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SJC-11406

CITY OF BROCKTON vs. ENERGY FACILITIES SITING BOARD (No. 1)
(and two consolidated cases¹).

Suffolk. March 4, 2014. - July 31, 2014.

Present: Ireland, C.J., Spina, Cordy, Botsford, Gants, Duffly,
& Lenk, JJ.²

Energy Facilities Siting Board. Public Utilities, Energy
company, Electric company. Electric Company.
Massachusetts Environmental Policy Act. Administrative
Law, Decision, Judicial review, Substantial evidence.
Environment, Air pollution, Environmental impact report.
Municipal Corporations, Electric plant, Water supply.

Civil actions commenced in the Supreme Judicial Court for the county of Suffolk on August 24, August 28, and September 2, 2009.

After consolidation, the case was reported by Spina, J.

Lisa C. Goodheart (Phelps T. Turner, Joshua D. Nadreau, & Staci Rubin with her) for Frank J. Babbin & others.

John L. Holgerson for town of West Bridgewater.

Gregor I. McGregor (Nathaniel Stevens with him) for city of Brockton.

¹ Frank J. Babbin & others vs. Energy Facilities Siting Board; Town of West Bridgewater vs. Energy Facilities Siting Board.

² Chief Justice Ireland participated in the deliberation on this case prior to his retirement.

Sookyoungh Shin, Assistant Attorney General, for Energy Facilities Siting Board.

David S. Rosenzweig (Erika J. Hafner & Michael J. Koehler with him) for Brockton Power Company LLC.

The following submitted briefs for amici curiae:

Veronica Eady for Conservation Law Foundation.

Rahsaan D. Hall, Matthew Cregor, Sasha N. Kopf, Tyler D. Crosby, & Priya A. Lane for Lawyers' Committee for Civil Rights and Economic Justice.

Wendy B. Jacobs & Aladdine D. Joroff for Hands Across the River Coalition.

BOTSFORD, J. Brockton Power Company LLC (Brockton Power, or company) filed a petition pursuant to G. L. c. 164, § 69J¼ (§ 69J¼), with the Energy Facilities Siting Board (board) to construct and operate a 350-megawatt combined-cycle energy generating facility (facility) powered by natural gas and ultra-low sulfur distillate (ULSD) on a 13.2-acre lot in the city of Brockton (city). After extensive hearings, the board approved Brockton Power's petition, with conditions. The city, the town of West Bridgewater (town), and a group of residents of the city and the town (residents), all interveners in the proceedings before the board (collectively, interveners), filed appeals in the county court pursuant to G. L. c. 164, § 69P, and G. L. c. 25, § 5.³ A single justice reserved and reported the case to the full court.⁴

³ The following interveners participated in the proceeding before the board: Taunton River Watershed Alliance; the city of Brockton (city); the town of West Bridgewater (town); various residents of the city and the town who were represented by Alternatives for Communities and Environment, Inc.; and New England Power Company, Custom Blends, LLC. In addition the

On appeal the interveners argue⁵ that the board (1) failed to adopt and apply the 2002 environmental justice policy that is a binding environmental protection policy of the Commonwealth; (2) improperly relied on the National Ambient Air Quality Standards for fine particulate matter; (3) erroneously accepted Logan Airport weather data as representative of the proposed facility site; (4) erroneously determined that the facility's impact on the town's water supply was accurate and complete; and

following limited participants took part in the proceedings: Brockton City Councilor Thomas G. Brophy; State Representative Geraldine Creedon; former State Senator Robert S. Creedon, Jr.; Linda Balzotti, mayor of the city; State Representative Christine E. Caravan; and Susan Nicastro.

⁴ The single justice granted the parties' joint motion to consolidate the appeals and proceed on a single record. In 2011, while the consolidated appeal was pending, Brockton Power Company LLC (Brockton Power or company) submitted a project change filing (PCF) to the board, seeking approval of modifications to its proposal including changing its proposed water source from wastewater obtained from the advanced wastewater reclamation facility (AWRF) operated by the city to the city's municipal potable water supply, eliminating the use of ultra-low sulfur distillate (ULSD) as an auxiliary fuel, and certain changes to facility structure height. The board denied the PCF with respect to the modification of the water source for the project, but approved the elimination of the secondary fuel source and changes to facility structure. Brockton Power and the city appealed; we consider the appeals in Brockton Power Co. v. Energy Facilities Siting Bd., post (2014).

⁵ We list here all the claims raised by the interveners, some of which are raised by all the interveners and some of which are not.

(5) improperly designated delivery routes to and from the facility. We affirm the decision of the board.⁶

Section 69J¼ requires the board to conduct an evidentiary hearing⁷ on a petition to construct a generating facility within 180 days of filing, and to approve a petition within one year of filing if it "determines that the petition meets the following requirements: (i) the description of the proposed generating facility and its environmental impacts are substantially accurate and complete; (ii) the description of the site selection process used is accurate; . . . (iii) the plans for the construction of the proposed generating facility are consistent with current health and environmental protection policies of the commonwealth and with such energy policies as are adopted by the commonwealth for the specific purpose of guiding the decisions of the board; [and] (iv) such plans minimize the environmental impacts consistent with the minimization of costs associated with the mitigation, control, and reduction of the environmental impacts of the proposed

⁶ We acknowledge the amicus briefs submitted in support of the interveners' appeals by the Conservation Law Foundation, Hands Across the River Coalition, and the Lawyers' Committee for Civil Rights and Economic Justice.

⁷ Under G. L. c. 164, § 69J¼ (§ 69J¼), fourth par., the evidentiary hearing is an adjudicatory proceeding conducted pursuant to G. L. c. 30A.

generating facility." G. L. c. 164, § 69J¼, fourth & fifth pars.

Pursuant to G. L. c. 164, § 69P, in reviewing a decision of the board, we are limited to considering

"whether the decision of the board is in conformity with the constitution of the commonwealth and the constitution of the United States, was made in accordance with the procedures established under [G. L. c. 164, §§ 69H to 69O,] and with the rules and regulations of the board with respect to such provisions, was supported by substantial evidence of record in the board's proceedings, and was arbitrary, capricious or an abuse of the board's discretion under the provisions of [§§ 69H to 69O]."

We give the board's evidentiary rulings great deference, and the interveners, as appellants, bear the burden of showing that the board's decision is invalid. G. L. c. 25, § 5, seventh par.

Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd., 448 Mass. 45, 51 (2006) (Alliance I).

1. Environmental justice policy. The interveners⁸ argue that the board erred by failing properly to apply the Commonwealth's environmental justice (EJ) policy, as promulgated by the predecessor to the Executive Office of Energy and Environmental Affairs (EOEEA).⁹ The resolution of this issue

⁸ The residents principally advance the argument concerning the environmental justice (EJ) policy in this case, joined by all the other interveners.

⁹ The EJ policy was promulgated in 2002 by the Executive Office of Environmental Affairs (EOEA), the predecessor to the Executive Office of Energy and Environmental Affairs (EOEEA). At the time the EJ policy was issued, the Energy Facilities Siting Board (board) was under the jurisdiction of the Executive

requires a two-part analysis: whether the EJ policy is among the factors the board must consider under § 69J¹/₄ (and is therefore subject to our review); and if so, whether the board correctly applied the policy to Brockton Power's petition.

The EJ policy states: "Environmental justice is based on the principle that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. Environmental justice is the equal protection and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and the equitable distribution of environmental benefits." The EJ policy defines "[e]qual [p]rotection" to mean "that no group of people, because of race, ethnicity, class, gender, or handicap bears an unfair share of environmental pollution from industrial, commercial, state and municipal operations or have limited access to natural resources, including greenspace (open space) and water

Office of Consumer Affairs. The EJ policy expressly states that "[t]his policy is not intended to regulate agencies outside the EOEAs secretariat. . . . This policy is not intended to interfere with, super[s]ede, or create any new obligations on the [board], an entity which is not by law or otherwise a part of the EOEAs secretariat." In April, 2007, the Legislature created the EOEEA, and placed the former EOEAs and two energy-related agencies, the Department of Public Utilities (under which the board is organized, see G. L. c. 164, § 69H) and the Department of Energy Resources, within the new executive office. See St. 2007 c. 19, §§ 12, 28, 53. See also G. L. c. 21A, § 1. The board concluded in this case that as of April, 2007, it was subject to the EOEEAs EJ policy, and all parties agree with this determination.

resources."¹⁰ An "[e]nvironmental [j]ustice [p]opulation" is defined as "a neighborhood whose annual median household income is equal to or less than [sixty-five] percent of the statewide median or whose population is made up [of twenty-five] percent [m]inority, [f]oreign [b]orn, or [l]acking [e]nglish [l]anguage [p]roficiency." Brockton Power's proposed project site was within one-half mile of EJ communities to the west, north, and northeast.

The EJ policy directs agencies within the EOEEA to "develop their own strategies to proactively promote environmental justice in all neighborhoods in ways that are tailored to the specific mission of each agency. . . . [EOEEA] agencies shall identify and promote agency-sponsored projects, funding decisions, rulemakings or other actions intended to further environmental justice in the Commonwealth."¹¹ The EJ policy also

¹⁰ "Meaningful [i]nvolvement" is defined in the EJ policy to mean "that all neighborhoods have the right to participate in partnership with government in environmental decision-making including needs assessment, planning, implementation, enforcement, and evaluation, and neighborhoods are enabled and administratively assisted to participate fully through education and training means, and encouraged to develop environmental stewardship."

¹¹ The board apparently has not yet undertaken any "rulemakings" or developed guidelines in order to carry out these EJ policy directives, but of course it may establish rules and agency policy through adjudication as well as rulemaking. See Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd., 448 Mass. 45, 51 (2006), quoting Arthurs v. Board of Registration in Med., 383 Mass. 299, 312-313 (1981).

mandates specific agency action in two areas: enhanced public participation in EJ communities and, in certain circumstances, enhanced substantive review of new projects in EJ communities when a proposed generating facility exceeds thresholds established by the Massachusetts Environmental Policy Act, G. L. c. 30, §§ 61-62H (MEPA).¹²

With respect to public participation, the EJ policy mandates that "all [EOEEA] agencies shall have an inclusive, robust public participation program that focuses agency resources on outreach activities that enhance public participation opportunities for agency activities that potentially affect EJ populations." The policy calls for

See also Securities & Exch. Comm'n v. Chenery Corp., 332 U.S. 194, 203 (1947).

¹² The Massachusetts Environmental Policy Act, G. L. c. 30, §§ 61-62H (MEPA), and its implementing regulations establish a process to ensure that State permitting agencies have adequate information on which to base their permitting decisions, and that environmental impacts of the project are avoided or minimized. See G. L. c. 30, §§ 61 & 62C, fourth par.; 301 Code Mass. Regs. § 11.00 (2013). Pursuant to MEPA, a project proponent requiring a permit from a State agency files an environmental notification form (ENF) with the Secretary of the EOEEA (Secretary), who determines whether the project meets the review threshold requiring an environmental impact report (EIR). See G. L. c. 30, § 62A; 301 Code Mass. Regs. § 11.06. If so, and after submission of a final environmental impact report (FEIR) and opportunity for review by the public, the Secretary certifies whether the FEIR has complied with MEPA. G. L. c. 30, § 62C, fourth par. Certification under MEPA, however, "does not constitute final approval or disapproval of a particular project, which ultimately is left to various permitting agencies." Allen v. Boston Redev. Auth., 450 Mass. 242, 247 (2007), citing G. L. c. 30, § 62C.

"enhanced public participation" through "use of alternative media outlets such as community or ethnic newspapers . . . and translation of materials or interpretation services at public meetings" in cases where a project exceeds Environmental Notification Form (ENF) thresholds for "air, solid and hazardous waste . . . or wastewater and sewage sludge treatment and disposal" as determined by the Secretary of EOEEA (Secretary) under MEPA and its implementing regulations, and the project site is within one mile (or, in the case of air emissions, five miles) from an EJ population.

In addition to these procedural requirements, the EJ policy substantively provides for enhanced analysis and review of "impacts and mitigation" in relation to projects that meet two conditions: (1) the project exceeds "a mandatory EIR [environmental impact report] threshold for air, solid and hazardous waste . . . , or wastewater sewage sludge treatment and disposal"; and (2) the project is located within one mile of an EJ population, or within five miles for projects exceeding the EIR threshold for air. "Enhanced analysis . . . may include analysis of multiple air impacts; data on baseline public health conditions within affected EJ [p]opulation; analysis of technological, site planning, and operational alternatives to reduce impacts; and proposed on-site and off-site mitigation

measures to reduce multiple impacts and increase environmental benefits to the affected EJ [p]opulation."

The project at issue here, construction of Brockton Power's facility, was subject to mandatory MEPA review. In conducting that review, the Secretary certified that because the project exceeded the ENF threshold for air and is located within five miles of an EJ community, it was subject to enhanced public participation under the EJ policy. However, the Secretary also certified that the project did not exceed the mandatory EIR threshold for air pollutants, and therefore was not subject to enhanced review under the EJ policy.

The board addressed the EJ policy in its decision, interpreting it to provide for both "enhanced analysis" and additional procedures during a review of a petition filed with the board pursuant to § 69J¼. The board concluded, however, that the EJ policy's enhanced analysis provisions applied only to § 69J¼ petitions that propose a generating facility that would exceed the EIR threshold for air emissions. Because the Secretary's MEPA certification had determined that the facility's expected emissions did not exceed this threshold, the board found that the policy, as applied to Brockton Power's petition, was limited to additional procedures, namely,

"enhanced outreach and public participation" during the board's review process.¹³

Before turning to the interveners' claims, however, we first discuss whether the board's interpretation and application of the EJ policy in its decision is subject to our review at all. The board, joined by Brockton Power, contends that judicial review of this aspect of its decision is not available, because the EJ policy states that it "is intended only to improve the internal management of [EOEEA] agencies" and expressly disclaims the creation of "any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity," as well as "any right to judicial review involving compliance or noncompliance" with the policy.

The board's contention fails. As the board recognized in its decision, § 69J¼, fifth par., requires the board to determine whether "plans for the construction of the proposed generating facility are consistent with current health and environmental protection policies of the commonwealth and with

¹³ The board concluded that Brockton Power had complied with the "enhanced outreach and public participation" requirements of the EJ policy. As the board noted, the procedures in this case "included numerous public meetings, translations of Company-issued public information into multiple languages, translation [of] material on its website into multiple languages, and the posting of meeting notices in multiple languages at many locations within the [city]. The record shows both enhanced outreach and tremendous public participation through the [board] proceedings." The interveners do not argue that the company's petition was deficient in this respect.

such energy policies as are adopted by the commonwealth for the specific purpose of guiding the decisions of the board," and also that the EJ policy is among the "environmental protection policies of the Commonwealth."¹⁴ It follows, therefore, that the board's application of the EJ policy is subject to judicial review as part of the court's consideration whether the board's decision meets the requirements of § 69J¼, fifth par. Cf.

Communities Against Runway Expansion, Inc. v. Federal Aviation Admin., 355 F.3d 678, 688-689 (D.C. Cir. 2004) (where defendant agency included analysis of compliance with Federal EJ executive order on environmental justice in its evaluation of compliance with National Environmental Policy Act [NEPA], issue of agency's compliance with EJ executive order was reviewable by court because it arose under NEPA, not executive order, which disclaimed right of judicial review). Accord Allen v. National Insts. of Health, 974 F. Supp. 2d 18, 46-47 (D. Mass. 2013).¹⁵

The standard of review is that set out in § 69P, namely, whether

¹⁴ General Laws c. 21A, § 2 (1), provides that "the [EOEEA] and its appropriate departments and divisions shall carry out the state environmental policy and in doing so . . . shall . . . develop policies, plans, and programs for carrying out their assigned duties." By placing the board under the authority of the EOEEA, the Legislature made it subject to the State environmental policies as identified by the EOEEA, including the EJ policy.

¹⁵ But cf. Sur Contra La Contaminacion v. Environmental Protection Agency, 202 F.3d 443, 449 (1st Cir. 2000) (declining to review claim that Environmental Protection Agency's decision to grant environmental permit was in violation of executive order).

the board's application "was supported by substantial evidence of record in the board's proceedings; and was arbitrary, capricious or an abuse of discretion."

The interveners' claims concerning the EJ policy, however, fail on the merits. As mentioned, the Secretary certified that the proposed facility did not exceed the mandatory EIR threshold under MEPA for air pollutants.¹⁶ Under the express language of the EJ policy, therefore, Brockton Power's petition was not subject to "enhanced analysis." The interveners do not challenge the Secretary's determination under MEPA, nor do they argue that the board failed to meet the EJ policy's procedural requirements. In the context of this case, we cannot accept the interveners' contention that, independent of a triggering MEPA threshold for enhanced analysis, the EJ policy required the

¹⁶ As explained, the EJ policy calls for "enhanced analysis of impacts and mitigation" when, among other possible triggering factors, increased air pollution above the "mandatory EIR threshold for air" is likely to be the result of the proposed project. With respect to air, the MEPA regulations call for a mandatory EIR if the new project, "after construction and the imposition of required controls," is likely to produce, inter alia, potential emissions of "250 [tons per year (tpy)] of any criteria air pollutant; 40 tpy of any [hazardous air pollutant (HAP)]; or 100 tpy of any combination of HAPs." 301 Code Mass. Regs. § 11.03(8)(a)(1). With respect to Brockton Power's proposed project, the Secretary, in conducting his MEPA review, determined that it would result in the following increases related to air pollution: 85 tpy of particulate matter; 109 tpy of carbon monoxide; 7 tpy of sulfur dioxide; 31 tpy of volatile organic compounds; 107 tpy of oxides of nitrogen; 1.134 million tpy of carbon dioxide; and 7.247 tpy of HAPs. There is no argument made here that these projected quantities exceed the mandatory EIR threshold for air pollution.

board to apply unspecified "substantive equal protection" principles to its review of Brockton Power's proposed facility and that the board's failure to do so rendered its decision arbitrary, capricious, or an abuse of the board's discretion. The interveners do not point to a specific or affirmative requirement in the EJ policy to do so, and we have found none.¹⁷

2. Air quality standards. The city and the residents object to the board's reliance on the National Ambient Air Quality Standards (NAAQS) to review the environmental and cumulative health impacts of particulate matter 2.5 micrometers or less in diameter (PM_{2.5}). They argue that the NAAQS for PM_{2.5} are insufficiently protective of public health, and that the board's reliance on the standards is unsupported by substantial evidence.

¹⁷ The issue of timing is important here -- i.e., the fact that the petition in this case was filed within a few months after the EJ policy became applicable to the board. The EJ policy does impose a general, but affirmative, requirement on all agencies covered by it (and therefore the board) to develop strategies designed "to proactively promote environmental justice in all neighborhoods" in a manner tailored to and consistent with that agency's "specific mission"; and to promote, inter alia, "rulemakings or other actions intended to further environmental justice in the Commonwealth." There may be an argument that under this general requirement, the board, in connection with issuing "its own list of [petition review] guidelines" pursuant to § 69J¼, fourth par., or otherwise, has an obligation under the EJ policy to incorporate specific environmental justice principles into its consideration of petitions to construct generating facilities. We do not reach the question, however, because even if the EJ policy did impose such an obligation, the board reasonably could not be expected to have carried it out in time to apply to its review in this case.

The Clean Air Act, see 42 U.S.C. §§ 7408, 7409 (2006), directs the Environmental Protection Agency (EPA) to develop national standards for ambient air quality -- the NAAQS -- that are to cover for air pollutants "reasonably . . . anticipated to endanger public health or welfare," including particulate matter.¹⁸ 42 U.S.C. § 7408(a)(1)(A). The Clean Air Act charges the EPA with promulgating NAAQS that are protective of public health with an adequate margin of safety. See 42 U.S.C. § 7409(b); 40 C.F.R. Part 50 (2006).¹⁹ In setting the NAAQS, the EPA relies on criteria developed by EPA staff that "accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare" from the pollutant, 42 U.S.C. §§ 7408(a)(2), and recommendations of the Clean Air Scientific Advisory Committee, a seven-member, independent scientific review committee. 42

¹⁸ No challenge is made to the board's reliance on NAAQS standards for other criteria pollutants analyzed by the board: sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, and particulate matter with diameter up to 10 micrometers in diameter.

¹⁹ The National Ambient Air Quality Standards (NAAQS) are expressed as ambient pollutant concentrations, measured in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and averaged over a specified period of time, usually twenty-four hours or one year. In addition to the "primary" standards intended to protect human health, 42 U.S.C. § 7409(b)(1) (2006), the Clean Air Act provides for "secondary" NAAQS to "protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air." 42 U.S.C. § 7409(b)(2) (2006). The secondary NAAQS for $\text{PM}_{2.5}$ are not at issue in this appeal.

U.S.C. § 7409(d)(2). The EPA reviews, and, if necessary revises, the NAAQS every five years. 42 U.S.C. § 7409(d)(1). The NAAQS are implemented, maintained, and enforced by the States under EPA-approved State implementation plans. 42 U.S.C. § 7410. See Reitze, *Air Quality Protection Using State Implementation Plans -- Thirty-Seven Years of Increasing Complexity*, 15 *Vill. Envtl. L.J.* 209, 210-213 (2004). In Massachusetts, the Department of Environmental Protection (DEP), in the course of the permitting process for new emission sources, enforces NAAQS in part by comparing total level of expected criteria pollutant (the sum of the background concentration and expected emissions from the new source) with the NAAQS. See, e.g., G. L. c. 111, § 142D; 310 Code Mass. Regs. §§ 7.00 (2014).²⁰ Pursuant to its statutory mandate to review siting petitions for new energy facilities, the board relied on NAAQS to determine whether Brockton Power's petition "minimize[d] the environmental impacts consistent with the minimization of costs associated with the mitigation, control,

²⁰ General Laws c. 111, § 142D, authorizes the Department of Environmental Protection (DEP) to promulgate a State implementation plan and comply with Federal Clean Air Act requirements. Pursuant to 310 Code Mass. Regs. § 7.02(3)(j) (2005), the DEP will approve a plan for an energy facility subject to, inter alia, a requirement that the facility's emissions "do not result in air quality exceeding either the Massachusetts or National Air Quality Standards." The DEP has not promulgated a standard for PM_{2.5}. See 310 Code Mass. Regs. § 6.04 (2002). Accordingly, the DEP and the board refer to the NAAQS standard for this pollutant.

and reduction of the environmental impacts of the proposed generating facility." G. L. c. 164, § 69J¼, fifth par.

At the time of Brockton Power's petition, the annual NAAQS for PM_{2.5} was 15 micrograms per cubic meter (µg/m³). 40 C.F.R. Part 50. According to Brockton Power's atmospheric dispersion modeling (AERMOD) analysis -- a model approved by the EPA, 70 Fed. Reg. 68,218 (2005) -- the relevant background annual concentration of PM_{2.5} for the facility site was 9.9 µg/m³.²¹ Upon completion, the facility would emit approximately 85 tons per year (tpy) of PM_{2.5} pollutants, resulting in a 0.25 µg/m³ increase in the annual PM_{2.5}. These emissions represent a cumulative annual impact of 10.15 µg/m³ PM_{2.5}, or about two-thirds of the annual NAAQS standard for this criteria pollutant at the time the petition was filed.²² Considering this evidence, the board determined that Brockton Power's description of the health and environmental impacts of PM_{2.5} emissions from the facility was substantially accurate and complete, and that such environmental impacts would be minimized under the proposal.

The interveners argue, however, that by relying on the NAAQS set by the EPA and DEP, the board failed to comply with

²¹ Brockton Power established background ambient concentration levels for PM_{2.5} from a DEP monitoring site in Brockton.

²² The board noted that Brockton Power conservatively had included all expected emissions of particulate matter over ten micrometers in diameter (PM₁₀) in its PM_{2.5} analysis, which necessarily overestimated the PM_{2.5} emissions.

its independent duty to analyze the petition under G. L. c. 164, § 69J¼, fifth par., and that, moreover, the NAAQS standards for PM_{2.5} are themselves arbitrary, capricious, and not based on substantial evidence. The interveners' arguments fail. As the board explained, it "gives great weight to expected compliance with [EPA] and [DEP] air quality regulatory requirements as an indicator of whether the potential impacts to air quality of a proposed facility would be minimized." The board's position is reasonable in light of the EPA's mandate and expertise under the Clean Air Act, 42 U.S.C. §§ 7408, 7409, as implemented by the EPA's regulations and enforced by the DEP in Massachusetts. Moreover, the NAAQS methodology, as well as the data used to calculate the estimated ambient pollutant concentrations for the facility, were fully presented in Brockton Power's petition and analyzed in the board's final decision.²³ Although the board must ensure that the facility's environmental impacts are accurately modeled and described, G. L. c. 164, § 69J¼, fifth par., it is not required to establish its own quantitative

²³ The board expressly addressed the issue whether the annual NAAQS standards for PM_{2.5} are adequate to demonstrate that the cumulative health impacts of criteria pollutants are minimized, including whether the standards are adequate to protect public health; the board was not required in its decision specifically to discuss testimony by the residents' expert that measurable health effects occur below the NAAQS threshold for PM_{2.5}. See Box Pond Ass'n v. Energy Facilities Siting Bd., 435 Mass. 408, 418 (2001) ("An agency need not refer to all evidence in its decision").

values with respect to criteria pollutants (or any other environmental impact) to guide its siting decisions. "The legislative scheme contemplates that much of what the board does in the area of air pollution will be dependent on decisions of the department, which has a significant and independent role in the permit process for new generating facilities." Andover v. Energy Facilities Siting Bd., 435 Mass. 377, 381-82 (2001) (Andover). We conclude that the board's reliance on the NAAQS was consistent with its statutory mandate and precedent, and was neither arbitrary nor an abuse of discretion. See Alliance I, 448 Mass. at 51.

The interveners may, of course, challenge the basis of a NAAQS standard set by the EPA and relied on by the board in its statutory review. Here, the interveners contend that the NAAQS standard for PM_{2.5} used by the EPA and DEP has been discredited, and that, consequently, the board erred by relying on this standard. This argument is also without merit. In American Farm Bur. Fed'n v. Environmental Protection Agency, 559 F.3d 512 (D.C. Cir. 2009) (American Farm), the United States Court of Appeals for the District of Columbia Circuit considered the EPA's "decision to set the primary annual NAAQS for PM_{2.5} at 15 µg/m³" and held that "the EPA failed adequately to explain why . . . its annual standard is sufficient 'to protect the public health [with] an adequate margin of safety.'" Id. at 519-520,

quoting 42 U.S.C. § 7409(b)(1). Accordingly, the court remanded the standard to the EPA for reconsideration or an adequate explanation of the NAAQS. Id. at 528.

At the time of the board's final decision, the EPA was in the process of reconsidering the NAAQS standard for PM_{2.5}, in light of the District of Columbia Circuit's decision in American Farm. As the board recognized, during the rulemaking process leading up to the adoption of this NAAQS standard, see 71 Fed. Reg. 61,144, 61,144-61,146 (2006), the EPA staff and the Clean Air Scientific Advisory Committee advocated an annual PM_{2.5} NAAQS of between 12 and 14 µg/m³.²⁴ In its decision, the board observed that the total estimated annual PM_{2.5} of 10.15 µg/m³ "is far below the lowest of the possible limits (12 µg/m³) that were being considered and recommended during [the EPA] rulemaking." Accordingly, the board determined that "the facility meets the NAAQS standard that is currently in place, as well as any reasonably foreseeable revised standard that may be established by [the] EPA on remand." We note that in January, 2013, subsequent to the board's final decision, the EPA adopted an annual NAAQS for PM_{2.5} of 12 µg/m³. See 40 C.F.R. § 50.18 (2013); 78 Fed. Reg. 3,086-01 (2013). We conclude, therefore, that the

²⁴ The United States Court of Appeals for the District of Columbia Circuit noted that 15 µg/m³ standard was higher than that recommended by the EPA staff and the Clean Air Scientific Advisory Committee. American Farm Bur. Fed'n v. Environmental Protection Agency, 559 F.3d 512, 520-521 (D.C. Cir. 2009).

board did not abuse its discretion by considering the NAAQS for PM_{2.5} in the course of its statutory review.

3. Logan Airport data. The meteorological data that Brockton Power used for predicting emissions of criteria pollutants under AERMOD, the atmospheric dispersion modeling system approved by the EPA, were derived from a National Weather Service (NWS) monitoring station at Logan Airport in Boston, approximately twenty miles from the proposed site. The city and the residents contend that this modeling did not accurately and completely describe the facility's impact, because the Logan Airport data were not representative of meteorological conditions at the site in Brockton, which lacks the influence of ocean breezes at Logan Airport; these interveners suggest that Brockton Power should have used meteorological data from a different source, or should have gathered data itself specifically from the facility site.

In its decision, the board found that the data at the Logan Airport site were adequate for the purposes of its review under § 69J¼, fifth par., because "given established wind patterns and wind regimes experienced in general over eastern Massachusetts, meteorological data for Logan Airport is representative of conditions at the proposed Brockton site." In addition, the board noted that the DEP, which ultimately would be responsible for approving Brockton Power's air permit, raised no concerns

with respect to the company's air modeling in its comments on the final environmental impact report under MEPA.

The record shows that no suitable meteorological data for the Brockton site were available, and as none of the interveners disputes, the data from the Taunton Municipal Airport NWS monitoring station, a location closer to the Brockton site than the city and the residents contend more closely approximates meteorological conditions in Brockton, failed to meet the EPA guidelines for air quality modeling data capture²⁵ in four out of five years prior to Brockton Power's petition, making it unsuitable for AERMOD dispersal analysis. In contrast, the Logan Airport NWS monitoring site provided five years of off-site data fully compliant with the EPA data capture guidelines.

Despite the inadequacy of the Taunton meteorological data, at the city's request, Brockton Power modeled data from 2005 (the single year for which the Taunton data met the EPA guidelines) for both the Taunton and Logan Airport sites. This modeling exercise produced cumulative concentrations for several criteria pollutants that were higher than when the Logan Airport data were used. In no instance, however, did the Taunton data result in expected cumulative concentrations exceeding the

²⁵ See 40 C.F.R. Part 51, App. W § 8.3(a) (2005).

annual or twenty-four hour thresholds set by the EPA.²⁶ With respect to annual $PM_{2.5}$, for example, models from both sites yielded nearly identical cumulative expected concentrations below the NAAQS of $15 \mu\text{g}/\text{m}^3$ (the standard at the time of the board's final decision) and $12 \mu\text{g}/\text{m}^3$ (the NAAQS subsequently adopted by the EPA after American Farm).

The city concedes that the Taunton data were not adequate for AERMOD analysis, but contends that the estimated differences between ambient air pollutants at each site demonstrate that "meteorological data may vary significantly from location to location, even within eastern Massachusetts" and consequently that modeling using Logan Airport data failed accurately and completely to describe the facility's air emission impacts as required by § 69J¼, fifth par. Instead, the city and the residents suggest the board should have required Brockton Power to provide site-specific data -- although it did not exist, as the city and residents acknowledge. Nothing in the statute, however, requires the board to use on-site meteorological data in its review of a petition for accuracy, completeness, and

²⁶ Moreover, the expected cumulative concentrations of criteria pollutants using Taunton data were below the NAAQS threshold.

The largest increase for criteria pollutants was for twenty-four hour $PM_{2.5}$, where the modeled facility contribution of twenty-four hour $PM_{2.5}$ is $1.47 \mu\text{g}/\text{m}^3$ using Taunton data, as compared with $1.01 \mu\text{g}/\text{m}^3$ using Logan Airport data. The modeled cumulative impact using Taunton data, however, was still below the NAAQS threshold for twenty-four hour PM_{10} .

minimization of environmental impacts. G. L. c. 164, § 69J¼, fifth par. The five years of Logan Airport data, considered in combination with the one year of supplemental Taunton data, constituted substantial evidence on which the board could base its analysis of air emissions under § 69J¼. Moreover, to the extent the interveners argue that the board abdicated its statutory duty by referencing the DEP's acceptance of Logan Airport data in the course of the MEPA review, we disagree. The board's role "with respect to air emissions is limited to a review of the [petitioner's] description of the environmental impacts of the proposed generating facility for substantial accuracy and completeness, and a determination whether [the] construction plans minimize the environmental impacts consistent with the minimization of costs associated with the mitigation, control, and reduction of the environmental impacts of the proposed facility." Andover, 435 Mass. at 380. The board's conclusion pursuant to § 69J¼, fifth par., that air emission estimates using Logan Airport data were substantially accurate and complete necessarily referenced the DEP (which uses EPA-derived NAAQS thresholds), as the agency responsible for evaluating Brockton Power's air dispersal modeling procedures and compliance with the air regulations.

4. Town drinking water. The town challenges the board's determination that the facility's impact on the town's drinking

water supply was "substantially accurate and complete" as required by § 69J¹/₄. The town's challenge fails.

The facility's cooling tower would require an average annual volume of 1.6 million gallons per day (mgd) of water (or 1.9 mgd at peak, during a hot summer day), which Brockton Power anticipated would be sourced from discharge from the city's advanced water reclamation facility (AWRF). This would reduce the volume of the annual average flow immediately downstream from the AWRF, where the treated wastewater is discharged into the Salisbury Plain River, from 40.0 mgd to 38.4 mgd, which is still above the average annual naturally occurring flow of 20.5 mgd. The board noted that the availability of AWRF water for use by the facility was uncertain at the time of its final decision, and directed the company to submit a project change filing to the board in the event that it modified the anticipated source for the majority of the project's water requirements.²⁷

The town obtains its drinking water supply from high yielding wells in a Zone II aquifer encompassing a large portion

²⁷ As indicated previously, subsequent to the board's decision, Brockton Power was unable to secure an agreement with the city to use AWRF water, and pursuant to the board's directive, submitted a PCF to the board anticipating the use of Brockton municipal water. The board denied the project change filing based on the change of water source. We consider Brockton Power's appeal from that decision in Brockton Power Co. v. Energy Facilities Siting Bd., supra, also decided today. See note 4, supra.

of northeastern West Bridgewater and a small area of southeastern Brockton, totaling more than 740 acres.²⁸ The town's current permit issued pursuant to the Massachusetts Water Management Act, G. L. c. 21G, authorizes up to 1.53 mgd of withdrawal from wells in the Zone II aquifer, although actual use is between 0.60 to 0.77 mgd. Under extremely conservative assumptions (low-flow conditions in the river and peak operations at the facility), the estimated effect on river flow, below the AWRP, would be fifteen per cent at most, or sufficient to maintain a flow of 10.9 mgd.²⁹ Based on these estimates, the board concluded that recharge to the town's wells would not be adversely affected by the facility's withdrawals.

The town raises three primary objections to the board's analysis of the facility's impact on the aquifer. The first focuses on the timing of the testimony addressing the facility's water use. The town argues that because the expert testimony and the analysis regarding the aquifer were introduced in the course of the hearings before the board, rather than in the

²⁸ The DEP regulations define "Zone II" as "that area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at approved yield, with no recharge from precipitation)." 310 Code Mass. Regs. § 22.02 (2009).

²⁹ These assumptions include: full permitted use of aquifer withdrawal from wells (1.5 mgd), forty per cent of recharged water from the Salisbury Plain River; peak project water use (10.9 mgd); and extreme low-flow conditions continuing for twelve weeks rather than one.

actual petition that Brockton Power submitted at the start of the review process, the description of environmental impacts in the petition was not "substantially accurate and complete," as required by § 69J¼, fifth par. However, the language and structure of the statute make clear that the term "petition" refers to a project proponent's over-all submissions to the board, including evidentiary hearings in the course of the board's petition review process, and is not limited to the initial petition commencing the board's review. See Andover, 435 Mass. at 386 (changes in estimates of air impacts during proceeding did not violate requirement that petitioner's description of proposed project and environmental impacts be "substantially accurate and complete"). Our review of the record here persuades us that the board properly considered all substantial evidence submitted in the course of its review, including Brockton Power's submissions and expert testimony addressing the facility's impact on the Zone II aquifer.

The town's second contention -- that the board neglected to make required subsidiary findings -- also fails.³⁰ The board's decision contained a "statement of reasons . . . including

³⁰ The town complains that the board "failed to make the necessary subsidiary findings [1] as to the issues concerning the impacts of the proposed project upon the slope of the aquifer, the aquifer's saturated thickness, and the expansion of the wells laterally within it; and [2] as to [Brockton Power's] use of outmoded, [eighteen to twenty-two] year old assumptions, information and modeling."

determination of each issue of fact or law necessary to the decision," which is an adequate "'guide to its reasons' so that [a] court may 'exercise . . . [its] function of appellate review'" as required by G. L. c. 30A, § 11. Massachusetts Inst. of Tech. v. Department of Pub. Utils., 425 Mass. 856, 868 (1977) (citations omitted). Our review of the extensive record before the board assures us that substantial evidence supported the board's conclusion that the facility would allow water flows in the Salisbury Plain River in excess of the volume necessary to ensure recharge of the aquifer.³¹ The absent subsidiary findings claimed by the town are either unnecessary or implicit in the board's decision.³²

Finally, the town's arguments regarding the reliability and admissibility of testimony by Brockton Power's expert witness -- evidence the town contends was based on hydrology reports that are hearsay and otherwise unreliable -- lack merit. The board has broad discretion to weigh and assess the credibility of

³¹ In this regard, the board based its conclusion on a number of conservative assumptions regarding both wastewater volume and river flows that the town has not rebutted.

³² For example, the town contends that the board's determination was unsupported because, in its decision, the board referred to the impact of the facility's water withdrawals on the town's wells and water supply, and did not address expressly the impact on the "aquifer." However, a fair reading of the decision and the record makes clear that the board properly analyzed the project's impact on the Zone II aquifer for accuracy and completeness and to ensure that environmental impacts were minimized, as required by § 69J½.

evidence, including hearsay evidence. See, e.g., Box Pond Ass'n v. Energy Facilities Siting Bd., 435 Mass. 408, 418 (2001) (Box Pond). Here, the expert's testimony and submissions referenced hydrology reports examining the Zone II aquifer in the context of conservative estimates of the wastewater recharge on the aquifer. The board had an opportunity to consider the methodology and accuracy of the reports in the course of the hearings. We conclude that Brockton Power's submissions, including the evidence presented by its expert, were substantially accurate and complete, and that the town has not met its burden of showing that the board abused its discretion in crediting the company's evidence. See Alliance to Protect Nantucket Sound, Inc. v. Energy Facilities Siting Bd., 457 Mass. 663, 690 (2010) (Alliance II); Box Pond, supra.

5. Traffic impacts. We address briefly the city's contention that the board lacked statutory authority to establish traffic routes for deliveries of ULSD and aqueous ammonia as a condition of its approval of the petition. The board's final decision directed Brockton Power to require that its ULSD and aqueous ammonia vendors use one of two State highways (Routes 27 and 123) through the city, effectively precluding deliveries using Route 106, which runs through the

town, unless the vendor is located in the town.³³ The board concluded that, consistent with the company's petition and traffic analysis, limiting deliveries to these routes would minimize the traffic impacts of the facility.

Section 69J¼, fourth par., requires the board to review a range of environmental impacts including "local and regional land use impact, local and regional cumulative health impact . . . , and noise impact of the proposed generating facility" as a part of its statutory review. The board has consistently interpreted this mandate to include the environmental impacts of traffic, and "[w]e accord substantial discretion to an agency to interpret the statute it is charged with enforcing." Alliance II, 457 Mass. at 681. See, e.g., City Council of Agawam v. Energy Facilities Siting Bd., 437 Mass. 821, 830-831 (2002); Andover, 435 Mass. at 391. Here, the effect of deliveries to the facility comes under the board's jurisdiction as a "local and regional land use impact." G. L. c. 164, § 69J¼, fourth par. Considering that traffic from construction and regular deliveries presents potentially significant environmental impacts, the board's interpretation of the statute is entirely reasonable. See, e.g., Alliance to Protect Nantucket Sound,

³³ The company predicted that aqueous ammonia deliveries would occur two to three times per month. At most, during the coldest days of winter, ULSD deliveries would occur twice per hour. The board noted that the company would minimize the impact of deliveries by scheduling deliveries during the period of lowest traffic.

Inc. v. Energy Facilities Siting Bd., 461 Mass. 166, 187 (2011) ("agency's powers are shaped by its organic statute taken as a whole . . . [and] include those necessarily or reasonably implied" [citations omitted]).³⁴

6. Conclusion. Because the board's procedures and conclusions were proper in all respects, and supported by substantial evidence, we affirm the board's decision approving, with conditions, Brockton Power's petition.

So ordered.

³⁴ The board's conclusion that the designated routes will minimize these impacts is supported by substantial evidence. G. L. c. 164, § 69P. The town's expert testified that it would be difficult for trucks carrying ULSD to make a left-hand turn from Route 106 to Route 18, as required to approach the facility from the town.