7:26-2.13(g)(1) of the regulations of the Division of Solid Waste Management of the Department as such regulations may be amended or supplemented from time to time.

Enclosure
0169/MML/NM/ks

xc: Stephen J. Edelstein, Chairman - ECUA
Donald V. Biase, Commissioner, Sec./Treasurer - ECUA
Antonio Seabra, Commissioner, Chairman - Operations Committee - ECUA
Eric Wisler, General Counsel - ECUA
James Ferris, P.E., Industrial Waste Survey Consultant
Gerald Doherty, Manager, Port Authority of NY & NJ
Curt Hurst, General Manager, American Ref-Fuel
Gary Sondermeyer, Deputy Director, DSWM - NJDEPE
Timothy Bartle, Bureau of Resource Recovery - NJDEPE
File #2

PMK Group
CONSULTING ENGINEERS

APPENDIX C

DOCUMENT	NUMBER OF PAGES
Minimal Computer System Requirements to Run Paradox	1
Name, Structure, and Content of Each Paradox Table	1
Special Codes Used In Data Entry	1
Color Coded 1993 ECUA Waste Survey Form Indicating Contents of Each Paradox Table	5

PMK Group
CONSULTING ENGINEERS

MINIMAL COMPUTER SYSTEM REQUIREMENTS TO RUN PARADOX

The minimal computer system requirements necessary to run Paradox, Version 3.5 as outlined on Page 6 of the Paradox Users Guide include:

1. An IBM Personal System/2, PC, PC XT, XT Model 286, PC AT, or other 100 percent compatible computer.

2. One hard disk and at least one floppy disk drive.

3. At least 512K bytes of internal (RAM) memory.

4. DOS 2.0 or higher.

5. A compatible monochrome, color, or EGA monitor with adapter.

6. Formatted floppy disks for storing original or back-up copies of the tables and other objects created with Paradox.

PMK Group
CONSULTING ENGINEERS

NAME AND CONTENT OF EACH PARADOX TABLE

TABLE 1

Name: ESX1

Table 1 contains general information about each facility including the 10–digit facility ID number, name, address, phone numbers, nature of business, and contact person.

TABLE 2

Name: ESX2

Table 2 contains information concerning general industry classification, solid/liquid/hazardous waste categories and quantities, and seasonal fluctuations in the amount of waste generated (i.e. SIC numbers, EPA ID numbers and categories, waste generated by NJDEP ID number, etc.). This table also includes the 10–digit industry ID number.

TABLE 3

Name: ESX3

Table 3 contains specific information from each industry concerning raw materials, chemical and other process consumable, specific waste materials generated, and names of haulers. This table also includes the 10–digit industry ID number and a provision for indicating that more information was presented on an individual survey form than could be accommodated in the table structure.

PMK Group
CONSULTING ENGINEERS

SPECIAL CODES USED IN DATA ENTRY

HAZARDOUS WASTE GENERATOR CATEGORY (QUESTION 11)

FRG – Fully Regulated Generator
SQG – Small Quantity Generator
INT – Intermittent Generator
TRA – Transporter
TSD – Treatment, Storage, Disposal Facility

SPECIAL ITEMS (QUESTION 16)

Aerosol Spray Cans	ASC	Lead–acid batteries	LAB
Animal Maintenance Products	AMP	Metal Cuttings or Residuals	MEC
Antifreeze/Coolants	ANC	Mercury	MER
Asphaltic Products (Caulking, tar paper, etc.)	ASP	Mercury–Containing Products	MCP
Automobile Maintenance Products (fluids, lubricants, additives, etc.)	AUP	Petroleum Contaminated Soil	PCS
Automobile Parts	APA	Pesticides/Herbicides/Fertilizers	PES
Cleaning Products/Polishes/ Waxes	CPW	Polyvinyl Chloride (PVC)	PVC
Cosmetics (dyes, cosmetic removers, etc.)	COS	Prescription or non–prescription drugs	PRE
Electronic components	ELC	Radioactive materials	RAD
Explosives	EXP	Solder	SOL
Fluorescent lights/fixtures	FLL	Thermometers/Thermostats	THE
Glues	GLU	Tires or Rubber Products	TIR
Heavy Metals	HEM	Transformers	TRA
Heavy Metal Containing Products	HMC	Wallboard or Sheetrock	WAL
High Sulphur Content Materials	HSC	Waste Oil	WAO
Household Batteries	HOB	Waste Paint/Solvents/Stains/ Varnishes	WAP
		Yard Waste	YDW

ESX1——
ESX2——
ESX3——

FOR ECUA USE ONLY

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

WASTE SURVEY

1. Facility Name: _____
2. Address: _____
3. Contact Person: _____
4. Title: _____
5. Phone #: _____ 6. Fax #: _____
7. Number of employees at the above location: _____
8. Briefly describe the nature of your facility's business or operations:

Please indicate the following information for your facility:

9. Standard Industrial Classification (SIC) number: | | | |
10. a. US EPA ID number (if applicable): | | | | | | | | | | | | |
    b. ~~NJDEPE~~ Regulated Medical Waste generator ID number (if applicable): _____
11. If you have a US EPA ID number, are you a :

Fully Regulated Generator	☐	Transporter	☐
Small Quantity Generator	☐	Treatment, storage,	
Intermittent Generator	☐	disposal (TSD) Facility	☐

12. Sewerage Authority/Commission which services your facility: _____
13. Wastewater/Water discharge permit number (if applicable): _____

14. If you are a manufacturer, please indicate the following for each raw material, feedstock, or consumable product used in your facility's operations (use additional sheets if necessary):

Name of Material	% of material used in final product	Is unused amount recycled	If yes, in-house or outside recycler
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___

15. Please list all organic and inorganic chemicals and process consumables (oil, solvents paint, etc.) which your facility uses in its operations (use additional sheets if necessary):

Name of Material	Is waste amount recycled	If yes, in-house or out-side recycler	If no, current treatment/ disposal method
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____

16. During operations, does your firm produce or dispose of any of the following (please check each item that applies) ?

Aerosol spray cans ____
Animal maintenance products ____
Antifreeze/Coolants ____
Asphaltic products (caulking, tar paper, etc.) ____
Automobile maintenance products (fluids, lubricants, additives, etc.) ____
Automobile parts ____
Cleaning products/polishes/waxes ____
Cosmetics (dyes, cosmetic removers, etc.) ____
Electronic components ____
Explosives ____
Fluorescent lights/fixtures ____
Glues ____
Heavy metals ____
Heavy metal containing products ____
High sulfur content materials ____
Household batteries ____
Lead-acid batteries ____
Metal cuttings or residuals ____
Mercury ____
Mercury-containing products ____
Petroleum contaminated soil ____
Pesticides/herbicides/fertilizers ____
Polyvinyl chloride (PVC) ____
Prescription or non-prescription drugs ____
Radioactive materials ____
Solder ____
Thermometers/thermostats ____
Tires or rubber products ____
Transformers ____
Wall board or sheetrock ____
Waste oil ____
Waste paint/solvents/stains/ varnishes ____
Yard waste ____

17. Does your facility generate waste(s) in the following categories ?

Category			Quantity per Month (in cubic yards, tons, or gallons–circle one)
Solid NJDEPE ID 10, 12, 13, 23, 25, 27	yes ___	no ___	_____ cy ton gal per month
Hazardous NJAC 7:26–8.1 et. seq.	yes ___	no ___	_____ cy ton gal per month
Sludge Industrial or Wastewater	yes ___	no ___	_____ cy ton gal per month
Wastewater	yes ___	no ___	_____ cy ton gal per month

18. Please identify the components of the waste your facility generates by their NJDEPE identification number, and their respective percentage and quantity (approximate). A list of the NJDEPE waste ID numbers and a brief description of each follow:

ID #	Description	Quantity per Month (in cubic yards, tons, or gallons–circle one)	Percent of total waste generated
10	Municipal (household, commercial, institutional)	_____ cy ton gal per month	_____ %
12	Dry sewage, sludge	_____ cy ton gal per month	_____ %
13	Bulky waste	_____ cy ton gal per month	_____ %
23	Vegetative waste	_____ cy ton gal per month	_____ %
25	Animal and food processing-waste	_____ cy ton gal per month	_____ %
27	a. non–hazardous oil spill cleanup waste	_____ cy ton gal per month	_____ %
	b. small qty hazardous waste per NJAC 7:26–8.3	_____ cy ton gal per month	_____ %
	c. dry non–hazardous pesticides	_____ cy ton gal per month	_____ %
	d. research & development process waste	_____ cy ton gal per month	_____ %
	e. asbestos–containing waste	_____ cy ton gal per month	_____ %
	f. remaining dry industrial waste	_____ cy ton gal per month	_____ %
72	Bulk liquids & semi–liquids	_____ cy ton gal per month	_____ %
73	Septic tank cleanout waste	_____ cy ton gal per month	_____ %
74	Liquid sewage sludge	_____ cy ton gal per month	_____ %
NJAC 7:26–3A.6	Regulated Medical Waste	_____ cy ton gal per month	_____ %
NJAC 7:26–8.1 et seq.	Hazardous Waste	_____ cy ton gal per month	_____ %

19. Please provide specific information concerning each liquid, solid, and semi-solid waste which your facility generates (use additional sheets if necessary):

Waste	Quantity per Month (in cubic yards, tons, or gallons-circle one)	Current treatment/ disposal method
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____

20. Please provide specific information concerning each NJDEPE registered waste hauler which your facility uses for waste disposal (use additional sheets if necessary):

Name of Hauler	Waste Type Transported	Disposal Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

21. Does any of your facility's solid waste consist of construction demolition debris (NJDEPE ID 13) yes ___ no ___ ?

22. Does your facility anticipate generating or receiving any construction demolition debris within the next two years yes ___ no ___ ?

23. Does any of your facility's waste contain asbestos or asbestos-containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods _____

24. Is your facility a small quantity generator of hazardous waste per NJAC 7:26-8.3 yes ___ no ___ ? If yes, does your facility dispose of the waste as NJDEPE ID 27 _____ or Hazardous waste _____ ?

25. Does any of your facility's waste contain heavy metals or heavy metal containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

26. Does any of your facility's waste contain yard waste products (grass clippings, leaves, etc.) yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

27. Does your facility generate Regulated Medical Waste (NJAC 7:26-3A.6)
yes ___ no ___ ? If yes, does your facility utilize methods to disinfect and destroy the regulated materials, and then dispose of the residue as solid waste
yes ___ no ___ ? If yes, please describe the methods utilized, and provide your NJDEPE Facility Registration ID number (use additional sheets if necessary): _____

28. Does your facility currently practice on-site separation of hazardous and non-hazardous waste yes ___ no ___ not applicable ___ ?

29. Briefly describe the processes employed by your facility for segregating various waste types (include the methods used to separate recyclables, hazardous waste, bulky waste, etc. from the residual waste stream) _____

30. Is there a seasonal fluctuation in the type or amount of liquid, solid, or semi-solid waste that your facility generates yes ___ no ___ ? If yes, please explain _____

31. Do you understand that Essex County/NJDEPE waste flow orders require that all of your facility's acceptable waste (see attached definition) must be directed to the Essex County Resource Recovery Facility yes ___ no ___?

32. In your judgment, will it be necessary for any of your facility's waste to "bypass" the Essex County Resource Recovery Facility and be disposed of by other means (for example, are any components of the waste non-combustible; could any components cause damage to any part of the Essex County Resource Recovery Facility; or are any components generally not suitable for incineration due to emission or residue concerns)? Please include any substance which you may consider questionable in this regard (use additional sheets if necessary). _____

33. Does your facility believe that the information presented in this survey will be representative of the firm's operations and waste stream for the next two years
yes ___ no ___? If no, please explain _____

_____ _____
SIGNATURE OF INDIVIDUAL COMPLETING THIS FORM DATE SIGNED

_____
TYPED NAME AND TITLE OF INDIVIDUAL COMPLETING THIS FORM

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

NOTICE

TO: ALL ESSEX COUNTY SERVICE/PRODUCTION INDUSTRIES AND HEALTH CARE FACILITIES

FROM: Martin M. Lund, Jr., Director of Operations - ECUA

DATE: August 23, 1993

SUBJ: Essex County Utilities Authority - 1993 Waste Survey Form

****

Enclosed please find the Essex County Utilities Authority (ECUA) 1993 Waste Survey Form.

This Waste Survey is being conducted in accordance with the State of New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1, et seq. This Act mandates the County of Essex and its solid waste management implementation agency, the ECUA, be responsible for the management of all non-hazardous solid waste generated in the geographic boundaries of the County.

We therefore need your facility to complete this survey so that the ECUA may manage County waste flow in the most environmentally sound manner possible.

You may have received a similar waste survey form in 1990 from the County of Essex. The 1993 Waste Survey is being conducted to update and supplement the information gathered in 1990. Therefore, you should complete and return the 1993 Waste Survey form even if you completed and returned the 1990 form.

We ask that you complete the information requested and return it in the enclosed self-addressed envelope within seven (7) days.

Organizations that do not respond to the Waste Survey will be prohibited from using the Essex County Resource Recovery Facility for waste disposal and will be required to direct their waste to the Essex County/NJDEPE Designated Transfer Station.

We urge you to complete and return the survey as soon as possible.

To assist you in completing the survey, please find below the definition of "Acceptable Waste." This definition has been authorized by New Jersey Department of Environmental Protection and Energy (NJDEPE) and the resource recovery vendor - American Ref-Fuel Company of Essex County.

The PMK Group, Environmental Engineering Consultants have been retained by the ECUA and will be responsible for reviewing and analyzing the completed survey form. For technical information and further explanation concerning the survey, contact Mr. Gene Brandt of The PMK Group, (908) 686-0044, for administrative and waste flow information, contact Mr. Nicholas Maddaloni, Chief Sanitation Inspector - ECUA at 201-857-2350.

DEFINITION OF "ACCEPTABLE WASTE"

"Acceptable Waste" means that portions of solid waste which (a) is collected, including garbage, trash, rubbish, and refuse, (b) is branches, twigs, grass, and plant cuttings collected as part of municipal waste collections and (d) is described in the NJDEPE identification numbers 10, 23, and 27 (other than the following subcategories set forth in identification number 27; non-hazardous oil spill clean-up waste; dry, non-hazardous pesticides; dry, non-hazardous chemical waste; research and development process waste; and contaminated soil) in Section 7:26-2.13(g)(1) of the regulations of the Division of Solid Waste Management of the Department as such regulations may be amended or supplemented from time to time.

Enclosure
0169/MML/NM/ks

xc: Stephen J. Edelstein, Chairman - ECUA
Donald V. Biase, Commissioner, Sec./Treasurer - ECUA
Antonio Seabra, Commissioner, Chairman - Operations Committee - ECUA
Eric Wisler, General Counsel - ECUA
James Ferris, P.E., Industrial Waste Survey Consultant
Gerald Doherty, Manager, Port Authority of NY & NJ
Curt Hurst, General Manager, American Ref-Fuel
Gary Sondermeyer, Deputy Director, DSWM - NJDEPE
Timothy Bartle, Bureau of Resource Recovery - NJDEPE
File #2

PMK Group
CONSULTING ENGINEERS

APPENDIX C

DOCUMENT	NUMBER OF PAGES
Minimal Computer System Requirements to Run Paradox	1
Name, Structure, and Content of Each Paradox Table	1
Special Codes Used In Data Entry	1
Color Coded 1993 ECUA Waste Survey Form Indicating Contents of Each Paradox Table	5

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MINIMAL COMPUTER SYSTEM REQUIREMENTS TO RUN PARADOX

The minimal computer system requirements necessary to run Paradox, Version 3.5 as outlined on Page 6 of the Paradox Users Guide include:

1. An IBM Personal System/2, PC, PC XT, XT Model 286, PC AT, or other 100 percent compatible computer.

2. One hard disk and at least one floppy disk drive.

3. At least 512K bytes of internal (RAM) memory.

4. DOS 2.0 or higher.

5. A compatible monochrome, color, or EGA monitor with adapter.

6. Formatted floppy disks for storing original or back-up copies of the tables and other objects created with Paradox.

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NAME AND CONTENT OF EACH PARADOX TABLE

TABLE 1

Name: ESX1

Table 1 contains general information about each facility including the 10-digit facility ID number, name, address, phone numbers, nature of business, and contact person.

TABLE 2

Name: ESX2

Table 2 contains information concerning general industry classification, solid/liquid/hazardous waste categories and quantities, and seasonal fluctuations in the amount of waste generated (i.e. SIC numbers, EPA ID numbers and categories, waste generated by NJDEP ID number, etc.). This table also includes the 10-digit industry ID number.

TABLE 3

Name: ESX3

Table 3 contains specific information from each industry concerning raw materials, chemical and other process consumable, specific waste materials generated, and names of haulers. This table also includes the 10-digit industry ID number and a provision for indicating that more information was presented on an individual survey form than could be accommodated in the table structure.

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SPECIAL CODES USED IN DATA ENTRY

HAZARDOUS WASTE GENERATOR CATEGORY (QUESTION 11)

FRG – Fully Regulated Generator
SQG – Small Quantity Generator
INT – Intermittent Generator
TRA – Transporter
TSD – Treatment, Storage, Disposal Facility

SPECIAL ITEMS (QUESTION 16)

Aerosol Spray Cans	ASC	Lead-acid batteries	LAB
Animal Maintenance Products	AMP	Metal Cuttings or Residuals	MEC
Antifreeze/Coolants	ANC	Mercury	MER
Asphaltic Products (Caulking, tar paper, etc.)	ASP	Mercury-Containing Products	MCP
Automobile Maintenance Products (fluids, lubricants, additives, etc.)	AUP	Petroleum Contaminated Soil	PCS
Automobile Parts	APA	Pesticides/Herbicides/Fertilizers	PES
Cleaning Products/Polishes/ Waxes	CPW	Polyvinyl Chloride (PVC)	PVC
Cosmetics (dyes, cosmetic removers, etc.)	COS	Prescription or non-prescription drugs	PRE
Electronic components	ELC	Radioactive materials	RAD
Explosives	EXP	Solder	SOL
Fluorescent lights/fixtures	FLL	Thermometers/Thermostats	THE
Glues	GLU	Tires or Rubber Products	TIR
Heavy Metals	HEM	Transformers	TRA
Heavy Metal Containing Products	HMC	Wallboard or Sheetrock	WAL
High Sulphur Content Materials	HSC	Waste Oil	WAO
Household Batteries	HOB	Waste Paint/Solvents/Stains/ Varnishes	WAP
		Yard Waste	YDW

ESX1——
ESX2——
ESX3——

FOR ECUA USE ONLY

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

WASTE SURVEY

1. Facility Name: _____
2. Address: _____
3. Contact Person: _____
4. Title: _____
5. Phone #: _____ 6. Fax #: _____
7. Number of employees at the above location: _____
8. Briefly describe the nature of your facility's business or operations:

_____

_____

_____

Please indicate the following information for your facility:

9. Standard Industrial Classification (SIC) number: | | | | |
10. a. US EPA ID number (if applicable): | | | | | | | | | | | | |
    b. ~~NJDEPE~~ Regulated Medical Waste generator ID number (if applicable): _____
11. If you have a US EPA ID number, are you a :

Fully Regulated Generator	☐	Transporter	☐
Small Quantity Generator	☐	Treatment, storage,	
Intermittent Generator	☐	disposal (TSD) Facility	☐

12. Sewerage Authority/Commission which services your facility:

_____

13. Wastewater/Water discharge permit number (if applicable): _____

14. If you are a manufacturer, please indicate the following for each raw material, feedstock, or consumable product used in your facility's operations (use additional sheets if necessary):

Name of Material	% of material used in final product	Is unused amount recycled	If yes, in-house or outside recycler
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___
_____	_____ %	yes ___ no ___	in ___ out ___

15. Please list all organic and inorganic chemicals and process consumables (oil, solvents paint, etc.) which your facility uses in its operations (use additional sheets if necessary):

Name of Material	Is waste amount recycled	If yes, in-house or out-side recycler	If no, current treatment/ disposal method
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____
_____	yes ___ no ___	in ___ out ___	_____

16. During operations, does your firm produce or dispose of any of the following (please check each item that applies) ?

Aerosol spray cans ____
Animal maintenance products ____
Antifreeze/Coolants ____
Asphaltic products (caulking, tar paper, etc.) ____
Automobile maintenance products (fluids, lubricants, additives, etc.) ____
Automobile parts ____
Cleaning products/polishes/waxes ____
Cosmetics (dyes, cosmetic removers, etc.) ____
Electronic components ____
Explosives ____
Fluorescent lights/fixtures ____
Glues ____
Heavy metals ____
Heavy metal containing products ____
High sulfur content materials ____
Household batteries ____
Lead-acid batteries ____
Metal cuttings or residuals ____
Mercury ____
Mercury-containing products ____
Petroleum contaminated soil ____
Pesticides/herbicides/fertilizers ____
Polyvinyl chloride (PVC) ____
Prescription or non-prescription drugs ____
Radioactive materials ____
Solder ____
Thermometers/thermostats ____
Tires or rubber products ____
Transformers ____
Wall board or sheetrock ____
Waste oil ____
Waste paint/solvents/stains/ varnishes ____
Yard waste ____

17. Does your facility generate waste(s) in the following categories ?

Category			Quantity per Month (in cubic yards, tons, or gallons–circle one)
Solid NJDEPE ID 10, 12, 13, 23, 25, 27	yes ___	no ___	_____ cy ton gal per month
Hazardous NJAC 7:26–8.1 et. seq.	yes ___	no ___	_____ cy ton gal per month
Sludge Industrial or Wastewater	yes ___	no ___	_____ cy ton gal per month
Wastewater	yes ___	no ___	_____ cy ton gal per month

18. Please identify the components of the waste your facility generates by their NJDEPE identification number, and their respective percentage and quantity (approximate). A list of the NJDEPE waste ID numbers and a brief description of each follow:

ID #	Description	Quantity per Month (in cubic yards, tons, or gallons–circle one)	Percent of total waste generated
10	Municipal (household, commercial, institutional)	_____ cy ton gal per month	_____ %
12	Dry sewage, sludge	_____ cy ton gal per month	_____ %
13	Bulky waste	_____ cy ton gal per month	_____ %
23	Vegetative waste	_____ cy ton gal per month	_____ %
25	Animal and food processing-waste	_____ cy ton gal per month	_____ %
27	a. non–hazardous oil spill cleanup waste	_____ cy ton gal per month	_____ %
	b. small qty hazardous waste per NJAC 7:26–8.3	_____ cy ton gal per month	_____ %
	c. dry non–hazardous pesticides	_____ cy ton gal per month	_____ %
	d. research & development process waste	_____ cy ton gal per month	_____ %
	e. asbestos–containing waste	_____ cy ton gal per month	_____ %
	f. remaining dry industrial waste	_____ cy ton gal per month	_____ %
72	Bulk liquids & semi–liquids	_____ cy ton gal per month	_____ %
73	Septic tank cleanout waste	_____ cy ton gal per month	_____ %
74	Liquid sewage sludge	_____ cy ton gal per month	_____ %
NJAC 7:26–3A.6	Regulated Medical Waste	_____ cy ton gal per month	_____ %
NJAC 7:26–8.1 et. seq.	Hazardous Waste	_____ cy ton gal per month	_____ %

19. Please provide specific information concerning each liquid, solid, and semi-solid waste which your facility generates (use additional sheets if necessary):

Waste	Quantity per Month (in cubic yards, tons, or gallons-circle one)	Current treatment/ disposal method
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____
_____	_____ cy ton gal per month	_____

20. Please provide specific information concerning each NJDEPE registered waste hauler which your facility uses for waste disposal (use additional sheets if necessary):

Name of Hauler	Waste Type Transported	Disposal Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

21. Does any of your facility's solid waste consist of construction demolition debris (NJDEPE ID 13) yes ___ no ___ ?

22. Does your facility anticipate generating or receiving any construction demolition debris within the next two years yes ___ no ___ ?

23. Does any of your facility's waste contain asbestos or asbestos-containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods _____

_____

24. Is your facility a small quantity generator of hazardous waste per NJAC 7:26-8.3 yes ___ no ___ ? If yes, does your facility dispose of the waste as NJDEPE ID 27 _____ or Hazardous waste _____ ?

25. Does any of your facility's waste contain heavy metals or heavy metal containing materials yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

26. Does any of your facility's waste contain yard waste products (grass clippings, leaves, etc.) yes ___ no ___ ? If yes, please describe the nature, quantity, and treatment/disposal methods (use additional sheets if necessary): _____

_____

27. Does your facility generate Regulated Medical Waste (NJAC 7:26-3A.6)
yes ___ no ___ ? If yes, does your facility utilize methods to disinfect and destroy the regulated materials, and then dispose of the residue as solid waste
yes ___ no ___ ? If yes, please describe the methods utilized, and provide your NJDEPE Facility Registration ID number (use additional sheets if necessary): _____

28. Does your facility currently practice on-site separation of hazardous and non-hazardous waste yes ___ no ___ not applicable ___ ?

29. Briefly describe the processes employed by your facility for segregating various waste types (include the methods used to separate recyclables, hazardous waste, bulky waste, etc. from the residual waste stream) _____

30. Is there a seasonal fluctuation in the type or amount of liquid, solid, or semi-solid waste that your facility generates yes ___ no ___ ? If yes, please explain _____

31. Do you understand that Essex County/NJDEPE waste flow orders require that all of your facility's acceptable waste (see attached definition) must be directed to the Essex County Resource Recovery Facility yes ___ no ___?

32. In your judgment, will it be necessary for any of your facility's waste to "bypass" the Essex County Resource Recovery Facility and be disposed of by other means (for example, are any components of the waste non-combustible; could any components cause damage to any part of the Essex County Resource Recovery Facility; or are any components generally not suitable for incineration due to emission or residue concerns)? Please include any substance which you may consider questionable in this regard (use additional sheets if necessary). _____

33. Does your facility believe that the information presented in this survey will be representative of the firm's operations and waste stream for the next two years yes ___ no ___? If no, please explain _____

_____ _____
SIGNATURE OF INDIVIDUAL COMPLETING THIS FORM DATE SIGNED

_____
TYPED NAME AND TITLE OF INDIVIDUAL COMPLETING THIS FORM

PMK Group
CONSULTING ENGINEERS

APPENDIX D

DOCUMENT	NUMBER OF PAGES
Follow–up Letter	2

ECUA

Essex County Utilities Authority

120 Fairview Avenue, Cedar Grove, New Jersey 07009
Tele: 201-857-2350 FAX: 201-857-9361

M E M O R A N D U M

TO: Essex County Service/Production Industries and Health Care Facilities

FROM: Martin M. Lund, Jr., Director of Operations - ECUA

DATE: November 8, 1993

SUBJ: Essex County Utilities Authority
1993 Waste Survey Form

****

On or about September 21, 1993, the Essex County Utilities Authority (ECUA) mailed to your facility a 1993 Waste Survey form. As stated in the notice accompanying the form, the Waste Survey is being conducted in accordance with the State of New Jersey Solid Waste Management Act, N.J.S.A. 13:1E-1, et seq. The information requested on the form is essential in enabling the ECUA to manage the non-hazardous solid waste flow generated within the geographic boundaries of Essex County in the most environmentally sound manner possible.

As of November 3, 1993, the ECUA's records indicate that your facility has not returned the completed form.

Please be advised that organizations that do not respond to the Waste Survey will be prohibited from using the Essex County Resource Recovery Facility for waste disposal and will be required to direct their non-hazardous solid waste to the Essex County/NJDEPE Designated Transfer Station.

We strongly urge you to complete the survey. If you need another copy of the waste survey form, please contact Mr. Gene Brandt of the PMK Group (Environmental Engineering Consultants to the ECUA) at (908) 686-0044.

For technical information and further explanation concerning the survey, contact Mr. Brandt of the PMK Group at the number stated above. For administrative and waste flow information, contact Mr. Nicholas Maddaloni, Chief Sanitation Inspector - ECUA at (201) 857-2350.

Additionally, please be advised that the definition of "Acceptable Waste" stated in the notice accompanying the waste survey form, contained a typographical error. The correct definition (as partially excerpted from the RRF Operator's Service Agreement) is as follows:

DEFINITION OF "ACCEPTABLE WASTE"

"Acceptable Waste" means that portion of Solid Waste which (a) is collected and disposed of as part of municipal waste collections, including garbage, trash, rubbish and refuse, (b) is commercial and industrial Solid Waste that can be processed, (c) is branches, leaves, twigs, grass and plant cuttings collected as part of municipal waste collections and (d) is described in the NJDEPE identification numbers 10, 23, and 27 (other than the following subcategories setforth in identification number 27: non-hazardous oil spill clean-up waste; dry non-hazardous pesticides; dry non-hazardous chemical waste; research and development process waste; asbestos-containing materials such as ceiling tiles and insulation; and contaminate soils) in Section 7:26-2:13(g)(1) of the regulations of the Division of Waste Management of the New Jersey Department of Environmental Protection and Energy (NJDEPE) as such regulations may be amended or supplemented from time to time.

If you have already completed and returned your waste survey form, please disregard this notice.

MML/NM/kd/0331

Enclosure

xc: Gary Sondermeyer, Deputy Director, DSWM - NJDEPE
Timothy Bartle, Bureau of Resource Recovery - NJDEPE
File/2

PMK Group
CONSULTING ENGINEERS

APPENDIX E

DOCUMENT	NUMBER OF PAGES
Facilities Inspected	2

Facility Name	Street	City	State	Zip
A. Wilson & Company, Inc.	46 Ralph Street	Belleville	NJ	07109
B & H Machine Co., Inc.	67-69 Greylock Avenue	Belleville	NJ	07109
Foam Rubber Fabricators, Inc.	740 Washington Avenue	Belleville	NJ	07109
Precision Specialties	120 Greylock Avenue	Belleville	NJ	07109
Garden State Woodworking Co., Inc.	344 Hoover Avenue	Bloomfield	NJ	07003
Peerless Tube Company	58-76 Locust Avenue	Bloomfield	NJ	07003
Grove Precision Machine Co., Inc.	41 Bortic Road	Cedar Grove	NJ	07009
Brush Wellman Inc.	180 Passaic Avenue	Fairfield	NJ	07004
Carewell Ind. Inc.	333B Route 46 West	Fairfield	NJ	07004
Elvetta Products Co., Inc.	330 Fairfield Road	Fairfield	NJ	07004-1998
Prestige Rubber Mfg. Corp.	11 Spielman Road	Fairfield	NJ	07004
Star Tobacco Company	780 Christopher Avenue	Irvington	NJ	07111
U.S. Mattress Corporation	84 Coit Street	Irvington	NJ	07111
Allison Corporation	630 West Mt. Pleasant Avenue	Livingston	NJ	07039
Millburn Feed Co., Inc.	378 Millburn Avenue	Millburn	NJ	07041
Technopulp Inc.	26 Park Street	Montclair	NJ	07042
A L M Corporation	2-18 Mott Street	Newark	NJ	07105
Atlantic Bias Products Inc.	702 Frelinghuysen Avenue	Newark	NJ	07114
Central Paper Company	60 McClellan Street	Newark	NJ	07114
Commercial Plastics	127 Frelinghuysen Avenue	Newark	NJ	07114
D.E. Paglia & Sons Corp.	105 Chestnut Street	Newark	NJ	07105
Epolin Inc.	358-364 Adams Street	Newark	NJ	07105
Fairmount Chemical Company	117 Blanchard Street	Newark	NJ	07105
Federal Bronze Casting Ind., Inc.	9 Backus Street	Newark	NJ	07009
Federal Refining Co.,Inc.	29 Riverside Avenue Bldg. 16	Newark	NJ	07104
H. Chasen & Son, Inc.	20 Esther Street	Newark	NJ	07105
Newark Industrial Spraying Inc.	12 Amsterdam Street	Newark	NJ	07105
Patriarche & Bell, Inc.	94-98 Parkhurst Street	Newark	NJ	07114
Progressive Manufacturing Co., Inc.	116-132 Sussex Avenue	Newark	NJ	07103
Purolator Products Air Filtration Company	835 Mt. Prospect Avenue	Newark	NJ	07105
R.G. Dunn Acq. dba Electronic Mfg. Co., Inc.	670 South 17th Street	Newark	NJ	07103
Rarac Products Company	230 Wright Street	Newark	NJ	07114
Technical plastic Extruders	574 Ferry Street	Newark	NJ	07105
Harbot Die Casting & Access Flooring Supplies	52 East Centre Street	Nutley	NJ	07110
PNC, Inc.	115 East Centre Street	Nutley	NJ	07110
Cross Die Cutting Service Inc.	351 South Jefferson Street	Orange	NJ	07050
Jack Gold Surgical Appl/A. A. Beltman	331 Central Avenue	Orange	NJ	07050

cility Name	Street	City	State	Zip
ange N.J. Hilti Center	50 South Center Street	Orange	NJ	07050
nir/DCP Corporation	476 Thomas Blvd.	Orange	NJ	07050
nin & Company	163 Bloomfield Avenue	Verona	NJ	07044
mpensating Tension Controls, Inc.	11 York Avenue	West Caldwell	NJ	07006
F.Henderson, Inc.	45 Fairfield Place	West Caldwell	NJ	07006
witt-Robins Corp.	40 Fairfield Place	West Caldwell	NJ	07006

PMK Group
CONSULTING ENGINEERS

APPENDIX F

DOCUMENT	NUMBER OF PAGES
1993 ECUA Facility Waste Categorization	67

Facility Name	Street	City	State	Zip
259 Stephen St. Corp.	259 Stephens St.	Belleville	NJ	07109
Ardwyn Binding Products	681 Main Street	Belleville	NJ	07109
Graber & Ritacco Iron & Metal Recycling	423 Union Avenue	Belleville	NJ	07109
H & C Industries	6 Main Street	Belleville	NJ	07109
Insulex Co., Inc.	681 Main Street	Belleville	NJ	07109
Merit Countertops	523 Cortlandt Street	Belleville	NJ	07109
Metro Amusements	229 Main Street	Belleville	NJ	07109
Perrone Inc.	82 Dorthea Terrace	Belleville	NJ	07109
T Farese & Sons	222 Brighton Avenue	Belleville	NJ	07109
Tecna Corporation	681 Main Street	Belleville	NJ	07109
Tri County Ind. Supply Co.	P.O. Box 660	Belleville	NJ	07109
Van Ness Plastic Holding Company, Inc.	555 Cortlandt Street	Belleville	NJ	07109
Vec Tool & Mfg. Co. Inc.	3 Cleveland Street	Belleville	NJ	07109
Child Development Center	60 West Street	Bloomfield	NJ	07003
Church & Company	400 JFK Drive North	Bloomfield	NJ	07003
E-Z-Do Company	5 Lawrence Street	Bloomfield	NJ	07003
Gagliano & Associates	9 James Street	Bloomfield	NJ	07003
Gasket International Inc.	49 Ackerman Street	Bloomfield	NJ	07003
Jon Briele's Hair Salon	1047 Broad Street	Bloomfield	NJ	07003
King & I Landscaping, Inc.	109 Sadler Road	Bloomfield	NJ	07003
Marvel's Products Co.	12 Prospect Street	Bloomfield	NJ	07003
Repco Floor Safety Inc.	329 Belleville Avenue, 2nd Floor	Bloomfield	NJ	07003
Root Electro-Optics, Inc.	(formerly) 101 Spruce Street	Bloomfield	NJ	07003
Tracer Electronics	200 Broadacres Drive	Bloomfield	NJ	07003
V M C Die Cutting Corporation	93 Essex Avenue	Bloomfield	NJ	07003
Bruce F.D. Heading	305 Ridge Road	Cedar Grove	NJ	07009
Children's House Creative Center Inc.	437 Pompton Avenue	Cedar Grove	NJ	07009
Container Equipment Corporation	One Ceco Way	Cedar Grove	NJ	07009
Decorama, Inc.	74 Sand Park Road	Cedar Grove	NJ	07009
Emtec Leasing Corporation	1 Ceco Way	Cedar Grove	NJ	07009
Hargro Industrial Packaging	20 Sand Park Road	Cedar Grove	NJ	07009
New Concept Landscaping Inc.	39 Anderson Parkway	Cedar Grove	NJ	07009
Old Deerfield Fabrics, Inc. DIP	30 Canfield Road	Cedar Grove	NJ	07009
Tecumseh Products Company	433 Pompton Avenue	Cedar Grove	NJ	07009
Accutest Labs, Inc.	74 Franklin Street	East Orange	NJ	07109
Empire Technical School	576 Central Avenue	East Orange	NJ	07018
Metro West Jewish News	60 Glenwood Avenue	East Orange	NJ	07017

Facility Name	Street	City	State	Zip
Technical Glass Products, Inc.	74 Franklin Street	East Orange	NJ	07109
United Cerebral Palsy of North Jersey, Inc.	91 South Harrison Street	East Orange	NJ	07018
Jenus Machine & Tool Co.	P.O. Box 158	Essex Fells	NJ	07021
Nail-O-Matic Machine Co.	224 Passaic Avenue	Fairfield	NJ	07004
Chem-San International, Inc.	19 I Gardner Road	Fairfield	NJ	07004
Commercial Technical Institute	116 Fairfield Road	Fairfield	NJ	07004
Tonic Systems, Inc.	220 Fairfield Road	Fairfield	NJ	07004
Custom Index, Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07006
Custom Typesetting	1275 Bloomfield Avenue, Suite 6-36	Fairfield	NJ	07004
General Hose Products, Inc.	30 Sherwood Lane	Fairfield	NJ	07004
Lawn Ranger (Richard Manganaro)	c/o W.J. Witte, 420 Route 46	Fairfield	NJ	07004
Marketing Action Plus Company	18 Passaic Avenue	Fairfield	NJ	07004
Metropolitan Technical Institute	11 Daniel Road	Fairfield	NJ	07004
Planned Building Services, Inc.	167 Fairfield Road	Fairfield	NJ	07004
Radiant Heat	40 Pier Lane West, P.O. Box 566	Fairfield	NJ	07004
Rubber Assembly Center	340 Kaplan Drive	Fairfield	NJ	07004
Samsomatic Limited	Box 1426	Fairfield	NJ	07004
Swedish Brands Inc.	373 Route 46W, Bldg. D	Fairfield	NJ	07004
Syncom Pharmaceuticals, Inc.	277 Fairfield Road, Suite 325	Fairfield	NJ	07004-1931
Thermo Instruments Inc.	7 Birchtree Drive	Fairfield	NJ	07004
Wilmor, Inc.	39 Plmouth Street	Fairfield	NJ	07006
Rosemount Analytical	2400 Barranca Parkway	Irvine	CA	92714
All Mica Fab Co., Inc.	835 Springfield Avenue	Irvington	NJ	07111
Hugo's Sunoco Service Station	826 18th Avenue	Irvington	NJ	07111
Micro-Form Grinding and Tool Company	26 Paine Avenue	Irvington	NJ	07111
Pioneer Pharmaceuticals, Inc.	209 40th Street	Irvington	NJ	07111
Universal Manufacturing Co.	1168 Grove Street	Irvington	NJ	07111
Alpha Plastics, Inc.	P.O. Box 2129, 78 Okner Parkway	Livingston	NJ	07039
Amerace Corporation, Industrial Electrical Pr	530 West Mt. Pleasant Avenue	Livingston	NJ	07039
Antonio Cilenti	179 West Northfield Road	Livingston	NJ	07039
Cipolla Brothers	236 West Mt. Pleasant Avenue	Livingston	NJ	07039
Cosmic Enterprises, Inc.	210 S. Livingston Avenue	Livingston	NJ	07039
Finnigan MAT	7 Regent Street, Suite 711	Livingston	NJ	07039
Hobart Meat Co., Inc.	26 Coventry Rd.	Livingston	NJ	07039
Krumor Inc.	4 Homestead Terrace	Livingston	NJ	07039
MPI Pharmacy Services, Inc.	123 Naylon Avenue	Livingston	NJ	07039
Medical Center Health Care Services, Inc.	94 Old Short Hills Road	Livingston	NJ	07039

CATEGORY 0 FACILITIES
(NON-APPLICABLE FACILITIES)

Facility Name	Street	City	State	Zip
A & J Horowitz Associates	251 Wyoming Avenue	Maplewood	NJ	07040
D'Angelo Landscaping	18 Princeton Street	Maplewood	NJ	07040
Duralens Corp.	1914 Springfield Avenue	Maplewood	NJ	07040
Futuristic Tool & Die Co.	36 Newark Way	Maplewood	NJ	07040
Schroeder Overseas Services	Box 231	Maplewood	NJ	07040
Track Specialties Co., Inc.	101 Newark Way	Maplewood	NJ	07040
F R P Corporation	P.O. Box 72	Millburn	NJ	07041-0072
Far Brook School	52 Great Hills Road	Millburn	NJ	07078
Hickory Landscape, Inc.	P.O. Box 249	Millburn	NJ	07078
KPMG Peat Marwick	150 John F. Kennedy Parkway	Millburn	NJ	07078
Signature Packaging Inc.	322 Hartshorn Drive	Millburn	NJ	07078
Accurate Print Company, Inc.	38 Porter Place	Montclair	NJ	07042
Borden Chemical Company	101 Park Street	Montclair	NJ	07043
Clover Rest Nursing Home	16 Madison Avenue	Montclair	NJ	07042
Cranetown Enterprises Inc.	208 Glenridge Avenue	Montclair	NJ	07042
Garment Clinic Cleaners	349 Bloomfield Avenue	Montclair	NJ	07042
Montclair Cooperative School	65 Chestnut Street	Montclair	NJ	07042
Montclair Nursing Home	78 Midland Avenue	Montclair	NJ	07042
Murph's Sport Shop	629 Valley Road	Montclair	NJ	07043
POV	42 Elm Street	Montclair	NJ	07042
Professional Systems Corproation	87-89 Valley Road	Montclair	NJ	07042
Suburban Rug & Furniture Cleaners, Inc.	152 Christopher Street	Montclair	NJ	07042
Artley, Inc./Columbus Holding Inc.	2-10 School Street	Newark	NJ	07103
Aster Nut Products Inc.	1455 McCarter Highway	Newark	NJ	07104
Big Lou Auto Sales	650-652 Ferry Street	Newark	NJ	07105
Calvary Christial School	3 Lyons Avenue	Newark	NJ	07112
Catalina Fashions	407 Mulberry Street	Newark	NJ	07102
Center for Molecular Medicine and Immunology	One Bruce Street	Newark	NJ	07103-2763
Claretronics Inc.	222 Emmet Street	Newark	NJ	07114
Construction and Marine Equipment Co., Inc.	Tyler & Coastwide Street	Newark	NJ	07114
Cortley Creations	105 Chestnut Street	Newark	NJ	07105
Del Rufo Auto Service Corp.	256 Bloomfield Avenue	Newark	NJ	07107
Diamond Alkali Superfund Site	80 Lister Avenue	Newark	NJ	07105
Diane Fashions Corporation	113 Monroe Street	Newark	NJ	07105
Electric Heat Control Apparatus Company	413 Market Street	Newark	NJ	07105
Ella Industries Inc.	40 East Elwood Avenue	Newark	NJ	07013
Essex Garment Mfg. Corp.	84 Monroe Street	Newark	NJ	07105

(NON-APPLICABLE FACILITIES)

acility Name	Street	City	State	Zip
ssex Paper Box Mfg. Co.	281 Astor Street	Newark	NJ	07114
xclusive Air Transport Inc.	P.O. Box 5584	Newark	NJ	
xcel Enterprises	865 Mt. Prospect Avenue	Newark	NJ	07104
ashions By Maria	9 St. Francis Street	Newark	NJ	
. B. Industrires II, Inc.	126 Sylvan Avenue	Newark	NJ	07110
lennon Plastics, Inc.	611 North 7th Street	Newark	NJ	07107
lobe Shipping Co.	Hemisphere Center US 1-9	Newark	NJ	07114
.V. Walker Company	390 Adams Street	Newark	NJ	07114
idson Knitting Co.	560 Irvine Turner Blvd.	Newark	NJ	07108
archem Industries, Inc.	414 Wilson Avenue	Newark	NJ	07105
ersey Prep School	31 Central Avenue	Newark	NJ	07102
ingsland Drum & Barrel Co., Inc.	308 Miller Street	Newark	NJ	07114
ace Creations	1448 McCarter Highway	Newark	NJ	07104
ishon Cleaning, Inc.	350 Adams Street	Newark	NJ	07105
onoplast Chemical	106 Rutherford Street	Newark	NJ	07105
ewark Thermography	30 Ferry Street, Suite 2-B	Newark	NJ	07105
icholas Alfano	182 Van Buren Street	Newark	NJ	07105
age Brothers Corp.	822 Clinton Avenue	Newark	NJ	07108
.T. Fashions	580 Oliver Street	Newark	NJ	07105
:. Cars, Inc.	713-733 McCarter Highway	Newark	NJ	07102
oma Tool, Inc.	15 Gotthart St	Newark	NJ	07105
ay Fine Service Station	663 Springfield Avenue	Newark	NJ	07103
& L Mfg. Co. Inc.	279 Sherman Avenue	Newark	NJ	07114
tahl Gear & Machine Co.	360 Jelliff Avenue	Newark	NJ	07108
upreme Processing	44 St. Thomas Street	Newark	NJ	
artaglia Iron Works	230 14th Avenue	Newark	NJ	07103
eixeira's Bakery	184-186 Ferry Street	Newark	NJ	07105
niversity Lithotripsy Affiliates	150 Bergen Street	Newark	NJ	07103-2425
alicchio's Landscaping, Inc.	58 Crestwood Avenue	Nutley	NJ	07110
apital Sales	259 Washington Avenue	Nutley	NJ	07110
erman Urrea	102 Brookdale Avenue	Nutley	NJ	07110
TT Aerospace Communications Division	492 River Road	Nutley	NJ	07110
TT Avionics	500 Washington Avenue	Nutley	NJ	07110
ames E. Quinn	11 Irving Place	Nutley	NJ	07110
shba Dress Corporation	357 Harrison Street	Nutley	NJ	07110
& J Machine And Tool, Inc.	576 Morrow Street	Orange	NJ	07050
herk-Well, Ltd.	460-466 Main Street	Orange	NJ	07050

Facility Name	Street	City	State	Zip
Creative Glassics	559 Tremont Avenue	Orange	NJ	07050
D. Dodd Supply Co.	299 Scotland Road	Orange	NJ	07050
Lincoln Storage Warehouses	225 Scotland Road	Orange	NJ	07050
Max Freeman & Co.	50 South Centre Street, Unit 6	Orange	NJ	07050
Surburban Sportswear	502 Central Avenue	Orange	NJ	07050
Anco Tool & Mfg. Corp.	7 Woodland Road	Roseland	NJ	07068
Bethlehem Steel Corporation	103 Eisenhower Parkway	Roseland	NJ	07068
Executive Carpet Care	52 Stonegate Drive	Roseland	NJ	07068
Hannoch Weisman, P.C.	4 Becker Farm Road	Roseland	NJ	07068
Intedge Industries, Inc.	565 Eagle Rock Avenue	Roseland	NJ	07068
Ketcham & McDougall, Inc.	685 Eagle Rock Avenue	Roseland	NJ	07068
Cataract Hotline Inc.	71 Second Street	South Orange	NJ	07079
Jendrew, Inc. t/a The Chasen Portfolio	6 Sloan St.	South Orange	NJ	07079
Pantmaker-807, Inc.	P.O. Box 670	South Orange	NJ	07079
Sochem Inc.	378 Thornden Street	South Orange	NJ	07079
South Orange Country Day School	461 Vose Avenue	South Orange	NJ	07079
Lawnsmiths, Inc.	1961 Ridgehill Drive	Toms River	NJ	08753
D'Agosto Landscaping	18 Ann Street	Verona	NJ	07044
East Coast Sales, Inc.	261 Bloomfield Avenue - Suite D	Verona	NJ	07044
Hayerson Machinery Hart Inc.	1 Willow Terrace, P.O. Box 161	Verona	NJ	07044
Sentry Products	11 Park Place	Verona	NJ	07044
Canfield Home	206 Westville Avenue	West Caldwell	NJ	07006
D. O. C. C.	2 Cavell Place	West Caldwell	NJ	07006
Diversified Vacuum Systems	513 Passaic Avenue	West Caldwell	NJ	07006
Eltee Inc.	19 Fairfield Place	West Caldwell	NJ	07006
Eltee Pulsitron	26 Fairfield Place	West Caldwell	NJ	07006
Essex Conveyors, Inc.	4 Fairfield Crescent	West Caldwell	NJ	07007
F. Watkins Corporation	66 Hillcrest Road	West Caldwell	NJ	07006
Form-Master, Inc.	33 Fairfield Place	West Caldwell	NJ	07006
Joseph Kushner Hebrew Academy	1 Henderson Drive	West Caldwell	NJ	07006
Solid Flow Control Corporation	4 Fairfield Cresent	West Caldwell	NJ	07006
West Caldwell Service Center c/a M. Savvides	42 Siver Springs Court	West Caldwell	NJ	07926
Atrium TA/Shagol, Inc.	609 Eagle Rock Avenue	West Orange	NJ	07052
Corrao Associates Inc.	52 Washington Street	West Orange	NJ	07052
Emil A. Magliaro Landscaping	68 Lawrence Avenue	West Orange	NJ	07052-3708
Joanna Company	80 Main Street	West Orange	NJ	07052
K & M Landscaping Inc.	30 Erwin Place	West Orange	NJ	07052

CATEGORY O FACILITIES
(NON-APPLICABLE FACILITIES)

Facility Name	Street	City	State	Zip
Ikel Stettner	20 Curtis Avenue	West Orange	NJ	07052
ster Scalora	58 Garfield Avenue	West Orange	NJ	07052
Layhouse, Inc.	540 Prospect Avenue	West Orange	NJ	07052
ie Staget Company, Inc.	66 Franklin Avenue	West Orange	NJ	07052
Incent Onorato	111 Chestnut Street	West Orange	NJ	07052
Bureau Insurance Companies	10 Rooney Circle	West Orange	NJ	07052

CATEGORY 1 FACILITIES
(FACILITIES GENERATING PROHIBITED NJDEPE WASTE TYPES)

Facility Name	Street	City	Prohibited Items
ISP Van Dyke Inc.	11 William Street	Belleville	BULKY WASTE(WALLBOARD, PALLETS, GLASS)
Lamco Custom Counter Tops, Inc.	681 Main Street, Bldg. 26	Belleville	BULKY WASTE
Deep Foods, Inc.	248 Montgomery	Bloomfield	FOOD PROCESSING WASTE
International Tape Products Co.	5 Lawrence Street	Bloomfield	BULKY WASTE, FLOUR, LIGHTS, CLEANING PRODUCTS
Park Manor Nursing Home	23 Park Place	Bloomfield	MEDICAL WASTE, DRUGS
Permanent Label Corporation	186 Walnut Street	Bloomfield	BULKY WASTE(PALLETS)
Pezza Auto Sales	146 Bloomfield Avenue	Bloomfield	OIL SPILL CLEAN-UP WASTE
Schering Corporation	104 Orange Street	Bloomfield	BATTERIES, R&D WASTE, FLOUR,LIGHTS, THERMOSTATS
The Hartz Mountain Corporation	192 Bloomfield Avenue	Bloomfield	ANIMAL PROCESSING WASTE, PVC, AUTO PARTS, GLUE, DRUGS, TIRES
Zeus Inc.	1073 Broad Street	Bloomfield	OIL SPILL CLEAN-UP WASTE, TIRES, AUTO PARTS
Kalters Dry Cleaners	466 Bloomfield Avenue	Caldwell	HAZ. WASTE
Continental Extrusion Corporation	11 Cliffside Drive	Cedar Grove	BULKY WASTE, INK SOLIDS, DIATOMACEOUS EARTH, PALLETS, METAL CUTTINGS
Printwrap	95 Sand Park	Cedar Grove	WASTE OIL
R-V Metal Fabricating, Inc.	20 Sand Park Road	Cedar Grove	BULKY WASTE
R.P. Cargille Laboratories, Inc.	55 Commerce Road	Cedar Grove	R&D WASTE, BATTERIES, FLOUR, LIGHTS
Al-Star Machine Corporation	545 North Arlington Avenue	East Orange	WASTE OIL
Demetrious Cabinet Shop	364 Glenwood Avenue	East Orange	BULKY WASTE
East Orange Nursing Home	101 N. Grove Street	East Orange	MEDICAL WASTE
Gordon Thomas Companies, Inc.	2 New Main Street	East Orange	BULKY WASTE
Merit East Orange	26 Central Avenue	East Orange	OIL SPILL CLEAN-UP WASTE
Bell Molded Products Inc.	37 Daniel Road West	Fairfield	OIL SPILL CLEAN-UP WASTE, BULKY WASTE, YARD WASTE
Bio-Tech Corporation	23 Madison Road	Fairfield	BULKY WASTE
Criger Service Inc.	79 Lane Road	Fairfield	AUTO PARTS, OIL SPILL CLEAN-UP WASTE
Electrographics Corporation	373 Route 46 West	Fairfield	HAZARDOUS WASTE, BULKY WASTE, HEAVY METALS
Heisler Machine & Tool Co.	224 Passaic Avenue	Fairfield	BULKY WASTE
Hoechst Celanese Corporation	111 Lehigh Drive	Fairfield	NON-HAZARDOUS CHEMICAL WASTE
ISS Energy Services, Inc.	10 Plog Road	Fairfield	OIL SPILL CLEAN-UP WASTE, BULKY WASTE
Independent Machine Company	2 Stewart Place	Fairfield	OIL SPILL CLEAN-UP WASTE
Olympic Wire & Cable Corporation	1 Madison Road	Fairfield	SCRAP WIRE, LARGE PIECES OF WOOD
P.C. Drilling, Inc.	16 Montesano Road	Fairfield	METAL CUTTINGS, OIL SPILL CLEAN-UP WASTE, FLOUR, LIGHTS
R.B. Sandblasting, Inc.	40 Pier Lane West	Fairfield	METAL CUTTINGS, ASBESTOS-CONTAINING WASTE
Rectico Inc.	6 Stewart Place	Fairfield	BULKY WASTE

(FACILITIES GENERATING PROHIBITED NJDEPE WASTE TYPES)

acility Name	Street	City	Prohibited Items
yncor International Corp.	19 A Gardner Road	Fairfield	RADIOACTIVE WASTE
wer Performance, Inc.	287 Passaic Avenue	Fairfield	BULKY WASTE
hlberg Manufacturing Inc.	10-16 Renee Place	Irvington	BULKY WASTE, GLUE
y Marx Color Co.	192 Colt Street	Irvington	SLUDGE, HEAVY METALS
rit Lyons	533 Lyons Avenue	Irvington	OIL SPILL CLEAN-UP WASTE
bert Stiefel & Son	528 Chancellor Avenue	Irvington	BULKY WASTE
bert W. Kimball & Son, Inc.	80 Mill Road	Irvington	BULKY WASTE
tandard Uniform Service	56 Woolsey Street	Irvington	AUTO PARTS, FLOUR, LIGHTS, OIL SPILL CLEAN-UP WASTE, SLUDGE
rlikon Bearing Company	644 W. Mt. Pleasant Ave., PO Box 45	Livingston	OIL SPILL CLEAN-UP WASTE
.C. Inc./ Meineke Discount Muffler	172 South Livingston Avenue	Livingston	AUTO PARTS & MAINT. PRODUCTS, ANTIFREEZE, WASTE OIL
C Products	106 Naylon Avenue	Livingston	FOOD PROCESSING WASTE
ster Wheeler Development Corporation	12 Peach Tree Hill Road	Livingston	RESEARH & DEVELOP. PROCESS WASTE
ilker, Inc.	P.O. Box 0093, 71-77 Okner Parkway	Livingston	METAL CUTTINGS, BATTERIES, OIL SPILL CLEAN-UP WASTE
mpy Foods, Inc.	1669 Springfield Avenue	Maplewood	FOOD PROCESSING WASTE
dison Nursing Home	31 Madison Avenue	Montclair	MEDICAL WASTE, BATTERIES, FLOUR, LIGHTS
ntcalm Nursing Home	32 Pleasant Avenue	Montclair	MEDICAL WASTE, BATTERIES, FLOUR, LIGHTS, WALL BOARD, DRUGS
ntclair Sea Food Inc.	586 Bloomfield Avenue	Montclair	FOOD PROCESSING WASTE
venson Environmental Service, Inc.	Corner of Franklin & Virginia	Montclair	RADIOACTIVE WASTE, ASBESTOS, BULKY WASTE
J. & J. O. Filar Inc.	145 Chapel Street	Newark	BULKY WASTE
liance Chemical Inc.	33 Ave. P or 309-327 Avenue P	Newark	NON-HAZARDOUS CHEMICAL WASTE
llstate Compressor Remanufacturing Inc.	722 Frelinghuysen Avenue	Newark	OIL SPILL CLEAN-UP WASTE
llstate Paper Box Co.	223 Raymond Blvd.	Newark	BULKY WASTE
mbrosia Chocolate Co.	364 North 5th Street	Newark	FOOD PROCESSING WASTE
merican Airlines	Term. 1, Nwk. Int'l Airport	Newark	OIL SPILL CLEAN-UP WASTE
merican Rendering Corp., a/k/a Berkowitz Fat	38-42 Bay Avenue	Newark	ID25-Animal and food processing waste
rnold Industries	733 South 11th Street	Newark	BULKY WASTE
tlas Refinery	142 Lockwood Street	Newark	BULKY WASTE, OIL SPILL CLEAN-UP WASTE
ell Corporation	615 Perry Street	Newark	BULKY WASTE, FLOUR, LIGHT FIXTURES
njamin Moore & Company	134 Lister Avenue	Newark	BULKY WASTE
at Provision Co., Inc.	144 Avon Avenue	Newark	FOOD PROCESSING WASTE
n Art International	99 Evergreen Avenue	Newark	BULKY WASTE
Motor Freight	300 Port Street	Newark	BULKY WASTE, AUTO PARTS, AUTO MAINT. PRODUCTS, HEAVY METALS, BATTERIES

Facility Name	Street	City	Prohibited Items
Charles E. Green & Son, Inc.	609-625 North Third Street	Newark	ELEC. COMPONENTS, WASTE OIL
Cohen's Famous Frozen Foods	631 Frelinghuysen Avenue	Newark	FOOD PROCESSING WASTE
Columbus Hospital	495 N. 13th Street	Newark	REG MEDICAL WASTE, BATTERIES, FLOUR, LIGHTS, RADIOACTIVE WASTE
Commercial Laminates, Inc.	49 Empire Street	Newark	BULKY WASTE
Cooper Lighting t/a P & K Pole Products	84 Foundry Street	Newark	BULKY WASTE, METAL CUTTINGS, SOLDER, TIRES, AUTO PARTS, FLOUR, LIGHTS
Corrolino Printing Co.	393 Halsey Street	Newark	PRESS & TYPE WASH
Darling-Delaware Company, Inc.	825 Wilson Avenue	Newark	ANIMAL PROCESSING WASTE, AUTO PARTS, FLOUR, LIGHTS, BATTERIES, METALS, ETC.
Dreher, Inc.	49 Vesey Street	Newark	ANIMAL PROCESSING WASTE, HEAVY METALS, METAL CUTTINGS, BATTERIES, ETC.
Drum Service of Newark	51 Stanton Street	Newark	BULKY WASTE
Electric Service & Sales Co., Inc.	468 Felinghuysen Avenue	Newark	OIL SPILL CLEAN-UP WASTE, WASTE OIL
Empire Lumber & Millwork Co.	377 Frelinghuysen Avenue	Newark	BULKY WASTE
Fabricators and Laminators Co.	1255 McCarter Highway	Newark	LUMBER, FORMICA
Heraeus Inc, Refining Division	65 Euclid Ave (mail-111 Albert Ave)	Newark	CONSTRUCTION DEBRIS, PVC
Hy-Grade Electroplating Co.	35 4th Street	Newark	BULKY WASTE
Integrity, Inc.	P.O. Box 510/103 Lincoln Park	Newark	FOOD PROCESSING WASTE, BATTERIES
JPD Inc.	418-26 Central Avenue	Newark	ANIMAL PROCESSING WASTE
Jersey Technology Laboratories, Inc.	154-156 Wright Street	Newark	BULKY WASTE
Kohler Delicatessen Meats, Inc.	57 Napoleon Street	Newark	FOOD PROCESSING WASTE
L P S Industries, Inc.	113 North 13th Street	Newark	BULKY WASTE
L P S Industries, Inc.	155 Berkley Avenue	Newark	BULKY WASTE, FOIL
Lach's Service Center Inc.	924 18th Avenue	Newark	AUTO PARTS, OIL SPILL CLEAN-UP WASTE
Louis Dreyfus Energy	678 Doremus Avenue	Newark	HAZ. WASTE
Manhardt-Farrell Tire Service	41 Frelinghuysen Avenue	Newark	AUTO PARTS, TIRES, BATTERIES, WASTE OIL
Mann Kraft Corporation	1000 U.S. Highway 1	Newark	OIL SPILL CLEAN-UP WASTE, INK
Metro Metal Recycling Corporation	Foot of Starboard Street	Newark	OIL SPILL CLEAN-UP WASTE, AUTO MAINT. PRODUCTS, FERROUS SCRAP
Nanto's Ice Cream Co.	236 Jefferson Street	Newark	FOOD PROCESSING WASTE
Nesbitt Auto Repair, Inc.	36 Nesbitt Street	Newark	TIRES, AUTO PARTS
Newark Asphalt Corporation	Foot of Passaic Street	Newark	BULKY WASTE, METAL
Niagara Auto Repair	23-25 Niagara Street	Newark	AUTO PARTS, WASTE OIL, ANTIFREEZE
Nonfluid Oil Corporation	298 Delancy Street	Newark	OIL SPILL CLEAN-UP WASTE, HEAVY METALS
Paramount Bakery	61 Davenport Avenue	Newark	FOOD PROCESSING WASTE

(FACILITIES GENERATING PROHIBITED NJDEPE WASTE TYPES)

·ility Name	Street	City	Prohibited Items
·ick Corporation	158 Mt. Oliver Avenue	Newark	BULKY WASTE, FLOUR, LIGHTS, BATTERIES, SHEETROCK
·ar River Plate Corp.	8 Lister Avenue	Newark	BULKY WASTE
·blic Service Electric & Gas Co.	1025 McCarter Hwy	Newark	BULKY WASTE, AUTO PARTS, MERCURY PRODUCTS, BATTERIES, YARD WASTE
·antum Chemical Corporation	300 Doremus Avenue	Newark	BULKY WASTE
·cling And Salvage Corp.	170 Frelinghuysen Avenue	Newark	CONST. DEBRIS
·gliero Seafood Inc.	146-162 Pennington Street	Newark	FOOD PROCESSING WASTE, PALLETS
·ctor Tool & Mfg. Co.	117 Sylvan Avenue	Newark	OIL SPILL CLEAN-UP WASTE
·mrock Technologies, Inc.	Foot of Pacific Street	Newark	BULKY WASTE, R&D PROCESS WASTE, HAZARDOUS WASTE
·ri's Cookery Inc.	33 Delancy Street	Newark	FOOD PROCESSING WASTE
·op & Go Tire	87 Bloomfield Avenue	Newark	TIRES
·n Chemical Corp.	185 Foundry Street	Newark	BULKY WASTE
·n Company, Inc. (Newark Terminal)	426 Doremus Avenue	Newark	OIL SPILL CLEAN-UP WASTE, BULKY WASTE, ELEC. COMPONENTS, BATTERIES, METALS
·noco Service Station #0011-5139	264 Park Avenue	Newark	AUTO PARTS, BATTERIES, TIRES, HAZ. WASTE
·ddy's Provisions	219 Ferry Street	Newark	FOOD PROCESSING WASTE
·e Leonard Company, Inc.	1385 McCarter Hwy., P.O. Box 9021	Newark	BULKY WASTE
·hcraft Chemicals Inc dba Craig Adhesives Di	80 Wheeler Point Road	Newark	BULKY WASTE
·lton Foods / Bonney's	30 Jabez Street	Newark	FOOD PROCESSING WASTE
·co Corporation	652 Doremus Avenue	Newark	FILTER CAKE, BULKY WASTE, TRANSFORMERS, ELEC. COMPONENTS, BATTERIES, ETC.
·llow Freight System, Inc.,	335 Delancy Street	Newark	WOODEN PALLETS
·ndview Servicenter, Inc.	251 Grandview Avenue	North Caldwell	TIRES
·dernaire Heating and Air Conditioning	357 Harrison Street	Nutley	BULKY WASTE
·chnical Coating Co.	57 East Centre Street	Nutley	BULKY WASTE
·hibit Technology For Industry	51 South Jefferson Street	Orange	BULKY WASTE, METAL CONTAINERS, ELEC. COMPONENTS, TRANSFORMERS
Reisman Corporation	377 Crane Street	Orange	DRUGS, YARD WASTE
·spital Center at Orange	188 South Essex Avenue	Orange	CONST. DEBRIS, FLOUR LIGHTS, BATTERIES, METAL CUTTINGS, SHEETROCK, YARD WASTE
·rmatech Int., Inc.	20	Orange	RESEARCH & DEVELOPMENT PROCESS WASTE
·duct Engineering Labs Co., Inc.	555 Central Avenue	Orange	BULKY WASTE
·ther Bros. Environmental Excavating	10 Steel Ct. P.O. Box 116	Roseland	PETROLEUM CONTAMINATED SOIL
·seland Surgical Center	556 Eagle Rock Avenue	Roseland	MEDICAL WASTE
·thony's Landscaping	311 Valley Street	South Orange	YARD WASTE (GRASS CLIPPINGS, BRUSH, ETC.)
·E Motors Inc.	300 Valley Street	South Orange	HAZ. WASTE, TIRES

CATEGORY 1 FACILITIES
(FACILITIES GENERATING PROHIBITED HJDEPE WASTE TYPES)

Facility Name	Street	City	Prohibited Items
Quality Auto Center	254 Valley Street	South Orange	AUTO PARTS, TIRES, WASTE OIL
AGFA Corp.	8 Henderson Drive	West Caldwell	CONSTRUCTION DEBRIS
Deluxe Check Printers, Inc.	5 Henderson Drive	West Caldwell	OIL SPILL CLEAN-UP WASTE, BULKY WASTE, ELEC. COMPONENTS, SHEETROCK
Lenhome Transmissions, Inc.	1045 Bloomfield Avenue	West Caldwell	OIL SPILL CLEAN-UP WASTE
Rockland Corporation	686 Passaic Avenue	West Caldwell	NON-HAZ. PESTICIDES
Sloan Acoustics	38 Fairfield Place, CN 2845	West Caldwell	BULKY WASTE
The Harvel Manufacturing Company	22 Fairfield Place	West Caldwell	BULKY WASTE, OIL SPILL CLEAN-UP WASTE
Welsh Farms Ice Cream	780 Passaic Avenue	West Caldwell	BULKY WASTE
Barton Press, Inc.	55 Lakeside Avenue	West Orange	CONST. DEBRIS, FLOUR, LIGHT FIXTURES
Horning Automotive	494 Valley Road	West Orange	AUTO PARTS, TIRES, BATTERIES, WASTE OIL

(FACILITIES GENERATING HAZARDOUS WASTE)

acility Name	Street	City	Prohibited Items
dcal Plating & Polishing Co.	681 Main Street, P.O. Box 100	Belleville	SMALL QTY HAZ WASTE, HEAVY METALS, BATTERIES, ELEC. COMPONENTS, RUBBER
ostape Division of PMC, Inc.	51 La France Avenue	Bloomfield	FIBERGLASS FABRIC, SMALL QTY. HAZARDOUS WASTE
ast Orange General Hospital	300 Central Avenue	East Orange	HAZ. WASTE, BULKY WASTE, BATTERIES, METAL CUTTINGS, SHEETROCK, FLOUR, LIGHT
rcadia Cleaners, Inc.	710 Grove Street	Irvington	PERCHLOROETHYLENE
odel Upholstering Co.	531 Millburn Avenue	Millburn	WASTE PRODUCTS, FLOUR, LIGHTS, CLEANING PRODUCTS
merican Adhesives & Coatings Inc.	470 Mulberry Street	Newark	CHEMICAL RESIDUE
eystone Folding Box Company	367 & 381 Verona Avenue	Newark	HAZARDOUS WASTE, FLOUR, LIGHTS, GLUE, BATTERIES
olymer Extruded Products	297 Frerry Street	Newark	SMALL QTY. HAZARDOUS WASTE
he Sherwin-Williams Co.	60 Lister Avenue	Newark	HAZARDOUS WASTE
.A.S. Terminals Corp.	126 Passaic Street	Newark	HAZARDOUS WASTE
anda Industries t/a Printing Technologies	46 Franklin Avenue	Nutley	WASTE PAINT, SOLVENTS, STAINS

CATEGORY 3 FACILITIES

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY CAUSE THE RESIDUAL ASH TO BE CHARACTERIZED AS HAZARDOUS)

Facility Name	Street	City	Prohibited Items
C. F. Wood Company, Inc.	120 Liberty Street	Bloomfield	INK
Superior Engraving Co.	5 Lawrence Street P.O. Box 151	Bloomfield	INK
Becton Dickenson	21 Just Road	Fairfield	METALS, PVC, GLUE, ELEC. COMPONENTS, SOLDER
Driscoll Label Co., Inc.	1275 Bloomfield Avenue	Fairfield	Ink, photochemicals
Honeywell Inc.	80 Little Falls Road	Fairfield	Electronic components, household batteries, solder, waste pa
Loar Mfg. Corporation	1275 Bloomfield Avenue, Bldg. 8-62	Fairfield	FLOUR, LIGHTS, GLUE, WASTE PAINT
Pace Packaging Corporation	88 Clinton Road	Fairfield	Electronic components, metal parts, cleaning products
Ward Homestead	125 Boyden Avenue	Maplewood	BULKY WASTE, PAINT, FOOD PROCESSING WASTE, THERMOSTATS, DRUGS, OTHERS
CDI Dispersions	27 Haynes Avenue, P.O. Box 2639	Newark	Pigments, resins, waste paint
Daytona Finishing	59 Wall Street	Newark	HEAVY METALS
Safer Prints, Inc.	1875 McCarter Hwy	Newark	DYE, FLOUR, LIGHTS, BATTERIES
Seton Company/Leather Division	849 Broadway	Newark	LEATHER SHAVINGS, CHROME CAKE
Ace Litho Printing Service, Inc.	33-37 North Day Street	Orange	INK, EXPLOSIVES

CATEGORY 4 FACILITIES

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

acility Name	Street	City	Prohibited Items
ell Press	49 Ralph Street	Belleville	INK, DYE, HAZARDOUS WASTE
Harlen Gender Co, Inc., dba Ardwyn Binding	681 Main Street	Belleville	PVC
omestic Uniform Supply Company, Inc.	265 Cortlandt Street	Belleville	FILTER PRESS
astern Molding	597 Main Street	Belleville	RUBBER
y-Test Packaging Corporation	681 Main Street, Bldg. #30	Belleville	PVC, AUTO MAINT. PRODUCTS, FLOUR, LIGHTS, OIL SPILL CLEAN-UP WASTE
C Landscape Construction & Mgmt. Co., Inc.	622 Belleville Avenue	Belleville	YARD WASTE, AUTO PARTS, BATTERIES, TIRES
atural Creation Landscaping	725 Jaralemon Street #243	Belleville	YARD WASTE
ackaging Horizons Corporation	49 Montgomery Street	Belleville	METAL CUTTINGS, FLOUR, LIGHTS, INK CANS
oyal Lite Mfg and Supply Corp.	53 Montgomery Street	Belleville	FLOUR, LAMPS
pina's Landscaping	16 Parkside Drive	Belleville	YARD WASTE
& C Landscaping	11 Barbara Street	Bloomfield	YARD WASTE
lizzard Inc.	14 Cook Road	Bloomfield	YARD WASTE
loomfield Plastics Company, Inc.	28 Montgomery Street	Bloomfield	PVC
ente Landscaping, Inc.	131 Belleville Avenue	Bloomfield	YARD WASTE
isplay Die Services, Inc.	5 Lawrence Street	Bloomfield	INK
eneral Plastics, Div. of FMC, Inc.	55 La France Avenue	Bloomfield	BULKY WASTE, YARD WASTE, BATTERIES, METAL CUTTINGS, THERMOSTATS, RUBBER
erome Auto Sales	393 Bloomfield Avenue	Bloomfield	FLOUR, LIGHTS, BATTERIES, TIRES
ob Haines Home	250 Bloomfield Avenue	Bloomfield	CLEANING PRODUCTS, FLOUR, LIGHTS, BATTERIES, DRUGS, THERMOMETERS
inor Rubber Co., Inc.	49 Ackerman Street	Bloomfield	RUBBER
icosia & Son Landscaping	Post Office Box 1232	Bloomfield	YARD WASTE
ptic Plastics	28 Montgomery Street	Bloomfield	BATTERIES, METAL CUTTINGS, YARD WASTE
. J. Egan & Company, Inc.	5 Lawrence Street	Bloomfield	DRUGS, TIRES, SHEETROCK
ill Ricigliano Landscaping	7 Cherry Lane	Caldwell	YARD WASTE
reen Maple Landscaping, Inc.	30 Ravine Avenue	Caldwell	AUTO MAINT. PRODUCTS, TIRES, YARD WASTE
nthony J. Latella Landscaping	64 Bently Road	Cedar Grove	YARD WASTE
ave and Gene Landscaping	195 Stevens Avenue	Cedar Grove	YARD WASTE
pectrex, Inc.	220 Little Falls Road	Cedar Grove	SOLDER, TRANSFORMERS, FLOUR, LIGHTS, EXPLOSIVES, GLUE
llied Rubber & Gasket Craft Co.	555 North Arlington Avenue	East Orange	RUBBER
erman Frank Inc.	70 Long Street	East Orange	PLASTER CASTS
ames Nelson Smith t/a J.N. Smith Landscaping	P.O. Box 351	East Orange	YARD WASTE
essler Associates, Inc.	454 William Street	East Orange	PVC

CATEGORY 4 FACILITIES
(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

Facility Name	Street	City	Prohibited Items
Kessler Institute For Rehabilitation, Inc.	240 Central Avenue	East Orange	FLOUR, LIGHTS, BATTERIES, ELEC. COMP., DRUGS
Taylor Windows Co.	66 Central Avenue	East Orange	PVC
The Hey Company	66 Franklin Street	East Orange	RUBBER, SOLDER, METAL CUTTINGS
Linnett Landscaping	28 Forest Way	Essex Fells	AUTO PARTS & LEAVES
A. W. Dragji Ground Prods Inc.	16 Ray Place	Fairfield	FLOUR, LIGHTS
Alison Control Inc.	35 Daniel Road West	Fairfield	FLOUR, TUBES, ELEC. COMPONENTS
Allen-Bradley Company	24 Dwight Place	Fairfield	ELEC. COMP., SOLDER, METALS, TRANSFORMERS
B & J Rubber Works, Inc.	88 Clinton Road	Fairfield	RUBBER
Baxter Rubber Company	10 Spielman Road	Fairfield	RUBBER SCRAP
C.E. Conover & Company, Inc.	333 Passaic Avenue	Fairfield	PVC, TEFLON
Carnegie Manufacturing Co., Inc.	20 Montesano road	Fairfield	PVC, METAL CUTTINGS
Cartridge Actuated Devices, Inc.	123 Clinton Road	Fairfield	METAL CUTTINGS, ELEC. COMPONENTS, SOLDER, PVC. YARD WASTE
Color Formulators, Inc.	8 Commerce Road	Fairfield	PIGMENTS
Control Instruments Corporation	25 Law Drive	Fairfield	ELEC. COMP.
Curtiss Wright Flight Systems, Inc.	300 Fairfield Road	Fairfield	YARD WASTE, HEAVY METALS
Decker Tape Products Co., Inc	6 Stewart Place	Fairfield	PVC
Delta Cooling Towers, Inc.	134 Clinton Road	Fairfield	PVC, METAL CUTTINGS, BULKY WASTE
Domenico LaBanca	45 Henning Drive	Fairfield	YARD WASTE
ECSI	23 Just Road	Fairfield	PAINT, FLOUR, TUBES
Heat-Timer Corporation	10 Dwight Place	Fairfield	ELEC. COMPONENTS, HEAVY METALS
J. Hilaire Landscaping	78 Sand Road	Fairfield	YARD WASTE, AUTO MAINT. PRODUCTS
Jack Evans Landscaping	168 Horseneck Road	Fairfield	YARD WASTE, AUTO MAINT. PRODUCTS, FLOUR, LIGHTS
Killion Extruders	200 Commerce Road	Fairfield	FLOUR, LIGHTS, YARD WASTE, OIL SPILL CLEAN-UP WASTE, METALS
Lawnmaster	6 Martin Place	Fairfield	YARD WASTE
Mahaffy & Harder Engineering Company	140 Clinton Road, P.O. Box 40002	Fairfield	PVC, RUBBER
Membrex Inc.	155 Route 46 West	Fairfield	PVC
Nazarian Aviation	125 Passaic Avenue	Fairfield	ELEC. COMP., SOLDER, TIRES, BATTERIES
Pete's Landscaping	70 Fairfield Road	Fairfield	YARD WASTE
Premier Printing	35 Little Falls Road	Fairfield	PRINTING MASTERS
Prestige Rubber Mfg. Corp.	11 Spielman Road	Fairfield	RUBBER
Pure Rubber Products Co.	7 Ray Place	Fairfield	RUBBER, FLOUR, LIGHTS
R. Natem Lawn Care Inc.	9 Donna Drive	Fairfield	YARD WASTE
Rubber & Silicone Products Co., Inc.	Montesano Road	Fairfield	RUBBER
S 2 Golf Inc.	18 Gloria Lane	Fairfield	GLUE, FLOUR, LIGHTS

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

·cility Name	Street	City	Prohibited Items
·neor Scientific, Inc.	6 Kings Bridge Road	Fairfield	HEAVY METALS, BATTERIES, SOLDER, PAINT, ELEC. COMPONENTS
·arks Belting Company	5 Spielman Road	Fairfield	PVC, RUBBER, GLUE, FLOUR, LIGHTS, CLEANING PRODUCTS, AEROSOL SPRAY CANS
·ecialty Dispersion Company	14 Ray Place	Fairfield	PVC, BULKY WASTE
·mmit Scientific Corp.	31 Dwight Place	Fairfield	PVC, METAL CUTTINGS
A Electric Company	22 Audrey Place	Fairfield	ELEC. COMPONENTS, FLOUR, LIGHT FIXTURES, SOLDER, THERMOSTATS, TRANSFORMERS
·temp Inc.	285 Passaic Avenue	Fairfield	ELEC. COMPONENTS, METALS, BATTERIES
·. Classics Corp. dba Electric Fan Engineer	855 Bloomfield Avenue	Glen Ridge	ELEC. COMPONENTS
·stom Decorating Inc.	600 South 21st Street	Irvington	BATTERIES, FLOUR, TUBES, PVC, YARD WASTE, METAL CUTTINGS
·ver-Oil Fuel Company	507-513 Chancellor Avenue	Irvington	BATTERIES, THERMOSTATS
·ylon Implement Division	196 Colt Street	Irvington	Yard waste, household batteries, non-hazardous oil spill clean-up waste, fouores
·e Reformed Church Home	720 Nye Avenue	Irvington	AUTO MAINT. PRODUCTS, BATTERIES, SOLDER, TIRES, YARD WASTE, SHEETROCK
·ago Esen, Inc.	31 East Cedar Street	Livingston	YARD WASTE
·e-Kay Landscaping Inc.	73 North Livingston Avenue	Livingston	YARD WASTE, OIL SPILL CLEAN-UP WASTE, TIRES, AUTO MAINT. PRODUCTS
·chia Corporation	543 West Mt. Pleasant Avenue	Livingston	YARD WASTE
·lermo Landscaping Inc.	154 North Livingston Avenue	Livingston	YARD WASTE, FERTILIZER
·chard T. Eyrich Inc.	84 Hillside Avenue	Livingston	YARD WASTE
·bert Paladino Landscaping Inc.	225 Walnut Street	Livingston	YARD WASTE
·lvatore Buono	170 Hillside Avenue	Livingston	YARD WASTE
·rtel Landscaping	P.O. Box 368	Livingston	YARD WASTE
·alora Landscaping Corporation	399 East Mt. Pleasant Avenue	Livingston	AUTO PARTS, YARD WASTE
·ibune Publishing Company, Inc.	18 Okner Parkway	Livingston	INK
·rmine's Landscaping, Inc.	69 Midland Blvd.	Maplewood	YARD WASTE
·esco Silver Co.	357 Boyden Avenue	Maplewood	METAL CUTTINGS, SHEETROCK, PVC, YARD WASTE
·enn's Landscaping	PO BOX 1137	Maplewood	YARD WASTE
·mmond Inc.	515 Valley Street	Maplewood	SHEETROCK, WASTE OIL
·ppeh Raio Landscape & Design Inc.	29 Marie Place	Maplewood	YARD WASTE
·ma's Landscaping	13 Lancaster Avenue	Maplewood	YARD WASTE
·n-Optical Technologies Inc.	241 Rutgers Street	Maplewood	PVC, ELEC. COMP., BATTERIES, METAL
·iversal Chain Company, Inc.	92 Burnett Avenue	Maplewood	TALC, GUM ROSIN

CATEGORY 4 FACILITIES

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

Facility Name	Street	City	Prohibited Items
Z.O. Landscaping, Inc.	17-21 Newark Way	Maplewood	YARD WASTE
Andrew K. Becker Ent. Inc.	257 Brookhaven Way	Millburn	YARD WASTE, TIRES, AUTO PARTS
Chiaramonte Landscaping	8 Blaine Street	Millburn	YARD WASTE, PESTICIDES
Kim & Jim's Landscaping	P.O. Box 825	Millburn	YARD WASTE
New Palumbo's Inc.	238 Main Street	Millburn	BATTERIES, AUTO PARTS, ELEC. COMPONENTS, THERMOSTATS, TIRES, WASTE PAINT
A. Lombardi Inc.	73 N. Willow Street	Montclair	YARD WASTE
Applegate Farm	616 Grove Street	Montclair	CLEANING PRODUCTS, FLOUR, LIGHTS, YARD WASTE
Bogart & Hansen Inc.	568 Bloomfield Avenue	Montclair	BALLASTS, THERMOSTATS, BATTERIES, FLOUR, LIGHT FIXTURES
E.C.M. Landscaping, Inc.	5 Frederick Street	Montclair	YARD WASTE
Jack Sherwood Landscaping, Inc.	309 N. Fullerton Avenue	Montclair	Yard waste, fertilizers
Montclair Auto Top and Seat Cover Co.	195 Glenridge Avenue	Montclair	AUTO MAIN. PRODUCTS, WASTE PAINT
Montclair Community Hospital	120 Harrison Avenue	Montclair	DRUGS, MEDICAL WASTE, WASTE OIL, YARD WASTE, BATTERIES, FLOUR, LIGHTS
Mountainside Hospital	Bay & Highland Avenues	Montclair	Flour, lights, batteries,const. debris, radioactive materials, yard waste
ACIMI Corp./Cambridge Industries of America	7-33 Amsterdam Street	Newark	RUBBER, BULKY WASTE
Abcor Supply Inc.	360 South Street	Newark	PVC
Alpha Chemical & Plastics Corporation	1 Jabez Street	Newark	YARD WASTE, HEAVY METALS, FLOUR, TUBES
Anchor Sheet Metal	20 Chappel Stree, P.O. Box 5059	Newark	ASPHALT PRODUCTS, FLOUR, LIGHTS, YARD WASTE, WASTE PAINT
Automatic Electro-Plating Corporation	185 Foundry Street, Bldg. #21	Newark	CHEMICAL BAGS
Banks Ship Rigging Corporation	Bldg. 321-North Side, Viking & Navy	Newark	SHEETROCK, YARD WASTE, METALS
C. P. Schmidt & Sons	11 Komorn Street	Newark	FLOUR, LIGHTS, ALUM. PLATES, FILM NEGATIVES
C. Patti Electro Plating Corp.	27 First Street	Newark	HEAVY METALS
Cardolite Corporation	500 Doremus Avenue	Newark	ASPHALTIC PRODUCTS, ELEC. COMPONENTS, FLOUR, LIGHTS, PVC, THERMOSTATS
Caso Casting Company	93 Lafayette Street	Newark	PLASTER, RUBBER
Chase Laboratories	280 Chestnut Street	Newark	DRUGS, WASTE OIL, WASTE PAINT
Delasal Inc.	57 Freeman Street	Newark	PVC
E.G.L. Company, Inc.	730 South 13th Street	Newark	BATTERIES, ELEC. COMPONENTS, FLOUR, LIGHTS, METAL CUTTINGS
Faber-Castell Corp.	41-47 Dickerson St	Newark	PVC, BULKY WASTE
Flexon Ind.	366 Frelinghuysen Avenue	Newark	PVC
Flouresecent Products Inc./Dura Electric Lamp	242-256 Sherman Avenue/64 E. Bigelo	Newark	SOLDER, FLOUR, LIGHTS, PHENOLIC

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

cility Name	Street	City	Prohibited Items
aphic Vinyl Products, Inc.	400 Ferry Street	Newark	PVC
enfield Auto Services	201-203 Sussex Avenue	Newark	GLUE, BATTERIES
rdian Fence Co., Inc.	180 Wright Street	Newark	PVC, METAL CUTTINGS, TIRES, RUBBER
nvia	100 Chestnut Street	Newark	METAL CUTTINGS, QUARTZ, SOLDER, TRANSFORMERS, ELEC. COMPONENTS, SULFER
lton Davis Company	120 Lister Avenue	Newark	PIGMENTS, BULKY WASTE, FLOUR, LIGHTS, PVC, BATTERIES, OIL SPILL C/U WASTE
lg Chemical & Processing Corporation	414 Wilson Avenue	Newark	FLOUR, LIGHTS, BATTERIES, PVC, RUBBER, CONST. DEBRIS
lustrial Equipment Company	465 Raymond Blvd.	Newark	BATTERIES, TIRES
n Extruding Corp.	106 Rutherford Street	Newark	AUTO MAINT. PRODUCTS, WASTE OIL, YARD WASTE, FLOUR, LIGHTS
steel Fabricators	317-319 Jefferson Street	Newark	FLOUR, LIGHTS, WASTE PAINT
lt Top Co.	387 South 10th Street	Newark	PVC, FLOUR, LIGHTS
ller Floreat & Supply Inc.	156 Central Avenue	Newark	YARD WASTE
rcino's Printing Inc.	88 Elm Street	Newark	BLANKET WASH, PLATE DEVELOPER
Community Health and Extended Care Center	266 South Orange Avenue	Newark	PRES, DRUGS, MERCURY PRODUCTS, THERMOSTATS, SHEET ROCK, GLUE, FLOUR, LIGHTS
ark Liner & Washer	501 Broadway	Newark	TEFLON
ark Mini Surgi Site, Inc.	145 Roseville Avenue	Newark	DRUGS, YARD WASTE, FLOUR, LIGHTS
co Shredding	PO BOX 5157	Newark	AUTO SHREDDER RESIDUE
nge, Newark, Elizabeth Bus Inc.	889 Frelinghuysen Avenue	Newark	ELEC. COMPONENTS, FLOUR, LIGHTS, BATTERIES
n Jersey Paint	1256 McCarter Highway	Newark	CLAY, PIGMENTS
er Pan Industries, Inc.	88 St. Farncis Street	Newark	YARD WASTE, BATTERIES, FLOUR, LIGHTS
larome Manufacturing Co., Inc.	363 South Street	Newark	VARIOUS OILS, PALLETS
lity Engraving Co., Inc.	1010 Broad Street	Newark	RUBBER, METAL CUTTINGS
ach & Co. of T.W.S., Inc.	2 Lister Avenue	Newark	HEAVY METAL CONTAINING PRODUCTS
het Electric U.S.A. Co., Ltd.	329 Frelinghuysen Avenue	Newark	BATTERIES
S Plastics Inc.	310 Sherman Avenue	Newark	RUBBER, PVC
hnical Aids	240 Martin Luther King Blvd.	Newark	ELEC. COMPONENTS, METALS, SOLDER, BATTERIES
ax Finishing Products Co.	390 Adams Street	Newark	FLOUR, LIGHTS, METAL CONT., YARD WASTE
na World Airlines	Terminal A, Newark Int'l Airport	Newark	BATTERIES, TIRES, HEAVY METALS, FLOUR, LIGHTS
. Screening Corporation	776-780 Frelinghuysen Avenue	Newark	INK
ted Hospitals Medical Center	15 South 9th Street	Newark	BULKY WASTE(SHEETROCK)
neral Co., Inc and Music Accessories Mfg.	25 Prospect Street	Newark	INK, GLUE, PVC, OIL SPILL CLEAN-UP WASTE
Law & Son	265-269 Thomas Street	Newark	THERMOSTATS, ELEC. COMPONENTS

CATEGORY 4 FACILITIES

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

Facility Name	Street	City	Prohibited Items
Welco Gases Corporation	855 Raymond Boulevard	Newark	PAINTS/CANS
Wilson Imperial Company	115 Chestnut Street	Newark	FLOUR LIGHTS, YARD WASTE, CHEMICAL WASTE
Wire Recycling Inc.	192 Murray Street	Newark	PVC, METAL CUTTINGS, RUBBER
Bill Hamilton Landscaping	474 Prospect Street	Nutley	YARD WASTE
Comus International	263 Hillside Avenue	Nutley	ELECTRODES, WIRE, YARD WASTE, BATTERIES
D. Corino Inc.	491 Harrison Street	Nutley	YARD WASTE
Emerald Lawns & Landscaping	147 Stagen Street	Nutley	YARD WASTE
Highfield Landscaping and Design	33 Highfield Lane	Nutley	YARD WASTE
J. Falduto Enterprises, Inc.	67 Hilton Avenue	Nutley	YARD WASTE
North Jersey Auto-Trunk Seat Co.	526 Franklin Avenue	Nutley	VINYL, PAINTS
Sasso Landscaping Inc.	142 Glendale Street	Nutley	YARD WASTE (LEAVES, GRASS)
Ad Infinitum Inc.	60 Park Street	Orange	PVC
Apartment House Supply Company	560 White Street, P.O. Box 899	Orange	FLOUR, LIGHTS, PVC, BATTERIES, PEST.
Bellofatto Landscaping Corporation	442 New England Terrace	Orange	
Carnevale Landscaping	627 Valley Street	Orange	YARD WASTE
Colinear Machine & Design, Inc.	113 North Center Street	Orange	PVC
D'Andrea Landscaping	151 Lincoln Avenue	Orange	YARD WASTE
Gary's Auto Body	335 High Street	Orange	AUTO PARTS (TIRES, BATTERIES, BUMPERS, ETC.)
Green State Lawncare, Inc.	206 Matthew Street	Orange	YARD WASTE
J.D. Landscaping	429 Tompkin Street	Orange	AUTO PARTS, YARD WASTE
Mitchell Supreme Fuel	532 Freeman Street	Orange	AUTO PARTS, ELEC. COMP., BATTERIES, THERMOSTATS, PET. CONT. SOIL
Par-Troy Rubber Co., Inc.	350 Washington Street	Orange	RUBBER SCRAPS
Paul Ianiro Conractors	419 Valley Street	Orange	YARD WASTE
Sina's Gulf	67 South Essex Avenue	Orange	AUTO PARTS, BATTERIES
Taramar Landscape Co.	P.O. Box 14	Orange	YARD WASTE
Van Natten Associates Inc.	386 Washington Street	Orange	ELEC. COMP., DEVELOPER
Minuteman Press	178 Eagle Rock Avenue	Roseland	INK
Sandford's Service Inc.	451 Irvington Avenue	South Orange	AUTO PARTS, TIRES, SHEETROCK
South Orange Imported Cars, Inc.	343 Valley Street	South Orange	SHEETROCK, THERMOSTATS, AUTO PARTS, CLEANING PRODUCTS
American Sound And Video	3 Fairfield Crescent	West Caldwell	ELEC. COMPONENTS, FLOUR, LIGHTS
Cecere Brothers Landscaping Company	37 Westview Road	West Caldwell	YARD WASTE
Dimensional Merchandising, Inc.	33 Fairfield Place	West Caldwell	PVC, FLOUR, LIGHTS, OIL SPILL CLEAN-UP WASTE
Impact Medical Co. & Impact Instrumentation	27 Fairfield Place	West Caldwell	TRANSFORMERS, ELEC. COMPONENTS
Neptune Research And Development	267 Fairfield Avenue	West Caldwell	TEFLON, FLOUR, LIGHTS, METAL CUTTINGS

(FACILITIES GENERATING WASTE MATERIALS WHICH, WHEN INCINERATED, COULD POTENTIALLY GENERATE REGULATED COMPONENTS IN EXCESS OF ALLOWABLE AIR EMISSION LIMITS)

·ility Name	Street	City	Prohibited Items
Ledonne Landscaping Contractors	138 Runnymede Road	West Caldwell	AUTO PARTS, TIRES, YARD WASTE
·arco Landscaping	137 Ravine Avenue	West Caldwell	YARD WASTE
·ion Instant Printing Inc.	333 Valley Road	West Orange	INK, FLOUR, TUBES
·elo Caruso	174 Mitchell Street	West Orange	YARD WASTE
·hony Egidio Landscaping	25 Rutgers Street	West Orange	YARD WASTE
·hony LaBanca	931 Pleasant Valley Way	West Orange	YARD WASTE
·itol Landscape, Inc.	105 Main Street	West Orange	YARD WASTE
· Colavito Landscape	38 Ralph Road	West Orange	YARD WASTE
·aler Institute For Rehabilitation, Inc.	1199 Pleasant Valley Way	West Orange	FLOUR, LIGHTS, BATTERIES, ELEC. COMP., DRUGS
·ini Landscaping	73 Cherry Street	West Orange	YARD WASTE
·mit Ridge Nursing and Rehab Center	20 Summit Avenue	West Orange	BATTERIES, YARD WASTE, DRUGS, FLOUR, LIGHTS

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

Facility Name	Street	City	Prohibited Items
Apex Centerless	144 Belmont Avenue	Belleville	METAL CUTTINGS
Barbones Service Center Inc.	113-119 Franklin Street	Belleville	AUTO PARTS, TIRES, BATTERIES
Belleville Kar Kare	9 Howard Place	Belleville	AUTO PARTS
Belleville Tool Corporation	267 Cortlandt Street	Belleville	METAL CUTTINGS
Cordasco Automotive Corporation, Inc.	400 Union Avenue	Belleville	AUTO PARTS, TIRES, BATTERIES, OIL SPILL CLEAN-UP WASTE
Coyne Textile Services	137 Ralph Street	Belleville	BATTERIES, AUTO PARTS
Delavan Auto Body Service	8-10 Delavan Place	Belleville	AUTO PARTS
Ewal Manufacturing Co., Inc.	41 Montcomery Street	Belleville	METAL CUTTINGS
F & T Automotive	62 Bellavista Avenue	Belleville	OIL SPILL CLEAN-UP WASTE, AUTO PARTS, TIRES, BATTERIES, ELEC. COMP.
J & M Auto Repairing Company	3 Monies Street	Belleville	AUTO PARTS, BATTERIES
J.S. Automotive Service	527 Union Avenue	Belleville	AUTO PARTS, YARD WASTE
Johns Auto Repair	23 Franklin Street	Belleville	AUTO PARTS, TIRES, BATTERIES, FLOUR, LIGHTS
Lido Auto Body	110 Roosevelt Avenue	Belleville	AUTO PARTS
Luongo Auto Center, Inc.	24 North Seventh Street	Belleville	AUTO PARTS, WASTE OIL
R & M Auto	127 Belleville Avenue	Belleville	AUTO PARTS
Rand McNally & Company	151 Cortlandt Street	Belleville	METAL CUTTINGS, SOLDER, ELEC. COMP.
Rangerton Research Inc.	115 Roosevelt Avenue	Belleville	ELEC. COMPONENTS, METAL CUTTINGS
Ricky's Shell Service	156 Belleville Avenue	Belleville	AUTO PARTS
Silver Lake Amoco	190 Franklin Street	Belleville	AUTO PARTS
Silver-Troy Corporation	500 Cortlandt Street	Belleville	GLASS
Supreme Ford/Oldsmobile	645 Washington Avenue	Belleville	AUTO PARTS, TIRES
Ultra Spec I	10-16 Greulock Avenue	Belleville	AUTO PARTS & MAINT. PRODUCTS, BATTERIES, TIRES
Ajar Auto Body	400 Bloomfield Avenue	Bloomfield	AUTO PARTS
Alves, Inc. t/a Fred's Sunoco	72 Bloomfield Avenue	Bloomfield	AUTO PARTS, BATTERIES
Ampere Service Center	122 Bloomfield Avenue	Bloomfield	AUTO PARTS, GLUE, FLOUR, LIGHTS
Bloomfield Glass Co.	223 Broad Street	Bloomfield	AUTO GLASS
Brookside Auto Repair, Inc.	478 Broad Street	Bloomfield	AUTO PARTS, TIRES, BATTERIES
Budget Print Center	332 Broad Street	Bloomfield	METAL CANS
Camachine, Inc.	144 Orange Street	Bloomfield	MEATL CUTTINGS
Coleman's Sunoco	347 Broad Street	Bloomfield	AUTO PARTS
Ed Uness System Brake Service Inc.	672 Bloomfield Avenue	Bloomfield	AUTO PARTS, BATTERIES, TIRES
F & D Oil Company	721 E. Passiac Avenue	Bloomfield	TIRES, AUTO PARTS, BATTERIES
Glenfield Texaco Service Inc.	711 Bloomfield Avenue	Bloomfield	AUTO PARTS, TIRES, BATTERIES

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

ility Name	Street	City	Prohibited Items
ve Service Station	141 Bloomfield Avenue	Bloomfield	AUTO PARTS, TIRES, BATTERIES
rman Chevrolet	425 Bloomfield Avenue	Bloomfield	AUTO PARTS, BATTERIES, TIRES
r Automotive, Inc.	10 Ward Street	Bloomfield	AUTO PARTS, FLOUR LIGHTS, TIRES
nes Infiniti	401 Bloomfield Avenue	Bloomfield	AUTO PARTS & MAINT. PRODUCTS, FLOUR, LIGHTS, BATTERIES, TIRES
nes Nissan	374 Bloomfield Avenue	Bloomfield	AUTO PARTS & MAINT. PRODUCTS, FLOUR, LIGHTS, BATTERIES, TIRES
is Grinding & Lapping Co., Inc.	5 Lawrence Street, Bldg. #10	Bloomfield	ABBRASIVES, METAL CUTTINGS
es Auto Body Shop Inc.	128 Orange Street	Bloomfield	FLOUR, LIGHTS, AUTO PARTS, TIRES
veira & Son Inc.	130 Bloomfield Avenue	Bloomfield	AUTO PARTS, GLASS, METALS
car & Son Auto Service, Inc.	1414 Broad Street	Bloomfield	AUTO PARTS, BATTERIES, AUTO MAINT. PRODUCTS
a Breeze Auto Clinic	342 Broad Street	Bloomfield	AUTO PARTS, TIRES
Fix N Fuel	109 Broughton Avenue	Bloomfield	AUTO PARTS, TIRES
ank's Auto Body, Inc.	139 Roseland Avenue	Caldwell	OIL SPILL CLEAN-UP WASTE, AUTO PARTS, GLUE, SOLDER
eler's Auto Repair	80 Roseland Avenue	Caldwell	AUTO PARTS
tronics/Elroh Mfg. Corp.	9 Sand Park Road	Cedar Grove	METAL CUTTINGS, RUBBER, WALLBOARD, YARN WASTE,
dar Clair Corp., t/a Cedar Grove Exxon	279 Pompton Avenue	Cedar Grove	AUTO PARTS, FLOUR, LIGHTS
dar Grove Sunoco Service Station	600 Pompton Avenue	Cedar Grove	AUTO PARTS, METALS, BATTERIES
dar Grove Transmission	475 Pomption Avenue	Cedar Grove	AUTO PARTS, BATTERIES, TIRES
tal Cutting Corporation	59 Village Park Road	Cedar Grove	AUTO PARTS
J Industries Inc.	1380 Pompton Avenue	Cedar Grove	METAL CUTTINGS
n Quality Auto Service Inc.	339 Dodd Street	East Orange	METAL CUTTINGS, FLOUR, TUBES
celo's Greenwood Gulf	2 Ampere Parkway	East Orange	AUTO PARTS, AUTO MAINT. PRODUCTS, TIRES, BATTERIES
inker Displays	545 N. Arlington Avenue	East Orange	AUTO PARTS (TIRES, BATTERIES, METAL PARTS) & MAINT. PRODUCTS
ookwood Towing and Repair Inc.	205 Sanford Street	East Orange	METAL FOIL
90 Enterprises Inc. t/a Guaranteed Auto Rep	390 Central Avenue	East Orange	AUTO PARTS, TIRES
& H Cutoff	54 Springdale Avenue	East Orange	AUTO PARTS, WALL BOARD
rdens Auto Clinic	516 William Street	East Orange	METAL CUTTINGS, FLOUR, LIGHTS
st Orange Auto Service Inc.	391 Central Avenue	East Orange	ANTIFEEZE, AUTO MAINT. PRODUCTS, AUTO PARTS, LEAD-ACID BATTERIES, TIRES
st Orange Gulf	9 North Park Street	East Orange	AUTO PARTS
rank LaBanca Au ly	44 N. Park St.	East Orange	AUTO PARTS, BATTERIES, TIRES
			AUTO PARTS, TIRES

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

Facility Name	Street	City	Prohibited Items
J.W. Pierson Company	89 Dodd Street	East Orange	AUTO PARTS, TIRES, TRANSFORMERS, THERMOSTATS
Midas Muffler Shop	405 Central Avenue	East Orange	AUTO PARTS, METALS
P & N Auto Works, Inc.	12 South Clinton Street	East Orange	AUTO PARTS
Prompt Steel Rule Die Services	545 N. Arlington Avenue	East Orange	METAL FOIL
Roth Auto Coach Works	35 Park Avenue	East Orange	AUTO PARTS
Wolf Bros. Dry Cleaners Inc.	230 Rhode Island Avenue	East Orange	DIATOMACEOUS EARTH
Wraps, Inc.	810 Springdale Avenue	East Orange	METAL FOIL
Alfa Machine & Tool Co., Inc.	19 Just Road	Fairfield	FLOUR, LIGHT FIXTURES, METAL CUTTINGS
Allied Sheet Metal Inc.	9 Ray Place	Fairfield	FIBERGLASS DUCT LINING
American Bearing Company, Inc.	1275 Bloomfield Avenue	Fairfield	METAL CUTTINGS, BULKY WASTE
Bloomfield Mfg. co.	101 Clinton Road	Fairfield	METAL CUTTINGS
CAMAC Industries	18 Commerce Road	Fairfield	METAL CUTTINGS, PVC, WASTE PAINT, FLOUR, LIGHTS
Contract Filling, Inc.	10 Stewart Place	Fairfield	Metal cuttings or residuals, yard waste, flourescent light tubes, glass
Elnik Systems, div. of IPM, Inc.	3 Edison Place	Fairfield	METAL CUTTINGS
Expert Machined Products Corporation	15-B Spielman Road	Fairfield	STEEL CHIP
Fisher Auto Transmission, Inc.	81 Route 46	Fairfield	AUTO PARTS, OIL SPILL CLEAN-UP WASTE
Fluid Systems Inc.	25 Greenbook Road	Fairfield	METAL CUTTINGS, WASTE PAINT, FLOUR, LIGHTS
Frank J. Deutsch, Inc.	17 Spielman Road	Fairfield	METAL CUTTINGS, FLOUR, LIGHTS, SOLDER
Garfield Industries	62 Clinton Road	Fairfield	METAL CUTTINGS
General Fiber Optics, Inc.	1 Washington Avenue	Fairfield	METAL CUTTINGS
Hanover Pattern	54 Clinton Road	Fairfield	METAL CUTTINGS
Industrial Filters Company	9 Industrial Road	Fairfield	METAL CUTTINGS, PVC
International Engraving Corporation	68 Clinton Road	Fairfield	METAL CHIPS/CUTTINGS
Marble Queen Inc.	1275 Bloomfield Avenue, Bldg. 5-26	Fairfield	Bulky waste, limestone, unsaturated polyester resin
Mold-Tech	333 Route 46 West	Fairfield	METAL CUTTINGS, FLOUR, LIGHTS
Obere Service Station, Inc.	75 Route 46 West	Fairfield	AUTO PARTS, TIRES, BATTERIES
Polmold, Inc.	54 Clinton Road	Fairfield	Metal cuttings or residuals
Schenck Weighing Systems	51 Kulick Road	Fairfield	METAL STRAPPING
Simon Motors	1275 Bloomfield Avenue, Bldg. 10-89	Fairfield	AUTO PARTS, BATTERIES, AUTO MAINT. PRODUCTS
Skyline Auto Exchange	100 Route 46	Fairfield	AUTO MAINT. PRODUCTS
Verner Cadby Inc.	1240 Bloomfield Avenue	Fairfield	AUTO PARTS, METALS, TIRES, SOLDER, THERMOSTATS
Wesgo/Duramic	24/26 Madison Road	Fairfield	CERAMICS
Whatman Inc.	341 Kaplan Drive	Fairfield	SILICA, GLASS
Glen Ridge Auto Inc.	12 Herman Street	Glen Ridge	AUTO PARTS

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

ility Name	Street	City	Prohibited Items
n Ridge Service Center	17 Herman Street	Glen Ridge	AUTO PARTS, TIRES, BATTERIES
-nd Drug and Chemical Company	83 Cordier Street	Irvington	ACTIVATED CHARCOAL
-elon Auto Body Inc.	243 Colt Street	Irvington	AUTO PARTS, AUTO MAINT. PRODUCTS, METALS
-llo Welding	574 Lyons Avenue	Irvington	METAL CUTTINGS
-rman-Everett Foundry Company	133 South 20th Street	Irvington	SAND, METAL CUTTINGS, REFRACTORY
-ncellor Texaco Service	960 Chancellor Avenue	Irvington	AUTO PARTS
-y Line Auto Repair	741 Springfield Avenue	Irvington	AUTO PARTS
-stwood Motors	810 Springfield Avenue	Irvington	AUTO PARTS
-L Industries Inc.	211 Cort Street	Irvington	METAL WIRE
-mara Industries, Inc.	420 Union Avenue	Irvington	AUTO PARTS, ELEC. COMP.
-hard Automotive Service, Inc.	559 Lyons Avenue	Irvington	AUTO PARTS, BATTERIES, TIRES
- K Sunoco	754 Lyons Avenue	Irvington	AUTO PARTS, TIRES, BATTERIES
-sey Plastic Moldern, Inc	149 Shaw Avenue	Irvington	METAL PARTS, DELRIN
-my's Incorporated	919 Springfield Avenue	Irvington	AUTO, MAINT, PRODUCTS
-n's Amoco Service	558 Grove Street	Irvington	BATTERIES, TIRES, AUTO MAINT. PRODUCTS
-ry's Park Service	977 Chancellor Avenue	Irvington	AUTO PARTS, TIRES, BATTERIES
-ses Auto Repair	597 Chancellor Avenue	Irvington	TIRES, AUTO PARTS
- Tool & Manufacturing Co.	10 Melville Place	Irvington	METAL CUTTINGS, FLOUR, LIGHTS
-rney's Serviceter	961 Clinton Avenue	Irvington	AUTO PARTS & MAINT. PRODUCTS, BATTERIES, THERMOSTATS, TIRES, YARD WASTE
- A Auto Service	142 South Livingston Avenue	Livingston	AUTO PARTS
-demy Exxon	266 South Orange Avenue	Livingston	AUTO PARTS
-rk Industries Inc (Kenlen Wire Division)	100 Dorsa Avenue	Livingston	METAL CUTTINGS, TRANSFORMERS
-wn Macine & Tool Co., Inc.	128 Passaic Avenue	Livingston	METAL CUTTINGS, ELEC. COMPONENTS
-nevale's Gulf Service Center, Inc.	625 So. Livingston Avenue	Livingston	AUTO PARTS
-rge Products Company, Inc.	104 Dorsa Avenue	Livingston	METAL CUTTINGS
- S Tool Company, Inc.	70 Okner Parkway	Livingston	METAL CUTTINGS
-ncera Shell	37 West Mt. Pleasant Avenue	Livingston	AUTO PARTS, TIRES, BATTERIES
-vingston Collision, Inc.	521 W. Mt. Pleasant Avenue	Livingston	AUTO PARTS, AUTO MAINT. PRODUCTS, TIRES, BATTERIES
-vingston Sunoco, Inc.	247 South Livingston Avenue	Livingston	AUTO PARTS, AUTO MAINT. PRODUCTS, TIRES, BATTERIES
-rolab/FXR	10 Microlab Road	Livingston	METAL CUTTINGS, SOLDER
-rthfield Friendly Service Inc.	16 East Northfield Road	Livingston	AUTO PARTS, TIRES, BATTERIES
-m Matteace Auto Body, Inc.	295 E. Mt. Pleasant Avenue	Livingston	AUTO PARTS
-ns Auto Center Inc.	505 South Livingston Avenue	Livingston	

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

Facility Name	Street	City	Prohibited Items
Venturi Industries, Inc.	100 Dorsa Avenue	Livingston	METAL CUTTINGS, TRANSFORMERS
Boyden Friendly Service Inc.	408 Boyden Avenue	Maplewood	AUTO PARTS, BATTERIES, TIRES
C. B. Kaupp & Sons, Inc.	6 Newark Way	Maplewood	METAL CUTTINGS
DeFinis Service Station Inc.	2058 Millburn Avenue	Maplewood	AUTO PARTS, BATTERIES, TIRES, THERMOSTATS
Essex Sports Cars Inc./Aircooled Auto Co.	2191-95 Millburn Avenue	Maplewood	AUTO PARTS, TIRES, BATTERIES
Jo-Bell Co., Inc. t/a Richard's Svc. Station	1459 Springfield Avenue	Maplewood	AUTO PARTS, BATTERIES
L & J Motors, Inc.	1539 Springfield Avenue	Maplewood	AUTO PARTS, BATTERIES, TIRES
Rails Company	101 Newark Way	Maplewood	METAL CUTTINGS
Ralph's American	1864 Springfield Avenue	Maplewood	AUTO PARTS, TIRES, BATTERIES
Toomey's Exxon dba Toomey's Automotive	98 Baker Street	Maplewood	AUTO PARTS, TIRES, BATTERIES
Union Tool & Mold	220 Rutgers Street	Maplewood	METAL CUTTINGS
Valley Sunoco Service	543 Valley Street	Maplewood	AUTO PARTS, WASTE OIL
Woolley Fuel Company	12 Burnett Avenue	Maplewood	AUTO PARTS, BATTERIES
Wyman Ford Inc.	1713 Springfield Avenue	Maplewood	AUTO PARTS
Bernies Tire & Auto	73 Milburn Avenue	Millburn	AUTO PARTS
Hudson Mfg. Corporation	12 East Willow Street	Millburn	YARD WASTE, METAL CUTTINGS, SHEETROCK, FLOUR, LIGHTS
Short Hills Texaco	50 Chatham Road	Millburn	AUTO PARTS, TIRES, ELEC. COMP., BATTERIES
The Jaydor Corporation	16 Bleeker Street	Millburn	GLASS
Alex & Leo Auto Repairs, Inc.	63 North Willow Street	Monclair	AUTO PARTS
575 Valley Corp. - Kirkeby Getty	575 Valley Road	Montclair	AUTO PARTS, BATTERIES, OIL SPILL CLEAN-UP WASTE
Clairmont Auto Body Inc.	2 Bloomfield Avenue	Montclair	AUTO PARTS
Clar-Pine Servicenter	40 Claremont Avenue	Montclair	AUTO PARTS, BATTERIES, TIRES
F & T Auferio Enterprises Inc.	59 Walnut Street	Montclair	AUTO PARTS
Foreign Aid, Inc.	207 Bellevue Avenue	Montclair	TIRES, AUTO PARTS
Frank & Rick's Inc.	651 Bloomfield Avnue	Montclair	AUTO PARTS, TIRES, BATTERIES, ELEC. COMP.
Larry's Auto Repair	142 Valley Road	Montclair	AUTO PARTS, BATTERIES
Regency Motors	34 Valley Road	Montclair	AUTO PARTS, TIRES, BATTERIES, YARD WASTE, ELEC. COMPONENTS
Regency Motors	654 Bloomfield Avenue	Montclair	YARD WASTE, AUTO PARTS
Tolan Machinery Co., Inc.	14 Depot Square	Montclair	GRINDING WHEELS, PAINT CANS,, BULKY WASTE
Town Auto Body	107 Grove Street	Montclair	AUTO PARTS
Zeus Complete Automotive	120 Watchung Avenue	Montclair	AUTO PARTS & MAINT. PRODUCTS
A & K Auto Center	970 Frelinghuysen Avenue	Newark	AUTO PARTS, TIRES, BATTERIES
A. W. Machine Corp.	645 South 10th Street	Newark	METAL CUTTINGS
AC Transformer Co.	89 Madison Street	Newark	INSULATION, FLOUR, LIGHTS, BULKY WASTE

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

acility Name	Street	City	Prohibited Items
rhua Inc.	131 Marsh Street	Newark	BATTERIES, METAL CUTTINGS
e Brake Exchange, Inc.	707 Frelinghuysen Avenue	Newark	AUTO PARTS
me Auto Body	174 Orange Street	Newark	AUTO PARTS
lamo Rent-A-Car	Route 1 & 9 South International Way	Newark	AUTO MAINT. PRODUCTS
ll Metal Products Company	12 Delancy Street	Newark	Heavy metals, metal cuttings and residuals
pex Gear & Mach Co., Inc.	938 Lake Street	Newark	METAL CUTTINGS, YARD WASTE, WASTE OIL, FLOUR, LIGHTS
ratex Services	740 Frelinghuysen Avenue	Newark	AUTO PARTS, TIRES, BATTERIES
rrow Machine	117 Norfolk Street	Newark	AUTO PARTS, METAL CUTTINGS
rturo Reyes t/a Broadway Exxon	432 Broadway Avenue	Newark	AUTO PARTS, TIRES
uto Body and Service Co. Inc.	32 Jones Street	Newark	AUTO PARTS
uto Parts & Equipment	218 Elizabeth Avenue	Newark	METAL TURNINGS
uto Sale Service Inc.	1239 McCarter Highway	Newark	AUTO PARTS, TIRES, BATTERIES
utogal Motor Sport Inc.	124 Poiner Street	Newark	AUTO PARTS, WASTE OIL
valrense Auto Center	864 Mt. Prospect Avenue	Newark	TIRES, BATTERIES, AUTO PARTS, ELEC. COMPONENTS
airrada Auto Repair Corporation	168 Clifford Street	Newark	AUTO PARTS, BATTERIES
alemet Recycling Metals Inc.	227 Clifford Street	Newark	METAL CUTTINGS
atlata Auto Center, Inc.	87 Lafayette Street	Newark	AUTO PARTS, BULKY WASTE
igelow Auto Body - Zeke, Inc.	798-800 Bergen Street	Newark	AUTO PARTS
onney-Vehalage Tool Company	61 NJ Railroad Avenue	Newark	METAL CUTTINGS
rookwood Auto and Body Shop	741 South Orange Avenue	Newark	AUTO PARTS, TIRES
rother-In-Law Art Corporation	159 Titchenor Street	Newark	CHALK
ush Tank Fabricators Inc.	222 Thomas Street	Newark	METAL CUTTINGS
ar Glass Company	182 Ridge Street	Newark	AUTO GLASS
arlos Lopes t/a Ferry Auto Repairs	460-462 Ferry Street	Newark	AUTO PARTS
entral Auto Body Co. Corp.	274 Central Avenue	Newark	AUTO PARTS
hemical Waste Management, Inc.	41-85 Doremus Avenue	Newark	AUTO PARTS, TIRES, BATTERIES
limate Control Systems, Inc.	301 Badger Avenue	Newark	METAL CUTTINGS, PVC
ollnids, Inc.	394 Frelinghuysen Avenue	Newark	AUTO MAINT. PRODUCTS, FLOUR, LIGHTS, BATTERIES, METAL CUTTINGS, SOLDER, ETC
olonial Concrete Company	1196 McCarter Highway	Newark	TIRES, AUTO MAIN. PRODUCTS, BULKY WASTE
ontinental Airlines, Inc.	Terminal C, Newark Int'l Airport	Newark	AUTO PARTS & MAINT. PRODUCTS, HEAVY METALS, BATTERIES, TIRES
J Service Inc.	149 Meeker Avenue	Newark	AUTO PARTS, TIRES, BATTERIES, THERMOSTATS
L Auto Parts	349 Raymond Blvd.	Newark	AUTO PARTS, TIRES, BATTERIES
a Air Lines, Inc.	Newark International Airport	Newark	BATTERIES, AUTO MAINT. PRODUCTS, TIRES

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

Facility Name	Street	City	Prohibited Items
Dewey's Garage Inc.	190 Wilson Avenue	Newark	AUTO PARTS
Downtown Exxon	427 Lafayette Street	Newark	AUTO PARTS
E & H Super Service Inc.	1126-1134 McCarter Highway	Newark	AUTO PARTS, TIRES, AUTO MAINT. PRODUCTS
Empire Auto Body Inc.	7 Monroe Street	Newark	AUTO PARTS, WASTE OIL
Essex Cement Company	182 Calcutta Street	Newark	AUTO MAINT. PRODUCTS, BATTERIES, OIL
Essex Machine Repairing Company, Inc.	471 Mulberry Street	Newark	METAL CUTTINGS, YARD WASTE, FLOUR, LIGHTS
Eureka Spring Co., Inc.	9-15 Manufacturers Place, Box 5067	Newark	METAL CUTTINGS, GLASS
Extra Value Auto Repair	254 South Street	Newark	AUTO PARTS, TIRES
Faltoute Steel Company, Inc.	182 Frelinghuysen Avenue	Newark	FLOUR, LIGHTS, YARD WASTE
Federal Bronze Casting Ind., Inc.	9 Backus Street	Newark	Graphite, clay, wood, glass
Federal Express Corporation	Building 247, Newark Int'l Airport	Newark	AUTO PARTS, TIRES, BATTERIES
Foreign Car Connection	185 Miller St.	Newark	AUTO PARTS
Fred Silver & Company Inc.	145 Sussex Avenue	Newark	GLASS, RUBBER
Frelinghuysen Aamco	950 Frelinghuysen Avenue	Newark	AUTO PARTS
Gomez & Reveco Enterprise, Inc.	702 Broadway	Newark	AUTO PARTS
Grammer Dempsey & Hudson Inc.	212 Rome Street, P.O. Box 1059	Newark	HEATL CUTTINGS
H & C Metals	83-85 Malvern Street	Newark	METAL CUTTINGS, TIRES, AUTO MAIN. PRODUCTS, HEAVY METALS
Hal-O Mfg. Co., Inc	137-143 Meeker Avenue	Newark	METALS
Harris Auto Electric	968 Bergen Street	Newark	AUTO PARTS
International Fragrance Creations	29-75 Riverside Avenue	Newark	METAL CANS
Ironbound Glass Works, Inc.	307 Jefferson Street	Newark	GLASS
Irving Menlow Corporation	257 Elizabeth Avenue	Newark	AUTO PARTS
Jenson & Mitchell Inc.	400 New Street	Newark	AUTO PARTS, METAL CUTTINGS
Jersey Pit Stop, Inc.	1250 Broad Street	Newark	AUTO PARTS, BATTERIES
Jimmy A's Auto Electric Inc.	900 Mt. Prospect Avenue	Newark	AUTO PARTS, TIRES, BATTERIES
Jiro Inc. t/a Ad-Aid Mounting & Die Cutting	46 Oliver Street	Newark	STEEL, FLOUR, LIGHTS
Joseph B. Zamelsky	315 Frelinghuysen Avenue	Newark	METAL CUTTINGS, YARD WASTE, TIRES
Kalmax Inc. t/a Custom Service	175 Mt. Pleasant Avenue	Newark	AUTO PARTS
L & B Metals	120 Orchard Street	Newark	METAL CUTTINGS, PVC, SOLDER
L & C Brake System	37 Jones Street	Newark	AUTO PARTS
L P S Industries	661 North 3rd Street	Newark	METAL FOIL
Leopard Air Freight Trucking Co.	709 Clifton Avenue	Newark	AUTO PARTS, TIRES, BATTERIES
Lussmer Auto Body	27 Austin Street	Newark	AUTO PARTS
M D S Auto Body	369 Thomas Street	Newark	AUTO PARTS, PAINT, BATTERIES
Mahdi Service Center	10 South 13th Street	Newark	AUTO PARTS, BATTERIES, TIRES, OIL SPILL CLEAN UP WASTE

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

Facility Name	Street	City	Prohibited Items
nhattan Tool Mfg. Co.	38 Van Buren Street	Newark	METAL CUTTINGS, FLOUR, LIGHTS
rket Body Works Inc.	597 McCarter Highway	Newark	AUTO PARTS, AUTO MAINT. PRODUCTS
rmor Auto Center	118 Murray Street	Newark	AUTO PARTS, TIRES
rques Auto Repair	88-90 Alyea St.	Newark	AUTO PARTS, TIRES
rtin Auto Body Shop	499 Bergen Street	Newark	AUTO PARTS, HEAVY METALS, TIRES
rtin Ind, Inc	532 Mulberry Street	Newark	METAL CHIPS
tal Parts Processing Co., Inc.	165 Delancy Street	Newark	METAL CUTTING SLUDGE
tro Hydraulic Jack Company	52 Elm Street	Newark	METAL PARTS
ke's Service Center	865 Franklin Avenue	Newark	AUTO PARTS
ller Manufacturing Company	18 Oliver Street	Newark	METAL CUTTINGS, RUBBER
nro-Matic Mfg/ta Mechanical Art Works	96 Monroe Street	Newark	METAL CUTTINGS, WASTE OIL
torcars of Europe Ent., Inc.	1123-1131 McCarter Highway	Newark	AUTO PARTS, TIRES, AUTO MAIN. PRODUCTS, BATTERIES
t. Vernon Service Center Inc.	786 Sandford Avenue	Newark	AUTO PARTS, ELEC. COMP.
& J Machine Prod.	52 Bruen Street	Newark	METAL CUTTINGS, FLOUR, LIGHTS
J. Precision Fabrications Inc.	199 North 12th Street	Newark	METAL CUTTINGS
tional Car Rental System, Inc.	575 South Street	Newark	AUTO PARTS AND MAINT. PRODUCTS, BATTERIES, TIRES
tional Spring Co.	205 Frelinghuysen Avenue	Newark	AUTO PARTS
wark Car Care	313 West Market Street	Newark	AUTO PARTS
wark Mold & Tool Co.	147 N.J. Railroad Avenue	Newark	METAL CUTTINGS
wark Motor & Export	573 Ferry St	Newark	AUTO PARTS
wark Stamp & Die Works Inc.	35 Verona Avenue	Newark	METAL CUTTINGS, RUBBER
wark Wire Cloth Co.	351 Verona Avenue	Newark	METAL SLUDGE, OIL SPILL CLEAN-UP WASTE
rpak Corporation	70 Blanchard Street	Newark	METAL CUTTINGS, AUTO PARTS, TIRES, BATTERIES
rthwest Airlines	Newark Int. Airport Terminal B	Newark	AUTO PARTS, AUTO MAINT. PRODUCTS, BATTERIES, TIRES
range Exxon	471 Orange Street	Newark	AUTO PARTS, OIL SPILL CLEAN-UP WASTE
to Tool and Stamping Corp.	29 Avenue C	Newark	METAL CUTTINGS
& L Auto Service Inc.	181-83 Ridge Street	Newark	AUTO PARTS, CLEANING PRODUCTS
niel Auto Rep. Inc.	122 Tichenor St.	Newark	AUTO PARTS, METALS
rt Delivery Service	199 Panama Street	Newark	AUTO MAIN. PRODUCTS
ro Tire & Car Service, Inc.	37 Pacific Street	Newark	AUTO PARTS, BATTERIES
remier Auto Body	234 Central Avenue	Newark	AUTO PARTS, TIRES, PAINT, YARD WASTE
co Nelson Company	248 Thomas Street	Newark	METAL CUTTINGS, YARD WASTE
ddaway Mfg.	32 Euclid Avenue	Newark	FIBERGLASS, PHENOLIC RESIN
liable Loose Leaf Corporation	900 Passaic Street	Newark	METAL CUTTINGS
ttig Coal Company, Inc.	160-190 Jelliff Avenue	Newark	AUTO PARTS, METALS, THERMOSTATS, RUBBER, TRANSFORMERS, BATTERIES

Facility Name	Street	City	Prohibited Items
Rex Wine Vinegar Company	828 Raymond Blvd.	Newark	FLOUR, LIGHTS, DIATOMACEOUS EARTH
Richmond Auto Inc.	46 Frelinghuysen Avenue	Newark	AUTO PARTS
Robert S. Fisher Company	19 Liberty Street	Newark	METAL CUTTINGS
Roloc Film Processing Inc.	29 Riverside Avenue	Newark	METAL CUTTINGS
S K & P	73 Norfolk Street	Newark	METAL CUTTINGS
Sacco's Sales Service Inc.	9 Verona Avenue	Newark	AUTO MAIN. PRODUCTS, METALS
Salzano's Service Center	242 Raymond Blvd.	Newark	AUTO PARTS, TIRES, BATTERIES, ELEC. COMP.
Samac Mfg. Corp.	10 Columbia Street	Newark	METAL CUTTINGS, FLOUR, LIGHTS
Samuel LaRocca, Inc.	874 Broadway	Newark	AUTO PARTS, TIRES, BATTERIES
Santos Auto Body	113-121 South Street	Newark	AUTO PARTS AND MAINTAINENCE PRODUCTS, BATTERIES
Shanks Converting Equipment	165 Vanderpool Street	Newark	METAL CUTTINGS
Siegle's Corp.	543 Avenue P	Newark	AUTO PARTS, TIRES, BATTERIES
Spectra Gases Inc	300 and 320 Mt. Pleasant Avenue	Newark	ACTIVATED CARBON, ALUMINA, SODA LIME, ELEC. COMPONENTS
Springdale Automotive	505 McCarter Highway	Newark	AUTO PARTS, TIRES, BATTERIES
State Tool Company, Inc.	211 Camden Street	Newark	METAL CUTTINGS
Steel Craft Fluorescent	191 Murray Street	Newark	METAL CUTTINGS, FLOUR, LIGHTS, BATTERIES
Stirrup Metal Prod. Corp.	215 Emmet Street	Newark	METAL CUTTINGS
Strauss Plastic Co.	111 Gotthart Street	Newark	METAL CUTTINGS
Strauss Processing Corp.	111 Gotthart Street	Newark	METAL CUTTINGS
The Watts Campbell Company	1270 McCarter Highway	Newark	METAL CUTTINGS
The Welded Products Co.	330-336 Raymond Blvd.	Newark	METAL CUTTINGS, YARD WASTE
Trimiews Auto Body Repair	195 Miller Street	Newark	AUTO PARTS, TIRES, BATTERIES
Troy Chemical Corporation	One Avenue L	Newark	METAL CANS, FLOUR, LIGHTS
U.J. Ramelson Company	165 Thomas Street	Newark	METAL CUTTINGS
US Air	Terminal A, Newark Airport	Newark	AUTO MAINT. PRODUCTS, TIRES, BATTERIES
West Market Service Center	456 West Market Street	Newark	AUTO PARTS, FLOUR, LIGHTS, WASTE OIL, AUTO MAINT. PRODUCTS
Willow Service, a Division of Forest Group, I	315 Mt. Pleasant Avenue	Newark	AUTO PARTS, METAL CUTTINGS
Wire Forming Corp. of N.J.	109-135 Meeker Avenue	Newark	METAL CUTTINGS
Yale Hook and Eye	300 Belling Avenue	Newark	METAL CUTTINGS
Yosh Motors, Inc.	866 Summer Avenue	Newark	AUTO PARTS
Zmoira Corp. c/o Vailsburg Auto	962 18th Avenue	Newark	AUTO PARTS
Aven Auto Body Inc.	127 E. Centre Street	Nutley	AUTO PARTS, FLOUR, LIGHTS, BATTERIES
Book Chevrolet Buick	66 Washington Avenue	Nutley	AUTO PARTS, BATTERIES, AUTO MAINT. PRODUCTS
Centre Getty, Inc.	110 Centre Street	Nutley	AUTO PARTS, ELEC. COMPONENTS, FLOUR, LIGHTS, TIRES, OIL SPILL CLEAN-UP WST.

CATEGORY 5 FACILITIES
(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

cility Name	Street	City	Prohibited Items
e's Shell Inc.	205 Darling Avenue	Nutley	AUTO PARTS, OIL SPILL CLEAN-UP WASTE
& R Town getty	661 Bloomfield Avenue	Nutley	AUTO MAINT. PRODUCTS, TIRES
ack Christopher's Auto Service	34 Union Avenue	Nutley	AUTO PARTS, TIRES, BATTERIES
ar Pak Inc.	259 Centre Street	Nutley	AUTO PARTS, TIRES, BATTERIES
utley Amaco Inc.	95 Washington Avenue	Nutley	AUTO PARTS, TIRES
utley Metal Fabricators	89 River Road	Nutley	METAL CUTTINGS, FLOUR, LIGHTS
utley Mobil Inc.	248 Franklin Avenue	Nutley	AUTO PARTS, TIRES
ltimate Auto Body, Inc.	151 River Road	Nutley	AUTO PARTS, TIRES
uatom Auto Air, Inc.	418 Washington Street	Orange	AUTO PARTS, ELEC. COMPONENTS, PAINT
uatom Auto, Inc	46 Central Avenue	Orange	AUTO PARTS
ine Finishes Inc.	617 Scotland Road	Orange	AUTO PARTS, FLOUR, LIGHTS
rank's Foreign Auto	595 Valley Street	Orange	TIRES, AUTO PARTS, BATTERIES
regana Automotive	537 Glebe Street	Orange	TIRES, THERMOSTATS, AUTO PARTS
eneral Pneumatic's Corp.	440 Washington Street	Orange	METAL CUTTINGS
eorge's Auto Body, Inc.	522 Beach Street	Orange	AUTO PARTS
& L Automotive Repair	294 Scotland Road	Orange	AUTO PARTS, TIRES, BATTERIES
ick's Service Center	460 Main Street	Orange	AUTO PARTS
. Trerra & Son Inc.	126 Hickory Street	Orange	SCRAP METAL
obert Brashall Mach-Prod. Inc.	428 Tompkins Street	Orange	METAL CUTTINGS
& R Automotive	545 Joyce Street	Orange	AUTO PARTS
him-Pak Industries, Inc.	564 Forest Street, P.O. Box 797	Orange	METAL CUTTINGS, BULKY WASTE
The New Brick Church Buick & GMC Truck Inc.	151 Central Avenue	Orange	AUTO PARTS
Tony's Amoco Inc.	559 Scotland Road	Orange	AUTO PARTS, TIRES, BATTERIES
Tuneway Inc.	33 Lincoln Avenue	Orange	AUTO PARTS, TIRES
American Safety Technologies, Inc.	565 Eagle Rock Avenue	Roseland	METAL CUTTINGS, PAILS, CANS
Eagle Sheet Metal, Inc.	16 Steel Ct. P.O BOX 675	Roseland	METALS
Eisenhower Mobil	525 Eaglerock Avenue	Roseland	AUTO PARTS, TIRES, BATTERIES
Mason Keller	119 Harrison Avenue	Roseland	METAL FOIL
Pro-tech Exxon	550 Eagle Rock Avenue	Roseland	AUTO PARTS, TIRES, BATTERIES
Roseland Service Center, Inc.	191 Eagle Rock Avenue	Roseland	AUTO PARTS
Short Hills Exxon	46 Chatham Road	Short Hills	AUTO PARTS, ELEC. COMPONENTS, BATTERIES, METAL CUTTINGS, TIRES
Area Rent A Car Of South Orange	19 Church Street	South Orange	AUTO PARTS, BATTERIES
European Technicians Inc.	1 Lackawanna Place	South Orange	AUTO PARTS, TIRES, BATTERIES, THERMOSTATS
J.S. Automotive	376 Lackawanna Place	South Orange	AUTO PARTS
Jefferson Prosthetics and Orthotics Inc.	120 Prospect Street	South Orange	PLASTER

Facility Name	Street	City	Prohibited Items
Midas	60 Valley Street	South Orange	AUTO PARTS, METALS
Mikes Service	403 Irvington Avenue	South Orange	AUTO PARTS
Modern Auto Body Of South Orange, Inc.	410 Valley Street	South Orange	AUTO PARTS
South Orange Friendly Service	252 Irvington Avenue	South Orange	AUTO PARTS
Village Service Center	101 West South Orange Avenue	South Orange	AUTO PARTS, BATTERIES, TIRES
Warnock GM USA	28 Third Street, P.O. Box 209	South Orange	ASBESTOS-CONTAINING WASTE, AUTO PARTS, FLOUR, LIGHTS
B & D Tire	202 Pompton Avenue	Verona	AUTO PARTS
Bunky's Automotive Service	144 Pompton Avenue	Verona	AUTO PARTS
C & G Imported Car Repair, Inc.	780 Bloomfield Avenue	Verona	AUTO PARTS, TIRES, BATTERIES
C. T. Brunner & Sons, Inc.	449 Bloomfield Avenue	Verona	ANTIFREEZE, AUTO PARTS, BATTERIES, TIRES
Claridge Sunoco	195 Pompton Avenue	Verona	AUTO PARTS, BATTERIES
Lee Myles Transmission	667 Bloomfield Avenue	Verona	AUTO PARTS & MAINT. PRODUCTS
Luke's Auto Service	286 Grove Avenue	Verona	AUTO PARTS, TIRES, BATTERIES
Miscia's Service Center	277 Bloomfield Avenue	Verona	AUTO PARTS, BATTERIES, TIRES
Montclair Acura	100 Bloomfied Avenue	Verona	AUTO PARTS, ELEC. COMPS.
Clairmont Cadillac Corp.	1220 Bloomfield Avenue	West Caldwell	AUTO PARTS, TIRES, BATTERIES, PVC
Fancourt Industries, Inc.	31 Fairfield Place	West Caldwell	METAL CUTTINGS
Johnnies Motors Leasing t/a Johnnies Motors	878 Bloomfield Avenue	West Caldwell	AUTO PARTS, TIRES, BATTERIES,METALS
Justus Buick Co.	880 Bloomfield Avenue	West Caldwell	AUTO PARTS & MAINT. PRODUCTS, FLOUR, LIGHTS, ELEC. COMPONENTS, TIRES
Midas Muffler Shop	559 Bloomfield Avenue	West Caldwell	METALS, AUTO PARTS
Scott Picon Ltd, Inc, dba Honda of Essex	1170 Bloomfield Avenue	West Caldwell	AUTO PARTS, ELEC. COMPONENTS, BATTERIES, SOLDER, THERMOSTATS, BULKY WASTE
All-State Salvage Co., Inc.	47 Standish Avenue	West Orange	AUTO PARTS, TIRES, BATTERIES
Bob Drake's Service Station Inc	945 Pleasant Valley Way	West Orange	AUTO PARTS, BATTERIES
Central Imported Car Repair, Inc.	504 Valley Road	West Orange	AUTO PARTS, WASTE OIL
Chris Collision, Inc.	25 Park Avenue	West Orange	AUTO PARTS
Colonial Foreign Car Repair, Inc.	44 Washington Street	West Orange	AUTO MAIN. PRODUCTS, AUTO PARTS
Eagle Rock Service Center-Exxon	659 Eagle Rock Avenue	West Orange	AUTO PARTS, TIRES, BATTERIES
Fred's Inc.	549 Valley Road	West Orange	AUTO PARTS, TIRES, THERMOSTATS
Future Auto Body	239 Main Street	West Orange	AUTO PARTS
Kreske Mfg. Co., Inc.	25 Liberty Street	West Orange	METAL CUTTINGS
Lucam Company	127 Ashland Avenue	West Orange	METAL CUTTINGS
Mayfair Servicenter	3 Central Avenue	West Orange	AUTO PARTS, TIRES, CLEANING PRODUCTS
Packaging Machinery and Equipment Co.	181 Watson Avenue	West Orange	METAL CUTTINGS, FLOUR, LIGHTS, BATTERIES

(FACILITIES GENERATING NON-COMBUSTIBLE MATERIALS)

acility Name	Street	City	Prohibited Items
VS Enterprises	467 Valley Road	West Orange	AUTO PARTS, ELEC. COMPONENTS, FLOUR, TUBES, METAL CUTTINGS
idgeway Service	399 Northfield Avenue	West Orange	AUTO PARTS, TIRES
alley Tire & Automotive Center, Inc.	356-358 Valley Road	West Orange	BATTERIES, TIRES, AUTO PARTS
ilkes, Inc.	639 Eagle Rock Avenue	West Orange	AUTO PARTS, AUTO MAINT. PRODUCTS, METALS, BATTERIES, TIRES, THERMOSTATS

CATEGORY 6 FACILITIES
(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
Abbey Spring Company, Inc.	32 Hechel Street	Belleville	NJ	07109
Aero Products	19-21 North 8th Street	Belleville	NJ	07109
Belleville Machine & Mfg.	150 Belmont Avenue	Belleville	NJ	07109
Bigelow Motors	50 Washington Avenue'	Belleville	NJ	07109
C & M Mobil Corporation	389 Franklin Avenue	Belleville	NJ	07109
Clara Maass Medical Center	1 Franklin Avenue	Belleville	NJ	07109
Continental Carbide	Box 156	Belleville	NJ	07109
Eastern Photo Chemicals, Inc.	Box 252, 701 Main Street	Belleville	NJ	07109
Empire Graphic Machinery, Inc.	51 Valley Street	Belleville	NJ	07109
Express Press	356 Franklin Avenue	Belleville	NJ	07109
G&T Inauqurato Inc. t/a J&J Cutter	13 Brook Street	Belleville	NJ	07109
Imperial Graphics, Inc.	455 Cortlandt Street	Belleville	NJ	07109
Joseph Long Inc.	69 Roosevelt Avenue	Belleville	NJ	07109
Metro Auto Inc.	300 Washington Avenue	Belleville	NJ	07109
Miller & Son (A Corp.)	24 Belleville Avenue	Belleville	NJ	07109
Miscorp	236 Washington Avenue	Belleville	NJ	07109
Perfection Knife Grinding Co., Inc.	53 Frederick Street	Belleville	NJ	07109
Royal Light Mfg. & Supply Corp.	66 Honiss Street	Belleville	NJ	07109
Salem Mfg. Corproation	357 Cortlandt Street	Belleville	NJ	07109
Spot Light II Cleaners	635 Joralemon Street	Belleville	NJ	07109
Wheal-Grace Corporation	300 Ralph Street, P.O. Box 67	Belleville	NJ	07109
Advanced Metal Processing, Inc.	5 Alva Street	Bloomfield	NJ	07003
Alfacell Corporation	225 Belleville Avenue	Bloomfield	NJ	07003
Berje Inc.	5 Lawrence Street	Bloomfield	NJ	07003
Bloomfield Press	497 Bloomfield Avenue	Bloomfield	NJ	07003
CEZ Transportation	101 Newark Avenue	Bloomfield	NJ	07003
Century Chemical Co.	5 Lawrence Street	Bloomfield	NJ	07003
Clean-O-Rama, Inc.	6 Orange Street	Bloomfield	NJ	07003
Epoca Co.	5 Lawrence Street	Bloomfield	NJ	07003
Fabri-Fill Corporation	59 Willet Street	Bloomfield	NJ	07003
Forest Hill Exxon	75 Belleville Avenue	Bloomfield	NJ	07003
Garden State Flag Company	131 Franklin Street	Bloomfield	NJ	07003
Municipal Servicenter	491 Bloomfield Avenue	Bloomfield	NJ	07003
Pershing Rubber Roller Corporation	153 Orange Street	Bloomfield	NJ	07003
Superb Cleaners	63 Belleville Avenue	Bloomfield	NJ	07003
Voletz Cleaners	421 Broad Street	Bloomfield	NJ	07003
Optics For Research	Box 82	Caldwell	NJ	07006

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

acility Name	Street	City	State	Zip
on Monte, Inc.	155 Roseland Avenue	Caldwell	NJ	07006
QUA Products Inc.	25 Rutgers Avenue	Cedar Grove	NJ	07009
rt Decorating Company, Inc.	74 Sand Park Road	Cedar Grove	NJ	07009
ontrol Paint, Avery Dennison	67 Sand Park Road	Cedar Grove	NJ	07009
ependable Machine Co., Inc.	74 Sand Park Road	Cedar Grove	NJ	07009
aller Welding, Inc.	30 Commerce Road	Cedar Grove	NJ	07009
reen Play, Inc.	509 Pompton Avenue	Cedar Grove	NJ	07009
anao Envelope Company	20 Sand Park Road	Cedar Grove	NJ	07009
elta Photocomp Corporation	55 Washing Street	East Orange	NJ	07017
verett Laboratories, Inc.	71 Glenwood Place	East Orange	NJ	07017
ranks Cabinets	322 Dodd Street	East Orange	NJ	07017
ana Corp. (1 Hour Hana Cleaners)	231 Sanford Street	East Orange	NJ	07018
. Bernatein & Sons	137 Freeway Drive East	East Orange	NJ	07019
ark Auto Top, Inc.	43 North Park Street	East Orange	NJ	07017
ug Renovating Co., Inc.	532 North Grove St.	East Orange	NJ	07017
pringdale Tire Service	P.O. Box 4161	East Orange	NJ	07019
. & K. Cleaners	231 Park Avenue	East Orange	NJ	07017
& E Welding Company, Inc.	1225 Bloomfield Avenue	Fairfield	NJ	07006
& M Computype Company	200 Fairfield Road	Fairfield	NJ	07004
. & L. Kolmodia Inc. t/a Super Lawns of Wayn	41 Donna Drive	Fairfield	NJ	07004
ffordable Fire Sprinkler Inc.	113 Clinton Road	Fairfield	NJ	07004
maco Sales Corp.	6 Audrey Place	Fairfield	NJ	07004
pplied Resources Corporation	1275 Bloomfield Avenue	Fairfield	NJ	07004
utovend Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
etty Brite Cleaner (AAJ Cleaners)	397 Route 46 West	Fairfield	NJ	07006
lark Transmission Co.	220 Fairfield Road	Fairfield	NJ	07004-2463
olwell Corporation	254 Little Falls Road	Fairfield	NJ	07004
ontrol Transaction Corp.	130 Clinton Road	Fairfield	NJ	07004
rown Jewel Importers & Marketing	373 Route 46 W., Bldg. D	Fairfield	NJ	07004
ome Textile Ltd. Corp	305 Fairfield Avenue	Fairfield	NJ	07004
X-Lab Company, Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
airfield Concrete Tank, Inc.	202 Fairfield Road	Fairfield	NJ	08037
ilmaster Inc.	561 U.S. Highway 46	Fairfield	NJ	07004
iechi Machine & Tool Company	79 Clinton Road	Fairfield	NJ	07004
ranklin Brass Mfg. Co	10 Plog Road	Fairfield	NJ	07004
arden State Printing	4 Madison Road	Fairfield	NJ	07004
acker Instruments, Inc.	17 Sherwood Lane, P.O. Box 10033	Fairfield	NJ	07004

Facility Name	Street	City	State	Zip
Hasco Products Inc.	1 Oak Road	Fairfield	NJ	07004
IN/US Systems, Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
Imperial Dax Co., Inc.	P.O. Box 10002	Fairfield	NJ	07004
Industry Publications	389 Passaic Avenue	Fairfield	NJ	07004
Jason Industrial	340 Kaplan Drive	Fairfield	NJ	07004
Jersey Machine Tool Repair & Rebuilding	1275 Bloomfield Avenue	Fairfield	NJ	07004
Kurk Products Co.	26 Commerce Road	Fairfield	NJ	07004
Labtech Corporation	1275 Bloomfield Avenue, Bldg 5-21	Fairfield	NJ	07004
Novarome, Inc.	30 Stewart Place	Fairfield	NJ	07004
OHP Technologies, Inc.	24-H Commerce Road	Fairfield	NJ	07004
P. S. M. Fastner Corporation	7 Industrial Road	Fairfield	NJ	07004
Pet Commissary	19 A Commerce Road	Fairfield	NJ	07006
R.E.A. Display Inc.	333 Fairfield Road	Fairfield	NJ	07004
Rean Products	16 Passaic Avenue, #9	Fairfield	NJ	07004
Retailers And Manufactures	12 Gardner Road	Fairfield	NJ	07004
Safilo USA, Inc.	2 Gardner Road	Fairfield	NJ	07004
Speciality Toner Corporation	19 Industrial Road	Fairfield	NJ	07004
Speedcut Tool and Supply	145 Fairfield Road	Fairfield	NJ	07004
Technical Photo	1275 Bloomfield Avenue	Fairfield	NJ	07004
Temple Syrup Company	1275 Bloomfield Avenue	Fairfield	NJ	07004
The Economics Press	12 Daniel Road	Fairfield	NJ	07004
Tiger Building Materials Company, Inc.	44 Fairfield Road	Fairfield	NJ	07006
Tradeprint JP, Inc.	1275 Bloomfield Ave..Bldg 3,Ste 54B	Fairfield	NJ	07004
Transistor Company	277 Fairfield Road	Fairfield	NJ	07004
West Essex Graphics	305 Fairfield Avenue	Fairfield	NJ	07006
Wm. H. Brewster, Jr. Inc.	16 Kulick Road	Fairfield	NJ	07004
Egan Transportation Inc.	P.O. Box 244, 29 Hillcrest Road	Glen Ridge	NJ	07028-0244
A & P Paper Stock, Inc.	48-54 South 20th Street	Irvington	NJ	07111
Alex's Cabinet Shop	1400 Springfield Avenue	Irvington	NJ	07111
Bauer Factory Supply, Inc.	985-987 Clinton Avenue	Irvington	NJ	07111
Busy Bee Dry Cleaners	686 Chancellor Avenue	Irvington	NJ	07111
Charles & Son Als Inc.	798 Springfield Avenue	Irvington	NJ	07111
Coleman Equipment, Inc.	656 South 21st Street	Irvington	NJ	07111
Electric Machine And Tool Corp.	435 14th Avenue	Irvington	NJ	07111
G & R Graphics, Inc.	1420 Springfield Avenue, PO Box 428	Irvington	NJ	07111
Gem Autos	675 Grove Street	Irvington	NJ	07111
Graphic Design Concepts, Inc.	119 Colt Street	Irvington	NJ	07111

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
Rosemon Paper Company	673 South 21st	Irvington	NJ	07111
Irvington Beauty & Barber Supply Inc.	1085 Springfield Avenue	Irvington	NJ	07111
Abel Inc.	365 Colt Street	Irvington	NJ	07111
Arco-Customer Brokers	290 Nye Avenue	Irvington	NJ	07111
Ucan and Lucas Inc.	114 Delmar Place	Irvington	NJ	07111
J.R. D Auto Sale Inc.	546-550 Chancellor Avenue	Irvington	NJ	07111
Merit Irvington	895 Springfield Avenue	Irvington	NJ	07111
Multi-Wall Packaging	130 South 20th Street	Irvington	NJ	07111
Newark Mat & Rubber	688 South 21st Street	Irvington	NJ	07111
North Jersey Paper Products, Inc.	130 Colt Street	Irvington	NJ	07111
Papp Beer & Soda	1000 Clinton Avenue	Irvington	NJ	07111
Pokina International Inc.	22 Camptown Road	Irvington	NJ	07111
Polo Service Inc.	814 18th Avenue	Irvington	NJ	07111
Permitox Pest Control Specialists	911 Stuyvesant Avenue	Irvington	NJ	07111
PCL Equipment Corporation	P.O. Box 620	Livingston	NJ	07039
Pee Bee Designs	1198 W. Mt. Pleasant Avenue	Livingston	NJ	07039
Burrelle's Press Clipping Service	75 East Northfield Road	Livingston	NJ	07039
Globe Industries Corporation	87 Dorsa Avenue	Livingston	NJ	07039
Inglemoor Care Center	311 South Livingston Avenue	Livingston	NJ	07039
Nettie Ochs Cider Mill	32 Old Short Hills Road	Livingston	NJ	07039
Sam-Mik Corp. t/a Circle Cleaners	291 North Mt. Pleasant Avenue	Livingston	NJ	07039
Spectrum Press Inc.	1 Naylon Place	Livingston	NJ	07039
Wigder Chevrolet Inc.	606 West Mt. Pleasant Avenue	Livingston	NJ	07039
CTB International Publishing, Inc.	1980 Springfield Avenue	Maplewood	NJ	07040
Carlson Gear Mfg.	25 Newark Way	Maplewood	NJ	07040
Garden State Gulf (Ira Tauman Inc)	2177 Millburn Avenue	Maplewood	NJ	07728
Kay Jeep	1633 Springfield Avenue	Maplewood	NJ	07040
Petillo's Shell	490 Valley Street	Maplewood	NJ	07040
S.S. Tool & Mfg. Co.	31-A Newark Way	Maplewood	NJ	07040
Vitiello Ice Company Inc.	1795 Springfield Avenue	Maplewood	NJ	07040
Brock Continental Pastry Shop, Inc.	44 Main Street	Millburn	NJ	07041
Ivy Cleaners, Ltd	509 Millburn Avenue	Millburn	NJ	07078
Millburn Precision Inc.	20 Mechanic Street	Millburn	NJ	07041
American Tank Service	103 Grove Street	Montclair	NJ	07042
Art Printing & Binding	197 Bellevue Avenue	Montclair	NJ	07043
Automotive Concepts Inc.	504 Valley Road	Montclair	NJ	07043
Bobbi Brown Professional Cosmetics, Inc.	49 Highland Avenue	Montclair	NJ	07042

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
Rynderian Bros. Rugs	44 Valley Road	Montclair	NJ	07042
DeCamp Bus Lines	101 Greenwood Avenue, P.O. Box 581	Montclair	NJ	07042
F & P Cleaners, Inc.	123 Watchung Avenue	Montclair	NJ	07043
Joseph LaRiccia	100 Watchung Avenue	Montclair	NJ	07043
Kimberly Cleaners	154 Valley Road	Montclair	NJ	07042
Lytle Glassart	23 Church Street	Montclair	NJ	07042
Memorial Home for Women	185 Fernwood Avenue	Montclair	NJ	07043
Navta Associates	292 Bloomfield Avenue	Montclair	NJ	07042
Nicolo's Italian Bakery, Inc.	6 Baldwin Street	Montclair	NJ	07042
Pam Optical Co., Inc.	107 Park Street	Montclair	NJ	07042
Persia Oriental Rugs	500 Bloomfield Avenue	Montclair	NJ	07042
Reid's Interior Decorations & Upholstery	573 Bloomfield Avenue, P.O. Box 129	Montclair	NJ	07042
Rex Hide Automotive Products, Inc.	105 Grove Street	Montclair	NJ	07042
St. Vincent's Nursing Home	45 Elm Street	Montclair	NJ	07042
The Printers Place	20 Church Street	Montclair	NJ	07042
Z P King Printing & Copy Center	8 Church Street	Montclair	NJ	07042
A & L Dyers, Inc.	36 Seabury Street	Newark	NJ	07104
A. Fiore & Sons Recycling, Inc.	1230 McCarter Highway	Newark	NJ	07104
A. H. Harris & Sons Inc.	155 Manchester Place	Newark	NJ	07104
Abco Die Cutters Inc.	82 Clifford Street	Newark	NJ	07105
Accurate Set, Inc.	1199 Broad Street	Newark	NJ	07114
Active Printing Company	123 Delancy Street	Newark	NJ	07105
Advanced Enterprises Recycling Inc.	540 Doremus Avenue	Newark	NJ	07105
Air Conditioning Associated Co. Inc.	436 Ferry Street	Newark	NJ	07105
Air-Sea Forwarders Inc.	Cargo Bldg. 150, Nwk. Int'l Airport	Newark	NJ	07114
Allstates Air Cargo, Inc.	35 Fenwick Street	Newark	NJ	07114
Alto Printing Co.	186 Van Buren Street	Newark	NJ	07105
American Export Lines	169 Frelinghuysen Avenue	Newark	NJ	07114
Amrod Corporation	305 Craneway Street	Newark	NJ	07114
Anchor Rubber Stamp & Printing t/a Ace	14 East Park Street	Newark	NJ	07102-2198
Angelica Health Care Services Group	12 Clifton Street	Newark	NJ	07114
Arch Carburetor Inc.	583 Central Avenue	Newark	NJ	07107
Aro Uniform Supply	377 North Fifth Street	Newark	NJ	07407
Arrow Metal Fabricators, Inc.	191 Mt. Pleasant Avenue	Newark	NJ	07104
Arroyo Printing Inc.	39 Pacific Street	Newark	NJ	07105
Atco Products Inc.	189 Frelinghuysen Avenue	Newark	NJ	07114
Atlantic Coast Crushers	240 King Blvd.	Newark	NJ	07102

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

acility Name	Street	City	State	Zip
acon Repair Garage, Inc.	82-88 Jay Street	Newark	NJ	07103
nnett Heat Treating & Brazing Co., Inc.	690 Ferry Street	Newark	NJ	07105
st Polishing & Plating Inc.	443 South 10th Street	Newark	NJ	07103
toria Mfg. Corproation	37 St. Charles Street	Newark	NJ	07105
oyko Metal Finishing	85-87-89-100 Poinier Street	Newark	NJ	07114
ristol Donald Co., Inc.	50 Roanok Avenue	Newark	NJ	07105
rook Warehousing Corporation	515-481 Doremus Avenue	Newark	NJ	07101
yrne Laboratories, Inc.	226 Sherman Avenue	Newark	NJ	07114
R Fashions	407 Mulberry Street	Newark	NJ	07102
alandra's Bakery, Inc.	204 First Avenue	Newark	NJ	07107
aponaro Sales Corporation	144 Emmet Street	Newark	NJ	07114
arlon Auto Electric Inc.	370 South Street	Newark	NJ	07105
rolina Freight Carriers Corp.	580 Delancy Street	Newark	NJ	07105
icor Products Inc.	29-75 Riverside Avenue	Newark	NJ	07104
hemical Compounds Inc.	29-75 Riverside Avenue	Newark	NJ	07104
hemplex Chemical c/o Clinton Univ. Whse.	258 Jelliff Avenue	Newark	NJ	07198
laud's Cleaners	408 Chancellor Avenue	Newark	NJ	07112
linton Metal Fab. Corp.	9-15 Malvern Street	Newark	NJ	07105
olon Plastics Corp.	42 Lafayette Street	Newark	NJ	07102
ourse & Bolten Co.	42 Lafayette Street	Newark	NJ	07102
rry's Garage	44 Elm Road	Newark	NJ	07105
F Amoco, Inc.	312 Walnut Street	Newark	NJ	07105
.B. Brown Inc.	425 Avenue "P"	Newark	NJ	07105
ND Auto Salvage	125 Harper Street	Newark	NJ	07114
n Donoher & Co.	222 Verona Avenue	Newark	NJ	07104
lta Engineering Co.	556 Ferry Street	Newark	NJ	07105
amond Hard Chromium Co., Inc.	463 New Jersey Railroad Avenue	Newark	NJ	07114
anes Plants Inc.	811 Sanford Avenue	Newark	NJ	07106
ovani Inc.	84 Monroe Street	Newark	NJ	07105
or Openings Corp. of N.J.	357 Wilson Avenue	Newark	NJ	07105
uRon Co. Inc.	238 Emmet Street	Newark	NJ	07114
uRon Company, Inc.	238 Emmet Street	Newark	NJ	07114
SI, Inc.	194 Avenue L	Newark	NJ	07105
astern Store Fixture Corp.	609 Central Avenue	Newark	NJ	07107
astern Warehouse	199 Panama Street	Newark	NJ	07114
lectronic Mfg. Co.	670 South 17th Street	Newark	NJ	07103
ssar Shell Inc.	646 Clifton Avenue	Newark	NJ	07104

Facility Name	Street	City	State	Zip
Ethical Products, Inc.	216 First Avenue	Newark	NJ	07017
Evo Air Van	Cargo Bldg. #150, Newark Int'l Airp	Newark	NJ	07114
Foya Enterprises Inc.	32 Seabury Street	Newark	NJ	07104
Frank Popolo Barrel Company, Inc.	16-18 Thornton Street	Newark	NJ	07105
G.J. Chemical Co., Inc.	128 Doremus Avenue	Newark	NJ	07105
George Ulanet Co.	413 Market Street	Newark	NJ	07105
Glikin Brothers Inc.	2 Joseph Street	Newark	NJ	07105
Globe Auto Repairs Inc.	581 North 3rd Street	Newark	NJ	07107
Gortron Corporation	457 Frelinghuysen Avenue	Newark	NJ	07114
H. Goldstein Leather Mfg.	470 Mulberry Street	Newark	NJ	07114
Haenssler Sheet Metal Works, Inc.	592 Hawthorne Avenue	Newark	NJ	07112
Herb Spring Company, Inc.	244 South Street	Newark	NJ	07114
Hercules Machine Shop	11 Tichenor Lane	Newark	NJ	07114
Hillside Paper Products	36 Van Vechten Street	Newark	NJ	07114
Hirsch & Moscowitz Corporation	435 Frelinghuysen Avenue	Newark	NJ	07114
Hydraulics Inc.	42 Lafayette Street	Newark	NJ	07102
Industrial Hard Chromium Co., Inc.	7 Rome Street	Newark	NJ	07105
International Testing Laboratories	580 Market Street	Newark	NJ	07105
Interstate Show Case & Store Fixture Co, Inc.	246-54 North 10th Street	Newark	NJ	07107
J & J Auto Service Center, Inc.	321 Adams Street	Newark	NJ	07105
J & J Metals Inc.	489 Frelinghuysen Avenue	Newark	NJ	07114
J A Fashions Inc.	31 Clover Street	Newark	NJ	07105
J. Sepenuk & Sons	21 Hyatt Avenue	Newark	NJ	07105
Jamrich Cleaners	130 South Street	Newark	NJ	07114
Jersey Industrial Fabricators, Inc.	120-132 Sixteenth Avenue	Newark	NJ	07103
Jesse's Auto Service	696 Bergen Street	Newark	NJ	07108
Johnson Forging Works Inc.	294-306 Thomas Street	Newark	NJ	07114
K.W. Paper	370 Orange Street	Newark	NJ	07107
Keith Industries, Inc.	248 Astor Street	Newark	NJ	07114
Koch Compressed Gases	433 Raymond Blvd.	Newark	NJ	07105
Kohler Delicatessen Meats Inc	170 Avenue L	Newark	NJ	07105
Krowne Metal Corporation	257 Verona Avenue	Newark	NJ	07104
L & P Road Service Repair	99 Lockwood Street	Newark	NJ	07105
LCI Industries	1448 McCarter Highway	Newark	NJ	07104
Lafayette Crane and Hoist Co., Inc.	182 Vanderpool Street	Newark	NJ	07114
Landew & Blume	190 Clifford Street	Newark	NJ	07105
Leachaco, Inc.	Hemisphere Center, Rts. 1&9 South	Newark	NJ	07114

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

cility Name	Street	City	State	Zip
pes Co.	304 Walnut Street	Newark	NJ	07105
ggage & Novelty Mfg. Co.	49 Halsey Street	Newark	NJ	07102
micolor Signs, Inc.	326 Bloomfield Avenue	Newark	NJ	07107
Eagles Tool Whse., Inc.	178 Sherman Avenue	Newark	NJ	07114
gruder Color Co., Inc. (Graphics Veh. Div.)	100 East Peddie Street	Newark	NJ	07114
nhatten Laundries Inc.	58 Gould Avenue	Newark	NJ	07107
ra Polishing & Plating Co.	105 West Peddie Street	Newark	NJ	07112
rit Railroad	645 McCarter Highway	Newark	NJ	07102
rit Raymond Blvd.	897 Raymond Blvd.	Newark	NJ	07105
celli Motors Inc.	251 Malvern Street	Newark	NJ	07105
dtown Exxon	481 Central Avenue	Newark	NJ	07107
nsotia Fashions	104 Verona Avenue	Newark	NJ	07104
tional Water Main Cleaning Co.	875 Summer Avenue	Newark	NJ	07104
w Jersey Glass Co.	354 Park Avenue	Newark	NJ	07107
w Jersey Hardware Company	10 Bleeker Street	Newark	NJ	07102
wark Caster & Truck Corporation	355 Park Avenue	Newark	NJ	07107
wark Envelope Company, Inc.	100 Madison Street	Newark	NJ	07105
wark Tobacco & Candy Co., Inc.	488 South Orange Avenue	Newark	NJ	07103
wark Tool Corp.	44-48 Dickerson St.	Newark	NJ	07103
rth Jersey Auto Sales	346 Broadway	Newark	NJ	07104
.K. Auto Radiator	95 Poinier Street	Newark	NJ	07114
lympic Jr.	221 Berlin Street	Newark	NJ	07103
P S Services Inc.	27 Malvern Street	Newark	NJ	07105
Fernicola Inc.	257 Elm Street	Newark	NJ	07105
cific Cleaner's	26 Pacific Street	Newark	NJ	07105
rk Avenue Auto Repair, Inc.	106-108 Park Avenue	Newark	NJ	07105
rk Avenue Exxon	242 Park Avenue	Newark	NJ	07107
rdeco Displays Company	62 McWhorter Street	Newark	NJ	07105
tri Paint Co., Inc.	198 Pacific Street	Newark	NJ	07114
lating City Corporation	347 Ferry Street	Newark	NJ	07105
pular Motors, Inc.	6-7 Springfield Avenue	Newark	NJ	07103
ggy's Auto Sales	341-347 Elizabeth Avenue	Newark	NJ	07108
mbach Corporation	52 Vesey Street	Newark	NJ	07105
bot Tooling Corporation	199 2nd Street	Newark	NJ	07107
bson Bearing & Supply	165 Vanderpool Street	Newark	NJ	07114
ee Color, Inc.	170 Blanchard Street	Newark	NJ	07105
yal Products Co., Inc.	319 Chapman Street	Newark	NJ	07106

CATEGORY 6 FACILITIES
(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
Ru-Hel/Heltronics	9 Lincoln Park	Newark	NJ	07102
Rubel Ice Corporation	250 Badger Avenue	Newark	NJ	07108
S H P C Inc. dba Star Heel Plate. et al	187 Christie Street	Newark	NJ	07105
S.A. Leart Co.	358-62 Walnut Street	Newark	NJ	07105
Salton/Maxim Housewares Inc.	164 Delancy Street	Newark	NJ	07105
Sani Down Feather Corporation	646 Frelinghuysen Avenue	Newark	NJ	07114
Sisbarro Disposal Service Co. Inc.	247 Emmet Street	Newark	NJ	07114
Skidmore Rad	1133 McCarter Hwy	Newark	NJ	07102
Steel Door & Services	164 Pennington Street	Newark	NJ	07105
Superior Metal Products. Inc.	19 Liberty Street	Newark	NJ	07102
Supreme Heat Treating	8-12 Clifton Avenue	Newark	NJ	07103
Suprme Ink Co.. Inc.	65 McWhorter Street	Newark	NJ	07105
Technick Products Inc.	357 Wilson Avenue	Newark	NJ	07105
Thomas Popola & Sons Inc.	68-92 Delancy Street	Newark	NJ	07105
Thymer Industries	436 Ferry Street	Newark	NJ	07105
Timco Inc.	666 South 16th Street	Newark	NJ	07103
Unico Janitorial & Restaurant Supply	107 South Street	Newark	NJ	07114
United Label Corporation	65 Chambers Street	Newark	NJ	07105
United States Spray Finishing	70 Blanchard Street	Newark	NJ	07105
Veterans Cleaners	491 Clinton Avenue	Newark	NJ	07108
Victory Industrial Supply. Inc.	85 Chestnut Street	Newark	NJ	07105
Voyajer Transportation	474 Wilson Avenue	Newark	NJ	07105
Welding Rental & Repair	49-55 St. Charles Street	Newark	NJ	07105
Wiltel. Inc.	744 Broad Street. 3rd Floor	Newark	NJ	07102
Ad Comp Inc.	226 Washington Avenue	Nutley	NJ	07110
Air Compressor Technology. Inc.	243 Washington Avenue	Nutley	NJ	07110
Alyssa Creations t/a Sorice'	113-115 East Centre Street	Nutley	NJ	07110
Baum Draperies	666 Passaic Avenue	Nutley	NJ	07110
CD&P Health Products	113 East Centre Street	Nutley	NJ	07110
Direct Gravure Service. Inc.	11 Robert Street	Nutley	NJ	07110
East Nutley Garage	38 Washington Avenue	Nutley	NJ	07110
Exide Corporation	113 East Centre Street	Nutley	NJ	07110
H and E Products. Inc.	154 North Road	Nutley	NJ	07110
Nutley Lumber Company	263 Hillside Avenue	Nutley	NJ	07110
Security Defense Systems Corporation	139 Chestnut Street	Orange	NJ	07050
A & H Auto Repair	357 Columbia Street	Orange	NJ	07050
American Traffic & Street Co.	200 South Jefferson Street			

(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
shland Janitorial Supplies Inc.	166 Central Avenue	Orange	NJ	07050
enter Meat Packing Co.	32 South Center Street	Orange	NJ	07050
mid Corporation	50 South Center Street	Orange	NJ	07050
squelle's Bakery	501 Central Avenue	Orange	NJ	07050
aspora Development Corporation	495 Mountain View Avenue	Orange	NJ	07050
lite Auto Body	17 South Jefferson Street	Orange	NJ	07050
eal Engraving Co., Inc.	400 South Jefferson Street	Orange	NJ	07050
stant Printing	355 Main Street	Orange	NJ	07050
aritime Tankasystems Intl. Inc.	350 Scotland Road	Orange	NJ	07050
etro Panel Systems, Inc.	324 Washington Street	Orange	NJ	07050
range Alden Fuel Company	50 South Essex Avenue	Orange	NJ	07050
rone Water Co (rental spaces)	179 Lincoln Avenue	Orange	NJ	07050
smarc Jewelry & Setting Company, Inc.	348 Central Avenue	Orange	NJ	07050
arker Laboratories, Inc.	307 Washington Street	Orange	NJ	07050
remier Alum. Corp.	531 Freeman Street	Orange	NJ	07050
hemen Tov Corporation	150 Oakwood Avenue	Orange	NJ	07050
uburban Communications, Inc.	563 White Street	Orange	NJ	07050
unshine Container	461 Maryland Street	Orange	NJ	07050
.E. Repro Inc.	33-37 North Day Street	Orange	NJ	07050
DP	1 ADP Blvd.	Roseland	NJ	07068
ameco, Inc.	P.O. Box 209	Verona	NJ	07044
ornic Safety Equipment Co. Inc.	724 Bloomfield Avenue	Verona	NJ	07044
ilgrim Cleaners of Lee	299 Pompton Avenue	Verona	NJ	07044
illow Contracting	251 1/2 Grove Avenue	Verona	NJ	07044
estern Tool Warehouse Corp.	20 Fairfield Place	West Caldwell	NJ	07006
estra Inc.	10 York Avenue	West Caldwell	NJ	07006
ontgomery Engineering Company	241 Clinton Road	West Caldwell	NJ	07006
nique Landscaping	142 Westover Avenue	West Caldwell	NJ	07006
& F Electroplating Inc.	106 Ashland Avenue	West Orange	NJ	07052
& M Printing	161 Main Street	West Orange	NJ	07052
eacon Press Inc.	268 South Valley Road	West Orange	NJ	07052
esign/Type Inc.	33 Ashland Avenue	West Orange	NJ	07052
aler & Company, Inc.	252 Main Street	West Orange	NJ	07052
nergized Chemicals Inc.	8 Marcella Avenue	West Orange	NJ	07052
erne Sales Co.	P.O. Box 114	West Orange	NJ	07052
red Smith Adhesives, Inc.	P.O. Box 159TCB, 35 Ashland Avenue	West Orange	NJ	07052-0159
riedin Company	595 Eagle Rock Avenue	West Orange	NJ	07052

CATEGORY 6 FACILITIES
(FACILITIES PROVIDING INSUFFICIENT INFORMATION)

Facility Name	Street	City	State	Zip
Gimmee Jimmy's Cookies	26A South Valley Road	West Orange	NJ	07052
Island Fashion Inc.	1-3 Charles Street	West Orange	NJ	07052
Pilgrim Printing Co., Inc.	46 Watson Avenue	West Orange	NJ	07052
Power Dynamics Inc.	59 Lakeside Avenue	West Orange	NJ	07052
Ram Machine Vision Inc.	41 Orange Heights Avenue	West Orange	NJ	07052
Suppression System Installers Inc.	P.O. Box 703 (WOB), 2 Cental Ave.	West Orange	NJ	07052
U.S. Plastic Pallets, Inc.	80 Main Street	West Orange	NJ	07052
Western Termite & Pest Control	614 Eagle Rock Avenue	West Orange	NJ	07052

CATEGORY 7 FACILITIES
(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Wilson & Company, Inc.	46 Ralph Street	Belleville	NJ	07109
print, Inc.	4 Essex Street	Belleville	NJ	07109
& M Machine Co., Inc.	67-69 Greylock Avenue	Belleville	NJ	07109
isler Weidmann Co., Inc.	221-243 Cortlandt Street	Belleville	NJ	07109
rdonaro & Sons	69 Cortlandt Street	Belleville	NJ	07109
lor-Art Plastics Inc.	317 Cortlandt Street	Belleville	NJ	07109
rporate Communications Inc.	525 Washington Avenue	Belleville	NJ	07109
eative Commercial Printers	47 Montgomery Street	Belleville	NJ	07109
mark Tool & Mfg. Co.	75 Little Street	Belleville	NJ	07109
n's Drapery Mfg., Inc.	145 Heckel Street	Belleville	NJ	07109
gineered Magnetics Inc.	55 Stephens Street	Belleville	NJ	07109
am Rubber Fabricators, Inc.	740 Washington Avenue	Belleville	NJ	07109
llucci Motors Inc.	36 Washington Avenue	Belleville	NJ	07109
tterex Corporation	21 Joralemon Street	Belleville	NJ	07109
rdman Division	600 Cortlandt Street	Belleville	NJ	07109
lion Industries Inc.	681 Main Street	Belleville	NJ	07109
& G's Auto Inc.	510 Union Avenue	Belleville	NJ	07109
& P's One Hour Dry Cleaner	543 Washington Avenue	Belleville	NJ	07109
rry's Sunoco Station	100 Union Avenue	Belleville	NJ	07109
hn A. B. Greulich & Sons	307 Stephens Street	Belleville	NJ	07109
Mart 7177	371-411 Main Street	Belleville	NJ	07109
C. Graphics Inc.	83 Roosevelt Avenue	Belleville	NJ	07109
metta Custom Interiors	152 Ralph Street	Belleville	NJ	07109
nsol Industries	140 Little Street	Belleville	NJ	07109
dern Millwork & Supply Company, Inc.	624 Washington Avenue	Belleville	NJ	07109
wark Avenue Cleaners	145 Newark Avenue	Belleville	NJ	07109
Betsy Auto Repair	504 Washington Avenue	Belleville	NJ	07109
squales Service Station	520 Joralemon Street	Belleville	NJ	07109
ayboy Neckwear (RLF)	343 B Cortlandt Street	Belleville	NJ	07109
ecision Specialties	120 Greylock Avenue	Belleville	NJ	07109
essure Controls, Inc.	406 Cortland Street	Belleville	NJ	07109-3204
d Diamond Co. t/a National Sportswear	368 Cortlandt Street	Belleville	NJ	07109
ngel Brothers Inc.	51 Montgomery Street	Belleville	NJ	07109
verside Body & Fender Works, Inc.	221 Valley Street	Belleville	NJ	07109
che Diagnostic Systems, Inc.	11 Franklin Avenue	Belleville	NJ	07109
tella Motors Sales & Serv., Inc t/a Capital	56 Hill Street	Belleville	NJ	07109
feguard Industrial Equipment Co., Inc.	27 Washington Avenue	Belleville	NJ	07109

Facility Name	Street	City	State	Zip
Serafino Printing Company	142 Ralph Street	Belleville	NJ	07109
Sun Glo Corporation	111 Heckel Street	Belleville	NJ	07109
Superior Press, Inc.	83 Roosevelt Avenue	Belleville	NJ	07109
Tapco Industries Inc.	51 Cortlandt Street	Belleville	NJ	07109
Vac-U-Max	37 Rutgers Street	Belleville	NJ	07109
Wallace and Tiernan Inc.	25 Main Street	Belleville	NJ	07109
Yerg Inc.	85 Washington Avenue	Belleville	NJ	07109
Accent Press Inc.	224 Broughton Avenue	Bloomfield	NJ	07003
Alco Machine & Tool Inc.	111 Orange Street	Bloomfield	NJ	07003
All Cleaners (Al's Dry Cleaners, Inc.)	1101 Broad Street	Bloomfield	NJ	07003
Annin & Co.	88 Llewellyn Avenue	Bloomfield	NJ	07003
Anthony & Sal Cleaners	46 Franklin Street	Bloomfield	NJ	07003-5712
Argonne Cleaners	182 Broad Street	Bloomfield	NJ	07003
Automated Processes, Inc.	33 Columbus Street	Bloomfield	NJ	07003
Baby Gold Jewelry Inc.	5 Lawrence Street, Unit #14	Bloomfield	NJ	07003
Banks Bros. Corp.	24 Federal Plaza	Bloomfield	NJ	07003
Bloomfield Fuel Dist. Inc. t/a Watchung Shell	211 Watchung Avenue	Bloomfield	NJ	07003
Brookdale Park Cleaner	1294 Broad Street	Bloomfield	NJ	07003
Broughta Cleaners Inc.	125 Broughta Avenue	Bloomfield	NJ	07003
C & N Tooling and Grinding Inc.	2 Alva Street	Bloomfield	NJ	07003
Commercial Offset, Inc.	5 Lawrence Street-Bldg. 16	Bloomfield	NJ	07003
Complete Optical Laboratory Ltd.	1255 Broad Street	Bloomfield	NJ	07003
Creative Embroidery Corp.	211 Grove Street	Bloomfield	NJ	07003
Danco Manufacturing	88 Llewellyn Avenue	Bloomfield	NJ	07003
Diasyde Co.	5 Lawrence Street	Bloomfield	NJ	07003
Eliora Manufacturing Inc.	5 Lawrence Street	Bloomfield	NJ	07003
Eskimo Pie Corporation	118 J.K. Kennedy Drive, North	Bloomfield	NJ	07003
Eye Drx	1255 Broad Street	Bloomfield	NJ	07003
Fouth Edition Inc.	5 Lawrence Street	Bloomfield	NJ	07003
Franklin Shell Service Center	111 Franklin Street	Bloomfield	NJ	07003
Fusion Graphics	5 Lawrence Street	Bloomfield	NJ	07003
Garden State Woodworking Co., Inc.	344 Hoover Avenue	Bloomfield	NJ	07003
Halkias Gear & Machine Works Corporation	12 Willow Street	Bloomfield	NJ	07003
Hauck's Auto Repair	21 John Street	Bloomfield	NJ	07003
Home Dry Cleaning Service	142 Watessing Avenue	Bloomfield	NJ	07003
Intrafoil Inc.	225 Belleville Avenue	Bloomfield	NJ	07003
Jim's Super Service, Inc.	550 Broad Street	Bloomfield	NJ	07003

...ility Name	Street	City	State	Zip
...ntine's Beauty Supply	14 Belleville Avenue	Bloomfield	NJ	07003
...uteman Press of Bloomfield	631 Bloomfield Avenue	Bloomfield	NJ	07003
...D. Fiorentino t/a AAMCO Tansmissions	638-640 Bloomfield Avenue	Bloomfield	NJ	07003
...erless Tube Company	58-76 Locust Avenue	Bloomfield	NJ	07003
...ase II Graphics, Inc	130 JFK Drive North	Bloomfield	NJ	07003
...oll Holding Co., Inc.	120 Arlington Avenue	Bloomfield	NJ	07003
...lph's Auto Service Center Inc.	630 Bloomfield Avenue	Bloomfield	NJ	07003
...ndy Cleaners	874 Broad Street	Bloomfield	NJ	07003
...n Marco Inc.	4 Bloomfield Avenue	Bloomfield	NJ	07003
...obbs Printing Co., Inc.	18 Washington Street	Bloomfield	NJ	07003
...chno-Craft, Inc.	5 Lawrence Street, Bldg. 10	Bloomfield	NJ	07003
...n Rohr Equipment Corporation	13 Race Street	Bloomfield	NJ	07003
...rrall Comm. Nwspre t/a The Independent Pres	266 Liberty Street, P.O. Box 110	Bloomfield	NJ	07003
...ller Studios, Inc.	265 Watsessing Avenue	Bloomfield	NJ	07003
...& C Auto Radiator Service	5 Central Avenue	Caldwell	NJ	07006
...aumont Ent. t/a Copyrite Press	352 Bloomfield Avenue	Caldwell	NJ	07006
...landra Printing Co.	491 Bloomfield Avenue	Caldwell	NJ	07006
...rsey Scales & Systems Inc.	19 Whitfield Street	Caldwell	NJ	07006
...& B Auto Service Inc.	7 Park Avenue	Caldwell	NJ	07006
...Jon Inc. t/a Do You Want To Dry Cleaner	155 Roseland Avenue	Caldwell	NJ	07006
...S Cleaners	463 Bloomfield Avenue	Caldwell	NJ	07006
...lpage Medical	6 Provost Square	Caldwell	NJ	07006
...lto's Garage, Inc.	6 Park Avenue	Caldwell	NJ	07006
...l International Corp.	411 Pompton Avenue	Cedar Grove	NJ	07009
...ni & George Inc. dba Hillcrest Exxon	Pompton Turnpike & Myrtle Avenue	Cedar Grove	NJ	07009
...dda Auto Body, Inc.	1416 Route 23	Cedar Grove	NJ	07009
...dar Grove Cleaners	344 Pompton Avenue	Cedar Grove	NJ	07009
...dar Grove Service Center	666 Pompton Avenue	Cedar Grove	NJ	07009
...egree Day System, Inc.	33 Village Park Road	Cedar Grove	NJ	07009
...rove Precision Machine Co., Inc.	41 Bortic Road	Cedar Grove	NJ	07009
...ealthscan Products Inc.	908 Pompton Avenue	Cedar Grove	NJ	07009
...orowitz/Rae Book MFG.	282 Grove Avenue	Cedar Grove	NJ	07009
...perial Machine & Tool Co.	Village Park Road	Cedar Grove	NJ	07009
...J Tool Corp.	36 Commerce Road	Cedar Grove	NJ	07009
...ffrey A. Weisbecker	227 Little Falls Road	Cedar Grove	NJ	07009
...ny Cleaners	10 Bowden Road	Cedar Grove	NJ	07009
...ichael C. Ruggiero	18 The Fairway	Cedar Grove	NJ	07009

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Nifra, Inc. DBA Meineke Mufflers	270 Pompton Avenue	Cedar Grove	NJ	07009
North Jersey Diamond Wheel	218 Little Falls Road	Cedar Grove	NJ	07009
Old Deerfield Fabrics, Inc.	99 Commerce Road	Cedar Grove	NJ	07009
Omnia Industries, Inc.	5 Cliffside Drive, P.O. Box 330	Cedar Grove	NJ	07009
P.H. Industrial Supply, Inc.	220 Little Falls Road, Unit #5	Cedar Grove	NJ	07009
Phoenix Industries	P.O. Box 38, 371 Little Falls Rd.	Cedar Grove	NJ	07009
Printers Ink Corporation	615 Pompton Avenue	Cedar Grove	NJ	07009
Servometer Corporation	501 Little Falls Road	Cedar Grove	NJ	07009
Turning Point, Inc.	125 Fairview Avenue	Cedar Grove	NJ	07044
Unit Pack Co., Inc.	7 Lewis Road	Cedar Grove	NJ	07009
Waterview Nursing Center	536 Ridge Road	Cedar Grove	NJ	07009
A & L Renna Inc.	66 North Park Street	East Orange	NJ	07017
Advocate Publishing	37 Evergreen Place	East Orange	NJ	07018
Akar Automotive, Inc.	855 South Orange Avenue	East Orange	NJ	07018
C. Egan & Sons	102 Fair Street	East Orange	NJ	07017
Carriage Cleaners	27 N. Arlington Avenue	East Orange	NJ	07017
Chanin Cleaners	392 M.L. King Blvd.	East Orange	NJ	07018
Crown Industries	155 North Park Street	East Orange	NJ	07017
Direct Environmental	290 Sanford Street	East Orange	NJ	07018
Disbrow Manufacturing Company, Inc.	181 South 18th Street	East Orange	NJ	07019
East Orange Bakery	236 Tremont Avenue	East Orange	NJ	07018
Floridian Cleaners, Inc.	68 City Hall Plaza	East Orange	NJ	07017
Fresh As A Daisy	583 Central Avenue	East Orange	NJ	07018
Gilt-Edge Folding Box Company, Inc.	181 South 18th Street	East Orange	NJ	07019
Govi Madison Company	5 Whittlesey Avenue	East Orange	NJ	07018
Hospi-Tel MFG. Co.	545 N. Arlington Ave, P.O. Box 1420	East Orange	NJ	07017
Model Auto Sales	47 Central Avenue	East Orange	NJ	07015
North Jersey Blood Center	45 South Grove Street	East Orange	NJ	07018
Parkway Manor Health Center	480 Parkway Drive	East Orange	NJ	07017
Pollaro Custom Furniture	356 Glenwood Avenue	East Orange	NJ	07017
Prestige Cleaners	16 Lincoln Street	East Orange	NJ	07017
Printing Delite, Inc.	279 Sanford Street	East Orange	NJ	07018
Q.V.S. Inc.	20 North 15th Street	East Orange	NJ	07017
Ram Brothers Automotive Service	221 Central Avenue	East Orange	NJ	07109
Robert Warren Inc.	129 Evergreen Place	East Orange	NJ	07018
Style Cleaners Inc.	228 Springdale Avenue	East Orange	NJ	07017
T.E.R. Works Laboratory, Inc.	364 Glenwood Avenue	East Orange	NJ	07017

CATEGORY 7 FACILITIES
(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Young's Cleaners	961 South Orange Avenue	East Orange	NJ	07018
. B Scantlebury	323 Passaic Avenue	Fairfield	NJ	07006
-1 Screen Printing Inc.	4 Gardner Road	Fairfield	NJ	07004
. Abcal Inc.	36 Montesano Road	Fairfield	NJ	07004
. Horowitz & Sons	300 Fairfield Road	Fairfield	NJ	07004
ARCS Fabricators, Inc.	21 Passaic Avenue	Fairfield	NJ	07004
AWD Technologies, Inc.	710 Route 46 East, Ste 401	Fairfield	NJ	07004
Abbott Laboratories, Home Infusion Services	97B Fairfield Road	Fairfield	NJ	07004
Abu-Garcia Inc.	21 Law Drive	Fairfield	NJ	07004
Advance Fiber Technologies Corporation	15 Industrial Road	Fairfield	NJ	07004
Advanced Fastner Industries Inc.	311 Route 46 West	Fairfield	NJ	07004
Amerex Corp.	29 Dwight Place	Fairfield	NJ	07004
American Fuji Seal Inc.	17 Stewart Place	Fairfield	NJ	07004
Amerlux Inc.	23 Daniel Road	Fairfield	NJ	07004
Anderson & Vreeland Inc.	8 Evans Street	Fairfield	NJ	07006
B & E Chemical Company, sub. of Horton Intn'l	26 Daniel Road West	Fairfield	NJ	07006
B. T. G. Associates Inc dba Harvell Packaging	490 Route 46 East	Fairfield	NJ	07004
Banyan Communications Group Inc.	383 Route 46 West	Fairfield	NJ	07004
Bare Beyond Comparison	111 Clinton Road	Fairfield	NJ	07004
Beat Brands, Inc.	373 Rt. 46 West Bldg D	Fairfield	NJ	07004
Biltrite Tool & Die Co. Inc.	29 Montesano Road	Fairfield	NJ	07004
Browning-Ferris Industries of North Jersey	54 Montesano Road	Fairfield	NJ	07004
Brush Wellman Inc.	180 Passaic Avenue	Fairfield	NJ	07004
Bull World-Wide Info Services	264 Passaic Avenue	Fairfield	NJ	07004
C&W Aero Services	125 Passaic Avenue	Fairfield	NJ	07004
Carewell Ind. Inc.	333B Route 46 West	Fairfield	NJ	07004
Celloglas Tri-State, Inc.	6 Evans Street	Fairfield	NJ	07004
Central Letter Shop Inc.	310 Fairfield Road	Fairfield	NJ	07004
Ceramic Magnetics	16 Law Drive	Fairfield	NJ	07004
Clairidge Sign Company	347 Fairfield Road	Fairfield	NJ	07040
Collision Restoration	111 Clinton Road	Fairfield	NJ	07006
Commercial Computer Services, Inc.	4 Sperry Road	Fairfield	NJ	07004
Constant Service, Inc.	17 Commerce Street	Fairfield	NJ	07004-1621
Contact Electronics, Inc.	30 Plymouth Street	Fairfield	NJ	07004
Continous Forms Inc.	23 6 Commerce Road	Fairfield	NJ	07004
Crown Plaza	461 Route 46	Fairfield	NJ	07004
Daltex Medical Sciences, Inc.	50 Kullick Road	Fairfield	NJ	07004

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Ed-Mar Ind. Inc.	11 Ray Place	Fairfield	NJ	07004
Elvetta Products Co., Inc.	330 Fairfield Road	Fairfield	NJ	07004-1998
Entran Devices, Inc.	10 Washington Avenue	Fairfield	NJ	07004
FLH Graphics	123 Lehigh Drive	Fairfield	NJ	07006
Fairfield BP Service Station	6 Rt 46 East	Fairfield	NJ	07006
Fairfield Filter Corporation	1275 Bloomfield Avenue	Fairfield	NJ	07004
Fairfield Laundry Machinery Corporation	5 Montesano Road	Fairfield	NJ	07004
Fairfield Textile Corporation	55 Passaic Avenue	Fairfield	NJ	07004
Fordham Felt Works, Inc.	10 Audrey Place	Fairfield	NJ	07004
Foremost Machine Builders Inc.	23 Spielman Road	Fairfield	NJ	07004
Foto Chemical Systems Inc.	3 Lincoln Drive	Fairfield	NJ	07004
Fujirebio America Inc.	30 Two Bridges Road, Suite 250	Fairfield	NJ	07004
Globe Motor Car Company	1230 Bloomfield Avenue	Fairfield	NJ	07004
Goulds Pumps Inc.	22 Madison Road	Fairfield	NJ	07004
Gramercy Mills Inc.	39 Plymouth Street	Fairfield	NJ	07004
Hampton Products Corp.	40 Pier Lane West	Fairfield	NJ	07004
Hermes Machine Tool Co., Inc.	5 Gardner Road	Fairfield	NJ	07004
High Point Tool Company, Inc.	15 Spielman Road	Fairfield	NJ	07004
ITI Electronics, Inc.	12 Kylick Road	Fairfield	NJ	07004
Industrial Brush Company	105 Clinton Road, P.O. Box 869	Fairfield	NJ	07007
Ingersoll-Dresser Pump Company	142 Clinton Road	Fairfield	NJ	07004
Inaty Prints	15 Gloria Lane	Fairfield	NJ	07004
International Proteins Corporation	25 Just Road	Fairfield	NJ	07006
Invamed Inc.	12 Dwight Place	Fairfield	NJ	07004
Jay Plastics Inc.	54 Clinton Road	Fairfield	NJ	07004
K & N Nameplate Inc.	198 Passaic Avenue	Fairfield	NJ	07004
Lakeville Laminating Corporation	70 Clinton Road	Fairfield	NJ	07004
Materials Expertise, Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
Metromatic Industries Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
Microband Wireless Cable	286 Eldridge Road	Fairfield	NJ	07004
Modern Precision Company	5 Ray Place	Fairfield	NJ	07004
Monarch Tool and Manufacturing Company	66 Clinton Road	Fairfield	NJ	07004
Monsen Engineering Company	6 Daniel Road East	Fairfield	NJ	07004
Nesor Alloy Corporation	80 Little Falls Road	Fairfield	NJ	07004
New Age Metal	120 Commerce Road	Fairfield	NJ	07936
Ogden Projects, Inc.	40 Lane Road	Fairfield	NJ	07007
Pafra, Inc.	260 Rt 46 East	Fairfield	NJ	07004

CATEGORY 7 FACILITIES
(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Bar Code Symbology, Inc.	1275 Bloomfield Avenue	Fairfield	NJ	07004
Paramount Machine & Tool Corporation	18 Spielman Road	Fairfield	NJ	07004
Proteins Plus, Inc.	4 Madison Road	Fairfield	NJ	07006
Quartz Radiation Corporation	40 Pier Lane West	Fairfield	NJ	07004
R & F Alloy Wires, Inc.	P.O. Box 10003, 125 New Dutch Lane	Fairfield	NJ	07004
R & L Sheet Metal Company	3 Kulick Road	Fairfield	NJ	07004
R L M Graphics Inc.	16 Spielman Road	Fairfield	NJ	07004
Ralston's Inc.	245 Route 46	Fairfield	NJ	07004
Repromatic Printing Co., Inc.	32 Pier Lane West	Fairfield	NJ	07004
Republic Tool & Mfg. Co.	297 A Passaic Avenue	Fairfield	NJ	07004
Rudolph Instruments, Inc.	40 Pier Lane	Fairfield	NJ	07004
Sames Service Station	#7 Route 46 West	Fairfield	NJ	07004
Sanford Levine & Sons Package Corporation	400 Route 46 East	Fairfield	NJ	07004
Scripto Machine Tool Corporation	7 Kulick Road	Fairfield	NJ	07004
Shercon Inc.	1275 Bloomfield Avenue, Bldg 5-298	Fairfield	NJ	07004
Siam Enterprises Inc.	25 Law Drive	Fairfield	NJ	07004
Solbern Division of Howden Food Equip., Inc.	8 Kulick Road	Fairfield	NJ	07004-3385
Solkatronic Chemicals	Suite 210, 30 Two Bridges Road	Fairfield	NJ	08004-1530
Sylio-Tech Inc.	24 Kulick Road	Fairfield	NJ	07004
Symons Corporation	160 Fairfield Road	Fairfield	NJ	07004
The Beckley Press	2 Sperry Road	Fairfield	NJ	07004-2056
Thunderbird Label	1275 Bloomfield Avenue	Fairfield	NJ	07004
Titanium Industries	110 Lehigh Drive	Fairfield	NJ	07004-3044
Unigene Laboratories, Inc.	110 Little Falls Road	Fairfield	NJ	07004
Unimatic Manufacturing Corporation	25 Sherwood Lane	Fairfield	NJ	07004
Vinyl Services Inc.	17 Commerce Road	Fairfield	NJ	07004
Viva Optique, Inc.	11 Stewart Place	Fairfield	NJ	07006
W.R. Chesnut Engineering, Inc.	14 Spielman Road	Fairfield	NJ	07004-3495
Waveline Inc.	160 Passaic Avenue	Fairfield	NJ	07004
Wilmington Paper Corporation	333 Fairfield Road	Fairfield	NJ	07004
Wire Fabricators And Insulators, Inc.	21 Audrey Place	Fairfield	NJ	07004
Yelof Corp. T/A Foley Metal Finishing	40 Pier Lane West	Fairfield	NJ	07004
Admiral Wine & Liquor Company	603 S. 21st Street	Irvington	NJ	07111
American Aluminum Casting Co.	324 Coit Street	Irvington	NJ	07111
Arnold Furniture Mfrs., Inc.	400 Coit Street	Irvington	NJ	07111
Arnold Geisler Furniture Fabricators, Inc.	609 Chancellor Avenue	Irvington	NJ	07111
Arnold Reception Desks, Inc.	120 Coit Street	Irvington	NJ	07111

Facility Name	Street	City	State	Zip
Arnold Specialties, Inc.	120 Colt Street	Irvington	NJ	07111
Brandt Box & Paper Co., Inc.	487 Lyons Avenue	Irvington	NJ	07111
Craig Manufacturing/Dubov Agents, Inc.	30 Loretto Street	Irvington	NJ	07111
Creative Printing	1153 Stuyvesant Avenue	Irvington	NJ	07111
Crest Cleaners	34 Mill Road	Irvington	NJ	07111
Delen's Amoco Service Inc.	45 Union Avenue	Irvington	NJ	07111
Electromech, Inc.	2 Cordier Street	Irvington	NJ	07111
Gordon Fergusson Interior Decorating Services	1207 Springfield Avenue	Irvington	NJ	07111
Ideal Tool & Mfg. Co., Inc.	32 Paine Avenue	Irvington	NJ	07111
Industrial Poly Mfg.	344 Nye Avenue	Irvington	NJ	07111
Industrial Retaining Ring Co.	57 Cordier Street	Irvington	NJ	07111
Irvington General Hospital	832 Chancellor Avenue	Irvington	NJ	07111
J & N Automotive, Inc.	765 Springfield Avenue	Irvington	NJ	07111
Jay's Service Station	558 Chancellor Avenue	Irvington	NJ	07111
Jesse Heap & Son	576 South 21st Street	Irvington	NJ	07111
Kim's Cleaners, Inc.	1104 Springfield Avenue	Irvington	NJ	07111
Kromica Inc.	495 Lyons Avenue	Irvington	NJ	07111
Maple Auto Supply, Inc.	919 Stuyvesant Avenue	Irvington	NJ	07111
Morris Tabakin & Sons, Inc.	74-84 Cordier Street	Irvington	NJ	07111
National Paint Products Co., Inc.	500 Chancellor Avenue	Irvington	NJ	07111
New Jersey Bell Telephone Company	900 Clinton Avenue	Irvington	NJ	07111
Norge Village of Irvington	38 Mill Road	Irvington	NJ	07111
PADIS, Inc.	34 Tremont Terrace	Irvington	NJ	07111
Parnes Cleaners Inc.	708 Chancellor Avenue	Irvington	NJ	07111
Peoples Auto Sales Inc.	177 Springfield Avenue	Irvington	NJ	07111
Sal's Cleaners	50 Grace Street	Irvington	NJ	07111
Sasson's Youthworld, Inc.	1001 Springfield Avenue	Irvington	NJ	07111
Smart Cleaners	566 Chancellor Avenue	Irvington	NJ	07111
Star Tobacco Company	780 Christopher Avenue	Irvington	NJ	07111
Steiner Paper Corporation	145 40 Street	Irvington	NJ	07111
T & P Auto Body, Inc.	153 Chestnut Avenue	Irvington	NJ	07111
Torelco	14 Paine Avenue	Irvington	NJ	07111
U.S. Mattress Corporation	84 Colt Street	Irvington	NJ	07111
WECK	700 South 21st Street	Irvington	NJ	07111
Wheeler Industrial Corporation	485 Lyons Avenue	Irvington	NJ	07111
Zins Manufacturing Co., Inc.	26 Paine Avenue	Irvington	NJ	07111
4 Car Corp/ t/a Livingston/Short Hills Exxon	649 South Orange Avenue	Livingston	NJ	07039

acility Name	Street	City	State	Zip
llison Corporation	630 West Mt. Pleasant Avenue	Livingston	NJ	07039
alan Advertising Specialties Inc.	21 Tuxedo Drive	Livingston	NJ	07039
ell Communications Research, Inc.	290 West Mt Pleasant Ave.	Livingston	NJ	07039
ountry Service Center, Inc.	222 North Livingston Avenue	Livingston	NJ	07039
avid Krause Associates	115 Naylon Avenue	Livingston	NJ	07039
elia's Cleaner's	487 South Livingston Avenue	Livingston	NJ	07039
imensional Merchandising, Inc.	120 Dorsa Avenue	Livingston	NJ	07039
ast Cedar Service Center, Inc.	327 East Northfield Road	Livingston	NJ	07039
rnst Gage Co.	250 South Livingston Avenue	Livingston	NJ	07039
ormosa Plastics Corporation, U.S.A.	9 Peach Tree Hill Road	Livingston	NJ	07039
ranklin Miller Inc. & Esquip Corp.	60 Okner Parkway	Livingston	NJ	07039
ammill & Gillespie Inc.	154 South Livingston Avenue	Livingston	NJ	07039
nterboro Systems	651 West Mt. Pleasant Avenue	Livingston	NJ	07039
nvitations Et Cetera, Inc.	129 South Livingston Avenue	Livingston	NJ	07039
obe Sales Co., Inc.	2 Locust Place	Livingston	NJ	07039
oanell Laboratories, Inc.	102 Dorsa Avenue	Livingston	NJ	07039
eness Corp./Things of Beauty	19 West Mt. Pleasant Avenue	Livingston	NJ	07039
t. Pleasant Exxon	38 E. Mt. Pleasant Avenue	Livingston	NJ	07039
orth Hill Exxon t/a North Hill Service Inc.	228 W. Northfield Road	Livingston	NJ	07039
orth Hills Cleaners	380 East Northfield Road	Livingston	NJ	07039
ilgrim Landscaping	16 Baldwin Terrace	Livingston	NJ	07039
omeroy's Garage Inc.	18 W. Cedar Street	Livingston	NJ	07039
oseville Tool & Mfg. Corp.	22 Okner Parkway	Livingston	NJ	07039
aint Barnabas Medical Center	Old Short Hills Road	Livingston	NJ	07039
harmlyn, Inc. t/a Zahn Brothers Cleaners	603 South Livingston Avenue	Livingston	NJ	07039
unshine Biscuits, Inc.	16 Micro Lab Road, P.O. Box 96	Livingston	NJ	07039
he CIT Group	650 CIT Drive	Livingston	NJ	07039
andel & Goltermann	293 Eisenhower Parkway, Suite 120	Livingston	NJ	07039
lker Tool Company	230 Tuscan Road	Maplewood	NJ	07040
arrasso & Blasi Inc.	1581 Springfield Avenue	Maplewood	NJ	07040
irdlow Associates, Inc.	1877 Springfield Avenue	Maplewood	NJ	07040
usiness Card Factory	1799A Springfield Avenue	Maplewood	NJ	07040
ommunity Auto Repair Service	14 Newark Way	Maplewood	NJ	07040
rame Art, Inc/ Robert Hutchins Gallery	179 Maplewood Avennue	Maplewood	NJ	08040
oetz & Ruschmann	97 Newark Way	Maplewood	NJ	07040
aplewood Cleaners and Dyers, Inc.	97 Baker Street	Maplewood	NJ	07040
ark & Harolds Dry Cleaners	183 Maplewood Avenue	Maplewood	NJ	07040

Facility Name	Street	City	State	Zip
Model Auto Body	2151 Millburn Avenue	Maplewood	NJ	07040
Perfect Powertrain, Inc.	1796 Springfield Avenue	Maplewood	NJ	07040
Restaurant Graphics	67 Newark Way	Maplewood	NJ	07040
Sayle & Wimmer Printing	1729 Springfield Avenue	Maplewood	NJ	07040
Smart Cleaners, Inc. t/a Gleason's Launders &	7-11 West Parker Avenue	Maplewood	NJ	07040
Worrall Comm. Nwsprs., Inc t/a News-Record	463 Valley Street, P.O. Box 158	Maplewood	NJ	07040
Young's Auto Body	15 Newark Way	Maplewood	NJ	07040
Adsorption Systems, Inc.	10 East Willow Street - Suite 3	Millburn	NJ	07041
Apet Inc. t/a/ Millburn Corner Exxon	132 Millburn Avenue	Millburn	NJ	07041
CMH Corporation t/a Millburn Press	20 Main Street	Millburn	NJ	07041
Halpert & Company	284 Millburn Avenue	Millburn	NJ	07041
Jolen Engineering & Machine	51 Silver Spring Road	Millburn	NJ	07078
Lasky Co.	67 East Willow Street	Millburn	NJ	07041
M.J. Powers & Co. Publishers, Inc.	374 Millburn Avenue	Millburn	NJ	07041
Millburn Feed Co., Inc.	378 Millburn Avenue	Millburn	NJ	07041
Monterey Cleaners & Tailors, Inc.	569 Millburn Avenue	Millburn	NJ	07078
New Wyoming Cleaners	223 Millburn Avenue	Millburn	NJ	07041
Short Hills Caterers	610 Morris Avenue	Millburn	NJ	07078
The Office Center At Short Hills	51 JFK Parkway	Millburn	NJ	07078
Tri Line Inc.	587 Millburn Avenue	Millburn	NJ	07078
525 Valley Corp. t/a Autoworks of Upper Mtclr	525 Valley Road	Montclair	NJ	07043
Abbasi Corp. t/a Montclair Exxon	264 Bloomfield Avenue	Montclair	NJ	07042
Action Copy Center Inc., dba Budget Prnt Cent	571 Valley Road	Montclair	NJ	07043
All-Pro-Cleaners Inc.	121 Grove Street	Montclair	NJ	07042
Alliance Copy and Engraving Company	23D Bloomfield Avenue	Montclair	NJ	07042
Arts Weekly Inc.	7 Oak Place	Montclair	NJ	07042
Bellevue Esso Servicenter	198 Bellevue Avenue	Montclair	NJ	07043
Budde & Westermann	151 Forest Street	Montclair	NJ	07042
Carl Zimmerman & Co, Inc.	98 Watchung Avenue	Montclair	NJ	07043
Chr-Ill Service	60 South Fullerton Avenue	Montclair	NJ	07042
Daviet Motor Works	Glenwood Place Laurel Plaza	Montclair	NJ	07043
Drilling & Fastening Systems, Inc.	222 Bloomfield Avenue	Montclair	NJ	07042
Exclusive Motorcars, Inc.	256 Park Street	Montclair	NJ	07043
Fabricville	122 Watchung Avenue	Montclair	NJ	07043
Farmat Inc.	33 Orange Road	Montclair	NJ	07042
Fenelon Auto Repair	148 Valley Road	Montclair	NJ	07042
Ferrara's Auto Body, Inc.	37 Orange Road1	Montclair	NJ	07042

Facility Name	Street	City	State	Zip
rand Auto Service Association L.P.	694 Bloomfield Avenue	Montclair	NJ	07042
ampton House Inc.	467 Bloomfield Avenue	Montclair	NJ	07042
offmann's Foreign Auto	4 Erie Street	Montclair	NJ	07042
itton Park Associates	176 Midland Avenue	Montclair	NJ	07042
ittle Nursing Home	71 Christopher Street	Montclair	NJ	07042
omar Instrument Co., Inc.	222 Grove Street	Montclair	NJ	07042
ancini A/B	57 Valley Road	Montclair	NJ	07042
oline Kronberg Cleaners	225 Lorraine Avenue	Montclair	NJ	07043
ontclair Glass Company	24 E. Elm Street, P.O. Box 132	Montclair	NJ	07042
apoli's Garage, Inc.	95 Forest Street	Montclair	NJ	07402
ational Cleaners	133 Grove Street	Montclair	NJ	07042
ilgrim Medical Center, Inc.	393 Bloomfield Avenue	Montclair	NJ	07042
lastics & Computer Inc.	484 Bloomfield Avenue, Suite 11	Montclair	NJ	07042
ortfolio Graphics, Inc.	478 Bloomfield Avenue	Montclair	NJ	07042
uente-Romer Communications Inc.	511 Bloomfield Avenue	Montclair	NJ	07042
am's Garage	118 Watchung Avenue	Montclair	NJ	07043
chait & Son	199 Bellevue Avenue	Montclair	NJ	07043
terling Net Co., Inc.	18 Label Street	Montclair	NJ	07042
uburban Transmissions	10 Lackawanna Plaza	Montclair	NJ	07042
echnopulp Inc.	26 Park Street	Montclair	NJ	07042
he Computer Press	157 Watchung Avenue	Montclair	NJ	07043
alley Fabrics and Drapery	130 Valley Road	Montclair	NJ	07042
an Dyk Manor Nursing Home	42 North Mountain Avenue	Montclair	NJ	07042
45 14th Ave. Corporation	245 14th Avenue	Newark	NJ	07103
& S Atterman, Inc.	357 Wilson Avenue	Newark	NJ	07105-4280
F A Pallet Company	514 Doremus Avenue	Newark	NJ	07105
L M Corporation	2-18 Mott Street	Newark	NJ	07105
J. Uedan Paper Company	9 Lorotto Street	Newark	NJ	07112
AA Air Freight	145-161 Pennington St.P.O. Box 2409	Newark	NJ	07105
ROL	649 Ferry Street	Newark	NJ	07105
ce Tool And Manufacturing Company, Inc.	532 Mulberry Street	Newark	NJ	07114
ceco Industrial Packaging Co.	166 Frelinghuysen Avenue	Newark	NJ	07114
dco Chemical Company	49 Rutherford St., P.O. Box 128	Newark	NJ	07101
lban G. Wilson Inc.	226 South Orange Avenue	Newark	NJ	07103
llied Die Cutting and Finishing	226 Mt. Pleasant Avenue	Newark	NJ	07104
loris Converters, Inc.	205 Thomas Street	Newark	NJ	07114
ltex Fabrics Cutting Co., Inc.	310 Sherman Avenue	Newark	NJ	07114

Facility Name	Street	City	State	Zip
Amable R Auto Repair & Body Shop, Inc.	904-906 South Orange Avenue	Newark	NJ	07106
American Mattress Co., Inc.	132 Pacific Street	Newark	NJ	07105
American Textile Company	73 Vesey Street	Newark	NJ	07105
Amerimade Coat Co., Inc.	56-62 St. Francis Street	Newark	NJ	07105
Anheuseur-Busch, Inc.	200 U.S. Highway No. One	Newark	NJ	07101
Anodizing Corporation	139 Avenue "L"	Newark	NJ	07105
Anthony's Auto Service	643-45 North 6th Street	Newark	NJ	07107
Apollo Warehouse	100 Johnson Street	Newark	NJ	07105
Arch Crown Inc.	277 Halsey Street	Newark	NJ	07102
Ardmore Chemical Co., Inc.	29 Riverside Avenue, Bldg. #14	Newark	NJ	07104
Aris Fashions	133 Kossuth Street	Newark	NJ	07105
Ashton Food Machinery Co., Inc.	1455 McCarter Highway	Newark	NJ	07104
Atlantic Bias Products Inc.	702 Frelinghuysen Avenue	Newark	NJ	07114
Avittac Inc.	133 Kossuth Street	Newark	NJ	07105
BUSA Corporation	49 Halsey Street	Newark	NJ	07102
Bahama Tires, Inc.	591 South Orange Avenue	Newark	NJ	07106
Baker Adhesives, Inc.	152-158 Mount Pleasant Avenue	Newark	NJ	07104
Behringer Metal Works, Inc.	108 Jabez Street	Newark	NJ	07105
Bel-Air Mach. Prods. Co., Inc.	251 N.J. Railroad Avenue	Newark	NJ	07105
Benjamin's Garage Inc.	354 Avon Avenue	Newark	NJ	07108
Bill's Service Station	753 Sanford Avenue	Newark	NJ	07106
Bobker Bearing Company	248 Central Avenue	Newark	NJ	07103
Branch Brook	223 Bloomfield Avenue	Newark	NJ	07104
Branch Brook Co.	223 Bloomfield Avenue	Newark	NJ	07104
Branford Press	21 William Street	Newark	NJ	07102
Brownies Auto Electric	250 McWhorter Street	Newark	NJ	07105
Bukowiec's Meat Products, Inc.	23 Newark Farmers Market	Newark	NJ	07105
CWC Industries, Inc.	185 Foundry Street	Newark	NJ	07105
Caledonia Knitwear	200 Badger Avenue	Newark	NJ	07108
Carbureator Exchange	294 Central Avenue	Newark	NJ	07103
Central Paper Company	60 McClellan Street	Newark	NJ	07114
Cheker Stamping	56-58 Elm Street	Newark	NJ	07105
Chriswick Electric Co., Inc.	570 Irving Turner Blvd.	Newark	NJ	07112
Citibag, Inc.	768 Frelinghuysen Ave.	Newark	NJ	07114
City Auto Supply	145 Frelinghuysen Avenue	Newark	NJ	07114
Coastal Manufacturing Corporation	117 Sylvan Avenue	Newark	NJ	07104
Commercial Plastics	127 Frelinghuysen Avenue	Newark	NJ	07114

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Hokkon Pigments, Inc.	256 Vanderpool Street	Newark	NJ	07114
Country Workshop	95 Rome Street	Newark	NJ	07105
Duval Corporation	252 Wright Street	Newark	NJ	07114
Creation By Serratelli	418-26 Central Avenue	Newark	NJ	07107
Curly Candy Fashions Inc.	66 Elm Street	Newark	NJ	07105
D.E. Paglia & Sons Corp.	105 Chestnut Street	Newark	NJ	07105
Dana Knitting Corporation	817 Broadway	Newark	NJ	07104
Del Turco Bros., Inc.	25 Verona Avenue	Newark	NJ	07104
Delta Plastics, Inc.	560 Ferry Street	Newark	NJ	07105
Dennis Public Garage	280 Elizabeth Avenue	Newark	NJ	07108
Diamond Case Co., Inc.	15-19 Union Street	Newark	NJ	07105
Distributors Recycling, Inc.	104 East Peddie Street	Newark	NJ	07114
Doma Export Co., Inc.	215 East Kinney Street	Newark	NJ	07105
Dor Zar Corporation	50 Avenue L	Newark	NJ	07105
Dynamic Die Cutting & Finishing Corporation	110 South Street	Newark	NJ	07114
E. Franklin & Sons	685 South 12th Street	Newark	NJ	07103
E.J. Brooks Co.	164-192 North 13th Street	Newark	NJ	07107
Earle C. Schreiber, Inc.	1180 Raymond Blvd., Suite 3405	Newark	NJ	07102
East Coast Core Exchange Inc.	50 Grafton Avenue	Newark	NJ	07104
Eastern Farmers Pkg. Co.	92 Albert Avenue	Newark	NJ	07105
Eddie's Auto Service Center	46 New York Avenue	Newark	NJ	07105
Edward Blazak Mfg. Co.	117 Sylvan Avenue	Newark	NJ	07104
Elite Worldwide	220 Murray Street	Newark	NJ	07114
Elsa Furs Inc.	133 Kossuth Street	Newark	NJ	07105
Embroidery Concept & Design	461 Frelinghuysen Avenue	Newark	NJ	07119
Epolin Inc.	358-364 Adams Street	Newark	NJ	07105
F. W. Woolworth	165 Market Street	Newark	NJ	07102
Fairmount Chemical Company	117 Blanchard Street	Newark	NJ	07105
Fast-Pak Containter Corporation	319 Wilson Avenue	Newark	NJ	07105
Federal Refining Co.,Inc.	29 Riverside Avenue Bldg. 16	Newark	NJ	07104
Federal Truck Co. of N.J.	63 Richmond Street	Newark	NJ	07103
Fill-Rite Inc.	268 Broad Street	Newark	NJ	07104
Firmenich Inc.	928-964 Doremus Avenue	Newark	NJ	07114
Form Cut Industries	197 Mount Pleasant Avenue	Newark	NJ	07104
G. J. Chemical Company, Inc.	128 Doremus Avenue	Newark	NJ	07105
G.S. Furniture	598 South Orange Avenue	Newark	NJ	07106
GTC Printing t/a American Speedy Printing	60 Park Place	Newark	NJ	07102

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Gambert Shirt Company	55 Lafayette Street	Newark	NJ	07102
Gann Lan Books, Inc.	1 Washington Park, Suite 1500	Newark	NJ	07102
Gateway Center Complex	100 Mulberry Street	Newark	NJ	07102
George A. Mathewson Co., Inc.	415 Raymond Blvd.	Newark	NJ	07105
Getty Petroleum Corporation	86 Doremus Avenue	Newark	NJ	07105
Glamour Fashions Inc.	133 Kossuth Street	Newark	NJ	07105
Golden Scissors (Zazu)	59-61 Wilson Avenue	Newark	NJ	07105
Goldmet Corp.	317 Frelinghuysen Avenue	Newark	NJ	07114
Goodyear Rubber Products Corporation	329 McCarter Highway	Newark	NJ	07114
Grapek Company	1245 McCarter Highway	Newark	NJ	07104
Grasant Mfg. Co. Inc.	48-50 Main Street	Newark	NJ	07105
Greve Plastics, Inc.	123 South 15th Street	Newark	NJ	07107
H. K. Mayers Cleaners	104 1/2 Roseville Avenue	Newark	NJ	07107
H. Schock & Sons Inc.	329 Frelinghuysen Avenue	Newark	NJ	07114
Handcraft Mfg. Corporation	640 Frelinghuysen Avenue	Newark	NJ	07114
Handy Store Fixtures	337 Sherman Avenue	Newark	NJ	07114
Hardy Bookcraft Company	25 Prospect Street	Newark	NJ	07105
Headwear Creations Inc.	200 Wright Street	Newark	NJ	08114
Hoechst Celanese Chem. Group, Newark Term.	354 Doremus Avenue	Newark	NJ	07105
Howard Korenstein Sportswear	236 South Street	Newark	NJ	07114
Ideal Dairy Farms, Inc.	596 Market Street	Newark	NJ	07105
Immediate Tablecloth Inc.	40-44 Austin Street	Newark	NJ	07114
Imperial Container Co.	141 North 13th Street	Newark	NJ	07107
Import Export Service of NJ Inc.	972 Broad Street	Newark	NJ	07102
Ironbound Auto Sales, Inc.	1240 Broad St.	Newark	NJ	07114
Ironbound Cleaners	131 Ferry Street	Newark	NJ	07107
Ironbound Welding, Inc.	156-158 Walnut Street	Newark	NJ	07105-1216
Italian Tribune News	427 Bloomfield Avenue	Newark	NJ	07107
Ivy Plaza Cleaners, Inc.	507 Irvington Avenue	Newark	NJ	07106
J. Frank Post Inc.	894 Broadway	Newark	NJ	07104
J. Heller & Sons	149 Ferry Street	Newark	NJ	07015
J.C. Fashions, Inc.	31 Clover Street	Newark	NJ	07101
Jackies Sportswear, Inc.	407 Mulberry Street	Newark	NJ	07102
Jersey Janitor Supply	230 Market Street	Newark	NJ	07102
Jeryco Plastics Corporation	2-20 East Paddie Street	Newark	NJ	07114
Jomar Displays, Inc.	54 Freeman Street	Newark	NJ	07105
Jones & Auerbacher Inc.	46-48 Edison Place	Newark	NJ	07102

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Jury Verdict Review Publications, Inc.	24 Commerce Street, Suite 1722	Newark	NJ	07102
J & S Auto Glass Inc.	310 North 4th Street	Newark	NJ	07107
Keystone Automotive Ind.	24 Legae Street	Newark	NJ	07114
Kidz-Sational Klothz Ltd.	58 Oliver Street	Newark	NJ	07105
Kolb Sheet Metal Works	172 Pennsylvania Avenue	Newark	NJ	07114
Krementz & Co.	375 McCarter Highway	Newark	NJ	07114
L. R. S. Associates, Inc.	2-14 New York Avenue	Newark	NJ	07105
LaCross Div of Del Laboratories	627 South 17th Street	Newark	NJ	07103
Lafayette Machinery Inc.	407 Mulberry Street	Newark	NJ	07102
Ligia Fashions Inc.	245 14th Street	Newark	NJ	07103
Luce Wholesale	815 Summer Avenue	Newark	NJ	07104
Luso Americano Co., Inc.	88 Ferry Street	Newark	NJ	07105
Lyons Avenue Getty	466 Bloomfield Avenue	Newark	NJ	07107
M. Chasen & Son, Inc.	20 Esther Street	Newark	NJ	07105
Maher Caplan Prop. Acct.	858 Summer Avenue	Newark	NJ	07111
ManCo Ind.	416 5th Street	Newark	NJ	07107
Mantell Trading	73-79 Vesey Street	Newark	NJ	07101
Marko Transmissions Inc.	225 Elizabeth Avenue	Newark	NJ	07108
Mattia Printing Co.	29 Park Avenue	Newark	NJ	07104
Meren Industries Corporation	407 Mulberry Street	Newark	NJ	07102
Merit Peddle	Elizabeth & Peddie Streets	Newark	NJ	07106
Metal Specialty Corporation	100 Wilson Avenue	Newark	NJ	07105
Midtown Auto Body Co., Inc.	10-12 Gouverneur Street	Newark	NJ	07104
Miles Inc.	414 Avenue P	Newark	NJ	07105
NYSA-ILA Medical Center	123-131 Clifford Street	Newark	NJ	07105
Nanes Finishing & Assembly Corporation	305 Third Avenue West	Newark	NJ	07107
New Jersey Boiler Repair Co.	466 Mulberry Street	Newark	NJ	07114
New Jersey Law Journal	823 Mulberry Street	Newark	NJ	07102
New Jersey Prototype, Inc.	240 King Blvd.	Newark	NJ	07102
New Tick Tock Cleaners	445 Bloomfield Avenue	Newark	NJ	07107
New York Feather Company, Inc.	646 Frelinghuysen Avenue	Newark	NJ	07114
New York Folding Box Co.	129 Christie Street	Newark	NJ	07105
Newark Beth Israel Medical Center	201 Lyons Avenue	Newark	NJ	07112
Newark Carting Inc.	P.O. Box 5670	Newark	NJ	07105
Newark Community Health Centers(All Essex Co.	101 Ludlow Street	Newark	NJ	07114
Newark Industrial Spraying Inc.	12 Amsterdam Street	Newark	NJ	07105
Newark Oxwelding Company	91 Poinier Street	Newark	NJ	07114

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Newark Safety Service	245 Warren Street	Newark	NJ	07103
Niagara Auto Sales	23 Niagara Street	Newark	NJ	07105
Norman Brager Co., Inc./Norman Brager Product	350 Lafayette Street	Newark	NJ	07105
Norman Machinery Company	907 Clifton Avenue	Newark	NJ	07104
NuTech Corporation	649 Ferry Street	Newark	NJ	07105
Original S. Giordano Bakery, Inc.	33 7th Avenue	Newark	NJ	07104
Otto's Truck Body Works Corporation	119-132 Avenue L	Newark	NJ	07105-3699
P & W Auto Service Inc.	398-400 Broadway	Newark	NJ	07104
P D Q Elecronic Components Co. Inc.	117 Sylvan Avenue	Newark	NJ	07104
Paperboard Products, Div. of Int'l Container	357 Wilson Avenue	Newark	NJ	07105
Park Avenue Cleaners	258 Park Avenue	Newark	NJ	07107
Patriarche & Bell, Inc.	94-98 Parkhurst Street	Newark	NJ	07114
Pausin Manufacturing Company, Inc.	727 Frelinghuysen Avenue	Newark	NJ	07114
Pedometer Corporation	96 Monroe Street	Newark	NJ	07105
Peoples Worldwide Distribution	138 Paris Street	Newark	NJ	07105
Perez Auto Center Inc.	729 Broadway	Newark	NJ	07104
Peridot Chemicals (New Jersey), Inc.	351 Doremus Avenue	Newark	NJ	07105
Personality Handkerchiefs, Inc.	640 Frelinghuysen Avenue	Newark	NJ	07114
Peters & Smith Company	67 Polk Street, P.O. Box 5388	Newark	NJ	07105-0388
Phoenix Lock Company	321 Third Avenue	Newark	NJ	07107
Po-Mel Hats	407 Mulberry Street	Newark	NJ	07102
Progressive Manufacturing Co., Inc.	116-132 Sussex Avenue	Newark	NJ	07103
Prudential Stainless Pipe	Foot of Centre Street	Newark	NJ	07102
Public Service Electric & Gas	80 Park Plaza, 2B	Newark	NJ	07101
Purolator Products Air Filtration Company	835 Mt. Prospect Avenue	Newark	NJ	07105
Q-Pak Corporation	2145 McCarter Highway	Newark	NJ	07104
R.G. Dunn Acq. dba Electronic Mfg. Co., Inc.	670 South 17th Street	Newark	NJ	07103
Randall Manufacturing Co., Inc.	200 Sylvan Avenue	Newark	NJ	07104
Rapid Mfg. Corporation	1407 McCarter Highway	Newark	NJ	07104
Raymar Inc.	133 Kossuth Street	Newark	NJ	07105
Rarac Products Company	230 Wright Street	Newark	NJ	07114
Rebuth Steel Corporation	300 Wilson Avenue	Newark	NJ	07105
Recycled Fibers Of New Jersey	60 Lockwood Street	Newark	NJ	07105
Regional Recycling	295 Frelinghuysen Avenue	Newark	NJ	07114
Reichhold Chemicals, Inc.	400 Doremus Avenue	Newark	NJ	07105
Reichhold Chemicals, Inc.	46 Albert Avenue	Newark	NJ	07105
Rhew Cleaner's, Inc.	362 South Orange Avenue	Newark	NJ	07103

(FACILITIES GENERATING ACCEPTABLE WASTE)

acility Name	Street	City	State	Zip
laa Knits, Inc.	646 North 3rd Street	Newark	NJ	07107
yce Associated Newark Facility	207-215 Avenue L	Newark	NJ	07105
& C Tool Aid Corporation	43-53 E. Alpine Street	Newark	NJ	07114
afelite Glass	391 Ferry Street	Newark	NJ	07105
anitol Inc.	300 Jelliff Avenue	Newark	NJ	07108
aradon Display, Ind.	768 Frelinghuysen Avenue	Newark	NJ	07114
arah Ward Nursery	27 Jay Street	Newark	NJ	07103
chtiller & Plevy	695 South 12th Street	Newark	NJ	07103
eidler Chemical & Supply Company, Inc.	537 Raymond Blvd.	Newark	NJ	07105
erratelli Inc.	418-26 Central Avenue	Newark	NJ	07107
hearform Inc. t/a Industrial Welding	655 Ferry Street	Newark	NJ	07105
leckel & Sons Inc.	360 Elizabeth Avenue	Newark	NJ	07114
linder-Strauss Associates	240 Market Street	Newark	NJ	07101
leepline Industries Inc.	646 Frelinghuysen Avenue	Newark	NJ	07114
tandard Canvas	12 Chappel Street	Newark	NJ	07105
tandard Embossing Plate Mfg. Co.	129 Pulaski Street	Newark	NJ	07105
tandard Optical Mfg. Co.	120 North 11th Street	Newark	NJ	07107
tanton Garage Inc.	41-45 Stanton Street	Newark	NJ	07114
tar Finishing, Inc.	41 Chapel Street	Newark	NJ	07105
tep'n Cleaners	678 Sanford Avenue	Newark	NJ	07106
& F Fashions Inc.	165 Vanderpool Street	Newark	NJ	07114
mile One Hour Cleaners	529 Central Avenue	Newark	NJ	07107
echnical plastic Extruders	574 Ferry Street	Newark	NJ	07105
eixeira's Bakery	113-129 Kossuth Street	Newark	NJ	07105
he Baptist Home	285 Roseville Avenue	Newark	NJ	07107
he H. E. Smith Co.	135-149 South 15th Street	Newark	NJ	07107
he Hertz Corporation	Bldg. 23, Newark Int'l Airport	Newark	NJ	07114
he Thibaut & Walker Co., Inc.	P.O. Box 296	Newark	NJ	07101
he Young American Clothing Co., Inc.	50 Columbia Street	Newark	NJ	07102
inplate Purchasing Corporation	798 Frelinghuysen Avenue	Newark	NJ	07114
ony's Auto Body (East Side Motors, Inc.)	23-24 Foundry Street	Newark	NJ	07105
ransacaribe Freight Corp.	300 Port Street	Newark	NJ	07114
ity Auto Body Company	585 South Orange Avenue	Newark	NJ	07106
Center/AT&T	McCarter Highway & Market Street	Newark	NJ	07102
UPS	65 Bergen Street	Newark	NJ	07107-3001
PS-Gould	70 Gould Avenue	Newark	NJ	07307
PS-Newark A/	350 Brewster Road	Newark	NJ	07114

Facility Name	Street	City	State	Zip
Uneeda Envelope Co. Inc.	184 Van Buren Street	Newark	NJ	07105
United Airlines	Terminal "A", Newark Int'l Airport	Newark	NJ	07114
United States Box Corporation	1296 McCarter Highway	Newark	NJ	07104
Ventura Motors Corp.	333 Elizabeth Avenue	Newark	NJ	07112
Victor Flush Valve Co.	50-56 Jersey Street	Newark	NJ	07105
Weber & Scher Mfg. Co., Inc.	263 Sussex Avenue	Newark	NJ	07107
Welch, Holme & Clark Co., Inc.	7 Avenue L	Newark	NJ	07105
Wilson UTC, Inc.	Hemisphere Center,Room 304 Rte.1&9S	Newark	NJ	07114
Z Z Rags Ltd.	58 Oliver Street	Newark	NJ	07105
C. C. Carpet	17 Glenview Road	North Caldwell	NJ	07006
ADM Custom Metal Fabrication, Inc.	263 Hillside Avenue	Nutley	NJ	07110
Accurate Screw Machine Co.	19 Baltimore Street	Nutley	NJ	07110
Astro Tool Corp.	90 Washington Avenue	Nutley	NJ	07110
Bergen Machine & Tool Co.	85 Park Avenue	Nutley	NJ	07110
Cafone Printing	231 Washington Avenue	Nutley	NJ	07110
Cortel, Inc. T/A One Hour Cleaners	239 Franklin Avenue	Nutley	NJ	07110
D & L Automotive	251 Washington Avenue	Nutley	NJ	07110
Golden Plastic's Inc.	67 East Centre Street	Nutley	NJ	07110
Harbot Die Casting & Access Flooring Supplies	52 East Centre Street	Nutley	NJ	07110
Hoffman-La Roche Inc.	340 Kingsland Street	Nutley	NJ	07110
J & J Car Care Inc.	482 Franklin Avenue	Nutley	NJ	07110
Joseph Ricciardi Inc.	91 Washington Avenue	Nutley	NJ	07110
MAACO Auto Painting	113 East Centre Street	Nutley	NJ	07110
Metro Bindery of New Jersey, Inc.	187 Washington Avenue	Nutley	NJ	07110
Nutley Upholstery Shoppe	354 Passaic Avenue	Nutley	NJ	07110
O.A. Muenz & Co., Inc.	312 Washington Avenue	Nutley	NJ	07110
PNC, Inc.	115 East Centre Street	Nutley	NJ	07110
Preferred Packaging Corporation	113 East Centre Street	Nutley	NJ	07110
R. Mitrano Landscape Contractor	546 Washington Avenue	Nutley	NJ	07110
Tony's Auto Body	126 Washington Avenue	Nutley	NJ	07110
Unilite Inc.	151 River Road	Nutley	NJ	07110
Yantacaw S/C	688 Franklin Avenue	Nutley	NJ	07110
Zinicola Baking Company	127 King Street	Nutley	NJ	07110
A. Monteverdi, Inc.	30 North Day Street	Orange	NJ	07050
Advanced Waste Recycling, Inc.	57 Park Street	Orange	NJ	07050
Banner Chemical Corporation	111 Hill Street	Orange	NJ	07050
C & A #1 Inc.	197 B Main Street	Orange	NJ	07050

CATEGORY 7 FACILITIES
(FACILITIES GENERATING ACCEPTABLE WASTE)

acility Name	Street	City	State	Zip
J. Tucker Mobil	62-68 Central Avenue	Orange	NJ	07050
day Inc t/a Corona Texaco Service	21 North Day Street	Orange	NJ	07050
mputer Solutions Inc.	397 Park Avenue	Orange	NJ	07050
ross Die Cutting Service Inc.	351 South Jefferson Street	Orange	NJ	07050
-Rite Auto Body Inc.	43 Central Avenue	Orange	NJ	07050-3801
's Freeway Collision, Inc.	24 Park Street	Orange	NJ	07050
legante Depot Cleaners	575 Scotland Road	Orange	NJ	07050
& H Of N.J. Inc. t/a Campers Exxon	644 South Center Street	Orange	NJ	07050
ark Gold Surgical Appl/A. A. Reitman	331 Central Avenue	Orange	NJ	07050
able Engineering Corporation	50 South Center Street, Bldg. #1	Orange	NJ	07050
GR Tire & Auto Center	415 Washington Street	Orange	NJ	07050
ar Sportswear Inc.	49 South Day Street	Orange	NJ	07050
ariello Disposal, Inc.	51-57 Park Street	Orange	NJ	07050
inetti's Gulf	690 Scotland Road	Orange	NJ	07050
ew Jersey Floor Supply, Inc.	179 Lincoln Avenue L-10	Orange	NJ	07050
ewark Trade Typographers	P.O. Box 379, 177 Oakwood Avenue	Orange	NJ	07050
range Motor Service, Inc.	183 Scotland Road	Orange	NJ	07050
range N.J. Hilti Center	50 South Center Street	Orange	NJ	07050
IC Corporation	23 S. Essex Avenue	Orange	NJ	07050
t's Auto Repair	340 Mechanic Street	Orange	NJ	07050
anir/DCP Corporation	476 Thomas Blvd.	Orange	NJ	07050
ose Art Industries	555 Main Street	Orange	NJ	07050
cotland Cleaners	675 Scotland Road	Orange	NJ	07050
pectraform Inc.	P.O. Box 888	Orange	NJ	07050
.V.C.S. Cleaning Service Inc.	166 Central Avenue	Orange	NJ	07050
ltra Cleaners, Inc.	180 Scotland Road	Orange	NJ	07017
nicorp	291 Cleveland Street	Orange	NJ	07050
[illegible] ssociation of Essex Valley	451 Lincoln Avenue	Orange	NJ	07050
[illegible] P.	538 Freeman Street	Orange	NJ	07050
hil	560 Berekely Avenue	Orange	NJ	07050
	444 Washington Street	Orange	NJ	07050
ge Chronicle	170 Scotland Road, P.O. Box 849	Orange	NJ	07050
	154 Marsh Street	Port Newark	NJ	07114
	19 Lincoln Street	Roseland	NJ	07068
	One Annin Drive	Roseland	NJ	07068
	280 Corporate Center, 3 ADP Blvd.	Roseland	NJ	07068
	[illegible] rrison Avenue	Roseland	NJ	07068

Facility Name	Street	City	State	Zip
Barrett Paving Materials Inc.	3 Becker Farm Road	Roseland	NJ	07068
D S D, Inc.	426 Eagle Rock Avenue	Roseland	NJ	07068
Fiber Economics Bureau, Inc.	101 Eisenhower Parkway	Roseland	NJ	07068
Noble Lowndes	3 Becker Farm Road	Roseland	NJ	07008-3786
Ocumed, Inc.	119 Harrison Avenue	Roseland	NJ	07068
Rogers & Sheldon, Inc.	14 Eisenhower Parkway	Roseland	NJ	07068
University Landscape Contractors, Inc.	148 Eagle Rock Avenue	Roseland	NJ	07068
Carr Motors, Inc.	157-159 Valley Street	South Orange	NJ	07079
Jespy House Inc.	65 Academy Street	South Orange	NJ	07079
Lee's Cleaners	55 West South Orange Avenue	South Orange	NJ	07079
M & P Auto Body Inc.	362 Lackawanna Place	South Orange	NJ	07079
Poly-Bio-Marine Inc.	P.O. Box 426	South Orange	NJ	07079-0426
Rapid Print	63 Valley Street	South Orange	NJ	07079
South Orange Auto Electric, Inc.	454 Valley Street	South Orange	NJ	07079
Volk Cleaners	110 Valley Street	South Orange	NJ	07079
Alberona Auto Clinic Inc.	250 Bloomfield Avenue	Verona	NJ	07044
Annin & Company	163 Bloomfield Avenue	Verona	NJ	07044
C Technologies Inc.	772 Bloomfield Avenue	Verona	NJ	07044
Carnevale's Service Center	710 Bloomfield Avenue	Verona	NJ	07044
Dutch Maid Cleaners	308 Bloomfield Avenue	Verona	NJ	07044
Eddie's Mobil	655 Bloomfield Avenue	Verona	NJ	07044
Essex Testing Clinic, Inc.	799 Bloomfield Avenue	Verona	NJ	07044
H. H. J. Cleaners Inc. t/a Gemmell's	700 Bloomfield Avenue	Verona	NJ	07044
Hamilton Enterprises	104 Park Avenue	Verona	NJ	07044
Kiefer Brushes Inc.	56-62 Depot Street	Verona	NJ	07044
Kings Supermarkets	300 Pompton Avenue	Verona	NJ	07044
PIP Printing	269 Bloomfield Avenue	Verona	NJ	07052
Town & Country Texaco	725 Bloomfield Avenue	Verona	NJ	07044
Twin Method Cleaners	619 Bloomfield Avenue	Verona	NJ	07044
Verona Aluminum Products Co.	320 Bloomfield Avenue	Verona	NJ	07004
3M New York Sales Center	15 Henderson Drive	West Caldwell	NJ	07006
Aero Line/T. J. Bentey	15 Fairfield Place	West Caldwell	NJ	07006
Bromilow's Chocolates	891 Bloomfield Avenue, Essex Mall	West Caldwell	NJ	07009
Caldwell Toyota, Inc.	1155 Bloomfield Avenue	West Caldwell	NJ	07006
Carpenter Technology Corp.	99 Clinton Road	West Caldwell	NJ	07006
Coining Technologies Inc	16 Fairfield Place	West Caldwell	NJ	07006
Compensating Tension Controls, Inc.	11 York Avenue	West Caldwell	NJ	07006

(FACILITIES GENERATING ACCEPTABLE WASTE)

Facility Name	Street	City	State	Zip
Gateway Seven Inc.	588 Passaic Avenue	West Caldwell	NJ	07006
Grainger (Branch #522)	165 Clinton Road	West Caldwell	NJ	07006-6694
Granwell Products, Inc.	185 Fairfield Avenue, Suite 2B	West Caldwell	NJ	07006
H.F.Henderson, Inc.	45 Fairfield Place	West Caldwell	NJ	07006
Henkel Adhesives Corporation	190 Fairfield Avenue	West Caldwell	NJ	07006
Herman Hirsch USA, Inc.	38 Fairfield Place	West Caldwell	NJ	07007
Hewitt-Robins Corp.	40 Fairfield Place	West Caldwell	NJ	07006
Hygrade Business Group	8 Fairfield Crescent, P.O. Box 1423	West Caldwell	NJ	07006
Ivers-Lee, Division of Becton Dickinson	147 Clinton Road	West Caldwell	NJ	07006
J.K.'s Auto Shop	653 Bloomfield Avenue	West Caldwell	NJ	07006
Johnson Scale Company	235 Fairfield Avenue	West Caldwell	NJ	07006
Kings Supermarkets(All Essex Co. Locations)	875 Bloomfield Avenue	West Caldwell	NJ	07006
Konner's Chevrolet, Inc.	950 Bloomfield Avenue	West Caldwell	NJ	07006
LTS Lohmann Therapy Systems Corporation	21 Henderson Drive	West Caldwell	NJ	07006
Merrimac Industries, Inc.	41 Fairfield Place	West Caldwell	NJ	07006
Mesor Alloy Corporation	666 Passaic Avenue	West Caldwell	NJ	07006
PCI, Inc.	One Fairfield Crescent	West Caldwell	NJ	07006
Panelgraph Corporation	10 Henderson Drive	West Caldwell	NJ	07006
Pella Windows & Doors, Div. Lux Home Inc.	4 Dedrick Place, P.O. Box 1199	West Caldwell	NJ	07007
Reitman Industries	10 Patton Drive	West Caldwell	NJ	07006
Richards Industries Systems & Engineering	4 Fairfield Cresent	West Caldwell	NJ	07006
Ricoh Corporation	5 Dedrick Place	West Caldwell	NJ	07006
Sparky's Frame & Front End, Inc.	817 Passaic Avenue	West Caldwell	NJ	07006
The Quilting Bee/dba Tucker's Decorative Touc	67 Westover Avenue	West Caldwell	NJ	07006
Toyota Motor Distributors, Inc.	16 Henderson Drive	West Caldwell	NJ	07006
Vapon, Inc.	23 Fairfield Place	West Caldwell	NJ	07006
Voorheis Industries, Inc.	P.O. Box 1442	West Caldwell	NJ	07007-1442
Wallwork Bros., Inc.	9 Patton Drive	West Caldwell	NJ	07006
Adco Liberty Mfg. Corp.	33 Ashland Avenue	West Orange	NJ	07052
Alyea Motors Inc.	324 Main Street	West Orange	NJ	07052
Americana Portraits Inc.	270 Pleasant Valley Way	West Orange	NJ	07052
Ames Scrap Metal	30 Kayser Lane	West Orange	NJ	07057
Behrman House Publishers	235 Watchung Avenue	West Orange	NJ	07052
Brent Material Company	741 Northfield Avenue, Suite 203	West Orange	NJ	07052
Cedar Graphics Inc.	75 Washington Street	West Orange	NJ	07052
Clarke American	200 Executive Drive	West Orange	NJ	07052
Daughters of Israel Geriatric Center	1155 Pleasant Valley Way	West Orange	NJ	07052

Facility Name	Street	City	State	Zip
Eagle Exxon	270 Prospect Avenue	West Orange	NJ	07052
Econo Cleaners	217 Main Street	West Orange	NJ	07052
Essex Green Sunoco	480 Prospect Avenue	West Orange	NJ	07052
Fabulous Handprints, Inc.	179 Main Street	West Orange	NJ	07052
Fridel's Auto Clinic, Inc.	372 Main Street	West Orange	NJ	07052
Giovine Landscaping	68 Manger Road	West Orange	NJ	07052
Green Hill	103 Pleasant Valley Way	West Orange	NJ	07052
Haaco Industries	10 Park Avenue	West Orange	NJ	07052
Ho Bo Ro Cleaners	310 A Essesx Green Plaza	West Orange	NJ	07052
House of Rainbow (Rainbow Fund Raising)	15 Meeker Street	West Orange	NJ	07052
Hudson Industries Corporation	19 Hutton Avenue	West Orange	NJ	07052
Il Joon Cleaners, Inc.	134 South Valley Road	West Orange	NJ	07082
J & B Cleaners	2 South Valley Road	West Orange	NJ	07052
Julius Glassman Cleaners Inc.	481 Valley Road	West Orange	NJ	07052
Kenseal	19-25 Columbia Street	West Orange	NJ	07052
MCI Telecommunications	10 Marcella Avenue	West Orange	NJ	07052
MCI Telecommunications (WOR)	271 Mt. Pleasant Avenue	West Orange	NJ	07052
Mark II Bindery	303 Watchung Avenue	West Orange	NJ	07052
Marveco Corporation	271 Mount Pleasant Avenue	West Orange	NJ	07052
Mayfair Farms, Inc.	481 Eagle Rock Avenue	West Orange	NJ	07052
Metropolitan Plant Exchange	471 Mt. Pleasant Avenue	West Orange	NJ	07052
Midland Press Inc.	69 Washington Street	West Orange	NJ	07052
Newark Auto Products	177 Main Street	West Orange	NJ	07052
Organon Inc.	375 Mt. Pleasant Avenue	West Orange	NJ	07052
Pals Cabin Restaurant	205 Prospect Avenue	West Orange	NJ	07052
Paris Press	583 Valley Road	West Orange	NJ	07052
Plate-Craft, Inc.	172-174 Main Street	West Orange	NJ	07052
Prospect Exxon	486 Prospect Avenue	West Orange	NJ	07052
Quality Indexing Corporation	106-8 Harrison Avenue	West Orange	NJ	07052
Rita Kaegi, t/a Liquid Rubber Appliance Labs	45 Valley Way	West Orange	NJ	07052
S & L Garage	50 Washington Street	West Orange	NJ	07052
The Dealer Alternative, Inc.	62 Franklin Avenue	West Orange	NJ	07092
The Framery, Inc.	488 Pleasant Valley Way	West Orange	NJ	07052
Timesteps Productions Inc.	2 Glenside	West Orange	NJ	07052
Tobia Baking Co.	56 Columbia Street	West Orange	NJ	07052
Town Hall Service	13 Northfield Avenue	West Orange	NJ	07052
V & V Continental Foreign Car Repair	25 Harrison Avenue	West Orange	NJ	07052

cility Name	Street	City	State	Zip
ranelli Beauty Supply	327 Valley Road	West Orange	NJ	07052
eland-America, Inc.	741 Northfield Avenue	West Orange	NJ	07052
b Mfg. Inc.	1 Charles Street	West Orange	NJ	07052

(FACILITIES GENERATING NO WASTE)

Facility Name	Street	City	State	Zip
The Rain Barrel, Inc.	42-46 Eugene Place	Belleville	NJ	07109
Twins Service Inc.	402 Bloomfield Avenue	Caldwell	NJ	07006
Con-Ser, Inc.	258 Horseneck Road	Fairfield	NJ	07004
Gallo Asphalt Company	32 Woolsey Street	Irvington	NJ	07111
Coding Corporation of America	28 Cliffside Drive	Livingston	NJ	07039
Titan Chemical Products, Inc.	P.O. Box 20	Millburn	NJ	07078
East Orange Mill End Shop	504 Bloomfield Avenue	Montclair	NJ	07044
Dooner & Smith Chemical Co.	374 Mulberry Street	Newark	NJ	07102
Emsig Manufacturing Corporation	61 New Jersey Railroad Avenue	Newark	NJ	07105
Gateway Freight Services	Cargo Bldg. #152, Nwk Int'l Airport	Newark	NJ	07114
Orient Chemical Corporation	121 Tyler Street	Newark	NJ	07114
P & S Waste Paper Company	100 Clifford Street	Newark	NJ	07105
Raymond Petroleum Inc.	303 Raymond Blvd.	Newark	NJ	07105
Edson Enterprise Inc.	17 Speer Place	Nutley	NJ	07110
R. Michael Caulfield	1 Kingsland Street	Nutley	NJ	07110
Best Foods	103 Eisenhower Parkway	Roseland	NJ	07068
Speciality Paper Box Co.	201 Bloomfield Avenue	Verona	NJ	07044