New Source Review Permit Renewals for Waterside Power; Stamford, CT

November, 2007

Prepared For:

Waterside Power, LLC
105 Chestnut Street; Suite 37
Needham, MA 02492

Prepared By:

Blue Sky Environmental LLC
105 Chestnut Street; Suite 37
Needham, MA 02492

[redacted]

BLUE SKY ENVIRONMENTAL LLC

November 15, 2007

Central Permit Processing Unit
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Subject: **Waterside Power, LLC; Stamford**
TM2500 Permit Renewals

Dear Madam/Sir:

Enclosed please find the New Source Review ("NSR") permit renewals for the three TM2500 gas turbines at Waterside Power, LLC located at 17 Amelia Place in Stamford. The turbines are currently permitted under Permits No. 172-26-0228, 172-26-0229, and 172-26-0230 that expire on July 7, 2009.

The air quality modeling input/output files will be submitted electronically to the DEP Permit Engineer. In addition, the Proof of Publication from the local newspaper of the Notice of Permit Application will be submitted. A copy of the notice will also be sent to the Mayor of Stamford. The Certification of Notice Form – Notice of Application will be sent to the DEP under separate cover.

If you require additional information or have any questions, please do not hesitate to call me at 617-834-8408.

Sincerely,
Blue Sky Environmental LLC

Donald C. DiCristofaro, CCM
President

Enclosure

Cc: T. Atkins, Waterside Power

105 Chestnut Street • Suite 37 • Needham, MA • 02492
Telephone 781-453-1150 • Cell 617-834-8408 •Fax 781-453-1142

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Permit Processing Unit
79 Elm Street
Hartford, CT 06106-5127

DEP USE ONLY

Permit Application Transmittal Form

Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.

Part I: Applicant Information

Applicant: **Waterside Power, LLC**

Mailing Address: **105 Chestnut Street; Suite 37**

City/Town: **Needham** State: **MA** Zip Code: **02492**

Business Phone: **781-453-1145** ext.: Fax: **781-453-1142**

Contact Person: **Thomas E. Atkins** Phone: **617-699-3756** ext.

Applicant (check one): ☐ individual X company ☐ federal gov't ☐ state agency ☐ municipality

If a Company, list company type (e.g., corporation, limited partnership, etc.):
Limited Liability Company

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

Please provide the following information to be used for *billing purposes only*, if different:

Company/Individual Name:

Mailing Address:

City/Town: State: Zip Code:

Contact Person: Phone: ext.

Part II: Project Information

Brief Description of Project: *(Example: Development of a 50 slip marina on Long Island Sound)*
Repermitting of three trailer mounted stationary combustion turbines

Location (City/Town): **Stamford**

Other Project Related Permits (*not* included with this form):

Permit Description	Issuing Authority	Submittal Date	Issuance Date	Denial Date	Permit #

Part III: Individual Permit Application and Fee Information

New, Mod. or Renew	Individual Permit Applications	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
	AIR EMISSIONS				
Renew	New Source Review	$750.00	3	2250	1 + 0
	Title V Operating Permits	none			1 + 0
	WATER DISCHARGES				
	To Groundwater	$1050.00			1 + 1
	To Sanitary Sewer (POTW)	$1050.00			1 + 1
	To Surface Water (NPDES)	$1050.00			1 + 2
	INLAND WATER RESOURCES-multiple permits 1 + 6 total copies				
	Dam Construction	none			1 + 2
	Flood Management Certification	none			1 + 1
	Inland 401 Water Quality Certification	none			1 + 5
	Inland Wetlands and Watercourses	none			
	Stream Channel Encroachment Lines	★			
	Water Diversion	★			1 + 5
	OFFICE OF LONG ISLAND SOUND PROGRAMS				
	Certificate of Permission	$400.00			1 + 3
	Coastal 401 Water Quality Certification	none			1 + 3
	Structures and Dredging/Tidal Wetlands	$525.00			1 + 3
	WASTE MANAGEMENT				
	Aerial Pesticide Application	★			1 + 2
	Aquatic Pesticide Application	$100.00			1 + 0
	CGS Section 22a-454 Waste Facilities	★			1 + 1
	Hazardous Waste Treatment, Storage and Disposal Facilities	★			1 + 1
	Marine Terminal License	$125.00			1 + 0
	RCRA Closure Plan	$3750.00			1 + 0
	RCRA Post Closure	$3750.00			1 + 0
	Solid Waste Facilities	★			1 + 2
	Waste Transportation	★			1 + 0
		Subtotal ➡		2250	
	GENERAL PERMITS and AUTHORIZATIONS Enter subtotals from Part IV, pages 3 & 4 of this form	Subtotals Page 3 ➡ Subtotals Page 4 ➡			
		TOTAL ➡	3	$2,250	
	☐ Indicate whether municipal discount or state waiver applies	Less Applicable Discount ➡			
		AMOUNT REMITTED ➡		$2,250	

Check # ➡ 2799 Check or money order should be made payable to "Department of Environmental Protection"

★ **See fee schedule on individual application.**

Part IV: General Permit Registrations and Requests for Other Authorizations Application and Fee Information

✓ General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fees	Original + Required Copies
AIR EMISSIONS				
☐ Limit Potential to Emit from Major Stationary Sources of Air Pollution	$5000.00			1 + 0
☐ Ionizing Radiation Registration	$200.00			1 + 0
☐ Emergency/Temporary Authorization	★★			★★
☐ Other, (please specify):				
WATER DISCHARGES				
☐ Domestic Sewage	$500.00			1 + 0
☐ Food Processing Wastewater	$500.00			1 + 0
☐ Groundwater Remediation Wastewater to a Sanitary Sewer	$500.00			1 + 0
☐ Groundwater Remediation Wastewater to a Surface Water ☐ Registration Only ☐ Approval of Registration by DEP	 $500.00 $1000.00			1 + 0
☐ Minor Non-Contact Cooling and Heat Pump Water	$500.00			1 + 1
☐ Minor Photographic Processing	$100.00			1 + 0
☐ Minor Printing & Publishing Wastewater	$500.00			1 + 0
☐ Minor Tumbling or Cleaning of Parts Wastewater	$1000.00			1 + 1
☐ Miscellaneous Discharges of Sewer Compatible Wastewater ☐ Flow < 5,000 gpd and fire sprinkler system testwater ☐ Flow > 5,000 gpd	 $500.00 $1000.00			1 + 1
☐ Stormwater Associated with Commercial Activities	$500.00			1 + 0
☐ Stormwater Associated with Industrial Activities	$500.00			1 + 0
☐ Stormwater & Dewatering Wastewaters-Construction Activities ☐ 5 – 10 acres ☐ > 10 acres	 $500.00 $1000.00			1 + 0
☐ Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)	$250.00			1 + 0
☐ Swimming Pool Wastewater - Public Pools and Contractors	$500.00			1 + 0
☐ Vehicle Maintenance Wastewater ☐ Registration Only ☐ Approval of Registration by DEP	 $500.00 $1000.00			1 + 0
☐ Water Treatment Wastewater	$500.00			1 + 0
☐ Emergency/Temporary Authorization - Discharge to POTW	$1500.00			1 + 0
☐ Emergency/Temporary Authorization - Discharge to Surface Water	$1500.00			1 + 0
☐ Emergency/Temporary Authorization - Discharge to Groundwater	$1500.00			1 + 0
☐ Other, (please specify):				
AQUIFER PROTECTION PROGRAM				
☐ Registration for Regulated Activities	$500.00			1 + 0
☐ Permit Application to Add a Regulated Activity	$1000.00			1 + 0
☐ Exemption Application from Registration	$1000.00			1 + 0
Note: Carry subtotals over to Part III, page 2 of this form. Subtotal ➡				

★★ **Contact the specific permit program for this information (Contact numbers are provided in the instructions).**

Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

✓ General Permits and Other Authorizations	Initial Fees	No. of Permits Applied For	Total Initial Fee	Original + Required Copies
INLAND WATER RESOURCES				
☐ Dam Safety Repair and Alteration	$1000.00			1 + 2
☐ Diversion of Water for Consumptive Use: Reauthorization Categories	$1000.00			1 + 2
☐ Diversion of Water for Consumptive Use: Authorization Required	$2500.00			1 + 5
☐ Diversion of Water for Consumptive Use: Filing Only	$1500.00			1 + 4
☐ Habitat Conservation	$1000.00			1 + 2
☐ Lake, Pond and Basin Dredging	$1000.00			1 + 2
☐ Minor Grading	$1000.00			1 + 2
☐ Minor Structures	$1000.00			1 + 2
☐ Utilities and Drainage	$1000.00			1 + 2
☐ Emergency/Temporary Authorization	★★			★★
☐ Other, (please specify):				
OFFICE OF LONG ISLAND SOUND PROGRAMS				
☐ 4/40 Docks	$700.00			1 + 1
☐ Non-harbor Moorings	$100.00			1 + 0
☐ Osprey Platforms and Perch Poles	none			1 + 0
☐ Pump-out Facilities (no fee for Clean Vessel Act grant recipients)	$100.00			1 + 0
☐ Remedial Activities Required by Order	$700.00			1 + 0
☐ Residential Flood Hazard Mitigation	$100.00			1 + 0
☐ Swim Floats	$100.00			1 + 0
☐ Emergency/Temporary Authorization	★★			★★
☐ Other, (please specify):				
WASTE MANAGEMENT				
☐ Addition of Grass Clippings at Registered Leaf Composting Facilities	$500.00			1 + 0
☐ Asbestos Disposal Authorization	$240.00			1 + 0
☐ Contaminated Soil and/or Staging Management (Staging/Transfer) ☐ Registration Only ☐ Approval of Registration by DEP	 $250.00 $1500.00			 1 + 0 1 + 0
☐ Disassembling Used Electronics	$1000.00			1 + 0
☐ Drop-site Recycling Facility	$200.00			1 + 0
☐ Leaf Composting Facility	none			1 + 1
☐ Limited Processing Recycling Facility	$500.00			1 + 0
☐ One Day Collection of Household Hazardous Waste and Hazardous Waste from Certain Generators	$500.00			1 + 0
☐ Recyclables Transfer Facility	$500.00			1 + 0
☐ Single Item Recycling Facility	$500.00			1 + 0
☐ Special Waste Authorization	$525.00			1 + 0
☐ Storage and Distribution of Two (2) Inch Nominal Tire Chip Aggregate	$500.00			1 + 0
☐ Storage and Processing of Asphalt Roofing Shingle Waste and/or Storage and Distribution of Ground Asphalt Aggregate	★			1 + 0
☐ Storage and Processing of Scrap Tires for Beneficial Use	$1000.00			1 + 0
☐ Emergency/Temporary Authorization	★★			★★
☐ Other, (please specify):				
Note: Carry subtotals over to Part III, page 2 of this form. Subtotal ➡				

★ See fee schedule on application. ★★ Contact the specific permit program for this information.

2799

WATERSIDE POWER, LLC
105 CHESTNUT ST., UNIT 37
NEEDHAM, MA 02492

BOSTON PRIVATE BANK
& TRUST COMPANY
BOSTON, MASSACHUSETTS 02109
5-234-110

10/10/2007

PAY TO THE ORDER OF "DEP - Air Emission Test Fees"

$ **2,250.00

Two Thousand Two Hundred Fifty and 00/100********** DOLLARS

Department of Environmental Protection
79 Elm Street, 5th Floor
Hartford, CT 06106

TWO SIGNATURES REQUIRED OVER $5,000.00

MEMO

Repermitting of three trailer mounted stationary com

Thomas E. Abt MP

⑈002799⑈ ⑆011002343⑆ 4038503⑈

Details on back. Security Features Included.

Permit Application for New Source Review Stationary Sources of Air Pollution

Please complete this form in accordance with CGS Section 22a-174, RCSA Sections 22a-174-1 and 3, and the instructions (DEP-AIR-INST-200). Print or type unless otherwise noted.

Part I: Application and Source Type

Please read the instructions (DEP-AIR-INST-200) in order to properly complete the table below. Please reproduce this page if additional space is necessary. You may apply for more than one permit on one application if the sources originate from the same premise. *Each* unit or process line requires a separate permit.

Unit No.	Source Type	App. Type (N, R, M)	If renewal or modification, indicate existing permit/reg. no.	DEP Use Only		
				Application No.	Permit No.	EPE No.
U1	Fuel Burni	R	172-26-0228			
U2	Fuel Burni	R	172-26-0229			
U3	Fuel Burni	R	172-26-0230			

Part II: Fee Information

Please note: effective August 21, 2003 an initial fee of $750.00 is to be submitted for *each* permit that you are applying for. *Each* unit or process line requires a separate permit. For municipalities, the 50% discount applies. The application will not be processed without the initial fee. If a permit is required, an invoice will be sent for the permit fee. See RCSA Section 22a-174-26 for information regarding the amount of the permit fee.

Part III: Applicant Information

1. Fill in the name of the applicant(s) as indicated on the *Permit Application Transmittal Form* (DEP-APP-001).

   Applicant: **Waterside Power, LLC**

   Applicant's interest in property at which the proposed activity is to be located:

   ☒ site owner ☐ option holder ☐ lessee

   ☐ easement holder ☐ operator ☐ other (specify)

   ☐ Enter a check mark if there are co-applicants. If so, label and attach additional sheet(s) with the required information as supplied above.

2. List primary contact for departmental correspondence and inquiries, during processing of application, if different than the applicant.

   Name: **Blue Sky Environmental LLC**

   Mailing Address: **105 Chestnut Street; Suite 37**

   City/Town: **Needham** State: **MA** Zip Code: **02492-**

   Business Phone: **617-834-8408** ext. Fax: **781-453-1142**

   Contact Person: **Don DiCristofaro** Title: **President**

3. List primary contact for departmental correspondence and inquiries, after permit is issued, if different than the applicant.

   Name: **Same as Applicant**

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Contact Person: Title:

4. List attorney or other representative, if applicable.

   Firm Name: **Ruben & Rudman, LLP**

   Mailing Address: **50 Rowes Wharf**

   City/Town: **Boston** State: **MA** Zip Code: **02110-3319**

   Business Phone: **617-330-7000** ext. Fax: **617-552-5005**

   Attorney Name: **John A. DeTore** Title: **Esquire**

Part III: Applicant Information (continued)

5. List equipment operator, if different than the applicant.

   Name: **General Electric**

   Mailing Address: **4200 Wildwood Parkway**

   City/Town: **Atlanta** State: **GA** Zip Code: **30339-**

   Business Phone: **513-552-4157** ext. Fax: **513-552-5005**

   Contact Person: **Scott Singer** Title:

6. List equipment owner, if different than the applicant.

   Name: **Applicant is planning to purchase equipment**

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Contact Person: Title:

7. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the application or in designing or constructing the activity. Please enter a check mark if additional sheets are necessary, and label and attach them to this sheet. ☐

   Name: **Blue Sky Environmental LLC**

   Mailing Address: **105 Chestnut Street; Suite 37**

   City/Town: **Needham** State: **MA** Zip Code: **02492-**

   Business Phone: **617-834-8408** ext. Fax: **781-453-1142**

   Contact Person: **Don DiCristofaro** Title: **President**

   Service Provided: **Application Preparation**

Part IV: Premise Information

1. Name of facility, if applicable: **Waterside Power, LLC**

   Street Address or Description of Location: **17 Amelia Place**

   City/Town: **Stamford** State: **CT** Zip Code: **06904-**

   Latitude and Longitude of the approximate "center of the site" in *degrees, minutes, and seconds*:

   Latitude: **41N 2' 11"** Longitude: **73W 33' 25"**

   Method of determination (check one): ☐ GPS ☒ USGS MAP ☐ other

   If a USGS Map was used, provide the quadrangle name: **Stamford**

2. Is or will the premise be located on federally recognized Indian lands? ☐ Yes ☒ No

Part IV: Premise Information (continued)

3. Identify the air quality attainment status of the area in which the premise is or will be located. (Check all that apply. See instructions for the air quality attainment status of Connecticut municipalities).

Non-Attainment for Ozone Standard: ☒ Severe ☐ Serious

Carbon Monoxide:

☐ Moderate Non-Attainment ☐ Unclassified Non-Attainment ☒ Unclassified Attainment

Non-Attainment for PM_{10}: ☐

4. SIC Codes:

Primary **4911** Secondary Other Other

Part V: Supporting Documents

Be sure to read the instructions (DEP-AIR-INST-200) to determine whether the attachments listed are applicable to your specific activity. Please enter a check mark by the attachments as verification that **all applicable** attachments have been submitted with this Permit Application Form. When submitting any supporting documents, please label the documents as indicated in this Part (e.g., Attachment A, etc.) and be sure to include the applicant's name as indicated on the *Permit Application Transmittal Form*.

☒ Attachment A: *Executive Summary* (DEP-AIR-APP-222)

☒ Attachment B: *Applicant Background Information* (DEP-APP-008)

☒ Attachment C: Site Plan

☒ Attachment D: An 8□" X 11" copy of the relevant portion, or a full size original, of a USGS Quadrangle Map indicating the exact location of the facility or site and, if applicable, *Latitude and Longitude* (DEP-APP-003)

☒ Attachment E: Supplemental Application Forms
In the space provided by each supplemental application form, indicate the quantity of each form attached as part of this application. For each supplemental application form submitted, please provide a process flow diagram indicating all units, air pollution control equipment and stacks, as applicable. See sample diagram in instructions (DEP-AIR-INST-200).

☐ *Manufacturing or Processing Operations* (DEP-AIR-APP-201): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable.

☒ *Fuel Burning Equipment* (DEP-AIR-APP-202): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable.

☐ *Stationary Reciprocating Internal Combustion Engine - Compliance Assurance Form*
(DEP-AIR-COMP-001), if applicable.

☐ *Incinerators* (DEP-AIR-APP-203): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable. Also, attach documentation of waste heat contents and waste analysis.

Part V: Supporting Documents (continued)

Attachment E: Supplemental Application Forms (continued)

- ☐ *Volatile Liquid Storage* (DEP-AIR-APP-204): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable. Also, attach a MSDS for each product stored.
- ☐ *Surface Coating or Printing Operations* (DEP-AIR-APP-205): Attach a process flow diagram indicating all applicator identifications, air pollution control equipment, and stacks, as applicable. Also, attach a MSDS for each coating, ink, thinner, catalyst, cleanup solvent, or other compound to be used in this type of operation. Also, attach documentation to support transfer efficiency of spray applicators, if applicable.
- ☐ *Metal Plating and Surface Treatment Operations* (DEP-AIR-APP-206): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable. Also, attach a MSDS for each product stored in a tank.
- ☐ *Metal Cleaning Degreasers* (DEP-AIR-APP-207): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable. Also, attach a MSDS for each solvent used.
- ☐ *Concrete, Asphalt, Aggregate, Coal, Feed, Flour, & Grain* (DEP-AIR-APP-208): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable.
- ☐ *Site Remediation Equipment* (DEP-AIR-APP-209): Attach a process flow diagram indicating all units, air pollution control equipment, and stacks, as applicable. Also, submit documentation, such as pilot test data, which characterizes the site's degree of contamination.
- ☐ *Air Pollution Control Equipment* (DEP-AIR-APP-210), if applicable
- ☒ *Stack Parameters* (DEP-AIR-APP-211)
- ☒ *Unit Emissions* (DEP-AIR-APP-212): Attach all calculations by which emissions were determined.

☒ Attachment F: *Major Premise Pollutant Summary* (DEP-AIR-APP-213), if applicable

☐ Attachment G *BACT Determination Form* (DEP-AIR-APP-214), if applicable

☐ Attachment H: *Emergency Episode Standby Plan*, if applicable

☒ Attachment I: *Operation and Maintenance Plan*, if applicable

☒ Attachment J: *Ambient Air Quality Analysis*, if applicable

☒ Attachment K: *Applicant Compliance Information* (DEP-APP-002)

☒ Attachment L: *Conformance Certification Form* (DEP-AIR-APP-215)

Part VI: Application Certification

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

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

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

I certify that I will comply with all notice requirements as listed in Section 22a-6g of the General Statutes.

Thomas E. Atkins — 11/13/07

Signature of Applicant — Date

Thomas E. Atkins
Name of Applicant (print or type)

Director
Title (if applicable)

Don DiCristofaro — 11/15/07

Signature of Preparer — Date

Don DiCristofaro
Name of Preparer (print or type)

President
Title (if applicable)

☐ Please enter a check mark if additional signatures are necessary. If so, please reproduce this sheet and attach signed copies to this sheet.

ATTACHMENT A

EXECUTIVE SUMMARY

Attachment A: Executive Summary

Applicant Name as indicated on the *Permit Application Transmittal Form* (DEP-APP-001):

Waterside Power, LLC

Location of Facility or Activity: **17 Amelia Place; Stamford, CT 06904**

Contact Person: **Thomas E. Atkins** Phone: **617-699-3756**

For Renewals, Modifications, and Revisions provide the following:

Existing Permit or Registration #: **228, 229, 230** Expiration Date: **7/7/2009**

Provide a Table of Contents of the application which includes the *Permit Application Transmittal Form* (DEP-APP-001), the Permit Application Form (DEP-AIR-APP-100 or 200), and a list of all supplemental application forms, plans, drawings, reports, studies, or other supporting documentation which are attached as part of the application, along with the corresponding attachment label and the number of pages (e.g., Executive Summary - Attachment A - 4 pgs.).

Permit Application Transmittal Form (DEP-APP-001) with copy of check for application fee - 5 pages
Permit Application for New Source Review - Stationary Sources of Air Pollution (DEP-AIR-APP-200) - 7 pages
Attachment A: Executive Summary (DEP-AIR-APP-222) - 2 pages
Executive Summary Attachment to Attachment A - 16 pages
Attachment B: Applicant Background Information (DEP-APP-008) - 5 pages
Attachment C: Site Plan - 1 page
Attachment D: Latitude and Longitude Form (DEP-AIR-APP-003) with USGS Topographical Quadrangle Map - 2 pages
Attachment E: Supplemental Application Forms - Fuel Burning Equipment (DEP-AIR-APP-202; one per unit) - Stack Parameters (DEP-AIR-APP-2), Process Flow Diagram, and Unit Emissions (DEP-AIR-APP-212; one per unit) - 55 pages
Attachment F: Major Premise Pollutant Summary - Not Applicable
Attachment G: BACT Determination - 1 page
Attachment H: Emergency Episode Standby Plan - Not Applicable
Attachment I: Operation and Maintenance Plan - 1 page
Attachment J: Ambient Air Quality Analysis - 27 pages
Attachment K: Applicant Compliance Information (DEP-APP-002) - 2 pages
Attachment L: Conformance Certification Form (DEP-AIR-APP-215) - 1 page
Permit Markup: 12 pages

(OVER)

Attachment A: Executive Summary (continued)

Provide a brief project description which includes: a description of the proposed regulated activities; a synopsis of the environmental and engineering analyses; summaries of data analysis; a conclusion of any environmental impacts and the proposed timeline for construction. For renewals, modifications, and revisions, provide a list of changes in circumstances or information on which the previous permit was based.

See Attachment

☒ If additional sheets are necessary, please label and attach them to this sheet and enter a check mark.

EXECUTIVE SUMMARY ATTACHMENT

TO ATTACHMENT A

Project Overview

The Waterside Power project ("Waterside Project" or "Waterside") was developed in response to a concern that existing generation and transmission within southwest Connecticut ("SWCT") may not be capable of supplying electric load without overloading lines or causing severe low voltage conditions. Numerous reports and studies have been conducted by ISO-New England, the Department of Public Utility Control ("DPUC") and other entities regarding reliability concerns in Connecticut and all agree that (1) SWCT and particularly, the Norwalk/Stamford area, is facing serious reliability problems; and (2) quick start generation such as the Waterside Project is an important component in the State's short-term response to these reliability problems.

On May 7, 2002, Waterside filed for an Application for Registration of three portable General Electric ("GE") TM2500 units to operate under the General Permit to Construct and/or Operate a New or Existing Phase I Distributed Generation Engine ("GPDG").

On September 23, 2003, Waterside filed applications for three individual New Source Review ("NSR") permits in anticipation of the GPDG being revoked by the DEP[1]. The DEP approved the applications and issued three individual NSR permits (Permit Nos. 172-26-0228, 172-26-0229, and 172-26-0230) on July 7, 2004. On April 11, 2005, Waterside filed applications to amend the three permits to allow the engines to respond to ISO-New England's Southwest Connecticut Emergency Capability Load Response Program in conjunction with a black start generator that is currently operating under R.C.S.A. §22a-174-3b[2]. The DEP approved the modification application on December 2, 2005. The three modified permits expire on July 9, 2009. On July 21, 2006, Waterside filed an air quality modeling analysis update to allow the facility to participate in ISO-New England's Locational Forward Reserve Market ("LFRM") from October 1, 2006 through May 31, 2009. The DEP approved the revised air quality modeling results (which accounted for turbine enclosures and a stack height increase to 29.8 feet) on October 4, 2006. On December 4, 2006, the DEP was notified that Waterside had installed three mobile water heaters for anti-icing protection during cold weather conditions. The potential oxides of nitrogen ("NO_x") emissions based on 8,760 hours from each heater are 0.9 tons per year ("tpy"), much less than the 15 tpy permit threshold. Thus, NSR permits were not required.

---

[1] The GPDG was revoked by the DEP effective July 1, 2005.

[2] Waterside plans to replace the black start generator and will file shortly an application for an invidual NSR Permit under R.C.S.A. §22a-174-3a.

As per RCSA 22a-174-33 and pursuant to the Code of Federal Regulations ("CFR"), Title 40, Part 70, Waterside operates under a Title V Operating Permit (Permit No. 172-0236-TV) issued on June 9, 2006.

In June 2005, the Connecticut Legislature passed Public Act 05-01, an Act concerning Energy Independence ("EIA"), which has been codified in the General Statutes of Connecticut (Conn. Gen. Stat) § 16-243m. Among the requirements of the EIA was that the Department of Public Utility Control ("DPUC") launch a procurement process to acquire new capacity. The objective of the procurement process was to decrease total costs of electricity for Connecticut electricity ratepayers over the next 15 years and to improve the reliability of the electricity system in Connecticut (Conn. Gen. Stat. § 16-243m).

Pursuant to General Statutes of Connecticut § 16-243m, the DPUC has approved capacity contracts with four entities including Waterside Power. The DPUC found that this portfolio of capacity contracts will increase reliability and will minimize federally mandated congestion charges to the state over the life of the contracts at the lowest reasonable cost for the products and services procured under the contracts. As a quick-start generating project, Waterside Power can prevent many hundreds of tons of pollutants per year from being emitted. In addition, the DEP commented last summer to the Siting Board regarding the importance of Waterside Power (see attached letter).

The Master Agreement which Waterside has executed with CL&P pursuant to the DPUC's RFP includes several project milestones which Waterside must meet. One milestone in the Master Agreement is that Waterside obtain all major permits needed for permanent operation, including an air permit from DEP, no later than December 31, 2008. Another milestone is that Waterside achieve financial closing by that same December 31, 2008 date. Waterside will be unable to achieve financial closing without an air permit that allows permanent operation. Moreover, a delay in the air permit will likely result in a delay in the commencement of Waterside's operation under the Master Agreement. In its recent decision approving the Waterside contract, the DPUC noted that delays in the starting date of the Master Agreements with the RFP winners (including Waterside) will result in significant lost economic benefits for Connecticut consumers. The permits that we are requesting from the DEP will be similar to our current permits (see the proposed permit markup in the last tab of this application).

On behalf of Waterside it is requested that the three above-referenced permits be renewed pursuant to §22a-174-2a(i)(1) of the Regulations of Connecticut State Agencies ("R.C.S.A.").

Project Description

The Waterside Project is a 69.2 MW peaking project that is located at 17 Amelia Place in Stamford, Connecticut. The Project utilizes three General Electric ("GE") TM2500 turbine generator units each rated at 23.2 MW. During the summer of 2002, three TM2500 units were on site. Prior to the summer of 2003, Unit 1 was moved off site.

Prior to the summer of 2004, a third unit was moved back onsite. Since 2004, there have been three units operating onsite.

The turbine generator units and ancillary equipment are trailer mounted on four trailers and electrically interconnected to the adjacent Waterside Substation. Each unit consists of a turbine generator trailer, inlet filter trailer, exhaust trailer, and auxiliary trailer and is enclosed within a sound insulated trailer exterior. The GE TM2500 units that are in use have proved to be reliable and environmentally sound, and are easy to dispatch, operate and maintain. The four-trailer unit has a small footprint, only requiring an area of approximately 103 feet by 70 feet. In 2006, turbine unit enclosures were added to protect the equipment from freezing during winter weather conditions. In addition, additional exhaust silencers have been added to ensure no adverse impacts during extended operations thereby increasing the stack height from each turbine from 20.7 to 29.8 feet.

The turbine generator units will be fueled by either ultra low sulfur liquid fuel (less than 0.0015% sulfur by weight[3]) or natural gas and will include water injection to reduce NO_x emissions to 42 parts per million volume on a dry basis ("ppmvd") at 15% oxygen ("O_2") or less when firing liquid fuel and 25 ppmvd at 15% O_2 when firing natural gas.

The only major physical change to the current site that could possibly affect air quality is the replacement of five temporary liquid fuel tanks that currently occupy the center of the site with two permanent tanks to be located in the southwest corner of the site and the replacement of the existing 1,250 kW blackstart generator with a 1,000 kW generator[4].

Site Description

The Project site is approximately 5.8 acres and is directly bounded on the west by the Stamford Executive Park, to the south/southeast and east by Metro North/AMTRAK rail lines, to the northeast by Connecticut Light and Power's ("CL&P") Waterside Substation, and to the north by a small residential enclave. A copy of the site location map is provided in Attachment A-1 and the United States Geological Survey ("USGS") map with the Project location shown is presented in Attachment D-1. Attachment A-2 shows the three TM-2500 unit stacks and structure enclosures. The black start generator is on the right side of the photo. The site and surrounding areas to the northwest, west, south, east, and northeast are all zoned M-G (General Industrial District). The residential area to the north of the site is zoned R-6 (residential). The site is located in the Waterside section of southwest Stamford and is isolated from the remainder of the City to the north by the interstate Highway 95 (I-95) transportation corridor and to the east by the West Branch of the Stamford Harbor. The entire Waterside neighborhood is included in the Stamford Enterprise Zone, which was formed in late 1993 in part to promote industrial and business recruitment and retention.

[3] The turbines are currently permitted to fire 0.003% sulfur fuel.
[4] Noise barrier walls will also be installed along each combustion turbine exhaust section but should not affect air quality.

Emissions

Emissions from the Project are typical of gas turbine units in operation at numerous other such power projects. The proposed use of ultra-low sulfur liquid fuel[5] and natural gas result in low emissions of both criteria and non-criteria pollutants. The potential emissions of all pollutants from the Project, including Connecticut hazardous air pollutants ("HAPs") and maximum allowable stack concentration ("MASC") compliance, are summarized below. In order to limit the facility-wide NO_x and volatile organic compound ("VOC") emissions from the facility to less than 25 tons per year ("tpy"), the maximum fuel consumption over any consecutive twelve month period will be limited as listed in Table A-1 for the three turbines combined.

TABLE A-1. FUEL USE LIMITS FOR THE THREE TURBINES COMBINED

Maximum Consumption Over Any 12-Month Period	Gaseous Fuel (scf)	Liquid Fuel (gals)
Facility Wide	540,905,000	2,249,100

Criteria Pollutant Emission Rates

A summary of the total controlled per turbine Project emissions of carbon monoxide ("CO"), NO_x, sulfur dioxide ("SO_2"), particulate matter ("PM"), particulate matter less than 10 microns ("PM10"), VOC, sulfuric acid ("H_2SO_4") mist, lead ("Pb"), and mercury ("Hg") is presented in Table A-2. Note that Hg is not a criteria pollutant but is listed in R.S.C.A. §22a-174-3a(k)(7). See Attachment E for a discussion of the unit emission calculation methodology including Attachment E-4 which includes the detailed emissions calculations.

Table A-3 compares the total annual project emissions from all three turbines with the DEP significant emission rate thresholds as listed in §22a-174-3a(k)(7). All air pollutant maximum emissions are less than the DEP significant emission rate thresholds; thus the facility is a minor source of emissions.

[5] The 2004 stack test measured a heating value of 138,000 Btu/gal for the ULSD and in 2006 it was 134,498 Btu/gal. The fuel flow rates were around 1,800 gph but went as high as 1,878 gph on the unit that was replaced in 2006 (the 2006 tested unit came in at 1,792 gph). Using a heating value of 137,000 Btu/gal, the heat rate is calculated to be 246.6 mmBtu/hr for a 1,800 gph fuel flow rate. Each unit tested at 246.8, 239.4, and 247.0 on average. Therefore, 247 mmBtu/hr is used.

TABLE A-2. PER TURBINE EMISSION RATES[1]

Air Pollutant	Gaseous Fuel (lb/hr)	Liquid Fuel (lb/hr)	Controlled Emissions (tpy)		
			Gaseous Fuel	Liquid Fuel	Both Fuels[2]
CO	30.0	25.5	10.8	5.3	10.8
NO_x	23.2	40.0	8.3	8.3	8.3
SO_2	0.5	0.4	0.19	0.1	0.19
PM	1.5	2.8	0.5	0.6	0.6
PM10	1.5	2.8	0.5	0.6	0.6
VOC	2.9	1.3	1.0	0.3	1.0
H_2SO_4 Mist	0.04	0.006	0.014	0.001	0.014
Pb	0	0.003	0	0.0007	0.0007
Hg	0	0.0003	0	5.78×10^{-5}	5.78×10^{-5}

[1] Based on 100% load at 50°F ambient.
[2] Maximum allowable per unit emissions based on worst-case for each pollutant using either gaseous fuel for a maximum of 540,905,000 scf per running 12-month period or 2,249,100 gals of liquid fuel per running 12-month period or a combination thereof.

TABLE A-3. TOTAL PROJECT EMISSION RATES[1]

Air Pollutant	Controlled Emissions (tpy)			Significant Emission Rate Threshold (tpy)[3]
	Gaseous Fuel	Liquid Fuel	Both Fuels[2]	
CO	32.33	15.93	32.33	100
NO_x (as an O_3 precursor)	24.99	24.99	24.99	25
NO_x (NAAQS[4])	24.99	24.99	24.99	40
SO_2	0.58	0.24	0.58	25
PM	1.64	1.73	1.73	25
PM10	1.64	1.73	1.73	15
VOC	3.12	0.81	3.12	25
H_2SO_4 Mist	0.04	0.004	0.04	7
Pb	0	0.002	0.002	0.6
Hg	0	1.73×10^{-4}	1.73×10^{-4}	0.1

[1] Based on 100% load at 50°F ambient.
[2] Maximum allowable emissions based on worst-case for each pollutant using either gaseous fuel for a maximum of 540,905,000 scf per running 12-month period or 2,249,100 gals of liquid fuel per running 12-month period or a combination thereof.
[3] R.S.C.A. §22a-174-3a(k)(7)
[4] National Ambient Air Quality Standards

Non-Criteria Pollutant Emission Rates and MASC Compliance

A summary of the per turbine controlled emissions for all regulated non-criteria pollutants for the Project is presented in Table A-4. Regulated non-criteria pollutants consist of EPA HAPs as well as Connecticut HAPs, as defined in §22a-174-29. See Attachment E for a discussion of the unit emission calculation methodology including Attachment E-4 which includes the detailed emissions calculations.

TABLE A-4. PER TURBINE NON-CRITERIA POLLUTANT EMISSION RATES[1]

HAP	Gaseous Fuel (lb/hr)	Liquid Fuel (lb/hr)	Controlled Emissions (tpy)		
			Gaseous Fuel	Liquid Fuel	Both Fuels[2]
Formaldehyde	2.11×10^{-2}	2.11×10^{-2}	7.58×10^{-3}	4.39×10^{-3}	7.58×10^{-3}
1,3 Butadiene	9.95×10^{-5}	3.70×10^{-3}	3.57×10^{-5}	7.70×10^{-4}	7.70×10^{-4}
Acetaldehyde	9.25×10^{-3}	0	3.32×10^{-3}	0	3.32×10^{-3}
Benzene	2.78×10^{-3}	1.27×10^{-2}	9.97×10^{-4}	2.65×10^{-3}	2.65×10^{-3}
Ethylbenzene	7.40×10^{-3}	0	2.66×10^{-3}	0	2.66×10^{-3}
Napthalene	3.01×10^{-4}	8.09×10^{-3}	1.08×10^{-4}	1.68×10^{-3}	1.68×10^{-3}
PAH (Benzene Soluble)	1.12×10^{-5}	1.20×10^{-4}	4.02×10^{-6}	2.50×10^{-5}	2.50×10^{-5}
Coal Tar Pitch Volatiles	1.98×10^{-5}	1.20×10^{-4}	7.13×10^{-6}	2.50×10^{-5}	2.50×10^{-5}
Propylene Oxide	6.71×10^{-3}	0	2.41×10^{-3}	0	2.41×10^{-3}
Toluene	3.01×10^{-2}	0	1.08×10^{-2}	0	1.08×10^{-2}
Xylenes	1.48×10^{-2}	0	5.32×10^{-3}	0	5.32×10^{-3}
Arsenic	0	9.24×10^{-5}	0	1.93×10^{-5}	1.93×10^{-5}
Beryllium	0	1.85×10^{-5}	0	3.85×10^{-6}	3.85×10^{-6}
Cadmium	0	7.40×10^{-4}	0	1.54×10^{-4}	1.54×10^{-4}
Chromium	0	2.54×10^{-3}	0	5.29×10^{-4}	5.29×10^{-4}
Lead	0	3.24×10^{-3}	0	6.74×10^{-4}	6.74×10^{-4}
Manganese	0	3.70×10^{-2}	0	7.70×10^{-3}	7.70×10^{-3}
Mercury	0	2.77×10^{-4}	0	5.78×10^{-5}	5.78×10^{-5}
Nickel	0	1.06×10^{-3}	0	2.21×10^{-4}	2.21×10^{-4}
Selenium	0	5.78×10^{-3}	0	1.20×10^{-3}	1.20×10^{-3}
Sulfuric Acid	3.97×10^{-2}	6.29×10^{-3}	1.43×10^{-2}	1.31×10^{-3}	1.43×10^{-2}

[1] Based on 100% load at 50°F ambient.

[2] Maximum allowable emissions based on worst-case for each pollutant using either gaseous fuel for a maximum of 540,905,000 scf per running 12-month period or 2,249,100 gals of liquid fuel per running 12-month period or a combination thereof.

The emissions of air toxics from the Project must comply with §22a-174-29. The regulation requires that the emission of any HAP listed in §22a-174-29 from any stationary source must be at a concentration that is less than or equal to the MASC. The regulation contains the procedures for calculating the MASC based on the stack and

exhaust parameters, distance of the stack to the property line, and the Hazard Limit Values ("HLV") for the compounds listed in the regulation.

The emission calculations and supporting documentation are included in Attachment E. The results of the MASC calculations are provided in Tables E-8 through 13. For each HAP and fuel, the predicted stack concentration is less than the MASC.

Regulatory Review

The Waterside Project complies with all applicable Connecticut and Federal air quality requirements. Currently, the units operate in accordance with conditions in the DEP individual NSR permits that were issued on July 7, 2004, modified on December 2, 2005, and expire on July 7, 2009.

Non-Attainment Review

The Clean Air Act Amendments ("CAAA") of 1990 establish a review process for new sources proposed in geographic areas that are in non-attainment for the National Ambient Air Quality Standards ("NAAQS") for ozone ("O_3"). For any such new source, there are special requirements that must be met relative to VOC and NO_x emissions – the two precursors to O_3 regulated by the Clean Air Act (Clean Air Act 182(f), 42 U.S.C. 7511(f)). These requirements, named Non-Attainment New Source Review ("NSR"), relative to O_3, are mandated for new major sources of VOC and/or NO_x. The Project is located in an area designated as "severe" non-attainment for O_3. The non-attainment thresholds for VOC and NO_x emissions in severe O_3 non-attainment areas are as follows:

VOC	25 tpy
NO_x	25 tpy

If the emission rate of any non-attainment pollutant exceeds the non-attainment major source threshold on a facility-wide basis, the facility would be deemed a major source in a non-attainment area. As presented in Table A-3, the Project's maximum emissions will operate under the severe non-attainment area thresholds for VOC and NO_x. Thus, the Project will be a minor source and is not subject to Federal Non-Attainment NSR review. Also, there is no requirement for emission offsets for this Project as it will be below the Non-Attainment NSR major source thresholds.

As per the EPA, the entire state of Connecticut is designated as attainment for CO. Although EPA has not yet made designations of nonattainment for the 2006 24-hour PM2.5 NAAQS, Fairfield and New Haven Counties are designated as nonattainment for the 1997 annual PM2.5 NAAQS. According to the DEP, Fairfield and New Haven Counties are likely to be designated as nonattainment for the 24-hour PM2.5 NAAQS. The remainder of Connecticut is currently designated as attainment for PM2.5.

The EPA has not yet fully provided implementation rules or guidance for the PM2.5 revised NAAQS. On August 21, 2007, the DEP issued an interim PM2.5 NSR modeling

policy and procedures guidance. The modeling applicability thresholds apply to any new stationary source or modification subject to the provisions of R.C.S.A. § 22a-174-2a and 22a-174-3a, including:

- New major PM2.5 sources (100 tpy or more);
- Proposed modifications to existing major PM2.5 sources (100 tpy or more) with a PM2.5 net emissions increase of equal to or more than 15 tpy; and
- New minor sources of modifications with a proposed PM2.5 net emissions increase greater than 15 tpy but less than 100 tpy.

Any new source or modification that is required to receive a NSR permit, with a net PM2.5 emission increase of $\geq$ 3 tpy but < 15 tpy, should follow existing screening modeling procedures for PM. PM10 emissions can be used as a surrogate for PM2.5.

The maximum per turbine PM emissions are 0.6 tpy; well below any of the PM2.5 thresholds listed above. Thus, a PM2.5 air quality modeling analysis is not required.

New Source Performance Standards

The Project will meet the New Source Performance Standards ("NSPS") for a stationary gas turbine used for electricity, at 40 CFR 60, Subpart GG. The NSPS places restrictions on emissions of NO_x and SO_2. NO_x concentrations in the flue gas for turbines with heat inputs at peak loads greater than 100 MMBtu/hr are limited to a nominal value of 75 ppmvd at 15% O_2. The Project's guaranteed maximum NO_x emissions of 42 ppmvd at 15% O_2 or less during liquid fuel-firing and 25 ppmvd at 15% O_2 or less during gaseous fuel-firing are well below the nominal NSPS limit of 75 ppmvd at 15% O_2. Two of the units were tested in 2004 and a replacement unit was tested in 2006 while firing liquid fuel. The average NO_x emissions of 37, 29, and 37 ppmvd, at 15% O_2 respectively.

Under the NSPS, SO_2 is limited to 150 ppmvd at 15% O_2, and fuel sulfur content is limited to less than 0.8 percent by weight. The Project meets these criteria by using ultra-low sulfur distillate liquid fuel with a sulfur content no greater than 0.0015 percent by weight (e.g., 15 ppm) and natural gas. Fuel sulfur content for the Project is therefore well below the NSPS requirements.

PSD

Prevention of Significant Deterioration ("PSD") review is a federally mandated program review of new major sources of criteria pollutants or major modifications to existing sources. To be classified as a major PSD source, the emissions from the source must: (1) be in one of the 28 named source categories listed in Section 169 of the Clean Air Act and have controlled emissions exceeding 100 tpy of any pollutant regulated by the EPA under the Clean Air Act, or; (2) not be in one of the 28 listed source categories and have controlled emissions exceeding 250 tpy of any EPA-regulated pollutant. As a peaking unit, the facility is not classified as a fossil fuel-fired steam electric plant; the facility is not one of the 28 PSD named sources. Thus, the facility is not considered a major new

source under PSD regulations because its controlled emissions are less than 250 tpy of any regulated pollutant.

BACT

As per §22a-174-3a(j), Best Available Control Technology ("BACT") for all regulated pollutants is a restriction in the maximum fuel use such that the unit emissions of each criteria pollutant are less than 15 tpy.

MACT

The Project will not be subject to Subpart YYYY of 40 CFR 63 – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines because the Project is not a major source of HAPs (total HAPs are less than 25 tpy and emissions of any single HAP are less than 10 tpy).

Acid Rain Program

Pursuant to 40 CFR 72.6, the Project is not subject to the EPA Title IV acid rain program.

State Regulations

Particulate Matter, Opacity, and NO_x

DEP regulations at R.C.S.A. §22a-174-18 limit PM emissions from new fuel burning equipment to a rate of 0.10 lb/MMBtu and opacity to less than 20 percent. The Project's PM emissions are only 0.011 lb/MMBtu for liquid fuel operation and 0.006 lb/MMBtu for gas-fired operation. Opacity emissions are well below 20 percent. The DEP regulations §22a-174-19 limits fuel sulfur content to less than 1 percent for new fuel burning equipment. The Project fires ultra-low sulfur liquid fuel with 0.0015 percent sulfur and may fire with natural gas. DEP regulation §22a-174-22 limits NO_x emissions from new combustion turbines greater than 100 MMBtu/hr heat input to 55 ppmvd at 15% O_2 for gaseous fuel and 75 ppmvd at 15% O_2 for liquid fuel. The DEP is in the process of modifying §22a-174-22. The current proposed regulations will lower the limits for gas turbine engines with a maximum capacity of 5 mmBtu/hr or more to 25 ppmvd for gas-fired turbines and 42 ppmvd for distillate-fired turbines. The Project will limit NO_x emissions to 25 ppmvd at 15% O_2 or less for gaseous fuel and 42 ppmvd at 15% O_2 for liquid fuel, guaranteed. Thus, the new limits will be met. The average NO_x emissions while firing liquid fuel were tested at 37, 29, and 37 ppmvd, at 15% O_2 respectively.

Hazardous Air Pollutants

The DEP regulates emissions of HAPs, as defined in R.C.S.A § 22a-174-29. The Project emits several pollutants identified as HAPs. The DEP requires that new sources of air

pollution discharge all Connecticut-listed HAPs at concentrations less than the MASC. Procedures for calculating MASC, based on the stack height, distance to the property line, and the Hazard Limit Value for the compound in question, are contained in § 22a-174-29. The requirements are based on short-term (8-hour) emissions. With the above-described pollution controls, the Project is in compliance with the MASC for all regulated compounds. The results of the MASC calculations are included in Tables E-8 through 13.

Title V Operating Permit

Although Waterside is not a major source, the facility operates under a Title V Operating Permit in accordance with R.C.S.A § 22a-174-33. The facility cannot register under the DEP's General Permit to Limit the Potential to Emit ("GPLPE") because the facility operates under certain minor sections of 40 CFR 75. The DEP regulations prohibit sources from registering under the GPLPE if they operate under 40 CFR 75[6]. Thus, a Title V Operating Permit was required to limit the facility's NO_x emissions to less than 25 tpy.

NO_x RACT

The Project triggered NO_x Reasonably Available Control Technology ("RACT") requirements in 2002. An update to the NO_x RACT plan was submitted to the DEP on February 7, 2003.

Emissions testing was conducted at the Project while firing liquid fuel during the week of August 9, 2004 (for Units 1 and 2) and during the week of June 5, 2006 (for Unit 3). Mr. Mark Algier of the DEP observed both test programs. The Stack Test Reports were submitted to the DEP in September, 2004 and June, 2006. Emissions testing was conducted at four load points across the operating range of the units consisting of a maximum firing condition, two intermediate firing conditions, and a minimum firing condition. During each load condition, emissions measurements were conducted to measure emissions of NO_x, O_2, and carbon dioxide ("CO_2"). Emissions testing was conducted at the exhaust stack of each unit. From the stack testing, unit specific emission factors were developed while firing liquid fuel. The emission factors under liquid fuel operation and at full load, based on the stack test results, are as follows:

Unit	NO_x (lb/hr)
1	37.0
2	28.7
3	34.3

For those periods when the units were not operating with NO_x controls (e.g., start up, synch idle, testing, etc.), a manufacturer-supplied emission rate of 215 lb/hr was used for

[6] It is understood that the DEP is in the process of amending their regulations, so that facilities such as Waterside will not require a Title V Operating Permit.

reporting. For NO_x RACT reporting, the annual emissions were conservatively calculated assuming all operations were at 100% load. For future reporting of emissions, the actual load will be taken into account. In addition, if natural gas is brought to the site, stack testing under gas-fired operation will be conducted as well as stack testing during periods when the NO_x controls are not in operation, in order to show compliance with the permit limits.

Each of the TM2500 combustion turbines is equipped with high-accuracy (less than one percent error) fuel flow meters and water flow meters with digital readout displays. A Data Acquisition System ("DAS") was added to the site in 2007 to replace the stripchart recorder. These meters are an integral part of the water injection system for the control of NO_x emissions. The meters exceed the minimum accuracy requirements of two percent contained in the acid rain monitoring requirements.

The water and fuel flow meter readings are displayed on the operator's console. The control system includes logic that will control the water flow rate at levels that will allow for maintaining the 42 ppmvd at 15% O_2 while firing liquid fuel and 25 ppmvd at 15% O_2 while firing gaseous fuel over the expected range of loads.

GE has guaranteed these combustion turbines will operate at or below these stack gas concentrations. The system monitors both fuel and water flows and develops from that data a water-to-fuel ratio that is used to assess whether the unit is within the acceptable range that maintains NO_x exhaust gas concentrations below 42 ppmvd at 15% O_2 while firing liquid fuel and 25 ppmvd at 15% O_2 while firing gaseous fuel. If the water-to-fuel ratio at a given point in time is found to be approaching conditions that could exceed the guarantee level, the operating system will adjust the water flow accordingly (either increase or decrease) to assure proper operation. These automatic adjustments are performed on a continuous basis without operator input.

The fuel and water flow readings are continuously recorded by the DAS during combustion turbine operation. The water-to-fuel ratio is calculated by the DAS to demonstrate proper operation of the control device on an hourly basis.

The source testing conducted at the facility in 2004 and 2006 monitored and recorded the water and fuel flows and the stack NO_x concentrations to demonstrate proper operation. Stack testing was performed to determine the fuel- and unit-specific NO_x emission rate using results for four loads, as contained in Appendix E of the acid rain regulations.

The NO_x emission rates from the Project (25 ppmvd at 15% O_2 while firing gaseous fuel and 42 ppmvd @ 15% O_2 while firing liquid fuel) are less than the NO_x RACT limits for stationary gas turbines as provided in §22a-174-22(b)(1)(B)(i) of 55 ppmvd @15% O_2 for natural gas firing and 75 ppmvd @15% O_2 for liquid fuel firing and as provided in the proposed modifications to §22a-174-22(e)(1) of 25 ppmvd for natural gas firing and 42 ppmvd for liquid fuel firing.

The Project is subject to the NO_x RACT testing requirements specified in §22a-174-22(k) and the reporting and recordkeeping requirements specified in §22a-174-22(l).

NO_x Budget Source

Since each turbine at Waterside is a fossil-fuel-fired combustion unit that generates electricity at a rated output of 15 MW or more that began operating after September 30, 1990, the Project is currently a NO_x Budget Source as per §22a-174-22b. Effective May 1, 2009, the source will no longer be subject to §22a-174-22b but will become a Clean Ar Interstate Rule ("CAIR") NO_x Ozone Season Source and will be subject to §22a-174-22c.

Ambient Air Quality

An air quality modeling analysis is not required for PM10, PM2.5, or SO_2 because the allowable facility emissions will be less than 3 tpy. Similarly, a modeling analysis is not required for Pb because the emissions will be less than 0.6 tpy. An Addendum Stationary Source Stack Height Guideline ("SSSHG") analysis is required for NO_x because the allowable emissions from the facility will be less than 40 tpy and greater than 5 tpy from the facility. Similarly, an Addendum SSHG analysis is required for CO because the allowable emissions from the facility will be greater than 5 tpy and less than 100 tpy.

The impacts of the proposed emission source on ambient air quality are estimated using air quality dispersion models, which predict how pollutants are transported and dispersed between the source and receptors. For air permitting, the purpose of a modeling analysis is to determine whether the impacts of the proposed source, in combination with other nearby sources, will produce air quality consistent with ambient standards and increments. The Project meets all state and Federal air quality standards. The Ambient Air Impact Analysis is provided in Attachment J.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

June 30, 2006

Colin C. Tait, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 69.2 MW Peaking Generation Facility
Waterside Power, LLC
Stamford, Connecticut
Petition No. 772

Dear Chairman Tait:

Staff of this department has reviewed the above-referenced petition for a declaratory ruling that the various improvements to allow for winter operations of the Waterside facility, the removal of seasonal operating restrictions, and allowing operations until 11:00 p.m. will not have a substantial environmental impact and will not require a Certificate of Environmental Compatibility and Public Need. No site visit was undertaken during the department's review of this petition. The following comments are offered to the Council for your use in this proceeding.

This department supports the request of Waterside Power LLC for authorization to operate whenever called upon by ISO-New England without seasonal limitations. In a number of respects, the Waterside Power facility is environmentally preferable to the facilities which would likely be called upon to operate in its absence. It achieves substantially lower emissions rates for NOx than other peaking or stand-by units. It is capable of cold start operations, obviating the need to maintain its availability for generation in a spinning reserve mode. Other facilities which must operate in spinning reserve mode produce emissions even if not called upon to deliver generation to the grid. Waterside Power's use of ultra low sulfur fuel also produces lower SOx emissions rates than those of likely competing facilities. Finally, though Waterside would operate only infrequently, as an air-cooled facility, its operation further avoids the cooling water needs that would occur at many other peaking facilities.

In addition to its environmental advantages, the availability of Waterside in critical situations will have significant economic benefits by providing extra capacity which would displace less efficient, less economic options which would otherwise be called upon to meet demand. This capacity is also conveniently located in the heart of the supply-constrained Norwalk-Stamford region, thus avoiding putting additional strain on the regional transmission system to move power to this area.

The Waterside Power facility is permitted by DEP for operation at any time of year. The permit limit for Waterside is based on the NOx emissions from a maximum annual fuel consumption of 2,214,000 gallons of distillate oil. This limit equates to approximately 1,230 hours for all three generating units combined. Any combination of operating hours of the three Waterside units totaling 1,230 hours at full capacity would be consistent with the operating permit limit. For example, if all three units were operating simultaneously at 100% capacity, the permit limits would be reached in approximately 410 hours. Though Waterside is not currently served by natural gas, it is authorized to burn that fuel also and would have a maximum operating limit of approximately 2,140 hours combined for all three units. Additional stack testing for NOx and CO would be required before the facility could operate on natural gas.

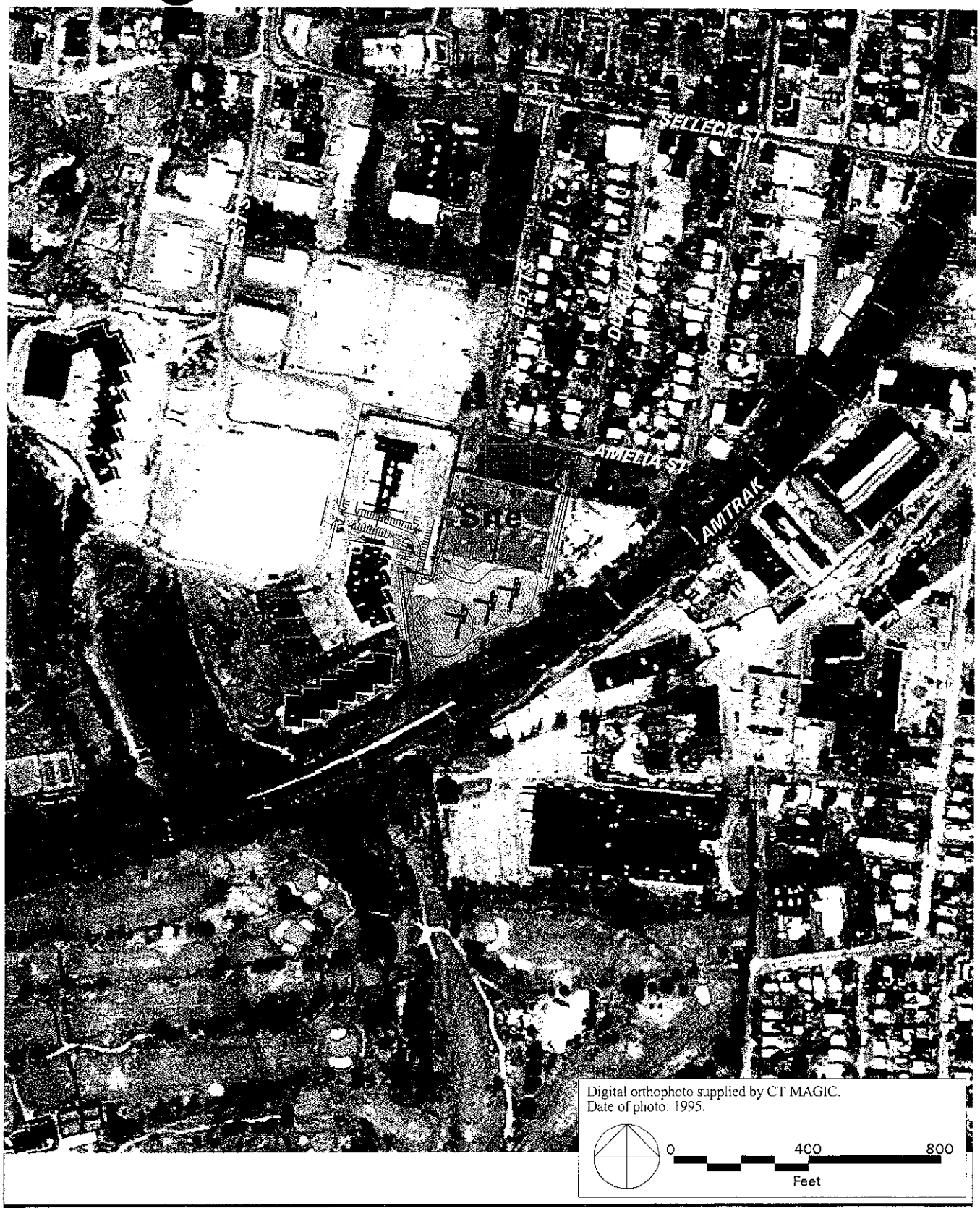
Thank you for the opportunity to review this petition and to submit these comments to the Council. Should you, other Council members or Council staff have any questions, please feel free to call me at (860) 424-4110.

Respectfully yours,

Frederick L. Riese

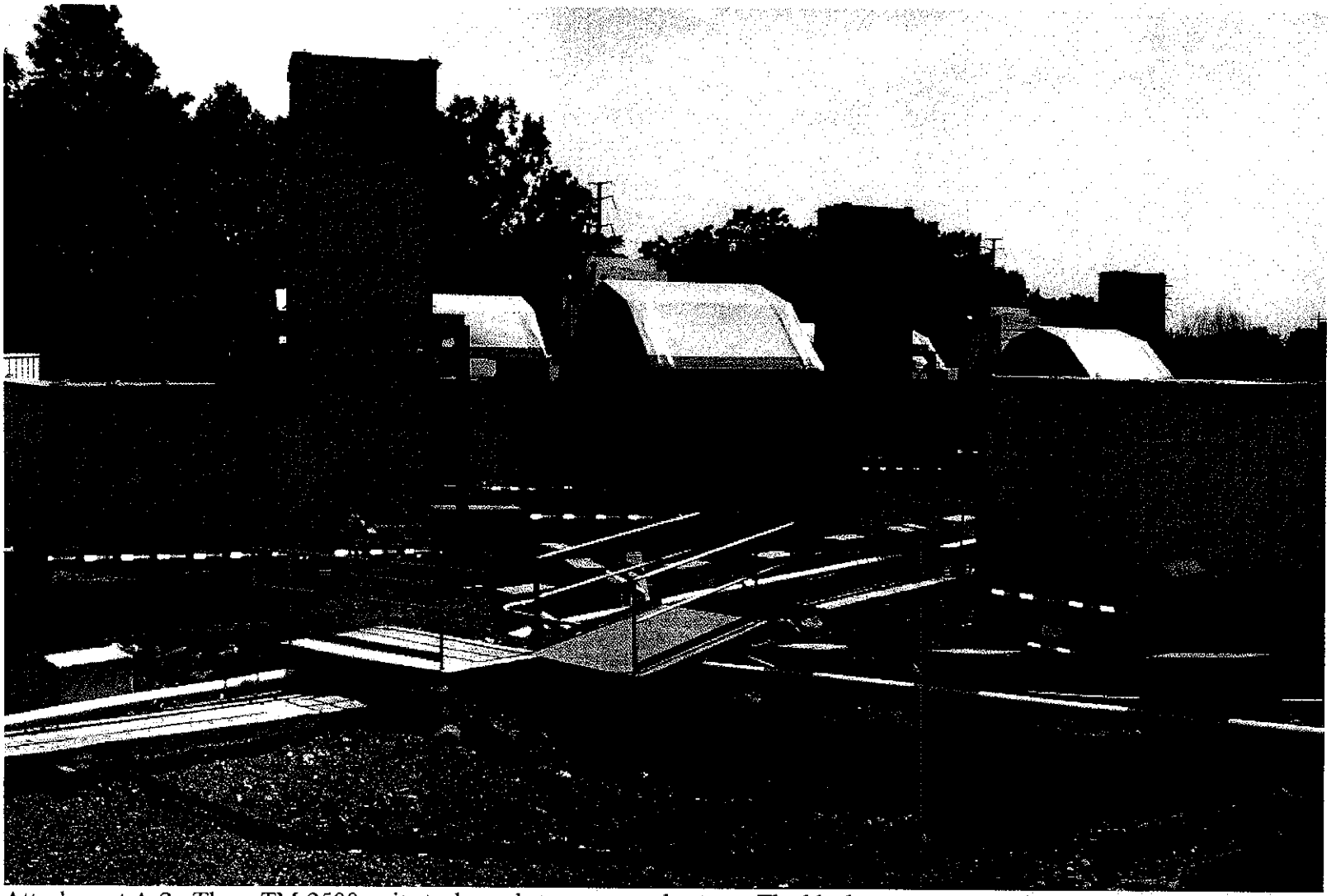
Frederick L. Riese
Senior Environmental Analyst

cc: Commissioner Gina McCarthy



Date: 26 Feb 03 14:34:55 Wednesday
/usr/erdata/watenside/siteortho.map

Attachment A - 1
Aerial with Site Location



Attachment A-2. Three TM-2500 unit stacks and structure enclosures. The black start generator is on the right side of the photo.

ATTACHMENT B

APPLICANT BACKGROUND INFORMATION

Applicant Background Information

Please enter a check mark by the entity which best describes the applicant and complete the requested information. **You must choose one of the following.**

☐ **Corporation**

1. Parent Corporation

   Name:

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Contact Person: Title:

2. Subsidiary Corporation:

   Name:

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Contact Person: Title:

3. Directors:

   Name:

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   Name:

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   ☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

4. Officers:

   Name:

   Mailing Address:

   City/Town: State: Zip Code: -

   Business Phone: - - ext. Fax: - -

   ☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

Applicant Background Information (continued)

☒ **Limited Liability Company**

1. List each member.

Name: **EIF Waterside LLC; c/o Project Finance Fund III**

Mailing Address: **3 Charles River Place; 63 Kendrick St.**

City/Town: **Needham** State: **MA** Zip Code: **02494-**

Business Phone: **781-292-7000** ext. Fax: - -

Name: **PDC Waterside LLC; c/o Pinpoint Power-Tom Atkins**

Mailing Address: **105 Chestnut Street; Suite 37**

City/Town: **Needham** State: **MA** Zip Code: **02492-**

Business Phone: **617-699-3756** ext. Fax: **781-453-1142**

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

2. List any manager(s) who, through the articles of organization, are vested the management of the business, property and affairs of the limited liability company.

Name: **Pinpoint Power, LLC - Tom Atkins**

Mailing Address: **105 Chestnut Street; Suite 37**

City/Town: **Needham** State: **MA** Zip Code: **02492-**

Business Phone: **617-699-3756** ext. Fax: **781-453-1142**

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

Applicant Background Information (continued)

☐ **Limited Partnership**

1. General Partners:

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

2. Limited Partners:

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

Applicant Background Information (continued)

☐ **General Partnership**

1. General Partners:

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

Applicant Background Information (continued)

☐ **Voluntary Association**

1. List authorized persons of association or list all members of association.

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

☐ **Individual or Other Business Type**

1. Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

2. State other names by which the applicant is known, including business names.
Name:

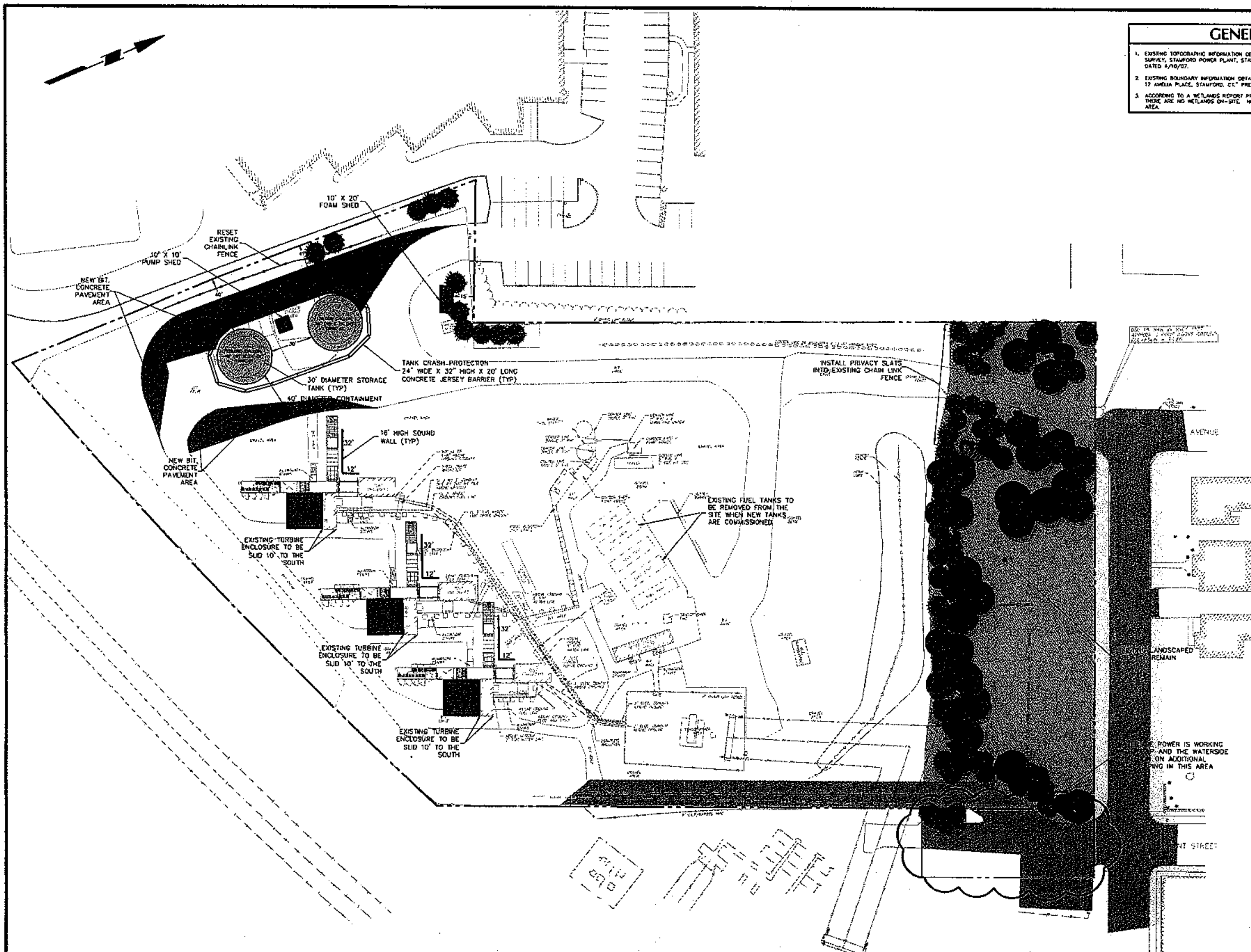
☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

ATTACHMENT C

SITE PLAN

GENERAL NOTES

1. EXISTING TOPOGRAPHIC INFORMATION OBTAINED FROM A PLAN ENTITLED "LIMITED TOPOGRAPHIC SURVEY, STAMFORD POWER PLANT, STAMFORD, CT", PREPARED BY LANGAN ENGINEERING, DATED 4/10/07.
2. EXISTING BOUNDARY INFORMATION OBTAINED FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY, 17 AMELIA PLACE, STAMFORD, CT." PREPARED BY CONKLIN & SORDKA, DATED 4/15/02.
3. ACCORDING TO A WETLANDS REPORT PREPARED BY ENVIRONMENTAL PLANNING SERVICES, THERE ARE NO WETLANDS ON-SITE. NO ACTIVITIES ARE PROPOSED WITHIN THE REGULATED AREA.



Date	Description	No.
10/26/07	ZBA SUBMISSION	15

Revisions

JOHN D. PLANTE, CT PE#19399

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

Project
WATERSIDE POWER PROJECT
17 AMELIA PLACE
STAMFORD CONNECTICUT

Drawing Title
SITE IMPROVEMENT PLAN
GENERAL ARRANGEMENT PLAN

Job No.	7610900	Drawing No.
Date	4/25/02	20.01
Scale	1"=30'	
Drn. By	TSO BJC	
Chkd. By	RAF	

ATTACHMENT D

LATITUDE AND LONGITUDE FORM WITH USGS LOCATION MAP

Latitude and Longitude

Applicant Name: **Waterside Power, LLC**
(as indicated on the *Permit Application Transmittal Form*)

Method of latitude and longitude determination (check one):

☐ Global Positioning System (GPS) ☒ USGS Map ☐ Other (please specify)

In the table below, label each point for which latitude and longitude were measured, being consistent with identification numbers assigned throughout the application (e.g., 100, 101, etc.). For renewals or modifications of existing permits, please provide the existing permit number. Also provide: a brief description of the point (e.g., monitoring well, pipe outlet, air stack, etc.); latitude and longitude in degrees, minutes and seconds (e.g., 41E 16' 29"); and the name of the USGS quadrangle map(s) the points described are located on.

ID Number	Permit Number	Description	Latitude	Longitude	Quad Map Name	For DEP Use Only: GIS ID
U1	172-26-0228	Combustion Turbine Stack 1	41 deg 2' 11''	73 deg 33' 26"	Stamford	
U2	172-26-0229	Combustion Turbine Stack 2	41 deg 2' 11"	73 deg 33' 25"	Stamford	
U3	172-26-0230	Combustion Turbine Stack 3	41 deg 2' 12"	73 deg 33' 24"	Stamford	