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VIA HAND DELIVERY AND E-MAIL

August 31, 2011

Robert J. Shea, Presiding Officer
Energy Facilities Siting Board
One South Station
Boston, MA 02110

**RE: Brockton Power Company, LLC, EFSB 07-7A
Our File No. 2538/Motion To Reopen Hearing**

Dear Presiding Officer Shea:

Please find enclosed the original and five copies of

Motion Of City Of Brockton, Intervenor, And The Eleven Brockton And Fifteen West
Bridgewater Residents, Intervenors, To Admit Into Evidence Appeals Of The Final Conditional
Air Permit Issued To Brockton Power.

Please docket and file same. Thank you.

Very truly yours,



Nathaniel Stevens

cc: Service List (via first-class mail or e-mail)



Printed on recycled paper.

COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD

Brockton Power Company, LLC

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)
)
EFSB 07-7A

**MOTION OF CITY OF BROCKTON, INTERVENOR, AND THE ELEVEN
BROCKTON AND FIFTEEN WEST BRIDGEWATER RESIDENTS, INTERVENORS
TO ADMIT INTO EVIDENCE APPEALS OF THE FINAL CONDITIONAL AIR
PERMIT ISSUED TO BROCKTON POWER**

The Intervenors City of Brockton (“City”) and eleven Brockton and fifteen West Bridgewater residents, intervenors (“B&WB residents”) hereby move to admit into evidence the City’s Notice of Claim for Adjudicatory Hearing (attached hereto as Exhibit A) as well as the B&WB residents’ Notice of Claim for Adjudicatory Hearing (attached hereto as Exhibit B), both of which appeal the Conditional Air Plan Approval issued by the Massachusetts Department of Environmental Protection (“MassDEP”) on July 20, 2011 (“Conditional Approval”) and subsequently admitted into evidence in this proceeding as Exhibit EFSB-C-G-6 (Supp).

The City’s Notice of Claim for Adjudicatory Hearing was timely filed with MassDEP on August 9, 2011; the B&WB residents’ Notice of Claim was timely filed the next day.

In Presiding Officer Robert Shea’s August 16, 2011 Ruling On Motion Of Brockton Power, Company, LLC To Reopen The Record For The Limited Purpose Of Incorporating Into The Record The Company’s Supplemental Response To Exhibit EFSB-C-G-6 (the “Ruling”), he found that the Final Air Plan Approval¹ issued by MassDEP “is relevant” to the proceedings, and therefore should be admitted. Ruling at 2.

¹ The Final Air Plan approval refers to MassDEP’s 50-page Conditional Approval of Brockton Power Company, LLC’s Major Plan Comprehensive Plan Approval Application (herein, the “Conditional Approval”), as well as

Just as the Final Air Plan Approval is relevant to and supplements the Draft Air Approval issued by MassDEP on May 3, 2010, and is included as Attachment B to Exhibit EFSB-C-G-6, the documents appealing the Conditional Approval are relevant. Both Notices of Claim for Adjudicatory Hearing establish that the Conditional Approval indeed is not final and may be overturned or modified following an adjudicatory hearing at MassDEP.

Both Notices of Claim for Adjudicatory Hearing also are relevant to show there are significant issues not resolved of whether the Conditional Approval complies with MassDEP's regulations, Massachusetts and Federal statutes, guidances and polices, or G.L. c. 164, § 69J¼.

Intervenors respectfully suggest that the City's Notice of Claim for Adjudicatory Hearing be admitted as Exhibit EFSB-C-G-6 (Supp.)(A) and the B&WB's Notice of Claim for Adjudicatory Hearing be admitted as EFSB-C-G-6 (Supp.)(B).

Respectfully submitted,

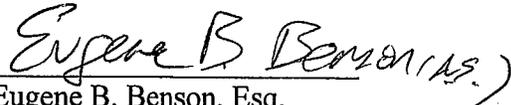
CITY OF BROCKTON

BROCKTON AND WEST
BRIDGEWATER RESIDENTS

By its attorneys,

By their attorney,


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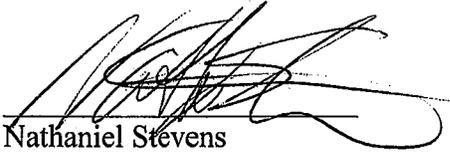

Eugene B. Benson, Esq.
Alternatives for Community &
Environment, Inc.
2181 Washington St., Suite 301
Roxbury, MA 02119
617-442-3343

Dated: August 31, 2011

MassDEP's 73-page Response to Comments on the Proposed Conditional Approval. MassDEP issued both documents on July 20, 2011.

CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was served on August 31, 2011, as required by the Procedural Ground Rules of March 20, 2008, by first-class mail and e-mail to the Energy Facilities Siting Board Presiding Officer and by email to the parties that agreed to email service, and by first class mail, postage prepaid to the other parties.



Nathaniel Stevens

EXHIBIT A

**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF APPEALS AND DISPUTE RESOLUTION**

In the Matter of)	
)	Docket No. (Air)
)	Transmittal No. W207973
Brockton Power Co., LLC)	Application No. 4B08015
)	Brockton
)	

NOTICE OF CLAIM FOR ADJUDICATORY HEARING

I. INTRODUCTION

1. The City of Brockton (“Petitioner”) hereby claims an Adjudicatory Hearing to appeal the Conditional Approval (copy attached as Exhibit A) issued on or after July 20, 2011 by the Department of Environmental Protection’s Southeast Regional Office (the “Department” or “MassDEP”) approving a Major Comprehensive Plan Application under 310 CMR 7.00 and 310 CMR 7.02 for the proposed construction and operation of a 350-megawatt (“MW”) natural gas-fired power plant along Oak Hill Way in Brockton, Massachusetts (the “Project”).

2. The City is aggrieved as the Project will emit significant air pollution including excessive noise throughout and within the City, and onto City-owned real property, including but not limited to the City’s existing Advanced Wastewater Reclamation Facility (“AWRF”) and recycling center located on City-owned property that directly abuts the proposed Project site.

3. For the reasons stated below, the Conditional Approval fails to comply with the Massachusetts Clean Air Act, G.L. c. 111, §§ 142 – 142I and the Department’s Air Pollution regulations, 310 CMR 7.00, and related Department and Federal guidance, guidelines, and policies.

4. The City submitted extensive comments during the public comment period on the Proposed Conditional Approval issued by the Department on or about May 20, 2010.

5. As a city of the Commonwealth, the City is exempt from paying the filing fee for this appeal. 310 CMR 4.06(1)(a); 410 CMR 4.02 (definition of "Person").

II. FACTS

5. On or about April 25, 2008, Brockton Power Company, LLC ("Brockton Power") submitted to the Department a Major Consolidated Air Plan Approval Application for a 350-MW combined-cycle power-generating facility on an approximately 13 acre-lot at Oak Hill Way in Brockton, Massachusetts.

6. The proposed project site is surrounded by Environmental Justice neighborhoods in both the City of Brockton and the adjacent Town of West Bridgewater. The nearest Environmental Justice area is approximately 1,000 feet to the west (from the proposed plant stack location). Environmental Justice Population areas with low-income and/or minority populations are also approximately 1,700 feet to the north and 2,100 feet to the east. The nearest senior/public housing is 3,000 feet to the north, and the closest elementary school is 2,800 feet to the northeast.

7. A combined-cycle F-class Siemens or equivalent turbine with a Heat Recovery Steam Generator ("HRSG") would produce a nominal 300 MW. An additional 50 MW could be produced by supplemental firing of the HRSG, also known as duct firing.

8. Brockton Power proposed using natural gas and Ultra Low Sulfur Diesel ("ULSD") to power the plant and treated water from the abutting AWRP to cool the plant.

9. Additional facility equipment includes an enclosed aqueous ammonia storage tank, an auxiliary boiler, three emergency "black-start" generators, one emergency engine-powered fire

pump, and a seven-cell, wet mechanical drift cooling tower. The emergency generators and fire pump will use ULSD.

10. Brockton Power says its plant will be operated as a mid-merit facility, meaning that it is typically dispatched after all the base-load facilities have been dispatched.

11. Almost a year before submitting its Major Consolidated Air Plan Approval Application to the Department, Brockton Power in July 2007 filed an application to the Energy Facilities Siting Board (“EFSB”), for approval of such a facility under G.L. c. 164, § 69J¼. After adjudicatory hearings in which the City participated, the EFSB on August 7, 2009, issued a Final Decision approving such a project under G.L. c. 164, § 69J¼, but denying the project relief from zoning under G.L. c. 40A, § 3. Also, in its Final Decision, the EFSB specifically did not allow the use of water from the Brockton municipal water system (“BMWS”) for use in the facilities’ cooling towers.

12. On March 25, 2010, Brockton Power submitted to the Department a revised Consolidated Air Plan Approval Application eliminating the use of ULSD as a back-up fuel source and using water from either the AWRP or BMWS.

13. Less than a month later, Brockton Power filed a document with the EFSB entitled, “Project Change Filing”, in which it sought approval for the project described in its March 25, 2010 Consolidated Plan Approval Application. The hearings on the Project Change Filing took place over six days from November 9, 2010 to December 22, 2010. The EFSB has not yet issued a final decision approving the Project Change for said project. During the hearings on the Project Change Filing, Brockton Power’s engineer confirmed that it had submitted to the Department for approval the project described in the Project Change Filing.¹

¹ Tr. 1, at 57.

14. In response to Brockton Power's Consolidated Plan Approval Application, the Department opened a public comment period on May 7, 2010 and closed it June 18, 2010, as well as held a public hearing June 8, 2010 in the City of Brockton. Approximately 64 separate comments received, including from the Honorable City of Brockton Mayor Linda Balzotti and from the City's expert air pollution consultant, Paul Eisen, CCM, Principal Scientist at Roux Associates, Inc.

15. The Project requires Department approval under 310 CMR 7.00 as it will emit, through eleven points, significant amounts of criteria pollutants (CO, NO_x, SO₂, PM (PM₁₀ and PM_{2.5}), and VOC), greenhouse gases (CO₂, N₂O, etc.), and hazardous air pollutants (e.g., NH₃, formaldehyde).

16. The entire Commonwealth of Massachusetts is designated "moderate" Nonattainment for the pollutant ozone ("O₃") NAAQS. Oxides of Nitrogen ("NO_x") and Volatile Organic Compound ("VOC") emissions are precursors to the formation of ozone.

III. ALLEGATIONS OF ERROR

17. The Department violated G.L. c. 164, § 69J¼ in approving the Project before the EFSB has issued a Final Decision approving the Project. G.L. c. 164, § 69J¼ ("no state agency of the commonwealth shall issue a construction permit for any such generating facility unless the petition to construct such generating facility has been approved by the [EFSB] pursuant to this section.").

18. Due to inaccurate, incomplete, and misleading information submitted in Brockton Power's application to the Department, in violation of 310 CMR 7.01(2)(a), the Conditional Approval underestimated and therefore does not account for all the emissions from the Project.

19. By arbitrarily defining facility start-ups as “cold”, “warm”, or “hot”, and by numerically manipulating the assumed total annual number of start-ups (of any kind) and shut-downs, Brockton Power understated the total facility-wide CO potential emissions to be 98.5 tons per year (“tpy”). Potential CO emissions are above 100 tons per year and therefore trigger Prevention of Significant Deterioration (PSD) permitting for CO emissions. The Department’s review of the air permit application should have identified this discrepancy, and required the applicant to properly calculate and disclose potential CO emissions.

20. Brockton Power similarly underestimated the amount of PM_{2.5} emissions from the cooling towers. Rather than relying on the accepted and widely used EPA publication AP-42 which assumes 100% of Particulate Matter from a cooling tower is PM_{2.5}, Brockton Power arbitrarily assumes only 12% is PM_{2.5}, citing an untested, theoretical paper by Joel Reisman and Gordon Friebie (the “Frisbie paper”). The Department erroneously accepts this assumption in note 10 to Tables 1A – 3. In accepting this assumption, the Department allowed Brockton Power to woefully understate cooling tower emissions of PM_{2.5}.

21. Brockton Power also underestimated the potential emissions of the emergency generators, and using unrepresentative meteorological data, therefore erroneously concluded that the maximum potential PM_{2.5} impacts from the entire facility would be below the PM_{2.5} 24-hour Significant Impact Level of 1.2 µg/m³. Since potential air quality impacts for PM_{2.5} exceed the PM_{2.5} 24-hour SIL, a more comprehensive impact assessment that includes full consideration of nearby sources of PM_{2.5}, was required but not submitted by Brockton Power.² The Department erred in approving the Project without such a comprehensive analysis.

22. Because Brockton Power included incomplete, inaccurate, and misleading information in its application, it failed to calculate its emissions based on potential emissions as required by 310

CMR 7.02(5)(b). See also definition of “Potential Emissions” or “Potential To Emit” in 310 CMR 7.00. Instead of relying on equipment manufacturer guarantees, control technology vendor guarantees, or stack test data from similar class turbines³, Brockton Power used information supplied by the expected turbine manufacturer (Siemens) which contained a significant disclaimer that “Performance is based upon new and clean condition. All data is estimated and not guaranteed.”

23. The Conditional Approval lacks “federally enforceable” provisions to limit the Project’s potential emissions of VOC as a practical matter. For instance, the Conditional Approval lacks a limit on the amount of duct-firing hours, even though VOC emissions can be more than three times higher than normal during duct-firing operations (see Conditional Approval, Table 1A). This is particularly egregious since VOC is a precursor to ozone, and Massachusetts is designated as “moderate” non-attainment for ozone. Duct firing is more likely to occur on high demand days in summer, when ozone levels are most likely to approach or exceed National Ambient Air Quality Standards. Long-term emission limits specified in the Conditional Approval (Table 3) are based upon Brockton Power’s calculations and assumed only 2,000 hours of duct-firing per year. Yet, there is no actual limit on hours of duct firing in the Conditional Approval. Such a limit is required to assure that the annual VOC emission limit is enforceable, as a practical matter. The Conditional Approval (XIII. Monitoring and Recording Requirements [10], [11], [12]) outlines methods of tabulating VOC emissions, but these methods are based upon assumptions of questionable validity. For instance, they assume that VOC emissions will always occur at the rate determined during an initial performance stack test, when the equipment is brand new.

² DEP Modeling Guidance for Significant Stationary Sources of Air Pollution, June 2011.

24. The Conditional Approval lacks the appropriate “federally enforceable” provisions to limit the Project’s potential emissions of PM_{2.5}, as a practical matter. For instance, there is no limit on the number of start-up and shut-down cycles, yet the emission limits for PM_{2.5} and PM₁₀ during these unlimited start-up and shut-down cycles are based upon expected emissions on the lower end on normal load (60%), and not on start-up and shut-down conditions (Footnote 4 to Tables 1A thru 3). The Conditional Approval (XIII. Monitoring and Recording Requirements [3], and XVI. Testing Requirements [6]) outlines methods to be used to tabulate PM_{2.5} and PM₁₀ emissions, but these methods are based upon assumptions of questionable validity. For instance, they assume that PM_{2.5} and PM₁₀ emissions will always occur at the rate determined during an initial performance stack test, when the equipment is brand new.

25. Brockton Power’s BACT analysis was flawed and insufficient. This is more readily apparent with EPA’s recently issued “PSD and Title V Permitting Guidance for Greenhouse Gasses” of November 10, 2010, which emphasizes the need for such analysis to consider more efficient and lower-emitting designs. Since the Conditional Approval requires (as it should) Brockton Power to undergo PSD review for CO₂ and Greenhouse Gasses, the inadequacy of the BACT in the MCPA will be even more apparent. Brockton Power’s Project relies on a single, combined cycle configuration to produce 300 MW, with a heat rate of 6,832 Btu/kWh, or 350 MW, with duct-firing, which has a heat-rate of 7,200 Btu/kWh. Had Brockton Power properly performed its BACT, it would have found that three smaller, combined-cycle General Electric MS6001FA units could produce 237.6 MW with a heat rate as low as 6,210 Btu/kWh, and 356.9 MW (without duct-firing) with a heat-rate as low as 6,230 Btu/kWh.

³ During the EFSB hearings on the Project Change Filing, Brockton Power testified that the F-class turbine has “over a million and a half” hours of “operating history” (Tr. 1, at 137), so data are readily available.

26. By relying on old, unrepresentative, and misleading meteorological data from Boston's Logan Airport, rather than the more accurate and representative data from Taunton, Brockton Power underestimated potential air quality impacts. This is based upon fundamental principles of atmospheric dispersion modeling. The Department erroneously defends the use of Logan Airport data by noting that "both locations are influenced by the same continental air masses and both sites are representative of conditions in the Project area based on criteria applied by MassDEP and U.S. EAP (see 40 CFR 51, App. W, §8.3 (a))." However, the Department erroneously ignores EPA regulation on ensuring representative meteorological data for the purpose of atmospheric dispersion modeling:

The representativeness of the data is dependent on: (1) The proximity of the meteorological monitoring site to the area under consideration; (2) the complexity of the terrain; (3) the exposure of the meteorological monitoring site; and (4) the period of time during which data are collected.

(40 CFR 51, App. W, § 8.3(a)).

Logan Airport's weather station is in the immediate vicinity of the coast, making it subject to frequent land and sea breeze effects. Such coastal effects substantially diminish the representativeness of wind speed and wind direction conditions when applied to an inland site such as that for Brockton Power's project, where comparable conditions do not exist. Wind speed and direction are extremely important in air quality impact assessment since they determine the magnitude and location of maximum impacts. Importantly, coastal sea breeze regimes that are incorporated into dispersion models but which do not in fact exist at the site being modeled, can falsely indicate that ventilation and dilution of stagnant air quality conditions will occur when this is not likely to be the case. This is a fatal flaw in the Brockton Power's air impact analysis, which fails to consider all relevant factors. Brockton Power's air impact

analysis thus is incomplete and inaccurate and fails to adequately protect air quality and public health.

27. Brockton Power and the Department erroneously assert using of one year of Taunton meteorology data in air quality impact modeling produced lower 24-hour PM_{2.5} impact predictions compared to using Logan Airport meteorological data. However, comparing five years of recent data for these two sites does not support such a conclusion. Instead, modeling using Taunton data show higher maximum short-term impacts. This is due to the prevalence of calm wind conditions in the Taunton data set, and recognized and recently corrected deficiencies in the air modeling software that result in calm wind hours being improperly and incompletely considered. The version of EPA's AERMOD model used in Brockton Power's dispersion analysis erroneously considers an hour of calm wind as invalid data. The result is that potential impacts for calm hours are excluded from analysis. This normally is not a significant source of error, since the occurrence of calm winds is typically infrequent. However, Taunton meteorological data shows calm winds occurring approximately 32% of all hours for the Taunton meteorological data set (2005-2009). After being made aware of the AERMOD software issue, EPA (working with state and local agency air quality modelers) earlier this year released software rectifying this software issue.⁴ By failing to use this updated software (or alternative analysis procedures), Taunton meteorological data, and more recent data, Brockton Power submitted incomplete and inaccurate information to the Department about the Project's potential air quality impacts.

28. The Department failed to require a full assessment of the potential risk of an accidental release of a large quantity of ammonia. The Department did not require Brockton Power to assess the worse-case scenario. Instead, it approved a scenario in which Brockton Power

assumed mitigation measures will not fail, but rather will work so well as to reduce odor and emissions from a spill of the entire tank to just 2 ppm, well below the Emergency Planning Guideline level of 150 ppm and odor threshold of 5 – 50 ppm. In addition, this flawed scenario involved only a spill of ammonia within the storage building and ignored the real possibility of an accidental spill from a truck delivering the ammonia to the facility or a catastrophic release due to an on-site gas explosion.

29. Due to the inaccurate, incomplete, and misleading information submitted in Brockton Power's application to the Department, in violation of 310 CMR 7.01(2)(a), the Conditional Approval underestimated and therefore does not account for all the emissions from the Project that will affect Environmental Justice Populations in the City of Brockton adjacent to the proposed Project site, in violation of the Commonwealth's and Federal Environmental Justice regulations and policies. The Department similarly erroneously approves Brockton Power's analysis, required under 310 CMR 7.00 Appendix A (8)(b), that the benefits of the Project significantly outweigh the environmental and social costs. In so approving, the Department ignores the fact that the project site is not zoned for an electrical generation facility and that multiple turbines instead of a single turbine are more efficient (and less polluting).

⁴ EPA SCRAM website – Model Change Bulletin #2 for AERMET, dated February 28, 2011.

IV. RELIEF REQUESTED

Wherefore, the Petitioner seeks the following relief from the Department:

1. Issue a Final Decision denying the conditional approval for this Project.
2. Order such other relief as may be necessary and just.

Respectfully submitted,

CITY OF BROCKTON

By its attorneys,



Gregor McGregor, BBO # 334680

Nathaniel Stevens, BBO # 634859

McGregor & Associates, P.C.

15 Court Square, Suite 500

Boston, MA 02108

(617) 338-6464

Dated: August 9, 2011

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing document was served by certified mail on August 9, 2011 upon the parties listed below.



Nathaniel Stevens

John C. Winkler, Chief
Permit Section
Bureau of Waste Prevention
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

DEPARTMENT

Jonathan Winslow
Brockton Power Company, LLC
31 Milk Street – Suite 1001
Boston, MA 02110

APPLICANT

cc: Barry Fogel, Esq.
Keegan Werlin, LLP
265 Franklin Street
Boston, MA 02110

For APPLICANT

EXHIBIT B

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the matter of Brockton Power Company, LLC,
Conditional Approval: Major Comprehensive
Plan Application No. 4B08015

Docket No.

NOTICE OF CLAIM FOR AN ADJUDICATORY APPEAL

This Notice of Claim for an Adjudicatory Appeal (Notice of Claim) is filed by more than ten persons who are residents of Brockton, West Bridgewater, and East Bridgewater Massachusetts, (collectively, the residents) represented by counsel from Alternatives for Community & Environment, Inc. (ACE), as authorized by and 310 CMR § 1.01(6) and (7) and MGL c.30A, § 10A. The purpose of this Notice of Claim is to appeal the Conditional Approval that the Department of Environmental Protection (DEP) issued to Brockton Power Company, LLC, (BP) dated July 20, 2011, application number 4B08015. The relief the residents seek is to have DEP vacate the conditional approval and deny BP's Major Comprehensive Plan Application (MCPA).

The Residents

The residents who file this Notice of Claim, represented by counsel from ACE, are:

- Maria Alamo, 649 West Chestnut Street, Brockton, MA 02301
- Kathryn Archard, 6 Woodard Avenue, Brockton, MA 02301
- Frank Babbin, 12 Jason Way, West Bridgewater, MA 02379
- Nancy Babbin, 12 Jason Way, West Bridgewater, MA 02379
- Anne Beauregard, 37 Anawam Street, Brockton, MA 02302
- Craig Boyle, 15 Moore Street, Brockton, MA 02302
- Melissa Boyle, 15 Moore Street, Brockton, MA 02302

- Barbara Ann Carchidi, 132 Samuel Avenue, West Bridgewater, MA 02379
- J. Edward Carchidi, 132 Samuel Avenue, West Bridgewater, MA 02379
- Diane Lee DuBois, 6 Banks Street, Brockton, MA 02302
- Michelle DuBois, 6 Banks Street, Brockton, MA 02302
- Dan L. Gibbons, 649 West Chestnut Street, Brockton, MA 02301
- Alix Hogu, 145 Belair Street, Brockton, MA 02301
- Candice Hogu, 145 Belair Street, Brockton, MA 02301
- Robert Jeppson, 578 Plain Street, Brockton, MA 02302
- Virginia Jeppson, 578 Plain Street, Brockton, MA 02302
- Duane Jones, 45 Edson Street, Brockton, MA 02302
- Tina Jones, 45 Edson Street, Brockton, MA 02302
- James Long, 21 Christian Way, West Bridgewater, MA 02379
- Theresa Long, 21 Christian Way, West Bridgewater, MA 02379
- Laurie Matthews, 66 Surrey Lane, East Bridgewater, MA 02333
- Albert F. Murray, 248 Carl Avenue, Brockton, MA 02302
- Loretta A. Murray, 248 Carl Avenue, Brockton, MA 02302
- Judith A. Quinn, 86 Addison Street, Brockton, MA 02301
- Patrick P. Quinn, 78 Addison Street, Brockton, MA 02301
- William F. Quinn, 86 Addison Street, Brockton, MA 02301
- Jean Rix, 22 Jason Way, West Bridgewater, MA 02379
- Alfred S. Rovaldi, Jr., 12 Christian Way, West Bridgewater, MA 02379
- Norminita P. Rovaldi, 12 Christian Way, West Bridgewater, MA 02379
- Mary J. Smart, 14 Tayler Avenue, West Bridgewater, MA 02379

- Jass Stewart, 14 Clyde Street, Brockton, MA 02301
- Adam Hamilton Swinson, 6 Banks Street, Brockton, MA 02302

Included with this Notice of Claim is an affidavit of each of the residents stating that he/she intends to be part of the residents group appealing the conditional approval and to be represented by counsel from ACE.

The residents participated extensively in the DEP review process for BP's MCPA. Before BP filed its MCPA, representatives from the residents' group met with United States Environmental Protection Agency (EPA) and DEP staff to discuss the air plan approval process for the power plant and express their concerns about the negative impacts BP's power plant would have on their community. During the public comment period on the MCPA, ACE filed written comments with DEP on behalf of Brockton and West Bridgewater residents concerning the proposed conditional approval.¹ Many of the residents attended and provided verbal comments at the June 8, 2010, public hearing the conditional approval. Some filed their own written comments with DEP in addition to the comments filed by ACE.

The residents are aggrieved by and substantially and specifically affected by the conditional approval. They and their families live in Brockton or West Bridgewater and thus are most directly affected by the air pollution the power plant would emit into the air and by the negative environmental, economic, and social affects the power plant would have on their community and property. Some of them and members of their families are particularly susceptible to the air pollution the plant would spew into the air due to their health or age. In addition, they are aggrieved by and substantially and specifically affected by DEP's failure to consider environmental justice appropriately in its review of BP's air plan approval application.

¹ A copy of ACE's comments on the MCPA, dated June 17, 2010, is included with this Notice and should be considered part of this Notice.

Facts

Procedural History

The Conditional Approval issued by DEP to BP dated July 20, 2011, is based on a MCPA filed by BP on March 25, 2010, for a 350 megawatt combined cycle fossil-fuel fired electric generating facility BP proposes to construct and operate in the City of Brockton, MA. BP had earlier filed an April 25, 2008, MCPA that was no longer under consideration because BP made major modifications to its proposed facility that are not reflected in the April 2008 MCPA but are reflected in the March 2010 MCPA.

Earlier, in July 2007, Brockton Power filed with the Energy Facilities Siting Board (Siting Board) a petition for approval to construct a 350 megawatt dual-fuel combined cycle electric generating facility in the City of Brockton, MA. The proposed facility would burn both natural gas and ultra low sulfur diesel to generate electricity and use effluent from the City of Brockton's nearby wastewater treatment plant (the Advanced Wastewater Reclamation Facility, or AWRP) for its cooling towers. BP also filed a petition to construct a transmission line for the generating facility and a petition for exemption from local zoning.

On August 7, 2009, the Siting Board issued its decision approving with conditions the petition of BP to construct a dual-fuel (natural gas and ultra low sulfur diesel) 350 megawatt combined-cycle electric generating facility in Brockton, MA, that would use effluent from the AWRP for cooling, and an electric transmission line to connect the proposed facility to the electric grid. The Siting Board denied the petition of BP for various individual zoning exemptions and a comprehensive zoning exemption from the zoning ordinances of Brockton, concluding that benefits to the public of the proposed generating facility would not outweigh the

adverse local impacts and that the proposed use of the land would not be reasonably necessary for the public convenience and welfare.

Residents of Brockton and West Bridgewater who had intervened at the Siting Board, represented by ACE, appealed the decision approving the petition to construct the power plant to the Massachusetts Supreme Judicial Court (SJC), as did the City of Brockton and Town of West Bridgewater. The three appeals were consolidated at the SJC and have not yet been briefed. The case has been stayed at the SJC until at least October 2011 based on BP's Project Change Filing discussed immediately below.

On April 9, 2010, BP submitted a Project Change Filing to the Siting Board, proposing three significant changes to the facility: 1) use of Brockton municipal potable water for the proposed facility's cooling towers; 2) elimination of ultra low sulfur diesel as a fuel except for use in black start generators and altering assumptions related to air pollution emissions; and 3) a new physical design of part of the proposed facility (lower height, no roof, sound walls) that BP claimed would allow it to meet the Brockton Zoning Code without any zoning variances or waivers from the City of Brockton. The Siting Board determined that the proposed changes were significant and required new evidentiary hearings. Those hearings began in November 2010 and concluded on December 22, 2010. The parties briefed the issues in February 2011. On June 9, 2011, the Siting Board voted to instruct its staff to draft a Tentative Decision that would deny BP's request to use Brockton potable water for the cooling towers, approve the changes to the design of the facility, and approve the elimination of diesel fuel except for the black start generators. The parties have not yet received the Tentative Decision. When they do, they will have the opportunity to file briefs and make oral argument to the Siting Board, which will then vote on a Final Decision.

BP's MCPA is based on the power plant described in its Project Change Filing with the Siting Board. It is not the facility the Siting Board conditionally approved in August 2009. The Siting Board has not approved the generating facility for which DEP has issued the conditional approval.

City of Brockton and Environmental Justice

The City of Brockton is a densely populated low-income community of color. As of the 2000 census, 94,034 people were residents of Brockton, with a population density of 4,392.8 people per square mile compared to the statewide average of 809.8 people per square mile.

Brockton is one of only twenty communities in Massachusetts in which more than 25% of the population are people of color (38.5% of the residents of Brockton are people of color, the 10th highest percentage in the state) and is one of only 37 communities in Massachusetts in which the median annual household income is less than \$39,524.

Brockton residents have one of the highest premature mortality rates in the state, and the fifth highest premature mortality rate of the thirty largest communities in Massachusetts: 413.7 premature deaths per 100,000 people, compared to the statewide average of 317 premature deaths per 100,000 people. Brockton's children have a statistically significantly higher prevalence of pediatric asthma as compared to the overall state prevalence, a rate of 13.85% compared to the state rate of 10.6%. Brockton's age-adjusted cardiovascular hospital admission rate of 2,302 per 100,000 well exceeds the state average of 1686.1 per 100,000.

Brockton is one of only twenty of the Commonwealth's 351 cities and towns that meet all four of the environmental justice criteria set forth in the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) Environmental Justice Policy (EJ Policy), meaning that it has neighborhoods (U.S. Census block groups) in which the median annual household

income is 65% or less than the statewide median household income, and neighborhoods where 25% or more of the residents are minority, foreign born, and lack English language proficiency.

Environmental justice communities encompass only a small portion of the land area of the Commonwealth but they host or are in close proximity to many of the state's contaminated and abandoned sites and large sources of air emissions. Dr. Daniel Faber has determined that Brockton is the ninth most extensively overburdened community in Massachusetts in total environmental hazard points and the thirty-second most extensively overburdened community in Massachusetts in total hazard points per square mile.

BP proposes to construct and operate a fossil fuel fired 350 megawatt electric generating facility (power plant) on Oak Hill Way in a small industrial park in southeastern Brockton. To the west, north, and south are residential neighborhoods of the City of Brockton, less than one-quarter mile from the project site, that EEA has designated as environmental justice neighborhoods. The industrial park is bordered on the south by Westbridge Landing, a mobile home community in the Town of West Bridgewater for persons 55 years of age and older; many of its residents are lower-income retired persons. The industrial park itself is not an environmental justice neighborhood: there are no residences in the industrial park. Within one-half mile of industrial park is Brockton's Edgar Davis Elementary School, which has a statistically significantly higher prevalence of asthma among its students as compared to the overall state prevalence.

Power plants in Massachusetts are disproportionately located in communities of color and lower income communities. Although communities of color comprise just 9.4% of all communities in the state, they are home to 29.6% of all active power plants. While low and medium low income communities together comprise 47.9% of all communities in the state, they

are home to 66.7% of all power plants. In contrast, high income communities comprise 23.8% of all communities in Massachusetts but are home to only one power plant. BP did not investigate the proximity of environmental justice communities to any of the sites it considered for the power plant. It also did not consider the background pollutant levels at any of the sites.

The Power Plant

If constructed and operated as approved, the power plant would pollute the air by emitting more than one million tons per year (tpy) of carbon dioxide, more than 98 tpy of carbon monoxide, more than 76 tpy of nitrogen oxide, more than 49 tpy of particulate matter 2.5, and substantial amounts of volatile organic compounds and other toxic chemicals. BP did not perform a health impact assessment related to its air pollution emissions.

BP based its air pollution dispersion modeling on meteorological data from Logan Airport without any showing that the data is representative of conditions at the project site. It did not use worst-case scenario meteorological data for screening purposes.

The plant would use an average of at least 1.7 million gallons per day (mgd) of Brockton potable water in the power plant cooling towers, and more than 2 mgd on hot summer days, which would cause significant adverse impacts to the ecosystem of Silver Lake, the source of much of Brockton's drinking water supply, and the Jones River. Alternatively, BP would use treated effluent from Brockton's Wastewater treatment plant that would otherwise be discharged to the Salisbury Plain River, significantly reducing the flow of the river with attendant harm to the river ecosystem and a nearby public drinking water supply.²

² The Siting Board has not approved BP's use of Brockton potable water for the power plant cooling towers. That issue is before the Siting Board with a tentative 4-3 vote against allowing BP to use Brockton potable water for that purpose. The Siting Board had approved BP's use of effluent from the Brockton Wastewater Treatment Plant for its cooling towers, but BP has not convinced the City of Brockton to sell the effluent. BP's use of the effluent would reduce the flow in the Salisbury Plain River by approximately 15% in the summertime, with significant adverse environmental impacts on fish populations and an unknown impact on the drinking water aquifer of the Town of West Bridgewater.

The noise of the power plant would increase decibel levels at the property line, at the Salisbury Plain River, and at nearby residences and businesses.

BP limited its review of proposed sites for the power plant to four locations in eastern Massachusetts that had previously been approved for power plants, two of which were unavailable and one that did not meet its selection criteria, failed to undertake any environmental justice analysis of the locations, and failed to consider alternative locations once its self-imposed criteria eliminated three of the four locations it identified.

Discussion

1. State law prohibits DEP from issuing the conditional approval because the Massachusetts Energy Facilities Siting Board (Siting Board) has not approved the construction of Brockton Power's proposed generating facility.

The Proposed Conditional Approval is based on a Major Comprehensive Plan Application (MCPA) filed by BP on March 25, 2010. BP earlier filed an April 25, 2008, MCPA that was superseded by its later application because BP made major modifications to its proposed facility that are not reflected in the April 2008 MCPA but that are reflected in the March 2010 MCPA. The Conditional Approval reflects the power plant described in the March 2010 MCPA not in the April 2008 MCPA.

BP's March 2010 MCPA is based on the proposed changed power plant described in its Project Change Filing with the Siting Board. That is not the facility the Siting Board conditionally approved in August 2009. The Siting Board has not approved the generating facility for which DEP has issued the conditional approval.

The Conditional Approval allows both the construction and operation of the generating facility that has not been approved by the Siting Board. The Massachusetts Air Pollution Control Regulations specifically state that DEP approval is required "prior to any construction,

substantial reconstruction, alteration, or subsequent operation of a facility that may emit contaminants to the ambient air.” 310 CMR § 7.02(1)(b). Those regulations also require that no person may construct a facility that requires plan approval without the DEP first granting plan approval. 310 CMR § 7.02(3)(a). In addition the regulations authorize DEP to include conditions in the plan approval to insure that the facility will be built as specified in the application for plan approval. 310 CMR § 7.02(3)(c). The conditional approval that DEP issued operates as both a construction permit and an operating permit.

Massachusetts law specifically prohibits any agency of the Commonwealth from issuing a construction permit for a generating facility that has not been approved by the Siting Board. MGL c.164, § 69J1/4, ¶ 1.³ As discussed below, the Siting Board has not approved the generating facility for which DEP has issued the conditional approval. The generating facility is the subject of a project change filing still under consideration by the Siting Board. Because DEP’s conditional approval would allow Brockton Power to construct the generating facility but the facility has not been approved by the Siting Board, DEP may not issue the approval. *Id.*

DEP’s explanation in its Response to Comments on the Conditional Approval is that because the Siting Board had approved an earlier version of the power plant and the revised version would reduce air emissions it need not wait for the decision of the Siting Board on the Project Change Filing. DEP’s explanation is legally flawed. There is nothing in state law or regulations to support DEP’s explanation. State law and rules of statutory construction do not allow for DEP’s reading of MGL c.164, § 69J1/4, ¶ 1.

DEP explanation also overlooked that BP is required to demonstrate and DEP is required to find that the benefits of the proposed project significantly outweigh the environmental and social

³ “In addition, no state agency of the commonwealth shall issue a construction permit for any such generating facility unless the petition to construct such facility has been approved by the board pursuant to this section.” G.L. c.164, § 69J1/4, ¶ 1.

costs imposed as a result of the project's location, construction, or modification. 310 C.M.R. § 7.00: Appendix A (8)(b). The modified proposed facility that the Siting Board has not approved presents different environmental and social costs than the previously approved project. The most environmentally significant modification is the proposed use of Brockton potable water for the cooling towers, which would exact a significant environmental cost on the ecosystem of Silver Lake and the Jones River by limiting the City of Brockton's ability to control its use of Silver Lake water. BP admitted during the Siting Board hearing on the Project Change Filing that its use of AWRP wastewater would be preferable to its use of Brockton potable water for the cooling towers. Assuming arguendo that DEP can issue an air plan approval for an unapproved altered facility that creates less environmental harm than a facility project approved by the Siting Board, (DEP's stated rationale for ignoring the clear language of M.G.L. c.164, § 69J1/4, ¶ 1) that is not this altered facility. This facility creates more environmental harm. The Siting Board has not approved BP's use of potable water; its tentative vote is to deny BP's request to use potable water for the cooling towers because BP did not show there was no environmental harm. DEP cannot have it both ways. It cannot ignore M.G.L. c.164, § 69J1/4, ¶ 1 when the project generates less air pollution and at the same time overlook that the project would create more environmental harm by its use and evaporation of a significant amount of precious and scarce potable water.

2. Brockton Power's air modeling set forth in the MCPA is fatally flawed and may not be used to grant a conditional approval.

A fatal flaw in BP's air quality analysis is its failure to use local meteorological data in its air dispersion modeling or show that the meteorological data it used is representative of the conditions at the facility site. BP conducted air dispersion modeling for the facility using USEPA models SCREEN3 and AERMOD. Those models require meteorological data inputs for

modeling. BP chose to use meteorological data from Logan Airport for that purpose even though Logan Airport is located approximately 20 miles to the northeast of the proposed project site, claiming that Logan Airport is the closest site to the Brockton site for which extensive meteorological data is available. BP chose not to collect meteorological data at the Brockton site that it could use in AERMOD.

BP did not show that Logan Airport meteorological conditions (occurring on a peninsula in Boston Harbor) are representative of the meteorological conditions at the Brockton site 20 miles southwest of Logan Airport and inland. That showing is required for use of AERMOD. That failure requires DEP to disapprove the MCPA.

EPA, which developed and provides AERMOD for use by others, has written that the meteorological data used in AERMOD needs to be representative of the facility site being modeled: Data used as input to the AERMOD pre-processor AERMET,

should possess an adequate degree of representativeness to insure that the wind, temperature and turbulence profiles derived by AERMOD are both laterally and vertically representative of the source area. The adequacy of input data should be judged independently for each variable.

Summaries of Preferred Air Quality Models, 40 C.F.R. Pt. 51 App. W (A.1)(b)(i).

There is nothing in the MCPA showing the adequate degree of representativeness of the input data used by BP. Instead, remarkably, the MCPA includes the unsupported and irrelevant statement that meteorological data from Logan Airport “was considered representative and was deemed appropriate for use by the MassDEP.” MCPA, 6-9. BP provides absolutely no data to support the statement that Logan Airport data is adequately representative but instead makes a general statement about predominant wind directions – far less than necessary to show the required degree of representativeness. MCPA, 6-9. BP provided no evidence or data showing that the wind, temperature, and turbulence profiles derived from Logan Airport data are both

laterally and vertically representative of the conditions at the Brockton site, the EPA standard for use of AERMOD. *Summaries of Preferred Air Quality Models*, 40 C.F.R. Pt. 51 App. W

(A.1)(b)(i). If DEP gave BP permission to use Logan Airport data, that permission must be subject to public comment through this process and may not be considered conclusive. DEP does not have the authority to override EPA's instructions for data entry in AERMOD or approve the use of data that do not meet representativeness standards.

If BP insists on using Logan Airport meteorological data in AERMOD, it is critical that the data be representative of meteorological conditions at the facility site because the AERMOD output is used to determine how the facility's air pollution emissions disperse and contribute to air pollution. Use of actual local (and accurate) meteorological data or adequately representative meteorological data from offsite is essential for AERMOD (or one puts garbage-in and gets garbage-out). Without local or locally representative meteorological data in AERMOD, the AERMOD results cannot show the local air quality impacts of the facility. By not using local meteorological data in AERMOD or data that has been shown to be representative of the Brockton site in wind, temperature and turbulence profiles, both laterally and vertically, BP failed to provide data showing that its description of the air quality impacts of its facility is substantially accurate and complete.

A year's worth of site-specific meteorological data is the preferred input data for AERMOD air modeling. Generally, "[i]f one year or more . . . of site specific data is available, these data are preferred for use in air quality analyses," 40 C.F.R. Pt. 51, App. W § 8.3.1.2(b). BP had the time and ability to collect more than one year of site specific data before filing the MCPA in March 2010. It had access to the site and ample time to collect a year's worth of site specific meteorological data to use as input for its air quality analysis, or as a basis of

comparison to Logan Airport data to determine whether Logan Airport meteorological conditions are representative of conditions at the Brockton site.⁴ Collecting the data would have provided the information required by AERMOD. Without such showing, DEP must disapprove the MCPA because it cannot determine whether the emissions from the facility will violate state or federal air standards. 310 CMR § 7.02(3)(j).

DEP's explanation in its Response to Comments is legally flawed. DEP agrees that there are "some differences between the meteorological conditions as monitored at Logan Airport, a coastal location approximately 21 miles north of the Project site, and the Taunton Airport, a more inland location approximately 12 miles south southwest of the Project site." It then goes on to claim that both locations are influenced by the same continental air masses and are representative of conditions in the Project area based on criteria applied by DEP and EPA. DEP also erroneously claims that:

One year or more of onsite data is one of two options for input to AERMOD. The air quality modeling discussions in 40 CFR 51 Appendix W consistently refer to "five years of meteorological data or one year of on-site data." Moreover, as part of MassDEP's review, the Mass DEP's in-house air modeling experts reviewed the Project's proposed modeling plan, including the choice of meteorological data. This was an early and fundamental element of the MassDEP review process. Since Logan Airport meteorological data set is a representative meteorological data set, no on-site data was proposed for this site. Use of off-site representative data versus one year or more of onsite meteorological data is a consistent with past practice with all other power plant projects proposed throughout the state for the past 20 years.

DEP's claim lacks legal support and does not correctly quote the EPA standard. DEP omits from its explanation quoted above that EPA requires "representative" meteorological data

⁴ BP filed its first Air Plan Approval Application with DEP in April 2008, almost two years before it filed the current MCPA, and it filed its petition with the Siting Board in July 2007. During that entire time BP had access to the Brockton site and the ability to collect much more than one year of actual meteorological data. Also, ACE put BP on notice that AERMOD required the input of either site specific data or data that meets standards of representativeness. BP's claim that it must rely on Logan Airport data because no other adequate data is available ignores its own ability to collect the needed data and that data used in AERMOD must be local or representative of local conditions.

(emphasis added). 40 C.F.R. Part 41, App. W § 8.3.1.2 a. DEP also ignores that EPA has written that:

If one year or more (including partial years), up to five years, of site specific data is available, these data are preferred for use in air quality analyses. Such data should have been subjected to quality assurance procedures as described in subsection 8.3.3.2.

40 C.F.R. Part 41, App. W § 8.3.1.2 b.

DEP's reliance on a "past practice" that is flawed is no substitute for following necessary procedures to generate reliable modeling results. The flawed past practice does not comply with air modeling requirements and results in DEP making its decision based on bad data.

To use Logan Airport data BP must show that the Logan Airport data is representative of data at the site. Alternatively, BP could collect at least one year of onsite data. There is nothing in the EPA regulations to support DEP's conclusion that because local data is not available (and had not been collected by BP) it is acceptable for BP to use Logan Airport data without showing that the data is representative of conditions on the site.

DEP's claim that "both locations are influenced by the same continental air masses" does not come close to meeting the EPA requirement that data used as input to the AERMOD pre-processor AERMET,

Of paramount importance is the requirement that all meteorological data used as input to AERMOD must be both laterally and vertically representative of the transport and dispersion within the analysis domain.

40 C.F.R. 51, App. W § 8.3 c.

DEP should have denied BP's MCPA on that basis.

This is not mere form over function. For the Siting Board, BP ran AERMOD using data from Taunton Airport and found much different dispersion and higher facility contributions of some pollutants, including PM_{2.5}, than using Logan Airport data. Taunton Airport is closer to

Brockton than Logan Airport and presumably would have weather more like Brockton than Logan, although that representativeness was not shown. The important learning from using Taunton Airport data in AERMOD is that there were significantly different outputs from the model based on use of Taunton or Logan Airport data, with the only variable being different meteorological data inputs. That difference rules out using Logan Airport meteorological data for the Brockton site.⁵

3. DEP's environmental justice analysis is insufficient to be sustained.

DEP's consideration of environmental justice appears to be based on the notion that there is no environmental injustice if the benefits of the proposed project outweigh the environmental and social costs of the project. That, however, is an incorrect standard for review. The correct standard is whether there is a disparate impact on an environmental justice population. Even if the benefits of the proposed project to the community at-large significantly outweigh the environmental and social costs (and as we discuss below, DEP was wrong in so concluding), there must be a separate analysis of potential disparate impacts on environmental justice populations. DEP failed to conduct that analysis but simply relied on information provided by BP. BP's claim that the maximum pollution impacts of the power plant will be within the small industrial park does not allow DEP to conclude that there will be no adverse or discriminatory impacts on environmental justice populations. No one lives in the industrial park but environmental justice neighborhoods are closest to the site and will suffer a disproportionate share of the pollution and other negative impacts of the plant.

Further, DEP is wrong in concluding in the conditional approval that the "new emissions to the ambient air ... will be minimized through additional control technology and the purchase of

⁵ If BP were to use Taunton Airport data, it would be required to show that the data from Taunton is representative of conditions at the Brockton site.

NOx emissions offsets.” First, BP has proposed no additional control technology for PM emissions. Second, there will significant NOx emissions from the power plant and an increase in ground level ozone in the vicinity of the power plant. DEP explained in the conditional approval, the NOx credits that BP will buy are from a facility in Rhode Island that was shut down in 2004 and has not emitted NOx in more than seven years. The 76.1 tpy of NOx that BP projects to emit into the air would be a net increase in NOx in Brockton. An environmental justice analysis must take that increase into consideration in determining whether BP would have an adverse disparate impact on an environmental justice population.⁶ Such analysis is critical in Brockton because Massachusetts is in non-attainment for ozone and Brockton residents, due to health conditions, are particularly susceptible to the negative health impacts of breathing ozone.

DEP’s analysis of environmental justice in the conditional approval is as inadequate as its analysis in the proposed conditional approval, and its conclusion that the benefits of the facility significantly outweigh the environmental and social costs is as inadequate as it was in the conditional approval. We continue to rely on the comments we filed on the proposed conditional approval. Rather than repeat them here, we rely upon our comments, which we have included with this Notice.

In addition, DEP’s failure to require BP to undertake a robust assessment of alternative sites, coupled with the failure to require such assessment in MEPA and by the Siting Board, has resulted in no state responsibility for siting. Massachusetts effectively continues to allow power plants to be constructed in environmental justice communities in disproportionately high numbers in violation of Title VI of the Civil Rights Act of 1964 and environmental justice standards.

⁶ We understand that buying NOx credits is done under the MA SIP for ozone but that does not relieve DEP of the obligation to determine the impact of the additional NOx that BP would spew into the air in Brockton.

The conditional approval also failed to consider the environmental and social costs of BP's proposed use of Brockton potable water for its cooling towers.

BP proposes to consume 2.1 million gallons per day ("mgd") of Brockton municipal water on a hot summer day⁷ for its cooling tower makeup and 1.75 mgd on a typical day.⁸ An understanding of the Brockton municipal water supply history and operation is essential to understanding the large environmental cost of BP's proposed potable water use.

The City of Brockton derives its water supply from four surface water bodies: Silver Lake; Furnace Pond; Monponsett Pond; and Brockton Reservoir. Brockton is authorized by two source registrations and a Water Management Act permit to withdraw 11.98 mgd from those sources. The City currently is limited to a maximum authorized withdrawal of 11.3 mgd or 110 percent of the combined firm yield⁹ on a twelve month running average, controlled by the requirements of an Administrative Consent Order.

Brockton receives over ninety percent of its water supply from the Silver Lake system. Brockton now withdraws an average of about 10 mgd from Silver Lake.

Silver Lake is fed by small streams and water transfers from Furnace Pond and Monponsett Pond. Silver Lake and the adjacent Forge Pond are separated by a low-lying strip of land, which is at an approximate elevation of 45 feet NGVD. When the water level in the lake is

⁷ 90°F ambient, 24 hours per day full-load operation, and 12 hour per day of duct firing.

⁸ 59°F ambient temperature, 24 hour full-load operation, with 12 hours of duct firing.

⁹ "Firm yield" is defined as the average daily withdrawal from a water supply system that can be sustained through the drought of record without entirely depleting the system storage. The drought of record is defined as the period of 1964 to 1967. ACE's expert witness at the Siting Board, Alex Mansfield, testified that the firm yield is the amount of water that can be pumped from a reservoir during a period of a drought expected to occur once every twenty years, without running out of water for six months; however, the concept of firm yield has nothing to do with environmental limitations, only water supply and lack of it. The terms "firm yield" and "safe yield" are used interchangeably by the Department of Environmental Protection, but the main difference is that "safe yield" is a calculation that accounts for environmental considerations whereas "firm yield" is a calculation that fails to account for environmental considerations.

higher than 45 feet NGVD, the strip of land is submerged and the two water bodies act as one with a spillway at the Forge Pond Dam, which is at an elevation of 47.5 feet NGVD. When the level in Silver Lake is higher than 47.5 feet, water from Silver Lake/Forge Pond spills over the dam and flows into the upper Jones River. The City of Brockton attempts to maintain Silver Lake levels at elevation 45 and 47.5 feet, where Forge Pond and Silver Lake behave as a connected system. Water is withdrawn from Silver Lake year round, twenty-four hours per day. Silver Lake and Forge Pond are often two distinct water bodies during summer months when the water levels are drawn down below 45 feet NGVD to accommodate City water demands.

Diversions of water from Furnace Pond to Silver Lake take place between October and May. In addition, cranberry growers withdraw water from Furnace Pond for consumptive (during spring and fall for frost protection and in summer for irrigation) and return uses (for flooding operations that is not fully returned to the water system). The cranberry growers' water withdrawals are not controlled by Brockton.

Diversions from Monponsett Pond to Silver Lake occur between October and May. In addition, cranberry growers withdraw water from Monponsett Pond for consumptive and return uses at cranberry bogs.

The combined firm yield of the Silver Lake system (Silver Lake with seasonal diversions from Furnace and Monponsett Ponds) is 10.4 mgd, based on the *Firm Yield of Brockton Water Supply System* authored by CDM in 2007. The Water Management Act registered daily withdrawal for this system is 11.11 mgd.

Since 1994, the City has obtained a small supply of water from the Brockton Reservoir in Avon. The Water Management Act permitted average daily withdrawal is 0.83 mgd. This reservoir provides less than ten percent of Brockton's water supply.

The existing demand and management of Brockton's water supplies create significant environmental harm in Silver Lake, the Jones River, and other resources. Each year, from mid-June to January or later, the Lake water level is so low that there is no flow from Silver Lake to the Jones River, causing negative impacts to the ecosystems of Silver Lake and the Jones River. Brockton has been attempting to address its existing inadequacy of water supply through conservation, leak repairs, improved metering, rate restructuring, and contracting with Aquaria LLC. Aquaria LLC (Aquaria), a desalination water treatment facility in Dighton, Massachusetts, was added to the Brockton water supply system as a supplemental source in December 2008. The City entered into an agreement with Aquaria on May 22, 2002, that entitles the City to purchase water for an initial term of twenty years, renewable for up to thirty additional years. While Brockton's Water Management Act permit¹⁰ allows the City to purchase 4.07 mgd from Aquaria, the City's agreement with Aquaria allows for purchase of up to 1.90 mgd for the first year, commencing December 2008. That amount increases yearly over the subsequent ten years until the 4.07 mgd rate is achieved beginning in Year 11 of the water supply. The City expects to increase its usage of the Aquaria water during periods of high demand, drought, or other water emergency. Future water demand estimates for 2010 and 2020 show that the City of Brockton expects a small growth in commercial use over the next ten to fifteen years with the reuse and redevelopment of existing abandoned commercial buildings. The City expects industrial use to remain constant over the next ten to fifteen years.

The drought of the 1960s caused Brockton to over pump Silver Lake to the extent that it caused a severe State of Emergency and a legislative committee shaped a compromise that allowed for the diversion of recreational lakes (Monponsett and Furnace Ponds) into Silver Lake

¹⁰ The Taunton River Basin Permit (9P-4-25-044.01) includes Brockton Reservoir and authorizes purchase of water from Aquaria LLC.

to augment the supply, established the Central Plymouth County Water District (CPCWD), and looked for additional water. Between the fall of 1980 and spring of 1983 a less severe drought than the 1960s occurred and the water level of Silver Lake dropped below the intake structure.

In 1985 the Water Management Act was passed requiring users to register the amount of withdrawals in excess of 100,000 gallons per day based on average consumption between 1981 and 1986. Brockton registered usage of 11.11 mgd. In 1986 another drought caused Brockton to draw down Silver Lake and DEP declared a State of Water Supply Emergency that allowed Brockton to again take water from Pine Brook, which would otherwise be a violation of the Interbasin Transfer Act, passed in 1983. Brockton's use of Silver Lake continued under emergency authorization. In 1995 DEP and Brockton signed an Administrative Consent Order ("ACO") that resulted in Brockton's reduced withdrawal from Silver Lake because of leak repair, metering, rate restructuring and other conservation measures and the re-development of the Brockton Reservoir. There were several droughts between January 1997 and December 2006. The most notable of these occurred from 2001 through 2002. The City of Brockton has a Drought Demand Management Program that discusses the amount the City will purchase from Aquaria in times of drought.

BP proposes to consume large quantities of Brockton municipal drinking water in the facility's cooling towers and an additional 100,000 gallons per day of municipal potable water for other process/potable water needs. On a hot summer day, it would consume a total of 2,200,000 gallons of potable water. That use would increase by more than 20% the amount of potable water that Brockton would be required to supply on a hot summer day to all its residents, businesses, and water customers (based on the City of Brockton's current use of about 10 million gallons per day. BP proposes to discharge about 200,000 gallons of that water daily to the sewer

system (mostly from cooling tower blowdown) and evaporate the rest of the water into the atmosphere daily.

Brockton's historic water supply from Silver Lake and the Brockton Reservoir, when combined with the desalination water Brockton may choose to take from Aquaria, is inadequate to meet Brockton's and BP's current and future water needs. There may be times of the year when Brockton will have adequate water available with the addition of Aquaria water to supply BP if Brockton continues to operate its water supply system as it does now. There will, however, be times of the year when the amount of water BP requires would be unavailable or unreliable because Brockton would need that water to better manage its withdrawals from Silver Lake and prevent unacceptable drops in Silver Lake's water level. That is a significant societal and environmental cost that DEP failed to consider in the conditional approval. If it had considered it, DEP would conclude that the benefits of the plant do not significantly outweigh the environmental and societal costs.

4. Conditions Imposed in the Conditional Approval are Inadequate.

a. Additional Noise Mitigation is required.

There should be additional noise mitigation. BP's proposed use of Heat Recovery Steam Generator (HRSG) open-top sound walls instead of a capped structure will permit additional noise to escape from the top of the sound walls resulting in increased noise impacts at nearby residences and decreased impacts at other locations. There will be a 1 dBA increase at three receptor locations due to the lack of a cap on the HRSG structure and reduced wall height.

DEP should require BP to implement additional noise impact mitigation to ensure equal to or lesser noise impacts at each location than the previously HRSG design with an enclosed

structure. Without further mitigation by increased casing thickness, the new HRSG sound wall design will result in greater noise impacts in some locations than the original design.

The mitigation of residential noise impacts is particularly important given the extended life of power plants and the small cost of the mitigation relative to the total project cost. DEP should require further noise mitigation through increased casing thickness or roofing the structure to ensure reduced noise impacts that are equal to or lesser than those originally approved.

b. Additional Monitoring is Required

The compliance testing and CTG/HRSG stack monitoring requirements in the conditional approval are appropriate. There should also be regular monitoring at the facility property line for NO_x, Ozone, and PM_{2.5} to assure that BP's claims of emissions amounts and dispersion of those pollutants are accurate. Not requiring monitoring other than at the stack would miss the major impact of the emissions on the community.

Relief Requested

The conditional approval should be vacated and BP's Major Comprehensive Plan Application (MCPA) denied.

Respectfully submitted for the named residents of Brockton, West Bridgewater, and East Bridgewater, by their attorney and authorized representative,

Eugene B. Benson
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August 10, 2011

Enclosures:

- Adjudicatory Hearing Fee Transmittal Form
- \$100 check made payable to the Commonwealth of Massachusetts
- Affidavits of residents
- June 17, 2010, comment letter from ACE to DEP re proposed conditional approval
- April 8, 2008, Preliminary Evaluation of the Health Risk Implications of the Proposed Brockton Power Plant
- July 6, 2008, Preliminary Health Risk Calculations for the Proposed Brockton Power Plant
- March 27, 2008, The Proposed Brockton Power Plant: Environmental Disparities in Brockton, MA