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Department of Environmental Protection

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MassDEP Response to Comment Concerning:

Exelon West Medway, LLC & Exelon West Medway II, LLC 200 MW Simple-Cycle Combustion Turbines Project

Proposed Air Quality Plan Approval and
Draft Prevention of Significant Deterioration (PSD) Permit

Application Number: CE-15-016
Transmittal Number: X265409

Issued December 19, 2016

Introduction

Public Notices were published for the public review and comment on the Proposed Air Quality Plan Approval and Draft Prevention of Significant Deterioration (PSD) Permit for Exelon West Medway, LLC & Exelon West Medway II, LLC's 200 MW Simple-Cycle Combustion Turbines Project. The dates of publication were as follows:

- October 13, 2016 in the Worcester Telegram and Gazette,
- October 14, 2016 in the Milford Daily Newspaper,
- October 15, 2016 in the Boston Globe, and
- October 24, 2106 issue of the MEPA Monitor (Volume 86, Issue 12)

MassDEP also held a public hearing at Medway Middle School Auditorium, 45 Holliston St, Medway, MA on Tuesday, November 15, 2016. A number of interested people and organizations submitted comments during the public comment period. The public comment period closed at 5 PM on Wednesday, November 23, 2016. Copies of the Proposed Air Quality Plan Approval, the Draft PSD Permit, the PSD Fact Sheet and Exelon's applications were available for review at the Medway Town Clerk's Office located at 155 Village Street, Medway MA, at public libraries in Medway, Millis, Bellingham, Milford and Franklin, at the MassDEP's Central Regional Office located at 8 New Bond Street, Worcester, MA and on the MassDEP's website.

This information is available in alternate format. Call the MassDEP Diversity Office at 617-556-1139. TTY# MassRelay Service 1-800-439-2370
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After careful review of all comments received, MassDEP has made a final decision to issue the Plan Approval, PSD Fact Sheet and PSD Permit. MassDEP has prepared this document, known as the “Response to Comments” (RTC), that describes and addresses any significant issues raised during the comment period and describes any requirements of the Proposed Plan Approval and Draft PSD Permit that have been changed and the reasons for the changes and/or clarifications. The PSD Fact Sheet has also been changed and/or clarified from the Draft PSD Fact Sheet, to reflect issues of concern identified during the comment period.

MassDEP’s decision-making process has benefitted from the public comments and additional information submitted. Any changes to the Proposed Plan Approval, Draft PSD Permit and the Draft PSD Fact Sheet are described in detail below and are contained in the Final Plan Approval, PSD Permit, and PSD Fact Sheet. The analyses underlying any changes are explained in the PSD Fact Sheet and in the responses to comments that follow.

In addition, miscellaneous edits have been made to the Final Plan Approval, Final PSD Permit and the Final PSD Fact Sheet where necessary to correct typographical errors, clarify wording, ensure consistency between the documents, and address some of the comments

The Final Plan Approval, PSD Permit, PSD Fact Sheet, and RTC are available on MassDEP’s website at <http://www.mass.gov/eea/agencies/massdep/news/comment/exelon-west-medway-facility.html>

MassDEP is providing copies (electronic or hard copy) of the Final Plan Approval, Final PSD Permit, PSD Fact Sheet, and RTC to everyone who commented on the Proposed Plan Approval, Draft PSD Permit or who requested copies of these documents. Copies of the Final Plan Approval and the PSD Permit may also be obtained by writing or calling MassDEP between the hours of 8:45 AM and 5:00 PM, Monday through Friday, excluding holidays:

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MassDEP’s REVIEW OF COMMENTS and LIST OF COMMENTERS

MassDEP reviewed the significant comments received from commenters. Comments expressing general opposition to, or general support of, the proposed project have been reviewed and are reflected in the more specific comments discussed below.

In some cases, MassDEP has included original comments nearly verbatim, for the reader’s convenience. In others, MassDEP has included brief summaries of those comments to remind the reader of the topics discussed. Even though each comment submitted has not been reproduced here in its entirety, and many of the details of each comment were not repeated in the summary comments, please be assured that MassDEP has carefully read and considered every comment in its entirety. The form of this RTC is simply designed to structure MassDEP’s responses and make them more accessible to the general public. No significance should be attached to the form in which MassDEP cited or summarized the original

comment in this RTC. The complete text of every comment as submitted is in the administrative record and available by written request.

Testimony and Comments	
Name and Affiliation	Date Received
Tom Emero	Oral Testimony at the Public Hearing, Nov 15, 2016
Cranston Rogers, Water and Sewer Commission	Oral Testimony at the Public Hearing, Nov 15, 2016
Charlie Myers	Oral Testimony at the Public Hearing, Nov 15, 2016
Brian Adams, 2 Milford Street	Oral Testimony at the Public Hearing, Nov 15, 2016
Barry Keady, Plumbers Union	Oral Testimony at the Public Hearing, Nov 15, 2016
Susan Rorke, Ellis Street	Oral Testimony at the Public Hearing, Nov 15, 2016
John Dumas	Oral Testimony at the Public Hearing, Nov 15, 2016
Thomas Carson, 3 Sledding Hill Way	Oral Testimony at the Public Hearing, Nov 15, 2016
David Blackwell, 2 Milford Street	Oral Testimony at the Public Hearing, Nov 15, 2016
Wayne Texeira, President Medway Business Council	Letter of November 15, 2016
Josh Berman, Staff Attorney Sierra Club Environmental Law Program	Letter of November 21, 2016
Ida E. McDonnell, Manager USEPA Region One	Letter of November 21, 2016
David Ismay, Staff Attorney Conservation Law Foundation	Letter of 11/22/2016
John A. DeTore Rubin and Rudman LLP On behalf of Exelon West Medway,II, LLC (Exelon)	Letter of 11/23/2016

Responses to Comments, exclusively for the CPA

A. Greenhouse Gas (GHG)

Numerous comments were received regarding Greenhouse Gas (GHG) Emission Declining Cap. These comments, the names of the commenter, and MassDEP's responses are listed below:

Consistency of the Declining GHG Emissions Limit with the GWSA [M.G.L. c. 21N] and Climate and Energy Policy

1. DEP fails to properly ensure that the project is consistent with the Global Warming Solutions Act, Chapter 298 of the Acts of 2008 ("GWSA" or "M.G.L. c. 21N"). In its assertion that the proposed Conditions 23-26 will ensure that the project GHG emissions will not jeopardize achievement of the mandated limits to reduce GHG emissions by 25% from 1990 emission levels by the year 2020 and by 80% from 1990 emission levels by the year 2050 as required by the GWSA, and the decision by the Supreme Judicial Court in Kain is conclusory; it is unsupported by record evidence, discussion, or analysis of any kind. As a result, Conditions 23-26 are arbitrary and capricious and their inclusion in the Proposed Air Plan is an abuse of discretion. (CLF)
2. There is substantial uncertainty in the record regarding how frequently the Project will operate, but there is no evidence that supports the conclusion that it will regularly operate at or above a 43% capacity factor. As a result, it is more likely than not that the proposed Condition 23-26 emissions cap will have any emissions-reduction effect whatsoever. Indeed, should the plant operate as Exelon has suggested it will be at or below 33% capacity factor-DEP's Condition 23-26 cap would not affect any reduction or mitigation of Project emissions until 2026 at the earliest and quite possibly, never at all. (CLF)
3. The proposed facility will provide both reliability and efficiency benefits that MassDEP has neglected to consider in proposing this declining cap in the draft CPA Permit. The GWSA is explicit in requiring MassDEP's 2020 emissions limit and implementation plan to consider "electrical generation, load based standards or requirements, the provision of reliable and affordable electrical service and statewide fuel supplies, to ensure the greenhouse gas emission reduction activities to be adopted and implemented by the secretary are complementary, non-duplicable and can be implemented in an efficient and cost-effective manner." This means that the GWSA requires MassDEP to assess the impacts of the declining cap on reliability of electric service and on the aggregate emissions of CO₂e.

MassDEP's imposition of the declining cap on the proposed facility will have exactly the opposite effect on what MassDEP intends because when the proposed facility is dispatched by ISO-NE, it is displacing a less efficient generating unit that is emitting more CO₂e. If the declining cap limits the proposed facility's ability to operate, then a less efficiency unit will operate in its place to meet electric demand. The inevitable result will be more CO₂e emissions, the opposite of what MassDEP intends and the GWSA calls for. (Exelon)

MassDEP Response for Comments 1, 2, and 3:

Pursuant to the directives of the Supreme Judicial Court's decision in Kain v. DEP,¹ and Executive Order No. 569,² MassDEP has proposed draft regulations establishing an aggregate declining GHG emissions limit on all large power plants within the borders of the Commonwealth. MassDEP proposed a formal public comment draft on December 16, 2016 and expects to promulgate final regulations by August 11, 2017. In the interim, being mindful of the emphasis in the Kain decision about the importance of meeting the 2020 GHG emissions reductions limit required by M.G.L. c. 21N, commonly known as the Global Warming Solutions Act (GWSA), MassDEP proposed a declining GHG emissions limit in the terms and conditions of the draft plan approval for the facility. Based on information in the record, including modeling conducted by the applicant and other evidence submitted to and relied upon by the EFSB in its siting proceeding, MassDEP has determined that there is a potential condition of air pollution that could be caused by the facility in the absence of a GHG emission limit.³ Therefore, MassDEP has determined that it is necessary to include a declining GHG emission limit in the Special Terms and Conditions of the plan approval for the facility.

MassDEP has decided to begin that GHG emissions limit at the equivalent of a 43% capacity factor for facility operations. This results in a starting number of 506,665 tons per year (tpy) of GHG emissions in the first year of operation of the facility. The GHG emissions limit will decline by 2.5% per year thereafter, which is consistent with the rate of decline in the proposed regulations. In 2025, the GHG emissions limit will be re-set to 377,763 tpy at the equivalent of the projected facility operations capacity factor of 33%, which is also consistent with the re-set of GHG emissions limits in the proposed regulation for new facilities. MassDEP has designed the GHG emissions limit in the facility permit to balance the need to restrict GHG emissions from the facility, which could cause a condition of air pollution and jeopardize meeting the GWSA goals, against the important need to support intermittent renewable power and ensure grid reliability.

In structuring the declining GHG emissions limit in the plan approval, MassDEP took into account the proposed facility's efficiency and quick-start capabilities. These capabilities will facilitate the integration and operation of intermittent renewables (such as wind and solar) into Massachusetts and New England. Supporting intermittent renewable resources at an increasing rate into the ISO-New

¹ Kain v DEP, 474 Mass. 278 (2016).

² See Executive Order No. 569 at <http://www.mass.gov/governor/legislationexecorder/execorders/executive-order-no-569.html>

³ By adopting the GWSA, the Legislature has made a determination on behalf of the Commonwealth that without a significant reduction in the current level of GHG emissions by 2020 and an even more significant reduction by 2050, there will be significant harm to human health and the environment. The federal government has concurred that GHG emissions are air pollutants that endanger human health and the environment. On April 2, 2007, in a landmark decision pressed by the Commonwealth of Massachusetts as well as other states, the Supreme Court determined that GHGs, including carbon dioxide, are air pollutants covered by the Clean Air Act. See Massachusetts v. EPA, 549 U.S. 497 (2007). The Supreme Court required EPA, under Section 202(a) of the federal Clean Air Act (CAA), to determine if GHGs threaten public health and welfare, that is, make what is called an "endangerment" finding. On December 7, 2009, the EPA Administrator signed an endangerment finding regarding greenhouse gases under section 202(a) of the Clean Air Act that found that the current and projected concentrations of GHGs endanger the public health and welfare of current and future generations. 74 Fed. Reg. 66,496 (2009). The Administrator determined that greenhouse gas pollution threatens Americans' health and welfare by leading to long lasting changes in our climate that can have a range of significant negative effects on human health and the environment.

England electricity grid will be key to the Commonwealth's ability to achieve the long term GWSA goals of an 80% reduction in GHG emission from 1990 levels by 2050.⁴ As part of that effort and under the mandates of the GWSA, Massachusetts must demonstrate a reduction in GHG emissions from electricity imported into Massachusetts from the ISO-New England region as well as from electricity generated within the Commonwealth. See M.G.L. c. 21N, § 2.

The GHG emissions limit in the plan approval is set initially at a level allowable and equivalent to the annual limit established in the federal New Source Performance Standard (NSPS) 40 CFR 60 Subpart TTTT – Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units. The federal NSPS constrains operation of the facility to no greater than a 43% capacity factor, expressed as average net electric sales on a 3-year rolling average, with no more than a 60% capacity factor in any given year. According to MassDEP calculations, based on information submitted in the record, operations at a 43% capacity factor with 30 days of ULSD use would result in 506,665 tpy of CO₂e emissions.⁵ The applicant, in its filing with the Energy Facility Siting Board (EFSB), asserted that its expected actual annual operation will reflect a 33% capacity factor and 10 days of ULSD use, producing 377,763 tpy of CO₂e emissions.⁶ Other modeling introduced by the applicant in the EFSB proceeding suggests that the facility is likely to run at a lower capacity factor in current market conditions.⁷

Therefore, MassDEP has substantial evidence that the facility will operate, at least in the beginning years of operation, at a capacity factor below the 43% rolling average allowed by the NSPS. By setting the GHG emissions limit at the equivalent of a 43% capacity factor, MassDEP set the emission limit in a way that should enable the facility to accumulate over-compliance credits in the earlier years of operation. On the other hand, by reducing the GHG emissions limits over the first years of operation by 2.5% until 2025, MassDEP is imposing more constraints than the proposed regulation, which allows the total new facility aggregate cap to remain constant until 2026, when the total new facility aggregate cap declines sharply. MassDEP is imposing the annual 2.5% reduction to reflect that there might be some other new facilities that commence operations in the time between 2018 and 2025, and these other new facilities may result in some GHG emissions increases that need to be taken into account in the West Medway facility's limit in the absence of comprehensive regulation. In 2025, the facility's limit decreases to the 33% capacity factor which the applicant presents as its likely initial operational rate and will continue to decline by 2.5% each year thereafter. This is also consistent with the proposed new regulations, which sharply decrease the new facility aggregate cap in 2026.

The modeling in the record also indicated that, between 2018 and 2030, the facility will reduce GHG emissions across the ISO-New England region by 226,464 to 484,769 tons, depending on a range of

⁴ See Energy Facility Siting Board Docket, EFSB 15-1/D.P.U. 15-25, *Final Decision*, pp. 46 – 49 (TAG modeling discussion) and pp. 132-33 (EFSB conclusion that applicant demonstrated consistency with the GWSA).

⁵ The Department agrees with the calculations supplied by the Applicant in their November 23 comment letter to Ms. Roseanna E. Stanley of MassDEP and is using the number provided in Appendix A of that letter for the 43% capacity factor. This will be corrected in the final plan approval as noted in Response to Comment C-13.

⁶ Energy Facility Siting Board Docket, EFSB 15-1/D.P.U. 15-25, Exh. EX-6, at 4-3; see also FEIR, at 5-1, 5-2 (Table 5-1); *id.*, Tech. Attach. H (“GHG Calculations”), at 2. MassDEP calculated the 33% limit to reflect 10 days of USLD use and the remaining capacity on natural gas using the same calculations as in the Applicant's November 23rd comment letter.

⁷ Energy Facility Siting Board Docket, EFSB 15-1/D.P.U. 15-25, *Final Decision* (“EFSB Final Decision”), p. 48 n.46-47 (modeling indicated the Project, between 2018 and 2030, will operate on average, 6.22% of the time up to 9.3% of the time depending on regional electricity market and weather conditions).

capacity factors, regional electricity demand, and supply conditions.⁸ While this modeling did not address which facilities in Massachusetts or others that serve Massachusetts' load, would run less and lead to GHG emissions reductions, this is a sufficiently significant level of emissions reductions to prevent a condition of air pollution from resulting if the GHG emissions limit is imposed as set forth in the plan approval.

Contrary to other comments, MassDEP has determined that a GHG emission limit set initially at a 43% capacity factor is sufficiently stringent to prevent a condition of air pollution. While the facility will likely operate below the 43% capacity factor, there is great uncertainty in the energy market as to which facilities will run given the demand for electricity in any particular year, and MassDEP agrees with the applicant that the facility is likely to run more frequently than older, existing facilities of the same type due to its quick start capabilities. In addition, extreme weather, electric generating facility scheduled and unscheduled outages, and transmission infrastructure scheduled and unscheduled outages can dramatically affect grid operations. MassDEP must take into consideration the reliability of the electric grid, because significant disruptions can increase GHG emissions (e.g., if the grid operator must call on marginal, higher polluting, less efficient power generation resources to run during outages). Individual facilities need operational flexibility to operate at levels higher than their expected operational level if needed to maintain electric system reliability and to prevent increased GHG emissions from marginal units in the event of electric grid upset conditions.

Moreover, because MassDEP is establishing a GHG emissions limit on a single facility through permit conditions, the agency cannot set as stringent emission limits as it could in a regulation that would establish limits for multiple power plants. Trading of compliance credits can mitigate for the significant uncertainties about which power plants will be called on to run by ISO-New England in any given year or in the event of a significant disruption(s) in power supply. MassDEP could have set the starting point for the emissions limit at the 60% capacity factor allowed by the NSPS.⁹ However, given the modeling and assumptions presented by the applicant showing that a 33% capacity factor average is more likely, and other evidence that the facility might run at substantially lower capacity factors, MassDEP decided to set the initial GHG emissions limit at the equivalent of a 43% capacity factor with a decline of 2.5% per year in order to provide sufficient constraints on GHG emissions.

Therefore, in MassDEP's judgment, the GHG emissions limit as set forth in the plan approval balances the need for GHG emissions restrictions against the uncertainties about grid reliability, the need for support for intermittent renewable energy and the uncertainties about entry of other new facilities into the electricity market. Meanwhile, it is expected that the proposed regulatory GHG emissions limits on all large electricity generating units, like the facility, will be effective by January 1, 2018, before the facility will commence operation. The regulations will replace the declining GHG limits in the plan approval and will then set the limits for annual GHG emissions from the facility.

⁸ See Energy Facility Siting Board Docket, EFSB 15-1/D.P.U. 15-25, *Final Decision*, pp. 46 – 49 (TAG modelling discussion) and pp. 132-33 (EFSB conclusion that applicant demonstrated consistency with the GWSA).

⁹ There is evidence to support setting the initial level of the GHG emissions limit at a 60% capacity factor. See EFSB Hearing Transcript, pp. 807-808.

Duration of Declining GHG Emissions Limits

4. Permit conditions issued under the GWSA are limited to the December 31, 2020 expiration date. Because Section 16 of the GWSA states: “The Massachusetts Department of Environmental Protection shall promulgate regulations pursuant to subject (d) of section 3 of said chapter 21N not later than January 1, 2012, which regulations shall take effect on January 1, 2013; and shall expire on December 31, 2020, any condition included in the CPA Permit based upon Section 3(d) can effective only through the end of 2020. (*Exelon*)

MassDEP Response for Comment 4:

MassDEP is not relying on its authority in M.G.L. c. 21N, § 3(d), to impose the declining GHG emissions limit in the plan approval, and, therefore, the expiration date for the GHG emission limit in the plan approval is not subject to any expiration date set for agency action pursuant to that statute.¹⁰ Instead, MassDEP is relying on its broad authority to prevent, abate and control air pollutants in its enabling statute, M.G.L. c. 21A, §§ 2 and 8, and the state clean air act, M.G.L. c. 111, §§ 142A *et seq.* In addition, MassDEP looks to the broader authority granted to the agency pursuant to M.G.L. c. 21N and to the statutory authority in M.G.L. c. 21A, § 8, to “assist in the implementation of chapter 21N” to set a declining GHG emission limit in the plan approval in a manner which will assist Massachusetts in reaching the 2020 and 2050 goals of the GWSA to reduce GHG emissions by 25% and 80%, respectively, from the 1990 emissions baseline.

Consistency of the GHG Emission Limit with Draft Proposed Regulations

5. Unlike the caps in the proposed draft regulation, 310 CMR 7.74, the proposed GHG caps in the Medway proposed CPA do not decline at a linear 2.5% of the 2018 cap level per year between 2018 and 2025, and then decline at a rate of 2.5% of the proposed 2025 cap level between 2025 and 2050. Since the 2025 cap level is substantially lower than the 2018 cap, the proposed cap trajectory results in significantly less reduction in overall GHG emissions between 2018 and 2050 than if it tracked the trajectory of the draft 310 CMR 7.77 rule. What is the basis for the proposed non-linearity in the GHG emissions cap for the Medway turbine project? (*Sierra Club*)
6. If MassDEP finalized a version of 310 CMR 7.77 that retained the linearly declining GHG emission cap on new and existing sources, would MassDEP impose a consistent linear GHG cap trajectory on the Medway turbine project? What would be MassDEP’s mechanism for doing so? (*Sierra Club*)

MassDEP Response for Comments 5 and 6:

See Response to Comments 1, 2 and 3 above relative to the rationale for the overall design of the declining GHG emissions limit for this facility.

¹⁰ Note that MassDEP cannot act to impose declining annual GHG emissions limits pursuant to M.G.L. c. 21N, § 3(d) except by rule-making. The plain language of the statute requires the agency to act through promulgation of regulations. Therefore, it would not be appropriate for MassDEP to rely on this statute in imposing a condition in a 310 CMR 7.02 plan approval.

7. Does MassDEP envision that the Medway turbine project would be treated as a new source under its proposed 310 CMR 7.77 such that its cap is counted against the New Facilities GHG Emissions Cap. (*Sierra Club*)

MassDEP Response for Comment 7:

Yes, as currently proposed, the facility would be treated as a new power generation unit under the proposed 310 CMR 7.74 and the GHG emissions limit would come from the new facility aggregate GHG emissions limit.

Inclusion of the Declining GHG Cap in the Plan Approval

8. DEP fails to include any explanation of what the GWSA or Kain requires of DEP in the context of permitting new, large fossil-fuel electric generators; no discussion of the evidence presented in the Application regarding the Project's compliance with the GWSA's mandatory emissions reduction requirements; and no discussion or analysis regarding how Conditions 23-26 demonstrate or ensure that "the Project's GHG emissions – which are undisputedly certain and substantial-will not jeopardize achieving the mandated limits to reduce GHG emissions by 25% from 1990 emission levels by the year 2020 and by 80% from 1990 emission levels by the year 2050. The lack of any such evidence or analysis renders DEP's assertions regarding Conditions 23-26 invalid." (*CLF*)
9. I did read the tables where you're requiring reductions each year over the period of the existence of the power plant, but it just doesn't make sense to me to build such a large facility and then automatically require it to reduce its emissions throughout its life. And I don't see how it fits in with the greenhouse gas emissions with the Global Warming Solutions Act and Governor Baker's recent executive order regarding air quality that was dated 9/16/2016. (*Adams*)
10. I just think given the global warming and all our climate agreements we've made, that we really need to not be building more infrastructure. ... And the carbon impact and pollution, even if it's complying, is going to be massive, and I don't think it should be built. (*Rorke*)

MassDEP Response for Comments 8, 9 and 10:

The Kain court imposed a duty on the agency to promulgate regulations that met the requirements of M.G.L. c. 21N, § 3(d). However, MassDEP is not adopting the declining GHG emissions limit in the plan approval pursuant to M.G.L. c. 21N, § 3(d) or the directives of the Kain decision. MassDEP is including the GHG emissions limit as a condition of the plan approval to address the potential condition of air pollution presented by the potential GHG emissions from this new power plant in the larger context of the GWSA 2020 and 2050 goals, the Legislature's determination of the significant threat posed by GHG emissions, and the emphasis in the Kain decision of the importance of meeting these statutory goals.

See Response to Response to Comments 1, 2 and 3 above for the agency's rationale for the design of the declining GHG emissions limit.

Impact of the Declining Cap on GHG Emissions

11. The proposed project will lead to a net increase in the Commonwealth's statewide GHG emissions as measured for purposes of determining GWSA compliance, even with the proposed Conditions 23-26 emissions cap in place. (CLF):

MassDEP Response for Comment 11:

MassDEP does not agree that the proposed project will lead to a net increase in the Commonwealth's statewide GHG emissions.

First, the addition of a new power generation facility does not, by itself, lead to an increase in GHG emissions in the Commonwealth. GHG emissions will not increase if demand for electricity does not increase. The demand for electricity in Massachusetts has remained relatively flat for some years, largely due to the award-winning Energy Efficiency programs adopted under the Green Communities Act, Chapter 169 of the Acts of 2008, and under the Secretary's 2020 Clean Energy and Climate Plan (2020 CECP).¹¹ In addition, pursuant to the 2020 CECP, the Commonwealth has implemented a robust Renewable Portfolio Standard (RPS) program that is reducing the percentage of fossil fuel generated power each year, thereby reducing GHG emissions of power generated in or imported into Massachusetts. See 225 CMR 14.00. Similarly, the Regional Greenhouse Gas Initiative (RGGI) program has significantly reduced fossil fuel GHG emissions within Massachusetts and the greater ISO New England region since its inception. See 310 CMR 7.70. Simply building a new power plant does not increase the demand for electricity.¹²

Second, according to the record evidence in the EFSB proceeding and the air plan approval application record, MassDEP expects that the proposed facility will be efficient and, importantly, be able to start quickly which also limits emissions. Due to the quick start capabilities of the facility, it is likely to out-compete other, higher-emitting power plants. In fact, the project proponent conducted an electric system dispatch model-based study that demonstrated that GHG emissions will likely decrease in the New England ISO region upon operation of the facility.¹³

Finally, pursuant to the directives of the Kain decision and Executive Order No. 569, MassDEP has proposed regulations establishing an aggregate declining GHG emissions limit on all large power plants within the borders of the Commonwealth by August 11, 2017. MassDEP proposed a formal public comment draft on December 16, 2016. In the interim, MassDEP has determined that there is a potential condition of air pollution that could be caused by the facility in the absence of GHG emission limits. This is due to the uncertainty in the models about the facility's capacity factor and how much it will be used to serve regional demand for electricity. This uncertainty means that it is possible that GHG emissions in the Commonwealth could increase. Therefore, MassDEP has imposed a declining GHG emissions limit in the facility's air plan approval under 310 CMR 7.02 to

¹¹ See 2020 CECP at <http://www.mass.gov/eea/docs/eea/energy/cecp-for-2020.pdf> and EE program and award information at <http://www.mass.gov/eea/pr-2016/massachusetts-named-most-energy-efficient-state.html>

¹² There must be a significant shift of power generation to less efficient and greater polluting plants in order for there to be a significant increase in GHG emissions when demand for electricity is flat. While this could occur in the case of an emergency shut-down of a large low or zero GHG emissions source (such as a nuclear power plant), this would normally be a short-lived emergency condition that would not cause a particular new power plant to absorb all the increase in demand for alternative power.

¹³ EFSB Final Decision, p. 46-48.

prevent a condition of air pollution, and assist in achieving the overall GWSA and CECF goals for 2020.

See Response to Comments 1, 2 and 3 above for the agency's rationale for the design of the declining GHG emissions limit.

B. MassDEP Authority to Issue the Final Air Plan Approval

Two comments were received regarding MassDEP's authority to issue the Final Air Plan Approval. These comments, the name of the commenter, and MassDEP's response are listed below:

12. In the Energy Facility Siting Board case Docket No. 15-01/D.P.U. 15-25 issued on November 18, 2016, the Conservation Law Foundation ("CLF") argued that the Siting Board did not have the authority to issue a Final Decision approving the Petition until MassDEP promulgated final regulations mandated by Section 3(d) of the GWSA, an argument the Siting Board rejected. In anticipation of CLF raising the same argument during the comment period on the draft CPA, Exelon refutes that point. (*Exelon*)
13. DEP's GWSA finding - and the Proposed Air Plan itself - are also invalid because they are contrary to the plain language of the GWSA. As the court in Kain expressly recognized, the Legislature considered the GWSA's potential impact on new electric generating facilities like the Project and commanded that such new facilities regulated by the GWSA could only be approved "if all applicable requirements are met and the facility is in compliance with such regulations. G.L. c. 21N, § 9. As Kain recognized, in the absence of a regulatory scheme that provides a framework for how regulations can address future emissions from new or expanding sources while ensure that over-all emissions limits declined, section 9 of the GWSA works to "constrain new sources from coming on line in the future." (*CLF*)

MassDEP Response for Comments 12 and 13:

MassDEP agrees with the EFSB's position in its final decision that it should defer to MassDEP's actions on the proposed air permitting proceedings for the facility. In addition, MassDEP does not read the Kain decision to preclude the EFSB and MassDEP from issuing final decisions, in this case the Comprehensive Plan Approval for the facility, before MassDEP issues the regulations required under section 3(d). MassDEP has the authority to issue a final air plan approval at this time and is not constrained by M.G.L. c. 21N, § 9 or the Kain v DEP decision's interpretation of Section 9.

Section 9 of M.G.L. c. 21N is a very straightforward section that states:

Nothing in this chapter shall affect the authority of the public utility commission or the obligation of an electrical utility to provide customers with safe and reliable electric service. Nothing in this chapter shall preclude, prohibit or restrict the construction of a new facility or the expansion of an existing facility subject to regulation under this chapter, if all applicable requirements are met and the facility is in compliance with regulations adopted pursuant to [the statute].

The first part of the section states plainly that nothing in the statute precludes, prohibits or restricts the construction of a new facility or expansion of an existing facility, and it also makes clear that the

reliability of electricity service is not to be affected by GWSA regulations or directives. The legislature clearly included Section 9 to acknowledge that new power plants may need to be built, and approved by the DPU and MassDEP, while the Commonwealth works toward reducing GHG emissions to meet the emission reduction goals in the GWSA.

In the second part of Section 9, the language requires new or expanded facilities to comply with any regulations promulgated pursuant to the statute. Therefore, the language was included to allow new power plants as long as the power plants met existing regulations and future regulatory requirements promulgated pursuant to the statute.

As of the date of issuance of this plan approval, the regulations promulgated pursuant to M.G.L. c. 21N that apply to the facility are the Regional Greenhouse Gas Initiative regulations at 310 CMR 7.70, the GHG reporting regulations at 310 CMR 7.71 and the Gas-Insulated Switchgear regulation at 310 CMR 7.72.¹⁴ The facility has not yet begun operation, and, therefore, it does not yet have any obligations under these regulations. The facility plan approval requires compliance with all of these regulations. Therefore, the facility is or will be in compliance with any M.G.L. c. 21N regulations.

The Kain court did not state that M.G.L. c. 21N, § 9, “works to ‘constrain new sources from coming on line in the future.’” This is a quote that is a response to MassDEP’s position in that litigation that the “desired level of...emissions limits” language in Section 3(d) of M.G.L. c. 21N required setting only aspirational goals for categories of sources and not mandatory limits. MassDEP argued that mandatory limits would unduly constrain the entry of new sources into the category of chosen sources. The Kain Court rejected that argument and held that M.G.L. c. 21N, § 3(d) required mandatory emissions limits on chosen groups and categories of sources despite the fact that such mandatory emissions limits “may constrain new sources from coming online in the future....” In other words, the Kain Court held that emissions limits set by Section 3(d) regulations might “constrain new sources,” not that Section 9 of the GWSA mandated such constraints. That is a very different point.

The entire Kain holding points out the plain meaning of M.G.L. c. 21N, § 9, noting that it does not preclude the construction of new or expanded facilities when read in its entirety as follows:

To the contrary, the statute explicitly contemplates that new or expanding sources of emissions will come online in the Commonwealth. *See* G. L. c. 21N, § 9 (“Nothing in this chapter shall preclude, prohibit or restrict the construction of a new facility or the expansion of an existing facility subject to regulation under this chapter, if all applicable requirements are met and the facility is in compliance with regulations adopted pursuant to [the statute]”). To the extent that emissions limits may constrain new sources from coming online in the future, such a consequence is one of legislative making. We note, however, that existing regulatory schemes provide frameworks for how regulations can address future emissions from new or expanding sources while ensuring that over-all emissions limits decline. Indeed, the requirement of § 3(d) that the aggregate mass of emissions from a regulated group of sources be capped allows for flexibility to create systems of allocation among sources within a category, in contrast with a scheme that mandates stipulated reductions at a discharge point, such as direct emissions reductions. *See* G. L. c. 21N, § 1.

¹⁴ The remaining regulation promulgated pursuant to M.G.L. c. 21N is 310 CMR 7.40, which regulates GHG emissions from vehicles, which does not apply to the emissions at this facility

Therefore, the Kain decision affirmed the plain meaning of Section 9 of M.G.L. c. 21N that new and expanded facilities are not prohibited from being permitted and that entry of new facilities could be provided for in Section 3(d) regulations.

C. Section 61 Findings

One comment was received regarding the Section 61 Findings in the draft Plan Approval. This comment, the name of the commenter, and MassDEP's response are listed below:

14. DEP's legally insufficient GWSA finding is not, and cannot be, cured by the Proposed Air Plan's general statement of compliance with G.L. c. 30, § 61 ("Section 61"). While the Proposed Air Plan Section 61 findings may be adequately supported as to the regulatory issues examined in the Proposed Air Plan, they are unsupported – and thus legally deficient – as to DEP's proposed Conditions 23-26 emissions cap. In fact, it did not adequately consider "the reasonably foreseeable climate change impacts, including GHG emissions and effects as addressed in the propose project's FEIR.

The Proposed Air Plan fails to discuss, analyze, or resolve the conflict of relying on the FEIR, which did not include the GHG limits, in order to impose conditions that find no support in the FEIR – or to explain how or why DEP Conditions 23-26 are adequate to control or mitigate the Project's GHG emissions impact.

The lack of any evidence regarding the cost to implement the proposed condition 23-26 emissions cap is similarly fatal to DEP's purported Section 61 GHG mitigation determination. Without evidence or analysis regarding the cost and feasibility of the proposed cap or a more stringent one, there is no basis for DEP (or any other agency) to conclude that the Condition 23-26 cap represents either "all feasible measures to avoid damage to the environment and will minimize and mitigate such damage to the maximum extent practicable or minimization of the foreseeable environmental impact consistent with a minimization of cost associated with mitigation, control, and reduction thereof.

Neither the Proposed Air Plan, nor the administrative record supporting it, contain any evidence or analysis regarding the effect of the Condition 23-26 emissions cap, its cost, or the likelihood that it will, at any time, reduce actual emissions from the Project. (CLF)

MassDEP Response for Comment 14:

Although the FEIR does not require MassDEP to include a declining GHG emissions cap, MassDEP has its own authority to include the declining cap as part of the Section 61 findings section. The Commissioner of MassDEP found in Matter of Pioneer Valley Energy Center, Inc., Docket No. 2011-010, Final Decision (November 9, 2011) that although MassDEP is not mandated to make Section 61 findings additional to those made by the Secretary pursuant to the FEIR, MassDEP has its own authority to make such additional findings. In addition, MassDEP disagrees with the commenter that it was required to do a cost analysis as part of establishing the declining GHG cap or explain MassDEP rationale for including the declining GHG cap provision. M.G.L. c. 30, § 61, states that the agency must include all practicable means and measures to minimize damage to the environment and a determination from the agency finding that all measures are feasible. Section 61 does not require a cost analysis.

D. Typographical Error

One comment was received regarding the typographical errors in the draft Plan Approval. This comment, the name of the commenter, and MassDEP's response are listed below:

15. Calculations of the project's CO_{2e} emissions were provided which differ from the project's CO_{2e} emissions included in the permit. (*Exelon*).

MassDEP Response for Comment 15:

The project's CO_{2e} emissions have been corrected. The starting point for the 43% limit is now consistent with Appendix A of the Applicant's November 23rd comment letter to MassDEP. And the same calculation methodology in that Appendix was applied to the 2025 limit for the 33% capacity factor except 10 days use of ULSD was assumed.

E. Air Quality Ambient (Baseline) Monitoring

Several comments were received during the public hearing pertaining to the air quality ambient monitoring. These comments, the name of the commenter, and MassDEP's response are listed below.

16. But the fly in the process is when you create the baselines, DEP is using a Worcester location for that. And my suggestion would be: As you move forward with power plant projects, go to the communities where the power plant is going to be located in and base your baselines on that. Put a period of time in to do your testing there. If you're going to have a five unit increment gain in a city environment on particle counts and things like that, even though you might still be below NOx, you could be having -- if you're at 90 and you have a five point gain, it's a small percentage. If you're in a rural environment and you're at 20, then you have a five point gain, you have a 25 percent increase in the baseline -- against the baseline levels for that. So I think there's a flaw there. (*Meyers*)
17. So where's the oversight on what the pollution is? We have no baseline of what is in town. We have some numbers from Worcester, as Charlie mentioned. So we don't even have a baseline, and there's no mechanism to find out if pollution is increasing. (*Rorke*)
18. The comments that have been made about the baseline are a concern of mine. I've been in the environmental field for 30 years and, you know, there is no baseline environmental data for air pollution or baseline data for noise, as far as I know. (*Blackwell*)

MassDEP Response to Comments 16, 17, and 18:

MassDEP determines ambient background concentrations from data collected in a network of MassDEP-operated air monitoring stations in various locations around the state. Because there is no air monitoring station in Medway, a monitoring location is selected that is considered regionally representative of the Medway area, and if possible, provides data considered to be conservative for use in the modeling analysis. Conservative means that the air monitoring location is exposed to general levels of emissions higher than what an air monitoring station would be exposed to in Medway. Selection of conservative data is intentional to assure that the air quality analysis yields results that represent worst case impacts. The selected monitoring location also needs current data

available for all the pollutants included in the analyses. The Worcester air monitoring station was selected because it meets all these criteria. It is the closest station to the Project site, regionally representative, and has current data available for all pollutants. Its location on Summer Street in Worcester, MA is approximately 20 miles west-northwest of West Medway Station. This location exposes the air monitoring station to regional pollution levels transported into the area by prevailing westerly winds. In addition, Worcester is a more industrialized and more densely populated area than the Project site, making data from that station conservative to use in the analysis (one can expect air quality levels at the Project site to be somewhat better as noted by one of the Commenters). Finally, all pollutants required for the analysis are monitored at Summer Street (i.e., SO₂, CO, NO₂, PM₁₀ and PM_{2.5}) and current data is available. Therefore, MassDEP required Exelon to use ambient monitoring data from the Worcester Summer Street air monitoring station for the most recently available three calendar years 2011, 2012 and 2013.

Baseline air quality data for the Project site, if needed, would be collected via a PSD preconstruction monitoring program. However, PSD regulations allow projects to use existing monitoring data in lieu of PSD preconstruction monitoring requirements for a pollutant if the Project can demonstrate that its modeled ambient air impact from the new sources is less than a de minimis level known as a significant monitoring concentration (SMC). The West Medway Peaker Project was subject to PSD review for NO₂ and particulate matter (PM₁₀ and PM_{2.5}). EPA has established SMCs for annual NO₂ and 24-hr PM₁₀. As shown in the table below, dispersion modeling conducted by Exelon predicted maximum proposed Project impact concentrations below corresponding SMC levels for these two pollutants.

Preconstruction Monitoring Analysis				
Pollutant	Averaging Period	SMC (µg/m³)	Maximum Predicted Project Impact (µg/m³)	Less than SMC?
NO ₂	Annual	14	0.3	Yes
PM ₁₀	24-hour	10	9.3	Yes

EPA had also established an SMC for PM_{2.5} but this SMC was remanded by the United States Court of Appeals for the DC Circuit on January 22, 2013 (No. 10-1413, Sierra Club v. EPA). On March 4, 2013, the EPA Office of Air Quality Planning and Standards issued guidance to applicants and regulators with regard to the ramifications of the January 22, 2013 Appeals Court decision. The pertinent excerpt of this EPA guidance is as follows:

“As a result of the Court’s decision, Federal PSD Permits issued henceforth by either the EPA or a delegated state permitting authority pursuant to 40 CFR 52.21 should not rely on the PM_{2.5} SMC to allow applicants to avoid compiling air quality monitoring data for PM_{2.5}. Accordingly, all applicants requesting a federal PSD Permit, including those having already applied for but have not yet received the permit, should submit ambient PM_{2.5} monitoring data in accordance with the Clean Air Act requirements whenever either direct PM_{2.5} or any PM_{2.5} precursor is emitted in a significant amount. In lieu of applicants setting out PM_{2.5} monitors to collect ambient data, applicants may submit PM_{2.5} ambient data collected from existing monitoring networks when the permitting Authority deems such data to be representative of the air quality in the area of concern for the year preceding receipt of the application. We believe that applicants will generally be able to rely on existing representative monitoring data to satisfy the monitoring data requirement.”

MassDEP does deem the PM_{2.5} and other pollutant data collected from the Summer Street location in Worcester to be regionally representative and appropriately conservative with respect to the existing air quality in the Project area. Therefore, in accordance with the PSD regulations and EPA guidance, MassDEP determined that the Worcester data was adequate to use in assessing Project impacts and that preconstruction monitoring was not required.

F. Particulate Matter (PM/PM10/PM2.5)

One comment was received during the public hearing pertaining to particulate matter. This comment, the name of the commenter, and MassDEP's response are listed below.

19. Another flaw in the process is that there's no consideration for vehicle-related emissions, and this plant is going to have diesel backup, albeit ultra-low sulfur. But it's not typical that a power plant would be totally supplied by truck from a location that's 44 miles away in Providence at the terminals there.

So while your hands are somewhat tied in looking at air quality, they're not tied in terms of saying, "We want you to do a CNG truck delivery route." If you take the 30 days that Exelon is asking -- the equivalent of 30 days and you run it, you're looking at 2,622 inbound trips, 2,622 outbound for a total of over 5,000 round trips -- excuse me -- 5,000 trips to Providence.

For the first time ever in the United States, vehicle-related emissions have actually exceeded power plant-related emissions according to the Department of Energy in Washington and the Department of Transportation.

The last comment that I would make will deal with particle emissions. Recently there were studies done that showed the Southeast Expressway and the impact of residents living along the Southeast Expressway and the particle counts associated with transportation. And those particle counts have resulted in above average heart attacks, heart disease, and deaths in that area. Now, particle counts. Medway just went through some contentious discussions relative to turf and turf fields and the 2.5 levels and things like that. We're putting a power plant in that's going to have particle emissions. It's going to have significantly greater particle count emissions than exist now, albeit below NOx. But my question is: Why? (*Meyers*)

MassDEP Response to Comment 19:

The impact assessment included an analysis of Project particulate emissions consisting of PM₁₀ and PM_{2.5}. Modeled particulate concentrations due to emissions from the Project are added to ambient background particulate concentrations to obtain total concentrations. Project vehicle-related emissions, while not explicitly included in the analysis, were accounted for via careful selection of appropriate background air quality data to use in the analysis. Vehicle emissions, including those likely to result once the Project is operating, were factored into the analysis by the selection of the Worcester air monitoring location for background air quality data. The Worcester Summer Street monitoring site is located immediately adjacent to Interstate 290. This site is exposed to potentially elevated ambient background pollutant concentrations due to vehicular traffic, as well as small and large stationary emission sources located in and around the Worcester metropolitan area. Therefore, these emissions including those from vehicles are represented in the measurement data collected at

the monitoring site. Accordingly, MassDEP believes that vehicle related emissions have been accounted for in the impact assessment.

These total concentrations are compared to the health based air quality standards (NAAQS and MAAQS). For both PM_{10} and $PM_{2.5}$, and for both the 24-hour and annual periods that standards exist for, the air quality impact assessment that Exelon performed demonstrated that maximum Project and future maximum Facility-wide impacts are below applicable air quality standards. The impact assessment showing these results is required by statute for Exelon to get a PSD permit. Furthermore, the impact assessment was reviewed and approved by both USEPA and MassDEP.

The PSD program has a special provision to assure that air quality in a particular area will not degrade by an incremental amount while at the same time allowing for reasonable economic growth in that area. The incremental amount is referred to as “increment” and “increment” threshold values are published by EPA to use in a PSD increment analysis. For this Project, Exelon was required to do an increment analysis for 24-hour PM_{10} and $PM_{2.5}$. The results of that analysis, which were based on absolute worst case allowable emissions, showed that the increment would be preserved (see Table 6 in the PSD Fact Sheet). In the future, when other large projects are proposed for this area, the increment analysis is redone. At that time, actual observed emissions from the Exelon West Medway II Project will be used in the analysis along with worst case allowable emissions from the future proposed large Project. All future increment analyses will need to show that the increment threshold value is preserved. It is in this manner, that the degradation of good air quality in an attainment area is carefully controlled while allowing for economic growth in an area.

G. Dual Fuel

One comment was received during the public hearing pertaining to the dual-fuel nature of the Project. This comment, the name of the commenter, and MassDEP’s response are listed below.

20. On that, I'm not necessarily against the idea or concept of a power plant, but I am against the idea of a dual fuel power plant. ... Why do we accept a dual fuel plant when we could go with a single fuel plant? (*Meyers*)

MassDEP Response to Comment 20:

MassDEP thoroughly reviewed the appropriateness of a backup fuel during the review of the applications. Details regarding MassDEP’s decision that the fuel selection meets Best Available Control Technology requirements are in Section IV. A. of the PSD Fact Sheet, and the section titled “Combustion Turbines – Fuel Selection” in Section 3 of the MCPA. In short, if the Project is unable to produce power, the reliability of the electric power system in the area could be in jeopardy. Accordingly, Exelon must overcome the challenge of the interruptible supply of natural gas so that it has fuel to run when called upon. Of the available and feasible fuel choices, only the use of natural gas with ULSD backup will fully meet this challenge. MassDEP has imposed conditions limiting the use of backup fuel in the MCPA and the PSD permit.

H. Noise

Several comments were received during the public hearing on the sound generated by the Project. These comments, the name of the commenter, and MassDEP's responses are listed below.

21. They talked about two sound walls but not three. In fact, they have not yet purchased the day care center at the entrance to the site which would have another sound wall around it and would have a potential drop off of emission on it. (*Meyers*)

MassDEP Response to Comment 21:

The Plan Approval has a specific requirement in Table 17, Condition 11, which addresses this situation. The only way the Permittee may forgo the construction of the construction of the "L" shaped noise barrier wall in the area of the current day care center is after demonstrating to MassDEP and receiving MassDEP written approval the following:

- the Permittee has taken ownership of the day care property,
- the property is not used for residential or other noise-sensitive uses and
- they can comply with 310 CMR 7.10 Noise and the MassDEP Policy DAQC 90-001 without constructing the "L" shaped noise barrier wall.

22. The comments that have been made about the baseline is a concern of mine. I've been in the environmental field for 30 years and, you know, there is no baseline environmental data for ... noise, as far as I know. (*Blackwell*)

MassDEP Response to Comment 22:

Exelon conducted a background sound level survey in May of 2014 in accordance with a protocol approved in advance by MassDEP. This background survey established the current base line or existing ambient conditions in the neighborhood of the Project. The survey consisted of a full week (168 hours) of continuous ambient sound data collected at seven locations (R1 through R7) representing the nearest receptor locations in all relevant directions from the Project, as well as the 94 acre property boundary. The combustion turbines at the existing West Medway Generating Station did **not** operate during the week-long ambient measurement program.

Exelon analyzed and reported data in accordance with the approved MassDEP protocol for daytime (6 AM – 11 PM) and nighttime (11 PM – 6 AM) hours. The lowest average nighttime ambient L90 values across the seven monitoring locations range from 32 to 35 dBA. The corresponding daytime (6 AM - 11 PM) values range from 36 to 43 dBA. At all seven monitoring locations, Exelon recorded the lowest nighttime readings between 1 AM and 4 AM.

The impact of Facility sound emissions on ambient sound levels was modeled using the Cadna/A noise calculation software (DataKustik Corporation, 2015). Exelon added the sound attributable to the Project to the measured baseline or background sound levels and predicted the maximum increase in sound above background. The maximum sound level (in dBA) for each location attributable to the Project is limited in Table 17, Condition 9 of the Plan Approval for both daytime and nighttime sound emissions.

23. Is the sound continuously monitored as the emissions are? I understand the emissions are required to be continuously monitored, and the plant would be shut down if there was a malfunction in any of the equipment that would cause the emissions to go high. (Carson)

MassDEP Response to Comment 23:

The sound levels from the Project will not be continuously monitored in a similar fashion to the emissions. The sound levels, however, will be measured as a formal testing procedure once the facility is operational.

After commencement of commercial operations of the new turbines, the Plan Approval requires Exelon to measure the sound emissions according to a specified protocol. The sound measurement program will measure the sound impact from the whole Facility while operating both the existing and the new turbines operating at 100% load. MassDEP will witness this measurement. The measured sound levels must meet the specifications listed in Table 17, Condition 9 of the Plan Approval. If they do not, additional mitigation measures must be proposed.

Additionally, the Plan Approval requires that the existing units not run between the hours of 11:00PM and 6:00AM unless required solely by ISO-NE to dispatch EUs J1T1 through J3T2 because of a local or regional system contingency (that is, Volt Ampere Reactive Control or transmission reliability) or Security Constrained Unit Commitment. This restriction, among other things, will reduce the sound levels emanating from the Facility. Lastly, the Plan Approval requires all acoustical controls and noise barrier walls to be constructed and maintained for the life of the Project.

I. Water

One comment was received during the public hearing pertaining to water usage of the Project. This comment, the name of the commenter, and MassDEP's response are listed below.

24. The other question or comment I have is with regard to the water that is required to operate the plant. I'm sure everyone's aware that the drought has just made worse the water conditions in Medway. We're usually on water restrictions. And it's my understanding that they're going to augment the water required with the Town of Millis supplying some water to be able to supply enough water to operate the plant. In the situation where Millis cannot provide the water, for whatever reason, if they had a pump go down or some other situation in Millis where they would divert the water that would normally be supplied into our system, would the plant still be allowed to run and then just take the water from the Medway water supply or would the plant be required to not operate until Millis could provide the additional water? (Carson)

MassDEP Response to Comment 24:

MassDEP acknowledges these comments, and notes that such comments are beyond the scope of the Department's review in this matter, which relates to the air plan approval and air PSD permit. That said, water issues were addressed in the Massachusetts Environmental Policy Act (MEPA) process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. MEPA review occurs before permitting agencies act, to ensure that they are fully cognizant

of environmental consequences of their actions. Water supply is addressed in Section 8 of Exelon's Final Environmental Impact Report (FEIR).

J. Obsolescence & Decommissioning

Two comments were received during the public hearing regarding the possible decommissioning of the Project. These comments, the name of the commenter, and MassDEP's responses are listed below.

25. And lastly, I think, you know, with improvements in solar, wind, and actual energy storage that the plant may become obsolete faster than what is anticipated and being presented. And therefore, you know, what would the State do regarding the decommissioning of that plant? ... And we would also need to consider, if it's decommissioned, that the plant be removed and either returned to a -- into open space or even converted to a solar farm to continue the energy generation. (*Adams*)
26. And, you know, the fact that it could be obsolete in a number of years seems kind of renewable energy makes it obsolete and we need to decommission, and that open space is probably gone forever. (*Blackwell*)

MassDEP Response to Comments 25 and 26:

MassDEP acknowledges these comments, and notes that such comments are beyond the scope of the Department's review in this matter, which relates to the air plan approval and air PSD permit. That said, decommissioning issues were addressed in the MEPA process. MEPA requires public study, disclosure, and development of feasible mitigation for a proposed project. MEPA review occurs before permitting agencies act, to ensure that they are fully cognizant of environmental consequences of their actions.

Exelon's MEPA FEIR notes that decommissioning issues are addressed through the Host Community Agreement that Exelon signed with the Town of Medway. Section 1.3.1.2 of the FEIR summarizes the Host Community Agreement.

K. Self-reporting

One comment was received during the public hearing on the sound generated by the Project. This comment, the name of the commenter, and MassDEP's response are listed below.

27. And then I have some concerns about this whole emissions thing. It seems to me -- and correct me if I'm wrong -- that it's self-reporting. That Exelon takes in the numbers and reports it to the DEP; is that correct?

Just because Exelon says -- you know, gives you the numbers, it's self-reporting. It's not -- I think there needs to be an outside reporting on that. Regardless, even if it complies with standards, the numbers I've seen it in, like, tons and tons of particulate matter being put into the atmosphere. (*Rorke*)

MassDEP Response to Comment 27:

Yes, Exelon does self-report its emissions to MassDEP via a series of reports throughout the calendar year. However, there are a number of checks and balances incorporated into the Plan Approval to ensure the accuracy of the reported results.

First is a compliance emission stack test required by the Plan Approval. As described in Table 14 of Plan Approval, Exelon must perform an initial compliance testing to demonstrate compliance with all of the emission limits listed in Table 13. They must test the following pollutants: NO_x, CO, VOC, PM, PM₁₀, PM_{2.5}, NH₃, H₂SO₄, total HAP, single HAP (formaldehyde), and opacity while burning both natural gas and ULSD at varying percent loads of the turbines. They must also verify the parametric methodologies for PM, PM₁₀, PM_{2.5}, and H₂SO₄ during the compliance testing. Every 5 years thereafter, Exelon must conduct additional stack tests for PM, PM₁₀, PM_{2.5}, and H₂SO₄. MassDEP witnesses these entire sets of emission stack tests.

In addition to stack testing, the primary method of monitoring emissions, specifically NO_x, CO, and NH₃ is with a Continuous Emission Monitoring (CEM) System. The standard CEM system consists of a sample probe, filter, sample line (umbilical), gas conditioning system, calibration gas system, and a series of gas analyzers which reflect the parameters being monitored. The CEM systems also monitor O₂ and air flow. A Continuous Opacity Monitoring System (COMS) monitors opacity of the emissions.

EPA (and the Plan Approval) requires a data acquisition and handling system (DAHS) to collect and report the data from the CEMS and COMS. The DAHS calculates the emissions in pounds per hour, pounds perMMBtu and ppmvd at 15% O₂ to determine compliance with the applicable emission limits in Table 13 of the Plan Approval.

Both the CEMS and COMS are considered as “direct-compliance” monitors to measure opacity and emissions of NO_x, CO, and NH₃. “Direct-compliance” monitors generate data that legally documents the compliance status of a source. These units need be certified and they are calibrated daily. To verify the accuracy of the emission monitoring, the NO_x and CO CEMs must undergo an annual Relative Accuracy Test Audits (RATA). These RATA tests are performed by a third party and are generally witnessed by MassDEP.

L. Emissions Reduction Credits

One written comment from Exelon was received concerning Emissions Reduction Credits.

28. The Draft CPA Permit currently provides that Exelon West Medway is required to surrender 83 tons per year of NO_x offsets (see Draft CPA Permit, page 8 of 79). The Draft CPA Permit currently indicates that Exelon West Medway has obtained 31.2 tons per year of Emission Reduction Credits (ERCs) from the Osram Sylvania Inc. facility and that the remainder of Exelon West Medway’s obligation will be satisfied using “discreet” ERCs. Since the issuance of the draft CPA Permit, Exelon West Medway has now acquired an additional 52 tons per year of ERCs from Element Markets, LLC. As such, the third paragraph in the “offsets” section of the Draft CPA Permit should be modified to read:

“Exelon has obtained 83 tons per year of offsets. This includes 31.2 tons per year of Emission Reduction Credits (ERCs) in the MassDEP Rate ERC Bank2 acquired from the Osram Sylvania, Inc. facility in Central Falls, RI and 52 tons per year of ERCs in the MassDEP Rate ERC Bank from Element Markets, LLC. The ERCs in the Rate ERC bank will be used in their entirety upon commencement of operation, with no further obligation.”

In addition, the fourth paragraph of this page of the Draft CPA Permit is no longer necessary and can be deleted in its entirety. (*Exelon*)

MassDEP Response to Comment 28

Neither Rhode Island rate ERCs nor Massachusetts ERCs in the Mass ERC Bank have a shelf life that expires, so there would be no conditions related to expiration.

ERCs in the Rate ERC Bank which were created based on Massachusetts emissions reductions have a limited shelf life, however, and must be used no later than midnight of the tenth anniversary of the final approval date, pursuant to 310 CMR 7.00 Appendix B (3)(d)8:

“ERCs in the Rate ERC Bank shall revert to the state to be retired for the benefit of the environment if they have not been used by midnight of the date ten years from the date of Department approval.”

Also, pursuant to 310 CMR 7.00 Appendix B (3)(e)13:

“ERCs utilized as offsets are considered "used" commencing with startup of a facility; ERCs with an expiration date prior to actual startup of a source needing offsets will not be acceptable as offsets for the facility.”

To create the particular ERCs in the Rate ERC Bank that Exelon acquired from Element Markets, MassDEP issued a final approval, Transmittal No. X225078, dated April 7, 2010, related to shutdown of Haverhill Paperboard.

Therefore, the proposed Exelon West Medway facility must start up no later than April 7, 2020, in order for these 52 TPY NOx ERCs in the Rate ERC Bank to satisfy the purpose of offsets for the project.

The Final Plan Approval has been modified to reflect this.

Responses to Comments, exclusively for the PSD & PSD Fact Sheet

The following comments on a variety of issues were received from USEPA Region 1 for the Draft PSD Permit and Draft Fact Sheet. These comments with the responses are listed below.

L. Air Quality Dispersion Modeling

29. Modeling for compliance with the 1-hour nitrogen dioxide standard has been conducted using a Tier 3 screening option called the Plume Volume Molar Ratio Method (PVMRM). Use of PVMRM in a regulatory context is described in 40 CFR 51 Appendix W (Guideline for Air Quality Models), Section 5.2.4. These Tier 3 methods, including PVMRM, are currently implemented as non-regulatory-default options within the AERMOD dispersion model. Their use in a regulatory context requires justification and approval by the EPA Regional Office on a case-by-case basis, pursuant to Sections 3.1.2(c), 3.2.2(a), and A.1.a(2) of Appendix W, as described in the March 1, 2011 memorandum from Tyler Fox, “Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard”. MassDEP should provide EPA with justification for the use of PVMRM in this case with a request for its use. Subsequently, EPA Region 1 will review and approve the request, as appropriate, prior to the issuance of a permit making use of a modeling demonstration that relies on PVMRM.

MassDEP Response to Comment 29:

Upon receipt of this comment, MassDEP officially requested review by EPA Region 1 of a technical justification to use PVMRM in 1-hour NO₂ modeling, along with its specific inputs. The initial technical justification was contained in the March 2015 modeling protocol approved by MassDEP. EPA’s review of the initial technical justification resulted in a request for more information to justify the use of non-default in-stack ratios (ISRs) for certain sources included in the cumulative dispersion modeling analysis. Exelon provided the newly required ISR information in a series of two emails with attachments following MassDEP’s November 18, 2016 request for review. Written approval to MassDEP for the Exelon’s use of PVMRM in the 1-hour NO₂ modeling was provided by EPA on December 7, 2016.

The complete set of materials and communication associated with the EPA Region 1 PVMRM approval is in the administrative record and available upon written request.

M. ULSD Requirements

30. The Proposed Air Quality Plan Approval contains provisions related to the use of ultra-low sulfur diesel (ULSD) in the *Monitoring and Testing Requirements*, *Record Keeping Requirements*, and *Special Terms and Conditions* sections. Provisions within these sections pertain to instances under which ULSD can be fired, measurement requirements for ULSD fired, certification requirements for the sulfur content of the ULSD, and record keeping requirements for the sulfur content of each ULSD delivery. The PSD Best Available Control Technology (BACT) analysis concludes that dual fuel capabilities (i.e., the ability to fire natural gas and ULSD) represent BACT, and therefore these requirements should also be included in the PSD Permit to ensure they

are federally enforceable. Specifically, the following conditions of the Proposed Air Quality Plan Approval should also be contained within in the appropriate sections of the PSD Permit: a) condition 23 of Table 14, b) condition 48 of Table 14, and c) condition 18 of Table 15, d) condition 20 of Table 15, and e) condition 7 of Table 17.

MassDEP Response to Comment 30:

The conditions listed above have been added to the Final PSD Permit. Additional conditions from the Plan Approval were added to the PSD Permit for completeness in the monitoring, record keeping or reporting requirements as they relate to use of ULSD.

Added to Table 3:

Condition 17. The Permittee shall install, calibrate, certify, maintain and continuously operate fuel flow monitors that monitor the amount of natural gas and ULSD used to fire EUs J4 and J5

Condition 26. The Permittee shall sample and analyze the natural gas and ULSD used during the initial compliance testing to determine their compliance status with the sulfur in fuel emission limit in Table 2 of this Permit. (additional condition added)

Condition 31. The Permittee shall monitor the sulfur content of each shipment of ULSD received. The Permittee may determine the sulfur content of ULSD by analyzing the sulfur content of the ULSD or by relying on ULSD suppliers to provide the sulfur content of ULSD received. The analysis of sulfur content of ULSD shall be in accordance with the applicable ASTM International test methods or any other method approved by MassDEP and EPA.

Added to Table 4

Condition 14. The Permittee shall maintain a record of the sulfur content of each ULSD delivery made to the Project

Condition 16. The Permittee shall maintain the following records:

- (a) the dates ULSD was fired,
- (b) the specific condition of Table 6 Condition 6 under which ULSD was allowed to be fired for each period of ULSD firing,
- (c) for any ULSD firing under Table 6 Condition 6(a), the price comparison required by Table 6 Condition 6(a),
- (d) the heat input when firing ULSD under Table 6 Condition 6(a), and
- (e) the heat input when firing ULSD under Table 6 Condition 6(b).

Added to Table 5, Condition 9(d) has been added as shown in underline below (additional condition added)

Condition 9(d) in the semi-annual report required by July 30 each year for the period of the previous July through June, the following information regarding ULSD firing pursuant to Table 6 Condition 6 below:

- i. the dates ULSD was fired,

- ii. the specific condition of Table 6 Condition 6 under which ULSD was allowed to be fired for each day of ULSD firing.
- iii. for any ULSD firing under Table 6 Condition 6(a), the price comparison required by Table 6 Condition 6(a).
- iv. the heat input when firing ULSD under Table 6 Condition 6(a), and
- v. the heat input when firing ULSD under Table 6 Condition 6(b).

Added to Table 6

Condition 6. The Permittee shall not operate EUs J4 and J5 firing ULSD except under the following conditions:

- (a) Up to a maximum heat input of 681,120, MMBtu during each period from July 1 through June 30, on any day the price of ULSD is less than the price of natural gas for the Project on a dollars per MMBtu basis. To compare the price of ULSD and the price of natural gas, the Permittee shall compare: for ULSD, the final "Settle" price for the prompt month NY Harbor ULSD Futures (or a successor product) as published by CME Group multiplied by 7.21 gallons per MMBtu, and for natural gas, the Midpoint price for Algonquin, city-gates (or a successor product) as published in Platt's Gas Daily multiplied by 1.1. The Permittee and MassDEP will designate a replacement price index if either price index is no longer provided by the above noted source or if a successor to either index above is not available, or,
- (b) Up to a maximum heat input of 1,362,240 MMBtu during each period from July 1 through June 30, except that this maximum heat input is reduced by the amount of any heat input used under Table 6 Condition 6(a) above during the same period:
 - i. When ISO-NE declares an Emergency, an Energy Emergency, or a Capacity Scarcity Condition as defined in ISO New England's Tariff or as referenced in Operating Procedure No. 4, No. 7 or No. 21, or;
 - ii. When the natural gas supply (1) is curtailed by the pipeline operator; (2) cannot be procured or delivered at any price; or (3) is not available for purchase or delivery within the timeframe required to support operation of the Project. In this situation, the Permittee shall use all commercially reasonable efforts to switch to firing natural gas as soon as possible as allowed under ISO-NE market rules and without jeopardizing the safety of equipment or operating personnel, or;
 - iii. In the event the Project is operating on natural gas and the pipeline operator curtails the supply or delivery of natural gas. In this situation, the Permittee shall use all commercially reasonable efforts to switch back to firing natural gas as soon as possible as allowed under ISO-NE market rules and without jeopardizing the safety of equipment or operating personnel, or;
 - iv. In the Real-Time market when ISO-NE dispatches the Project at or above the Reserve Constraint Penalty Factor price applicable to either the System reserve requirements or local reserve requirements associated with the load zone in which the Project is located, or;
 - v. In the event there is (1) a failure of any equipment (whether on-site or off-site) required to fire EUs J4 and J5 with natural gas; (2) a physical blockage of the supply pipeline; (3) or other pipeline or natural gas supply condition preventing the delivery of natural gas of appropriate quality and pressure. In this situation, the Permittee shall use all commercially reasonable efforts to switch back to firing natural gas as soon as

- possible as allowed under ISO-NE market rules and without jeopardizing the safety of equipment or operating personnel, or;
- vi. During commissioning and start-up testing when EUs J4 and J5 are fired with ULSD, or;
 - vii. For emission testing purposes required by this Plan Approval or required by MassDEP or for testing required by ISO-NE or any other regulatory authority, or;
 - viii. During testing, modification, repair and maintenance if any equipment requires firing with ULSD.

The Permittee shall not operate EU J4 and J5 firing ULSD pursuant to Table 6 Conditions 6(a) and 6(b)viii during the Ozone Season. "Ozone season" means the ozone monitoring season for Massachusetts as stated in 40 CFR 58 Appendix D Table D-3.

N. Parametric Monitoring

31. In the Draft PSD Permit, condition 25 of Table 3 lacks reference to the parametric monitoring requirements for sulfuric acid mist. Sulfuric acid mist should be added as a pollutant of consideration to the monitoring requirement found at condition 25 of Table 3. Also, in regards to the parametric monitoring requirements for PM and sulfuric acid mist, MassDEP should choose specific parameter for these pollutants and identify the metrics as permit conditions at condition 25 of Table 3 and condition 5 of Table 5. The following represents a non-exhaustive list of potential parameters to control for PM and/or sulfuric acid mist: sulfur content of fuel, combustion temperature, load, and the air-fuel mixture ratio.

MassDEP Response to Comment 31:

The final PSD permit adds sulfuric acid mist to the parametric monitoring requirements, and provides specific parameters for use in compliance documentation. Table 3, condition 25 has been modified as shown in underline below:

"The Permittee shall comply with the parametric monitoring methodology approved by MassDEP for PM, PM10, PM2.5, and H2SO4 emissions from EUs J4 and J5. The Permittee shall use the turbine load as a parametric to document compliance with PM, PM10, and PM2.5 emission limits. The Permittee shall use the fuel sulfur content as the parametric to document compliance with H2SO4 emission limits."

Additionally Table 5, Condition 2(c) has been modified as shown in underline below:

"Procedures to confirm the parametric monitoring methodology for particulate emissions and sulfuric acid mist approved by MassDEP."

O. Annual Average Emission Limit for GHG

32. The permit record and the Draft PSD Permit appear inconsistent in how it applies the annual average emission limit of 1,352 lb/MW-hr for greenhouse gases (GHG). The PSD Permit Fact Sheet specifies

the limit will be complied with on a 12-month rolling period, calculated monthly. The Draft PSD Permit only specified an annual average, which could be interpreted as a calendar block average. Condition 5 of Table 2 should clearly state the annual average is measured on a 12-month rolling period, calculated monthly.

33. It is unclear how the 12-month rolling average for GHGs is calculated. The more representative method for calculating this average is by summing all mass emissions and dividing by all MW-h output within the given 12-month period, as opposed to averaging monthly averages

MassDEP Response to Comment 32 and 33:

The intent was to require compliance measured on a 12-month rolling period, calculated monthly. Table 2, Note 5 in the final PSD permit has been modified as shown in underline below:

“The pound per megawatt-hour emission limit is calculated using the 100% load emission factor and gross electrical output, corrected to ISO conditions (59°F, 14.7 psia and 60% humidity). Emissions calculations use a natural gas CO₂e emission factor of 119.0 lb/MMBtu. This emission factor is based on a CO₂ emission factor of 118.9 lb/MMBtu calculated from Equation G-4 of 40 CFR 75 Appendix G plus an emission factor of 0.1 lb/MMBtu for other greenhouse gases (methane and nitrous oxide) calculated using the emission factors for these two pollutants from Table C-2 of 40 CFR 98 Subpart C and the global warming potentials for these two pollutants from Table A-1 of 40 CFR 98 Subpart A. Compliance shall be determined during the initial compliance test performed within 180 days after initial firing of the EUs. Similarly, ULSD emissions are calculated using a ULSD CO₂e emission factor of 163.64 lb/MMBtu. The annual average pound per megawatt-hour value is calculated monthly on a rolling 12-month period by summing all mass emissions of CO₂e during the given 12-month period and dividing by all MW-h output within the given 12-month period.”

P. Environmental Justice Impacts

34. The Draft PSD Fact Sheet describes an approach for assessing environmental justice impacts from the Exelon West Medway project. MassDEP states that it has reviewed Exelon’s demonstration and “agrees that the air quality impacts from the Project will not have a disproportionately higher adverse impact on environmental justice areas compared to non-environmental justice areas.” However, MassDEP does not provide sufficient detail to explain how it has reached this conclusion. MassDEP should provide a more detailed description of the results of the environmental justice demonstration and additional discussion of the evidence leading to the conclusion that impacts in environmental justice areas are not expected to be “disproportionately higher” to areas not considered environmental justice areas.

MassDEP Response to Comment 34:

MassDEP has concluded that no EJ communities will bear a disproportionate share of negative health or environmental consequences from the issuance of a PSD Permit to the Project. The evidence leading to this conclusion includes: (1) the Project will not be located in or abutting an EJ area; (2) nearby EJ communities have been provided with several opportunities to participate in the permitting process; and (3) the Project meets all applicable air emissions standards and would not cause or

contribute to a violation of the health-based National Ambient Air Quality Standards. The final PSD Fact Sheet contains a more detailed description of the environmental justice demonstration and additional discussion of the evidence.

Q. Typographical Errors

35. In the Draft PSD Permit, there is a typo at condition 28 of Table 3 which leads to uncertainty as to which cross-referenced conditions the requirement is referring to. MassDEP should correct this typo and refer the intended cross-referenced provisions.
36. Page 48 of the PSD Permit Fact Sheet incorrectly refers to Table 10 in Section VIII. No such table exists within Section VIII. The correct reference is Table 7, entitled “Total PM_{2.5} (Primary + Secondary) Impacts Comparison To The NAAQS And PSD Increments.”

MassDEP Response to Comments 35 and 36:

These corrections have been made in the Final PSD Permit and the PSD Fact Sheet