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*Daniel F. Caruso*
*Chairman*

April 25, 2008

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **PETITION NO. 836** – Waterside Power LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction and operation of a permanent peaking facility located at 17 Amelia Place, Stamford, Connecticut.

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As stated at the hearing in Stamford on March 6, 2008, after the Council issues its draft findings of fact, parties and intervenors may identify errors or inconsistencies between the Council's draft findings of fact and the record; however, no new information, evidence, argument, or reply briefs will be considered by the Council.

Parties and Intervenors may file written comments with the Connecticut Siting Council on the Draft Findings of Fact issued on this docket by May 2, 2008.

SDP/cm

Enclosure

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| **PETITION NO. 836** – Waterside Power LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction and operation of a permanent peaking facility located at 17 Amelia Place, Stamford, Connecticut. | } | Connecticut Siting Council |
| | } | April 15, 2008 |

## DRAFT FINDINGS OF FACT

## INTRODUCTION

1. On November 21, 2007, Waterside Power, LLC (Waterside), in accordance with Connecticut General Statutes (CGS) § 16-50k and Regulations of Connecticut State Agencies § 16-50j-38, submitted to the Connecticut Siting Council (Council) a Petition for a declaratory ruling (Petition) that no certificate of environmental compatibility and public need is required for a permanent peaking facility located at 17 Amelia Place in Stamford, CT. (Waterside 1, p. 1)

2. On August 27, 2006, in Petition 772, the Council approved Waterside's request to allow participation in the Locational Forward Reserve Market (LFRM) as well as the installation of noise mitigation measures and extended hours of operation. On June 23, 2004, the Council approved the installation of noise mitigation measures and extended hours of operation as part of Petition 658. In Petition 617E, on May 6, 2003, the Council approved the facility's operation in 2003 from June 1 through September 30. On April 25, 2002 in Petition 556, the Council approved the facility's operation from June 1 through September 30, 2002. (Waterside 1, p. 2)

3. During the Petition 772 proceedings, Waterside expressed its intention to file an application for a future unit to replace the current units at the Waterside site. At the time, Waterside was considering turbine configurations that included the use of Pratt and Whitney turbines as replacements for the existing units as part of a permanent plant to be located at the site. That intention by Waterside was based on its expectations of the not yet issued Department of Public Utility Control (DPUC) request for proposals (RFPs) for long-term energy resources. (Waterside 1, p. 3)

4. On August 25, 2006, the DPUC issued its RFP for long-term resources. Waterside submitted two bids with different potential permanent turbine configurations in the fall of 2006. On April 23, 2007, the DPUC selected a bid based on the conversion of the existing mobile unit turbines into a permanent project. The permanent project proposes the continued use of the existing turbine unit configuration with limited revisions that are needed to convert the current facility to a long-term facility. (Waterside 1, pp. 3, 4)

5. The facility would operate as a peaking facility to supply power to Connecticut on a long-term basis through a 15 year contract with the Connecticut Light & Power Company (CL&P). (Waterside 1, p. 4)

6. Pursuant to Sections 16-50j-21 and 16-50j-40 of the Regulations of Connecticut State Agencies, the Council, after giving due notice thereof, held a public hearing on March 6, 2008 beginning at 3:00 p.m. and continued at 7:00 p.m. in the 4th floor cafeteria of the Stamford Government Center, 888 Washington Boulevard, Stamford, Connecticut. (Transcript 1 [Tr. 1], 3:17 p.m., p. 3; Transcript 2 [Tr. 2], 7:00 p.m., p. 3)

7. The Council and its staff conducted an inspection of the facility on March 6, 2008, beginning at 2:00 p.m. (Hearing notice)

8. The party to this proceeding is the Petitioner. The intervenor is CL&P. (Tr. 1, p. 5; Tr. 2, p. 5)

9. On February 21, 2008, Waterside placed a sign in front of the site along Amelia street to provide notification to the public regarding the proposed project and the Council's hearing. (Tr. 1, pp. 20, 21)

10. The Connecticut Department of Transportation (CDOT) submitted a letter stating it has no comments on the proposed project. (CDOT letter dated March 11, 2008)

## MUNICIPAL INVOLVEMENT

11. The City of Stamford Zoning Board of Appeals (ZBA) has approved a Special Exception of the temporary units each year since 2002. (Waterside 1, p. 13)

12. On June 14, 2006, the ZBA approved Waterside's request to participate in the LFRM through May 31, 2009. On June 28, 2007, the ZBA reaffirmed approval of the units and extended approval of the temporary units through June 29, 2009. (Council's Admin. Notice 17; Waterside 1, pp. 13, 14)

13. On October 2, 2007, representatives of Waterside met with City of Stamford Mayor Dannel Malloy and Michael Freimuth, Director of Economic Development to review the proposed plan for a long-term facility at the Waterside site. (Waterside 2, R. 1)

14. On November 29, 2007, Tom Atkins of Waterside met with Mr. Freimuth to review a proposed updated application to the ZBA including changes made by Mayor Malloy. (Waterside 2, R. 1)

15. Also on November 29, 2007, Ken Roberts and Tom Atkins attended a meeting of the Waterside Coalition, a local neighborhood group, in Stamford. At this meeting Waterside Power reviewed its latest ZBA application. (Waterside 2, R. 1)

16. On January 9, 2008, the ZBA held a public hearing on Waterside's application to make the site a long-term facility. Mr. Freimuth spoke in favor of Waterside's application. A Waterside Coalition board member also spoke in favor of the application. At this meeting the ZBA approved Waterside's application. (Waterside 2, R. 1)

17. Mr. Freimuth spoke at the Council's hearing on the proposed project to express the town's concern regarding capacity and reliability of electricity for the region and to express support for the project. (Tr. 1, pp. 8, 9)

## PROJECT NEED

18. On May 3, 2007, the DPUC issued a decision in Docket No. 05-07-14PH02, *Investigation of Measures to Reduce Federally Mandated Congestion Charges* (FMCCs). The DPUC selected the Waterside project as one of four winning bidders to provide new capacity to Connecticut and reduce the impact of FMCCs to Connecticut ratepayers. (Waterside 1, pp. 4, 5, 9)

19. Following the DPUC's selection of the Waterside project, Waterside implemented a long-term standardized supply contract, which was reviewed in a DPUC contested case proceeding (Docket 07-04-24). On August 22, 2007, the DPUC issued an Order approving the Master Agreement between Waterside and CL&P to provide capacity for the period 2010 through 2025. (Waterside 1, p. 9)

20. Southwest Connecticut was identified by the Independent System Operator – New England as a location where existing generation and transmission capabilities were not sufficient to supply electric load during extremely hot weather without overloading lines or causing severe low voltage conditions. (Waterside 1, pp. 8, 20)

21. Generation in Connecticut is increasingly inadequate and resource limitations may result in emergency system operations during times of high customer demands for electricity. The generation facilities in Connecticut are aging and there is potential for retirements due to environmental and economic concerns. Due to lack of generation facilities and limited electric transmission, system reliability is challenged. (Waterside 1, pp. 11, 12)

## SITE SELECTION

22. The existing site was initially selected in a search for a least-cost, least environmental impact site for its proposed generating facility. (Waterside 1, p. 20)

23. Locating the site in close proximity to electric transmission facilities would reduce interconnection costs and minimize environmental and community impacts associated with interconnection to electric transmission. (Waterside 1, p. 20)

24. The initial site selection was based on criteria including: a location in southwestern Connecticut; ability to acquire necessary land rights; a nearby electric substation and transmission lines; zoning that promotes industrial and business recruitment and retention; low risk of soil contamination or other environmental remediation requirements; a location that was used for industrial purposes; sufficient parcel size for the installation of necessary equipment and a buffer; sufficient water supply; geological conditions conducive to construction of the facility; no apparent structures of archaeological or historical significance; and no apparent threatened or endangered species at the site. (Waterside 1, pp. 20, 21)

## EXISTING/PROPOSED SITE

25. The existing units and associated equipment are located on a 5.8 acre site that is interconnected with the existing CL&P substation located adjacent to the parcel. (Waterside 1, p. 5)

26. The proposed configuration of the Waterside project is similar to the design of the temporary facility with the addition of certain fuel facilities that ensure the operation will be available as needed to operate in the LFRM on a long-term basis. (Waterside 1, p. 5)

27. The site is bordered on the west by the Stamford Executive Park, to the south/southeast and east by Metro North/AMTRAK rail lines, to the northeast by CL&P's Waterside Substation and to the north by residences. Properties to the northwest, west, south, east and northeast are zoned M-G (General Industrial District). The residential area north of the site is zoned R-6 (residential). (Waterside 1, p. 7)

28. The main entrance to the site is through the Stamford Executive Park from West Avenue. (Waterside 1, p. 16)

29. Access from Amelia Place would be retained for emergency use only. (Waterside 1, Tab F)

30. The site is located approximately ½ mile from Interstate 95 (I-95). (Waterside 1, p. 16)

31. Prior to the construction of the Waterside Project in 2002, the parcel contained a 160,000 square foot industrial building. The building was demolished in the fall of 2001. (Waterside 1, p. 7)

32. Landscaping, consisting of a mix of trees in front of an earthen berm topped by a wooden fence, is located between Amelia Place and the facility site to minimize impacts to the surrounding neighborhood. (Waterside 1, p. 8)

33. The facility would remain available for power generation throughout the transition from a temporary facility to a permanent facility. (Tr. 1, p. 49)

## PROPOSED EQUIPMENT

34. The proposed project will continue the use of the three existing General Electric TM2500 turbine generator units. Each unit is rated at 23.2 MW at a temperature of 90-degrees Fahrenheit. The estimated winter capability of the facility is approximately 75 MW and the summer capability is approximately 69.2 MW. (Waterside 1, p. 5)

35. The facility has a black start generator that allows the units to be available even if a blackout occurs in the electrical distribution system. Black start capability allows the units to start and commence generating without any outside source of electricity. (Council Admin. Notice 7, p. 29; Waterside 1, p. 5)

36. The existing black start generator is a 1,200 kilowatt (kW) rented unit, which would be replaced with a 1,000 kW unit. The reduction in generator size is due to an assessment of need for the facility. (Waterside 3, pre-filed testimony of Mr. DiCristofaro, p. 5; Tr. 1, p. 27)

37. Each existing unit consists of four trailers including the turbine generator trailer; inlet filter trailer; exhaust trailer; and auxiliary trailer. All trailers have a sound insulated exterior. Each four-trailer unit is located within an approximately 103-foot by 70-foot area. The maximum height of the units is 29.5 feet above ground level, which is the top of the exhaust silencers that were installed to minimize noise impacts from the facility. (Waterside 1, pp. 5, 6)

38. Waterside proposes to replace five 20,000 gallon fuel oil storage tanks (located near the center of the parcel) with two 126,000 gallon double-walled tanks (located near the western boundary of the parcel). The new tanks would be 40 feet wide by 24 feet tall. An associated pump building would be installed adjacent to the new tanks. Enhanced fire protection, spill prevention and containment measures would be incorporated into the design of the new tanks. Since the most likely spill of fuel is associated with the transfer of fuel oil from tanker trucks to the storage tanks, Waterside's current practice is to provide for the containment of more than 110% of the volume of a 7,200 gallon tanker truck. (Waterside 1, pp. 6, 16, Tab I, p. 10)

39. Waterside proposes to maintain a 40-hour fuel supply. Delivery of the fuel would be via tanker trucks with a maximum delivery load of between 6,200 and 6,500 gallons per truck. Fuel would be supplied by Sprague Energy. If Waterside operated during all peak load hours, a maximum of 16 round trips would be needed per day to refill the storage tanks. (Waterside 1, p. 17, 18)

40. Approximately 40,000 gallons of demineralized water would be stored on site for water injection to control $NO_x$ emissions. Water would be transported to the site via an interconnection with the local water system. (Waterside 1, p. 17)

41. The units would use air cooling and a simple cycle design, which minimizes the water use for the project. Water demand for each of the three units would be approximately 1,625 gallons per hour. (Waterside 1, p. 19)

42. The proposed fuel storage system would be relocated to a portion of the parcel farther from the nearest residential areas. (Waterside 1, p. 28)

43. Two adjacent shelter enclosures would be used rather than a single shelter enclosure, as is currently the case, for the combustion turbines and additional soundproofing mitigation for each of the three combustion turbines. (Waterside 1, p. 6)

44. The turbine generator units would continue to be fueled by ultra low sulfur fuel oil; however the units would now use sulfur values of 0.0015% rather than the currently permitted 0.003% by weight. The new units would still use water injection to reduce emissions of nitrogen oxides ($NO_x$) to 42 parts per million or less on a dry basis at 15% Oxygen. (Waterside 1, p. 6)

45. Maintenance inspections of the existing turbines are conducted after 500; 1,000; 4,500; and 8,000 hours of engine operation. Any necessary repairs are made at each inspection. At 12,500 hours of engine operation an engine hot section repair/replacement is required. At 50,000 hours of engine operation a complete engine overhaul is necessary. (Waterside 2, R. 3)

46. The current hours of operation of the existing turbines are 497 hours for Unit 1; 1,122 hours for Unit 2; and 1,123 hours for Unit 3. The turbines are limited to approximately 400 hours of operation annually due to the facility's air permit. Based on the above data, Unit 2 and Unit 3 would reach the 12,500 hour maintenance requirement in approximately 28 years. (Waterside 2, R. 3)

47. The units would generate 13.8 kilovolts (kV) and stepped up to 115 kV by an on-site generator step up transformer. The 115-kV output would be transmitted to the CL&P 115 kV Waterside Substation located adjacent to the site. (Waterside 1, p. 7)

48. To make the facility permanent, Waterside proposes to make adjustments to the existing CL&P interconnection. The adjustments include burying a section of control cabling and installation of two footings for equipment associated with the interconnection. (Tr. 1, p. 22)

49. The facility would be staffed by five full-time employees on a 24 hour a day, 7 day a week basis. The employees include two shifts of two employees that cover the 7:00 a.m. to 11:00 p.m. operating period. A night watchman would be at the site during the overnight hours. (Tr. 1, p. 21)

## ENVIRONMENTAL CONCERNS

### Noise

50. Ambient noise levels in the project area are consistent with an urban setting. (Waterside 1, p. 15)

51. Existing equipment is enclosed within trailer housing and stack silencers were installed to minimize noise from the facility. (Waterside 1, p. 15)

52. The existing units were installed in the southern portion of the site to mitigate potential noise impacts to the community north of the site. The existing earthen berm with an eight-foot fence and landscaping further minimizes potential noise impact to the residential community. (Waterside 1, p. 16)

53. Waterside proposes to install a sound barrier wall along the combustion turbine exhaust sections at each of the generating units to minimize noise impact to the surrounding community. (Waterside 1, p. 30, Tab C, Tab M)

54. With the three units in operation, noise levels outside of the northern property boundary are measured at 54 dBA. With only Unit 1 in operation, the sound level at the northern property boundary was measured at 50 dBA with the proposed sound wall in place. (Waterside 1, Tab M)

55. Sound levels from the proposed facility would be lower than ambient sound levels, with the sound barrier walls installed. (Waterside 1, Tab M)

56. The facility would meet all City of Stamford noise regulations including the nighttime noise standard of 51 dBA. (Waterside 1, Tab M; Tr. 1, p. 20)

**Visibility**

57. Mature trees exist on adjacent properties including that of a rail line, substation and offices, which provide screening of the proposed facility. (Waterside 1, p. 31)

58. The facility is not visible from the nearby residences north of the site due to distance of the equipment from the street, site grading and screening from the earthen berm and fencing. (Waterside 1, p. 31)

59. The facility is currently fully screened with the exception of the emergency access gate located off Betts Avenue. (Waterside 1, Tab C, p. 1)

60. The proposed installation of the fuel storage tanks in the southwest corner of the site would create a view of the fuel area from southbound traffic on Betts Avenue. (Waterside 1, Tab C, p. 6)

61. The facility's support equipment along the western property line is visible from a section of road at the intersection of Betts Avenue and Amelia Place. Views of the site are also visible through the chain-link security fence along the north property line. (Waterside 1, Tab C, p. 1)

62. Waterside proposes to add dark green slats in the chain-link fence to provide additional visual screening. The additional screening would eliminate any community ground-level view of the facility's equipment. (Waterside 1, Tab C, pp. 1, 6)

**Soil**

63. Remediation was conducted and completed at the site due to the prior use of the property as a manufacturing operation. In February 2002, the previous property owner received a "No Further Action" letter from the DEP, which indicates that no other remediation activities would be required. (Waterside 1, p. 26)

64. Waterside would install appropriate erosion and sediment control measures to protect off-site wetland areas. (Waterside 1, p. 29)

**Water Quality**

65. No hydric soils are located on the property of the proposed site; however, stormwater is directed to an on-site storm drain and is discharged through a culvert along the southern edge of the site. (Waterside 1, p. 34)

66. Any wastewater generated during unit operations or maintenance activities would be collected and trucked off-site for disposal at an appropriate facility. (Waterside 1, p. 35)

**Air Quality**

67. The proposed project would be in compliance with all applicable state and federal air quality requirements and in accordance with the conditions in the facility's New Source Review (NSR) permits that were issued by the Department of Environmental Protection (DEP) on July 2, 2004. The NSR permits expire on July 7, 2009; however, DEP regulations allow the facility to operate until new permits are issued. Waterside is currently filing new applications with the DEP. (Waterside 1, p. 24)

68. Waterside received the Title V Operating Permit on June 9, 2006. The permit will expire on June 9, 2011, which would require Waterside to apply for a new permit by June 9, 2010. Waterside would operate under the existing operating permit until a new permit is issued. (Waterside 1, p. 24)

69. Water injection would be used in the proposed project to reduce $NO_x$ emissions to 42 parts per million, volumetric dry (ppmvd) at 15% Oxygen gas ($O_2$) or less. The total $NO_x$ and Volatile Organic Compound (VOC) emissions from the facility would be less than the 25 tons per year acceptable for major source thresholds. (Waterside 1, p. 24)

70. The New Source Performance Standards (NSPS) include $NO_x$ limitations on the proposed facility at a nominal value of 75 ppmvd at 15% $O_2$. The proposed project includes guaranteed maximum $NO_x$ emissions of 42 ppmvd at 15% $O_2$ or less during liquid fuel firing and actual reported $NO_x$ emissions of 37 ppmvd. (Waterside 1, pp. 24, 25)

71. The NSPS limits sulfur dioxide to 150 ppmvd at 15% $O_2$ and fuel sulfur content to less than 0.8% by weight. The ultra low sulfur fuel proposed would result in a sulfur content of no greater than 0.0015% by weight. (Waterside 1, p. 25)

**ELECTRIC AND MAGNETIC FIELDS**

72. Potential sources of electric and magnetic fields (EMF) at the Waterside property are generators, generator leads, transformers and a three-phase 115-kV interconnection to CL&P's Waterside Substation. (Waterside 1, p. 21)

73. The design and location of the generators, leads and transformers would prevent them from having a significant effect on EMF levels outside of the property boundaries. (Waterside 1, p. 22)

74. The 115-kV interconnection would contribute to higher EMF levels. EMF levels would be significantly increased by the interconnection within the Waterside and adjacent CL&P substation properties. At the northern edge of the site, electric field and magnetic field levels would be approximately 0.031 kV per meter (kV/m) and 2.6 milligauss (mG), respectively. (Waterside 1, p. 22)

75. Approximately 210 feet north of the interconnection, along Amelia Place, maximum EMF levels are estimated at 0.012 kV/m and 1.3 mG, respectively. (Waterside 1, p. 22)

76. The proposed facility would be designed and operated in accordance with the National Electrical Safety Code and appropriate elements of the Council's Electric and Magnetic Field Best Management Practices. (Waterside 1, p. 23)

77. The proposed project would not significantly increase EMF levels outside of the utility properties. (Waterside 1, p. 23)

## SAFETY

78. The proposed project would operate in accordance with the Emergency Action Plan (EAP). The EAP was designed to ensure employee safety from fire and other emergencies. EAP elements include:

    a. Emergency escape procedures and route assignments;
    b. Procedures for employees who remain at the site to operate critical plant operations before evacuation;
    c. Procedures to account for all employees after completion of emergency evacuation;
    d. Rescue and medical duties for employees who are to perform them;
    e. Preferred means of reporting fires and other emergencies; and
    f. Names or job titles of persons or departments to be contacted for further information or explanation of duties under the plan.

    (Waterside 1, p. 18)