The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 22-59 June 30, 2023

Petition of Cranberry Point Energy Storage, LLC pursuant to G.L. c. 40A, § 3 for a Comprehensive Exemption from the Zoning Bylaw of the Town of Carver, Massachusetts.

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Summary

Cranberry Point Energy Storage, LLC ("Cranberry Point" or "Company") proposes to construct a 150 megawatt/300 megawatt-hour battery energy storage system ("BESS") to be located on a six-acre parcel in Carver, Massachusetts ("Project"). The Project includes 82 Tesla Megapack 2XL lithium-iron phosphate ("LFP") battery units, a new Project substation and ancillary equipment, along with a new Eversource-owned switching station on the Project site. Eversource will also construct a short overhead transmission line on its existing right-of-way to connect the Project to the existing Eversource Carver Substation.

ISO-New England ("ISO-NE") selected Cranberry Point to meet the need for capacity and energy in Southeastern Massachusetts in the 2024-2031 period and requires the Project to be in commercial operation by June 1, 2024. The Company maintains that the Project will further the Commonwealth's renewable energy and net zero requirements by its intended participation in the Clean Peak Program, designed to store energy when renewable generation is most prevalent on the grid, and discharge a BESS during peak demand periods when fossil fuel generating sources might otherwise be used.

In May 2022, pursuant to G.L. c. 40A, § 3, Cranberry Point filed a petition ("Petition") with the Department of Public Utilities ("Department") seeking a comprehensive exemption from the Town of Carver Zoning Bylaw. The Company stated that the zoning exemption was necessary because of a 12-month BESS moratorium adopted at Carver town meeting in April 2022, and the threat of future adverse zoning ordinances that might be enacted. Prior to the BESS moratorium, the Company had already received a special permit and site plan approval from the Carver Planning Board (recently extended through March 31, 2024). In November 2022, the Massachusetts Attorney General's Office ruled that the BESS moratorium violates G.L. c. 40A, § 3. In April 2023, Carver town meeting approved bylaws that restrict BESS development. Despite holding a special permit, the Company asserts that potential appeals and other delays could lead to a lapse of the special permit and subject the Project to the most recent BESS zoning bylaws, which the Project does not meet. Therefore, the Company maintains that the comprehensive zoning exemption is still necessary for the construction and operation of the Project.

In this proceeding, the Department has reviewed whether the Company qualifies as a public service corporation, whether its proposed use of the land or structure is reasonably necessary for the public convenience or welfare, and whether an exemption from local zoning is required. The Department finds that the Project as proposed is necessary and will provide benefits, and that the alternative sites evaluated, or a no-build alternative, are inferior. An evaluation of public safety and environmental impacts also shows that the Project is reasonably necessary for the public convenience or welfare. In granting the comprehensive zoning exemption, the Department has imposed several conditions to help ensure the environmental and other benefits of the project, and further minimize safety or environmental impacts of the Project.

I. INTRODUCTION

A. Background

On May 11, 2022, pursuant to G.L. c. 40A, § 3, Cranberry Point Energy Storage, LLC ("Cranberry Point" or "Company") filed a petition with the Department of Public Utilities ("Department") for a comprehensive exemption for construction of a battery energy storage system ("BESS") and associated facilities from the operation of the Town of Carver Zoning Bylaws ("Zoning Petition")[1] The Cranberry Point project includes construction of a BESS, a new substation ("Project Substation") and ancillary electrical equipment, and a new switching station ("Switching Station") and transmission structures including those on an existing adjacent Right of Way ("ROW") that would be built, owned, and operated by NSTAR Electric Company d/b/a Eversource Energy ("Eversource") (collectively, the "Project") (Exh. CP-Z at 1-2). The Department docketed the Zoning Petition as D.P.U. 22-59.

Prior to filing its Zoning Petition, on August 27, 2021, Cranberry Point filed with the Energy Facilities Siting Board (the "Siting Board") a petition to construct the Project pursuant to G.L. c. 164, § 69J¼ (the "Siting Board Petition"). Under the authority provided by G.L. c. 25, § 4, the Department referred the Zoning Petition to the Siting Board, which was then consolidated with the Siting Board Petition. Cranberry Point Energy Storage, LLC, EFSB 21-02/D.P.U. 22-59, Referral and Consolidation Order (June 1, 2022). After notice, hearing and due consideration, on May 11, 2023, the Siting Board dismissed the Siting Board

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[1] For a detailed procedural history, see Section I.D, below.

Petition for lack of subject matter jurisdiction. Cranberry Point Energy Storage LLC, EFSB 21-02/D.P.U. 22-59, at 23-24 (May 11, 2023). The Siting Board also relinquished its jurisdiction over the Zoning Petition and returned it to the Department where the Zoning Petition was filed originally before being transferred to the Siting Board and consolidated with the now-dismissed Siting Board Petition. EFSB 21-02/D.P.U. 22-59, at 24-25. The Department addresses our determination on the Zoning Petition in this Order.

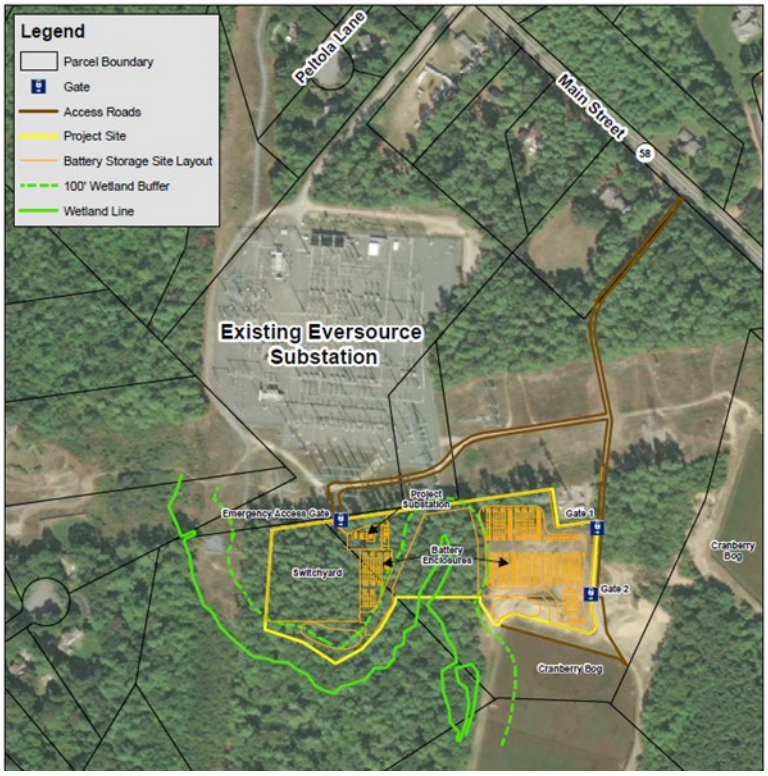
B. Description of the Project

Cranberry Point intends to construct the Project on a six-acre parcel of land at 31R Main Street, Carver, Massachusetts ("Project Site"), currently under an Option to Lease held by the Company with the landowner (Exhs. CP-B at 1; CP-9). The Project (except for the Eversource Switching Station and certain transmission facilities) will be owned and operated by Cranberry Point (Exh. CP-B at 2). Cranberry Point is a subsidiary of Plus Power, LLC, which develops utility-scale standalone battery energy storage projects (Exh. CP-AJS at 1). The Company estimates the cost of the Project is $175 million (Exh. CP-8S, app. G at 1).

The Project Site is near the existing Eversource Carver Substation ("Existing Substation") and east of an existing electrical transmission ROW also operated by Eversource (Exh. CP-B at 13). The Project Site is located on two, undeveloped, primarily wooded properties, with cranberry bogs located to the south and east (Exh. CP-2, at 2). Softwoods (pines) and mixed hardwoods (maples and oaks), coupled with understory species such as saplings, shrubs, and herbaceous species, comprise the vegetation on the Project Site (Exh.

CP-B at 8). There is a gentle, southernly slope in the Project Site's topography that leads towards the wetland and cranberry bogs (Exh. CP-2, at 2).

Figure 1. Project Site Map

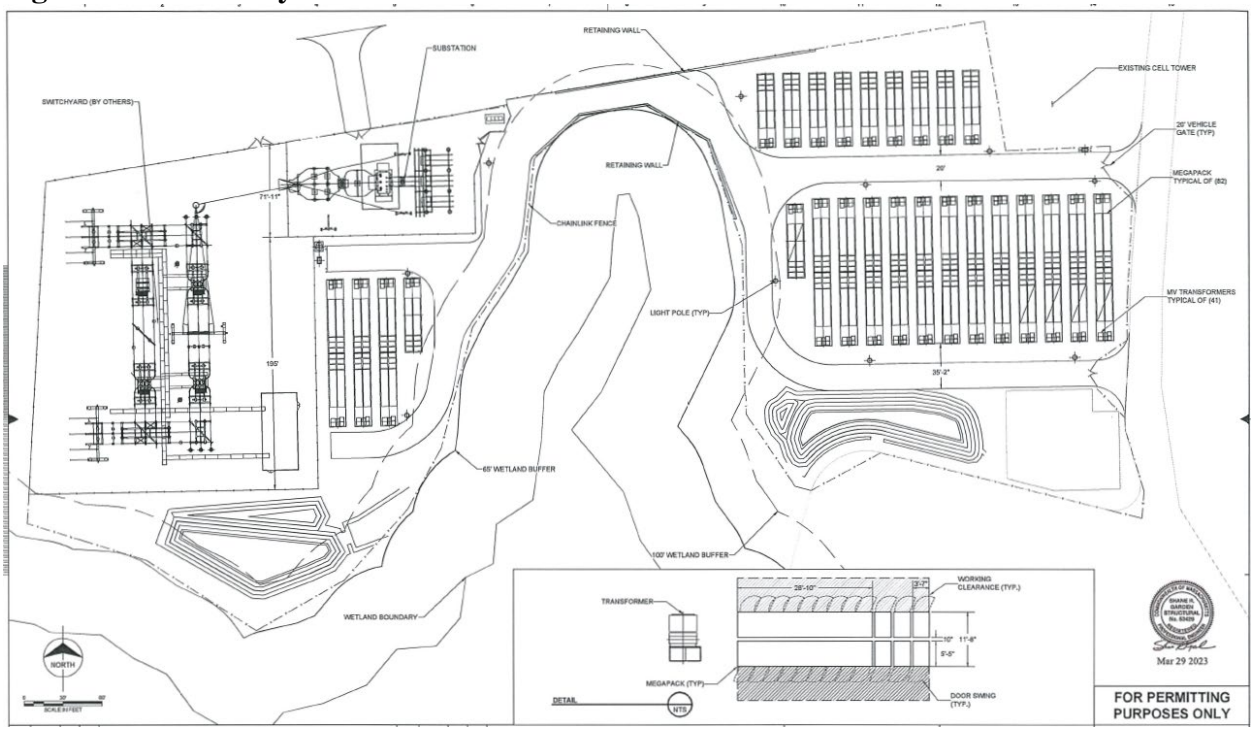


Source: Exh. CP-B at 6.

The Project would include the construction of a 150 megawatt ("MW"), 300 megawatt-hour ("MWh") BESS with lithium-ion battery modules built into approximately 82 individual enclosures supported by concrete slabs and pier foundations, and surrounded by crushed stone (Exh. CP-B at 11; Tr. 1, at 10). The Project would include a small Project Substation with low voltage/medium voltage equipment protective relays, circuit breakers, and other ancillary electrical equipment (Exh. CP-B at 12). The Company presented minor modifications to the site in its response to RR-EFSB-16, which were approved by the Carver

Planning Board (RR-EFSB-16(A3); RR-DPU-1).[2] The Eversource Switching Station on the western portion of the Project Site, and new transmission structures on an existing Eversource -ROW, would both be constructed, owned, and operated by Eversource (Exh. CP-B at 11-12; Eversource Brief at 1).

Figure 2. BESS Layout.



Source: RR-EFSB-16(A5).

[2] The Company proposed certain changes in the Project design to the Planning Board as minor modifications to its previously approved Site Plan (RR-DPU-1). Those changes include: (1) a reduction in the total number of proposed battery enclosures from 116 to 82 enclosures; (2) relocations of some battery enclosures, within the Project footprint previously approved, primarily to facilitate realignments to access lanes within the site; (3) minor updates to Substation equipment type and size, including feedback and details from Eversource; and (4) minor updates to fence locations within the previously approved development area (RR-DPU-16). The Carver Planning Board approved those modifications with additional conditions on April 25, 2023 (RR-DPU-1(1)).

The BESS design includes: (1) battery enclosures manufactured by Tesla Inc. ("Tesla"); (2) oil-filled step-up transformers; (3) medium voltage circuit breakers; and (4) associated electrical control and interconnection equipment (Exh. CP-B at 11).[3] The entire BESS will be electrically connected to the Project Substation, which includes a single large power transformer, circuit breaker, and interconnection structures that would be used to match up to the electrical interface of the Eversource grid (Exh. CP-B at 11). Lastly, the Eversource-owned Switching Station would electrically allow Eversource and ISO-NE to either connect, disconnect, or bypass the Project based on market and grid conditions (Exh. CP-B at 11).

Within the Project Site, 82 battery enclosures will be grouped and installed onto a single poured concrete pad with four enclosures on each concrete pad (Exh. CP-8S at 3). Lithium iron phosphate ("LFP") battery cells, which are hermetically sealed,[4] are combined electrically within each battery module (Exh. CP-B at 11). Each enclosure would have 24 battery modules (Exh. CP-8S at 3). Each concrete pad, with the four enclosures, would be

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[3] Specifically, the Company would use the Tesla Megapack 2XL (RR-STPB-1). The Megapack 2XL uses LFP, a different battery chemistry from original nickel-manganese-cobalt ("NMC") based Tesla Megapack 1 (Exh. STPB-1-1, Att. Fisher Report at 22). The Company notified Tesla in December 2021 that it would use the Megapack 2XL for the Project, instead of the Megapack 1 (RR-STPB-1). The Company explained that its decision was based on product availability, supply constraints, and Tesla's completion of its project development (RR-STPB-1; Tr. 2, at 199-203).

[4] A hermetically sealed container or space is so tightly closed that no air can leave or enter it. *(Definition of hermetically sealed from the Cambridge Advanced Learner's Dictionary & Thesaurus © Cambridge University Press).*

approximately 65-feet long by 12-feet wide (Exh. CP-8S at 3). Each battery enclosure would have a built-in inverter that converts direct current ("DC") to alternating current ("AC") (Exh. CP-8S at 3). There would also be 41 step-up transformers installed on the concrete pads adjacent to the battery enclosures (Exh. CP-8S at 3).

The Switching Station and the transmission structures (referred to collectively as the "Eversource Transmission Facilities") are needed to interconnect the BESS with the regional electric grid (Exhs. CP-A at 11; CP-Z at 6, 7; CP-7, at 10). The Switching Station is adjacent to an existing Eversource ROW that contains two existing 115 kV transmission lines (Lines 127 and 134) (Exh. CP-A at 1). Eversource would construct two new transmission dead-end structures in the ROW and install tap lines, approximately 130 feet in length, to connect its Switching Station with its existing Line 127 (Exhs. CP-Z at 7; CP-A at 12-13). The interconnecting line, and the two new dead-end structures, would not cross any public ways and would be entirely located on the Project Site and Eversource's ROW (Exh. CP-A at 13). The new Eversource Switching Station would include a new 115 kV three-breaker ring-bus, circuit breakers, closed circuit televisions, disconnect switches, lightning arrestors, metering units, station service voltage transformers and a new 115 kV control house, and would be designed, installed, and operated by Eversource (Exhs. CP-A at 1, 12; CP-7, at 12; CP-Z at 6; EFSB-G-33(1)).

In 2021, Cranberry Point participated in ISO-NE's Forward Capacity Auction ("FCA") and was selected to provide capacity starting in 2024 (Exh. CP-B at 4). Cranberry Point stated that the Project is time sensitive and must meet its Commercial Operation Date of June 1, 2024; failure to meet this deadline could result in a substantial financial loss

and/or termination of the seven-year CSO (Company Brief at 49, citing Exh. EFSB-G-6). To meet this deadline, the Company asserts that approval to construct the Project must be received by June 2023 (Exh. EFSB-G-6). The Company's preliminary project schedule estimated the length of construction at approximately 280 days (Exh. EFSB-G-2).

Cranberry Point filed an Expanded Environmental Notification Form ("EENF") and a Single Environmental Impact Report ("SEIR") pursuant to 309 CMR 11.03(7)(1) for review by the Massachusetts Environmental Policy Act ("MEPA") Office. On October 18, 2022, the Secretary of Office of Energy and Environmental Affairs ("EEA") issued a certificate determining that the SEIR adequately and properly complies with MEPA and its implementing regulations (Exh. CP-9S at 1).[5]

C. Summary of Local Permitting Activity

The Project Site is located in the Town of Carver's ("Town") Residential Agricultural ("RA") zoning district (Exh. CP-Z at 2). The Company filed a petition with the Town of Carver seeking a Site Plan Review and a Special Permit for the Project. When the Company filed its Siting Board Petition, the Town of Carver Zoning Bylaws Article II, § 2100, allowed constructing and/or operating a BESS in the RA district after receipt of a Site Plan Review Approval and Special Permit by the Town (Exh. CP-Z, Att. 1, at 2100 (C), p. 7; Tr. 1, at 90-91). In 2019, Cranberry Point received a Site Plan Review Approval and a Special Permit from the Carver Planning Board and an Order of Conditions ("OOC") from the

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[5] The SEIR Certificate also determined that the Project Site is not located within a Designated Geographic Area of any environmental justice population as defined in G.L. c. 30, § 62 (Exh. CP-9S at 2).

Town's Conservation Commission to construct the Project, on March 26, 2019, and February 6, 2019, respectively (Exhs. CP-Z at 2; CP-3, at 1; CP-B at 10).[6,7]

However, at the April 12, 2021 Town meeting, the Town of Carver adopted a eleven and one-half month moratorium on the new use of land for BESS to undertake a planning process examining the potential impacts of BESS facilities on local residents including the health, welfare and safety of the Town and the development of zoning bylaw provisions to address BESS (Exh. CP-Z at 2,7). Cranberry Point filed its Zoning Petition with the Department in light of the zoning bylaw amendment adopting the moratorium (Exh. CP-Z at 8-9). Subsequently, on November 14, 2022, the Office of the Attorney General issued a letter decision determining that the Town of Carver's Zoning Bylaw violates G.L. c. 40A, § 3 (RR-EFSB-21).

On March 23, 2021, the Carver Planning Board voted to extend the period of use of the Site Plan Review Approval and Special Permit to March 31, 2023 (Exhs. CP-4; CP-Z at 7; Company Brief at 49-50). On June 26, 2021, the Carver Planning Board approved a minor modification of the Site Plan, which changed the location of some components of the

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6 Cranberry Point's OOC approval remains effective through February 16, 2025 (RR-EFSB-18).

7 As part of the Site Plan Review Approval, the Town Planning Board conducted a site visit for the Project Site, asked written questions of Cranberry Point, and held a public hearing (Exh. CP-3, at 2-3). The Planning Board also discussed the Company's response in a regular Planning Board meeting, finally finding that the benefits of the proposed use outweigh any detrimental impacts to the Town and neighborhood (Exh. CP-3, at 3). The Site Plan Approval and Special Permit include several conditions that the Company must abide by, including conditions regarding safety and visual impacts (Exh. CP-3, at 4-5).

Project to provide space for the Eversource's Switching Station on the Project Site (Exhs. CP-Z at 7; CP-4).

At the April 2023 Carver Town meeting, additional zoning amendments were presented in the Town Warrant and a new bylaw was approved (RR-EFSB-19). On May 9, 2023, the Planning Board extended the term of the Special Permit to March 31, 2024, and approved further modifications to the Site Plan (RR-DPU-1; RR-DPU-3). As discussed later in Section III.E.2, both Cranberry Point and Eversource contend that the requirements of these zoning amendments would prohibit construction of the Project including the Eversource Transmission Facilities at the Project Site (Company Supplemental Brief at 5-8; Eversource Supplemental Letter at 1-2). Although the Attorney General has not yet decided whether to approve the new bylaw provisions, Cranberry Point and Eversource assert that the uncertainty associated with these new provisions and the threat of continuing local opposition support the grant of a comprehensive exemption from the operation of the Carver Zoning Bylaw (Company Supplemental Brief at 5-8; Eversource Supplemental Letter at 1-2).

D. Procedural History

1. Siting Board Proceeding

On August 27, 2021, Cranberry Point filed the Siting Board Petition, pursuant to G.L. c. 164, § 69J¼ (Exh. CP-A at 1). In response to the Siting Board Petition, the Siting Board issued a Notice of Adjudication and Public Comment Hearing ("Notice") requiring that Cranberry Point provide notice by first class mail to all U.S. Mail addresses and owners of property within one-half mile of the Project Site, and, more widely, through publication in The Carver Reporter and The Patriot Ledger. The Siting Board also directed the Company

to provide the Notice to the Town's Planning Board, the Select Board, Town Manager, Zoning Board of Appeals, Department of Public Works, and Conservation Commission, and requested that the Town of Carver post the Notice on the Town's website.

The Siting Board conducted a remote public comment hearing regarding the Company's Siting Board Petition on November 8, 2021, via Zoom. Siting Board staff reviewed available demographic data and determined that there are no Environmental Justice ("EJ") populations within one mile of the proposed Project under applicable legislative definitions (Exh. CP-7 at 14).[8,9]

The Siting Board received two timely petitions to intervene from Save the Pine Barrens, Inc. ("STPB") and Melissa Ferretti. The Siting Board also received a late-filed petition to intervene from Eversource on January 18, 2022, to which the Company assented. On May 6, 2021, the Presiding Officer issued a ruling granting the petition to intervene by STPB and Eversource ("Initial Ruling on Intervention"). The Initial Ruling on

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8 Cranberry Point addressed potential impacts to EJ populations in the Company's SEIR as directed by the MEPA Office, evaluating potential disproportionate impacts by the Project on surrounding EJ populations or other vulnerable populations and sensitive receptors (Exh. CP-9S at 5). With the described mitigation measures, the SEIR stated that such populations would be protected on an equal basis with the general community (Exh. CP-9S at 5).

9 Given the demographic data and project impacts in the Project area, the Siting Board did not require either enhanced public participation or enhanced analysis of impacts and mitigation pursuant to the EEA EJ Policy. Similarly, translation and interpretation in languages other than English was neither required by applicable Language Access policies of the Commonwealth, nor otherwise requested by any members of the public.

Intervention denied Ms. Ferretti's request to participate as a full intervenor but granted her status as a limited participant.[10]

On May 11, 2022, Cranberry Point filed the Zoning Petition with the Department, pursuant to G.L. c. 40A, § 3, seeking a comprehensive exemption from the operation of the Zoning Bylaws for the Town of Carver. D.P.U. 22-59. The Zoning Petition was referred to the Siting Board and consolidated with the Siting Board Petition. Cranberry Point Energy Storage LLC, EFSB 21-02/D.P.U. 22-59, Referral and Consolidation Order (June 1, 2022). In its Zoning Petition, the Company states that it sought a comprehensive zoning exemption in light of contemplated changes to the Carver Zoning Bylaws which could have a negative impact on the Company's ability to construct and operate the Project (Exh. CP-Z at 8).

On June 14, 2022, the Siting Board issued a notice regarding the Project's Zoning Petition ("Zoning Petition Notice") and conducted a second remote public comment hearing via Zoom on July 12, 2022. The Siting Board required that the Company provide notice consistent with the first Notice of the Siting Board Petition. The Siting Board received ten timely petitions for Limited Participation filed by Carver residents: Nancy Ryan, Mary Dormer, Daniel & Donna Ferrini, Frank & Patricia Dangelo, John & Patricia Anderson, Alan & Gisela Hayes, and a petition for Limited Participation from Pine DuBois (Executive Director) on behalf of the Jones River Watershed Association ("JRWA"). On August 22,

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[10] In her petition to intervene, Ms. Ferretti raised concerns related to the Herring Pond Wampanoag's historical connection to the area and a related interest in archeological surveys and any archeological resources that might be present in the Project area (Ferretti Petition to Intervene at 2). See Section III.C.4.b.ii for a discussion on historical and archeological resources.

2022, the Presiding Officer issued a ruling on those requests, granting limited participation status to Nancy Ryan, Mary Dormer, Daniel & Donna Ferrini, Frank & Patricia Dangelo, John & Patricia Anderson, and Alan & Gisela Hayes ("Ruling on Requests for Limited Participation"). The Presiding Officer denied the limited participant request of JRWA based on insufficient filing information.[11]

At the November 8, 2021 Siting Board Petition public comment hearing, residents raised concerns regarding: public health and safety issues such as the risk of fire, adequacy of fire suppression systems and the ability of the local fire department to respond; potential wetlands contamination to the Town's sole source aquifer; proximity of the site to residences; protection of pine barrens; protection of Wampanoag lands; soil and water contamination concerns related to existing renewable energy projects in Carver; and potential impact on property values, and EJ concerns related to the Project location and pre-existing infrastructure. In the subsequent July 12, 2022 Zoning Petition public comment hearing, residents expressed opposition to the zoning exemption request based on concerns related to safety and apparent disregard for a voter approved moratorium on BESS projects; concerns related to the Project's proximity to residential areas and potential impact on property values; power density of the Project in comparison to other installations; operating risk of batteries during hot summer weather; predicted failure rate and service life issues for battery

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11 The Presiding Officer's Ruling of August 22, 2022, indicated that he would consider an amended petition for limited participant status that clarifies the entity seeking such status, and contains the information required by Siting Board regulations. JRWA did not file an amended petition.

operations; the potential for safer alternative battery technologies; wetlands protection measures; use of water supplies for fire protection; protection of pine barrens and the Town's aquifer; potential chemical contamination in event of battery fires; and the need to protect the Town's rural qualities from the industrial nature of solar and battery storage projects.

The Siting Board also solicited written comments on the Project after both public comment hearings. In total, the Siting Board received more than 300 comment letters. The commenters raised concerns regarding: safety and longevity of the sole-source aquifer; risk of contamination due to the proximity of a BESS to the cranberry bog and wetland areas; risk of fire and/or explosions; battery fires at other BESS facilities and their dangers; lack of transparency from local elected officials; potential conflicts of interest during the evaluation of the proposal; the ability of the Project to circumvent local zoning; and noise and light pollution. Within this Order, the Department describes its review of the need for the proposed Project in Section III.C.2; the alternative sites considered by the Company for the proposed Project in Section III.C.3; public health and safety issues related to potential fire risks at the proposed Project in Sections III.C.4.b.x and III.C.4.d.ii; battery operating technology in Section III.C.4.b.x.(B); water and wetlands impacts in Section III.C.4.b.iii; and land use topics in Section III.C.4.b.iii.

The Company responded to two sets of discovery issued by the Siting Board and one set of discovery issued by STPB. In addition, STPB responded to one set of discovery issued by Cranberry Point. The Siting Board conducted three days of remote evidentiary hearings in October and November 2022. At those hearings, Cranberry Point presented the testimony of the following witnesses: Allyson J. Sand, director of project development for the

Northeast for Plus Power; Thomas J. Keough, environmental scientist and permitting specialist with AECOM; Paul Rogers, co-founder of Energy Safety Response Group ("ESRG"); Christopher Quaranta, director of engineering and construction for Plus Power; Polly Shaw, head of policy and communications for Plus Power; and Christopher Kaiser, senior acoustics and noise control specialist with AECOM. STPB presented the testimony of two witnesses: John Hinckley, senior managing consultant with ALL4 LLC, and Milosh T. Puchovsky, associate department head and professor of practice in the Department of Fire Protection Engineering at Worcester Polytechnic Institute.[12] During the course of the proceeding, over 350 exhibits were entered into the record. After hearings, initial briefs were filed b Cranberry Point, STPB, and Eversource[13] filed initial briefs on November 22, 2022. The Company and STPB filed reply briefs on December 13, 2022.

After the conclusion of evidentiary hearings and the filing of briefs, on April 26, 2023, Siting Board staff distributed a copy of a Tentative Decision regarding the question of whether the Siting Board has jurisdiction to the BESS pursuant to G.L. c. 164, § 69J¼ to members of the Siting Board and all parties and the limited participants for review and comment.

The Siting Board conducted a remote public meeting to consider the Tentative Decision on May 10, 2023. Cranberry Point, STPB, Mary Dormer, and Daniel Ferrini

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12 Mr. Puchovsky testified that he has previously provided expertise to the National Fire Protection Act ("NFPA") technical committee responsible for NFPA 855 (Exh. STPB-MTP-1, at 4).

13 Eversource's brief was limited to the issue of its interconnection facilities.

provided oral comments to the Siting Board regarding the Tentative Decision. After review of comments and deliberation, on May 10, 2023 the Board directed staff to prepare a Final Decision dismissing the Siting Board Petition for lack of subject matter jurisdiction, which issued on May 11, 2023. The Siting Board returned Cranberry Point's zoning exemption to the Department for determination.

2. Department Proceeding

On May 11, 2023, the Department issued a Notice of Department Proceeding. On May 11, 2023, the Department also issued an Order of Notice directing Cranberry Point to serve a copy of the Notice of Department Proceeding by first class mail within fourteen days to: (1) the Select Board; the Town Administrator or Manager; the Zoning Board of Appeals; the Conservation Commission; and the Department of Public Works for the Town of Carver; (2) the Planning Board for the Town of Carver; and the Planning Board for each abutting municipality; and (3) all abutters, owners of land directly opposite on any public or private street or way, abutters to the abutters, and all owners of property within 300 feet of the property to be used for the Project as they appear on the most recent tax list, regardless of the town in which the property is located (owners included individual owners of residential condominiums).

The Department's Hearing Officer also issued a procedural notice on May 11, 2023 to the service list of the EFSB 21-02/D.P.U. 22-59. In the procedural notice, the Hearing Officer informed the parties that the Department: (1) would treat all existing intervenors and limited participants in EFSB 21-02/D.P.U. 22-59 as intervenors and limited participants, respectively, in the Department's continuing review of D.P.U. 22-59; (2) incorporated the

full administrative record of EFSB 21-02/D.P.U. 22-59, including all filings, rulings, responses to discovery, comments, transcripts, and briefs, into the docket for D.P.U. 22-59; (3) set a date of May 19, 2023 to file any objections to moving the identified exhibits from EFSB 21-02/D.P.U. 22-59 into evidence in the Department proceeding; and (4) set a date of May 26, 2023 for parties and limited participants to file supplemental briefing in the Department docket.

On May 22, 2023, the Department issued additional record requests and provided an additional opportunity to object to the responses to those requests. No party filed an objection to moving the exhibits contained in the updated June 2, 2023 exhibit list into evidence. Cranberry Point and Eversource filed supplemental briefs on the May 26, 2023 date set in the Procedural Notice. The Department did not receive a supplemental brief from STPB, or any of the limited participants. On June 2, 2023, the Hearing Officer moved all of the exhibits on the June 2, 2023 exhibit list into evidence in D.P.U. 22-59.

II. DUE PROCESS

STPB has expressed concerns regarding the timing of information provided by the Company, the impact that the timing had on the quality of the information in this proceeding, and on opportunities for parties to develop the record in this case (STPB Brief at 4-6). STPB states:

> At bottom, the Company seeks to forge blindly ahead with this Project without having provided timely, accurate information on key issues such as emergency planning, battery safety, and the possible consequences of a thermal runaway event. It has undermined the ability of the Board to undertake the necessary regulatory scrutiny by failing to prepare or otherwise withholding important information until the last minute (STPB Brief at 4).

STPB also asserts that the Company never updated its original Siting Board Section 69J¼ Petition and supporting analysis, notwithstanding the many changes and additions to the original petition and supporting exhibits (STPB Brief at 6). STPB argues that members of the public therefore did not have readily available or complete information which could allow members of the public to provide informed comments at the two public comment hearings (STPB Brief at 6).

STPB criticizes Cranberry Point's filings throughout the proceeding for failing to provide timely and complete information and argues that the Company's actions should undermine its credibility as to promises about safety and hazard mitigation (STPB Brief at 26). STPB argues that the Company exhibited a pattern of conduct which inhibited the development of the record with necessary information with regard to public health and safety materials (STPB Brief at 35-36). STPB asserts:

> Moreover, the Company withheld—no doubt strategically—updates to important documents such as the ERP or the development of an HMA [Hazard Mitigation Analysis ("HMA")]—until less than a week before the hearing. (See EFSB-S-37; EFSB-S-44.) While the Company chose to disclose them in response to Siting Board staff Information Requests, nothing prohibited the Company from updating prior responses or disclosing these materials sooner, other than its own strategic choice to drop these new or updated documents into the record on the eve of the hearing (STPB Brief at 35).

Cranberry Point rejects STPB claims that updated information addressing changes in the Company's Project resulted in an inability for STPB to effectively participate in this proceeding (Company Reply Brief at 17). In response, the Company notes that the proceedings reviewing the two Cranberry Point petitions included numerous discovery responses, two public comment hearings, three evidentiary hearings which included the

presentation of two STPB witnesses, and two briefs as evidence of a significant level of due process provided to STPB (Company Reply Brief at 17-18).

The Company describes the change in the Tesla battery model and the reduction of battery enclosures (from 116 to 82) as minor modifications that improved the Project as proposed (Company Reply Brief at 18). The Company asserts "[i]n fact, by using an enhanced product, fewer enclosures need to be installed and the project is even safer, as evidenced by the Megapack 2XL's UL 9540A testing, which demonstrates that fire does not propagate beyond a single module or from one enclosure to the next" (Company Reply Brief at 18). The Company asserts that it completed additional noise studies requested by Siting Board staff; and the studies confirmed the findings of the original noise study and the proposed Project's compliance with the Massachusetts Department of Environmental Protection ("MassDEP") noise policy (Company Reply Brief at 18). Cranberry Point further states that draft nature of the ERP and HMA reflects the nature of the continuing evolvement of those documents through the final design of the Project and the development of the final manuals in conjunction with the Carver Fire Department ("CFD") and by the conditions imposed by the Carver Planning Board as part of the Special Permit (Company Reply Brief at 19).

Finally, the Company rejects STPB's contention that these changes which were not reflected in the two notices of the public comment hearings failed to provide the public with sufficient information to be fully informed of the Project and its potential impacts (Company Reply Brief at 20-23). Cranberry Point describes the changes related to the Tesla model initially proposed and the number of battery enclosures as the only changes in the project

description provided in the notices (Company Reply Brief at 20-23). The Company contends that no substantive changes occurred and provides a table comparing the components of the petition changes in support of its argument that the modifications presented after the filing of the initial petitions were minor (Company Reply Brief at 22-23).

In this proceeding, the Department (and earlier, the Siting Board) has followed the provisions of G.L. c. 30A, the Massachusetts Administrative Procedures Act, which addresses the notice requirements applicable to state-agency adjudicatory proceedings in the Commonwealth. G.L. c. 30A, § 11 sets out the notice provisions that apply when issues are identified later in the proceeding, rather than at the outset. Section 11 provides that: "parties shall have sufficient notice of the issues involved to afford them reasonable opportunity to prepare and present evidence and argument. If the issues cannot be fully stated in advance of the hearing, they shall be fully stated as soon as practicable. In all cases of delayed statement, or where subsequent amendment of the issues is necessary, sufficient time shall be allowed after full statement or amendment to afford all parties reasonable opportunity to prepare and present evidence and argument respecting the issues." G.L. c. 30A, § 11(1). See Hopkinton LNG Corp., D.P.U. 17-114, at 67-69 (2018); NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83, at 11-13 (2019) ("Sudbury-Hudson").

The Department's review of the Cranberry Point project is the first such review for a large BESS project in the Commonwealth which requires an assessment of a new technology and attendant potential environmental impacts. As is customary, the Department continues to investigate the Project throughout the full course of the proceeding and elicit additional

information, as necessary, for the development of the record. All parties were given the opportunity to issue discovery, present witnesses, cross-examine the Company's witnesses and present briefs addressing any and all issues related to the record in this proceeding. Parties were given the opportunity to file supplemental briefs after the proceeding moved to the Department. Parties were free to raise objections and file any procedural motions that they deemed necessary. In the absence of objections or requests for additional process from the parties, the Department has examined the issues presented in the record and rendered its analysis and findings in this Order.[14]

III. REQUEST FOR A COMPREHENSIVE ZONING EXEMPTION PURSUANT TO G.L. C. 40A, § 3

Pursuant to G.L. c. 40A, § 3, the Company filed a petition seeking comprehensive zoning exemptions from the Town of Carver Zoning Bylaw for the Company's Project.

A. Standard of Review

G.L. c. 40A, § 3 provides, in relevant part, that

> Land or structures used, or to be used by a public service corporation may be exempted in particular respects from the operation of a zoning ordinance or by-law if, upon petition of the corporation, the [Department] shall, after notice given pursuant to section eleven and public hearing in the town or city, determine the exemptions required and find that the present or proposed use of the land or structure is reasonably necessary for the convenience or welfare of the public . . . .

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[14] The Department notes that the public had full access to all of the Company's filings through the dedicated landing page for this Project. See https://www.mass.gov/info-details/cranberry-point-energy-storage. In addition, STPB does not identify any areas of public concern that were not expressed to the Siting Board or Department through the public comment process.

Thus, a petitioner seeking exemption from a local zoning bylaw under G.L. c. 40A, § 3 must meet three criteria. First, the petitioner must qualify as a public service corporation. Vineyard Wind, LLC, D.P.U. 21-08, at 5 (2021) ("Vineyard Wind"); NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21, at 4 (2019) ("Westfield"); NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 17-147, at 6 (2019) ("K Street"); Save the Bay, Inc. v. Department of Public Utilities, 366 Mass. 667 (1975) ("Save the Bay"). Second, the petitioner must demonstrate that its present or proposed use of the land or structure is reasonably necessary for the public convenience or welfare. Vineyard Wind at 6; Westfield at 5-6; K Street at 7-8; Boston Gas Company, D.T.E. 00-24, at 3 (2001) ("Boston Gas"). Finally, the petitioner must establish that it requires exemption from the zoning ordinance or bylaw. Vineyard Wind at 6; Westfield at 6-7; K Street at 8-9; Tennessee Gas Pipeline Company, D.T.E. 01-57, at 4 (2002) ("Tennessee Gas").

Additionally, the Department favors the resolution of local issues on a local level whenever possible, to reduce concern regarding any intrusion on home rule. The Department believes that the most effective approach for doing so is for a petitioner to consult with local officials regarding its project before seeking zoning exemptions pursuant to G.L. c. 40A, § 3. Sudbury-Hudson at 193; Vineyard Wind LLC., EFSB 17-05/D.P.U. 18-18/18-19, at 132 (2019), ("Vineyard Wind I"); Russell Biomass LLC, EFSB 07-4/D.P.U. 07- 35/07-36, at 61-62 (2009) ("Russell"). Thus, the Department encourages petitioners to consult with local officials, and in some circumstances, to apply for local zoning permits, before seeking zoning exemptions from the Department under G.L. c. 40A, § 3. Sudbury-Hudson at 193; Vineyard Wind I at 132; Russell at 68.

B. Public Service Corporation Status

1. Standard of Review

In determining whether a petitioner qualifies as a "public service corporation" for the purposes of G.L. c. 40A, § 3, the Massachusetts Supreme Judicial Court ("SJC") has stated:

> among the pertinent considerations are whether the corporation is organized pursuant to an appropriate franchise from the State to provide for a necessity or convenience to the general public which could not be furnished through the ordinary channels of private business; whether the corporation is subject to the requisite degree of governmental control and regulation; and the nature of the public benefit to be derived from the service provided.

Save the Bay, 366 Mass. at 667, 680; see also Westfield at 4; Vineyard Wind at 133; NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-155, at 11 (2020).

The Department interprets this list not as a test, but rather as guidance to ensure that the intent of G.L. c. 40A, § 3 will be realized, i.e., that a present or proposed use of land or structure that is determined by the Department to be "reasonably necessary for the convenience or welfare of the public" not be foreclosed due to local opposition. See Berkshire Power at 30; Save the Bay, 366 Mass. at 685-686. The Department has interpreted the "pertinent considerations" as a "flexible set of criteria which allow the Department to respond to changes in the environment in which the industries it regulates operate and still provide for the public welfare." Westfield at 4; Berkshire Power at 30; see also Dispatch Communications of New England d/b/a Nextel Communications, Inc., D.P.U./D.T.E. 95-59-B/95-80/95-112/96-113, at 6 (1998) ("Nextel"). The Department has determined that it is not necessary for a petitioner to demonstrate the existence of "an

appropriate franchise" to establish public service corporation status. See Berkshire Power at 31.

2. Positions of the Parties

a. Company

Cranberry Point asserts that the Company qualifies as a public service corporation as a project developer proposing a facility that will meet the Commonwealth's or the region's energy needs (Company Brief at 47; Exh. CP-Z at 5). Cranberry Point notes that its proposal to construct a 150 MW/300 MWh BESS generating facility to provide capacity to the Southeast Massachusetts zone has been deemed necessary to meet future electricity demand for 2024-2031 by ISO-NE, pursuant to FCA 15 (Company Brief at 47-48; Exh. CP-Z at 6).

Cranberry Point also argues that the Department's, as well as the Siting Board's, precedent has found that any corporation which owns generating assets in Massachusetts and makes those assets available to serve the New England market, is a public service corporation (Company Brief at 47-48; Exh. CP-Z at 5-6). The Company points to decisions rendered in Exelon West Medway, LLC, EFSB 15-01/D.P.U. 15-25, at 136 (2016) ("Exelon West Medway"); NRG Canal 3 Development LLC, EFSB 15-06/D.P.U. 15-180, at 142-143 (2017) ("Canal"); Russell, at 15 (2008); Berkshire Power, at 26-36 (1997) in support of its argument (Company Brief at 47-48; Exh. CP-Z at 5-6). Cranberry Point maintains that since the Company intends to make the output of its generating facility available to the New England wholesale market, consistent with past Department and Siting Board precedent, the

Department should find that the Company is a public service corporation (Company Brief at 48).

In its reply brief, Cranberry Point argues that based on "nearly 50 years" of Department and Siting Board precedent, it is a public service corporation (Company Reply Brief at 24-25). The Company notes that the Save the Bay Court identified a "flexible set" of criteria to be assessed including the degree of government oversight and regulation and the nature of the benefit to be provided to the public (Company Reply Brief at 24). According to Cranberry Point, the Department has determined that it is not necessary for the Company to demonstrate that it holds a franchise to establish that it is a public service corporation (Company Reply Brief at 25). Cranberry Point asserts that the record demonstrates that it will be subject to a significant degree of government oversight and regulation, and that there are the numerous public benefits of the battery storage project (Company Reply Brief at 25-26). Cranberry Point argues that the Siting Board has stated that generation companies qualify as a public service corporation when the facility will be used to meet the Commonwealth's or the region's energy needs (Company Reply Brief at 25).

In its supplemental brief, the Company reiterates that it is a public service corporation (Company Supplemental Brief at 2-3). Cranberry Point notes the evolution of the concept of public service corporation and states that the Department consistently evaluates the nature of the public benefits from the service provided in its determination of public service corporation status (Company Supplemental Brief at 2-3). Based on the benefits provided by the Project, the Company asserts that it is a public service corporation (Company Supplemental Brief at 2-3).

b. Save the Pine Barrens

STPB argues that the language of the zoning exemption statute, G.L. c. 40A, § 3, and "pertinent considerations" identified by the Supreme Judicial Court in Save the Bay, require the Department to make two separate inquiries to determine whether to grant a zoning exemption: (1) whether the requesting entity is a "public service corporation," and (2) whether the requested exemption is for a proposed use that is "reasonably necessary for the convenience or welfare of the public" (STPB Brief at 37). STPB contends that under this standard, the Company is not a public service corporation (STPB Brief at 37-39).

STPB argues that the Company's justification for public service corporation status relies solely on the proposed use of the site for a BESS rather than the characteristics defining the project proponent consistent with the legislative intent to restrict zoning exemptions to a certain type of entity (STPB Brief at 39). Such a standard means that any corporation proposing a certain use — i.e., generating capacity for New England — is a de facto public service corporation, which is inconsistent with the statutory text (STPB Brief at 38-39). STPB argues that the Supreme Judicial Court's determination in Save the Bay and the Court's direction regarding the requirements for proper statutory interpretation require that the Department assess the nature of the applicant in assessing its potential status as a public service corporation (STPB Brief at 39, citing Commonwealth v. Daley, 463 Mass. 620, 623-624 (2012)).

STPB contends that there is no reason that the Company qualifies as a public service corporation independent from the proposed use of the Project (STPB Brief at 38). STPB maintains that the Company is not organized pursuant to a franchise from the state; it is not

subject to any special regulation; nor is it distinguishable from any other corporate actor, and therefore does not meet the requirements of a public service corporation (STPB Brief at 38).

c. Eversource

Eversource did not address the issue of the Company's status as a public service corporation in its briefs; instead, Eversource supported the grant of a comprehensive zoning exemption, and addressed the need for approval of the Eversource Transmission facilities as a part of Cranberry Point's overall Project (Eversource Brief at 2; Eversource Supplemental Brief at 1-2).[15]

3. Analysis and Findings

For an entity to request a zoning exemption, it must establish that it is a public service corporation. Neither the Department nor the Siting Board has issued a determination on whether a non-utility BESS petitioner is a public service corporation. The term "public service corporation" is not defined by statute, and the courts of Massachusetts have not provided any such definition. Berkshire Power at 29-30; USGen New England, Inc., D.T.E. 03-83, 12 (2004) ("USGen"). Consequently, in determining whether a BESS developer qualifies as a public service corporation under G.L. c. 40A, § 3, the Department considers the purposes of the statute, the precedent of the courts-- especially the three "pertinent considerations" identified by the SJC in Save the Bay-- and Department and relevant Siting Board precedent on this issue. Save the Bay, 366 Mass. at 680; USGen at 12. The Court

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[15] As noted above, the eleven and one-half month moratorium on BESS in the Town has since expired. In addition, the Office of the Attorney General reviewed the Town of Carver Bylaw instituting the moratorium and found it to be unlawful (RR-EFSB-21).

has characterized the concept of public service corporation as a "term of art." Planning Board of Braintree v. Department of Public Utilities, 420 Mass. 22, 26 (1995) ("Braintree"). The Department has interpreted the "pertinent considerations" of Save the Bay as a "flexible set of criteria which allow the Department to respond to changes in the environment in which the industries it regulates operate and still provide for the public welfare." Nextel at 6.

As stated by the SJC, the test we use to determine whether an entity is a public service corporation was established in 1975. The Department first considers the evolving judicial precedent on the concept of public service corporation. Then we consider the Department and Siting Board's application of the concept to petitioners before it. Finally, we apply the applicable tests to the petitioner before us. Based on the reasons discussed below, the Department concludes that Cranberry Point qualifies as a public service corporation for purposes of G.L. c. 40A, § 3.

a. Judicial Precedent on Public Service Corporation

The term "public service corporation" has evolved with the changing energy and common carrier environment. The older SJC decisions focus on the whether a petitioner is a franchise holder or a common carrier. See Attorney General v. Haverhill Gas Light Company, 215 Mass. 394 (1913) ("[a] public service or quasi-public corporation is one private in its ownership but having an appropriate franchise from the State to provide for a necessity or convenience of the general public incapable of being furnished through the ordinary channels of private competitive business and dependent for its exercise upon eminent domain or some agency of government"); Fall River Gas Works Company v. Board of Gas and Electric Light Commissioners, 214 Mass. 529 (1913) ("[i]t is the duty of a public service

corporation to have its plant large enough to perform the service for which it was established, and it has a corresponding right to have such plant fairly capitalized"). Subsequent courts have expanded the concept of public service corporation to gas and electric companies, railways, common carriers (including transportation companies and communication companies such as cell tower companies, telephone companies, and telegraph companies), municipal electric departments, and water companies. See Truro v. Department of Pub. Utilities, 365 Mass. 407, 409 n.1 (1974) (identifying 1955-1973 court findings of public service corporation for various entities).

The seminal decision on public service corporations was decided by the SJC in 1975, and it is the basis of the standard of review above. Save the Bay assessed the status of public service corporation to a non-franchise-holding LNG facility. The SJC applied the factors listed in the Save the Bay decision to New England LNG:

> We recognize that the gas companies found to be public service corporations in these decisions were organized under G.L. c. 164, or its predecessor statutes (Weld v. Gas & Elec. Light Commrs., supra), and, as the petitioner points out, New England LNG has not been so organized. However, we believe that New England LNG is subject to *appropriate regulation* under G.L. c. 164 and the applicable Federal statutes. Moreover it appears that New England LNG will, like the facility in the Mezitt case, *supply gas to gas companies for distribution to the public in the Commonwealth and New England*. That is of primary importance in preserving its status as a public service corporation.
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> Save the Bay, 366 Mass. at 683 (emphasis added).[16]

Only one SJC decision since Save the Bay has analyzed a claim of public service corporation under the Save the Bay standard. In 1995, the SJC found that a municipal light

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16 Mezitt v. Department of Public Utilities, 354 Mass. 692 (1968).

plant could be a public service corporation. Braintree, Braintree, 420 Mass. at 26 (public service corporation includes municipal electric department; "public service corporation" is a term of art which is not limited to corporations but may include municipal electric departments such as Braintree Electric Light Department).

b. Department/Siting Board Precedent Regarding Public Service Corporation Status

Since Save the Bay and Braintree, the Department and the Siting Board have reflected the changes to the energy landscape from the Electric Restructuring Act in 1997 in their application to the concept of public service corporation. Generating facilities are no longer proposed by vertically integrated monopoly public utilities; instead they are developed by non-utility entities. The status of public service corporation has been applied to various non-utility generation petitioners. See Berkshire Power, D.P.U. 96-104, at 321 (1997) ("the Department finds the pertinent consideration of 'an appropriate franchise' as listed in Save the Bay to be of limited value in the electric industry as it has evolved since the Save the Bay decision was issued"). In 2004, the Department went further in deciding on a zoning exemption for the Salem Harbor Station, stating that: "[t]he Department notes that this analysis could be applied to any generator serving the New England market. We conclude that *any corporation that owns generating assets in Massachusetts, and makes those assets available to serve the New England market, is a public service corporation.*" USGen, at 15 n.9 (emphasis added) .

Since USGen, the Department and Siting Board have found that generators that provide power to the New England grid are public service corporations. See, e.g., Princeton

Municipal Light Department, D.T.E./D.P.U. 06-11 (2007) (municipal light department proposing to construct two 1.6 MW wind turbines is a public service corporation); Russell Biomass LLC, D.T.E./D.P.U. 06-60 (2008) (developer proposing wood-burning electric generating facility is a public service corporation based on USGen precedent, nature of the company's business, and company plans to make the output of the facility available to the New England energy market); Exelon West Medway (developer proposing to construct a new 200 MW electric generating facility is a public service corporation based on USGen precedent, nature of company business and ISO-NE CSO whereby Facility will begin serving the need for electric power in Massachusetts and in the New England market); Canal (developer proposing to construct a new 350 MW electric generating facility is public service corporation, same analysis as Exelon West Medway).

In 2021, the Siting Board granted a zoning exemption to a non-utility developer proposing a transmission line. Vineyard Wind LLC, EFSB 17-05/D.P.U. 18-18/18-19 (2019) ("Vineyard Wind I"). In Vineyard Wind I, at 134-136, the Siting Board treated the developer as a generator for purposes of public service corporation status because the transmission line was one part of a project that consisted of generation and transmission elements ("[w]e therefore find that it is appropriate to consider Vineyard Wind as a generator for purposes of determining whether the Company qualifies as a [public service corporation]"). However, in 2021, the Siting Board granted zoning exemptions to a project that was neither transmission nor generation. In Northeast Energy Center LLC, EFSB 18-04/D.P.U. 18-96, at 201-203 (2021) ("NEC"), the Siting Board found that the developer, a non-utility developer of a LNG storage facility, was a public service corporation for purposes

of G.L. c. 40A, § 3. The Siting Board stated that NEC would provide a "needed public service to the Commonwealth, principally serving National Grid's reliability needs in addition to other uses." NEC at 203. The Siting Board also noted that in the Save the Bay decision, the SJC upheld the public service corporation status of another LNG facility. Id. The Siting Board concluded that NEC qualifies as a Massachusetts public service corporation for the purposes of G.L. c. 40A, § 3. Id. As explained below, the Department finds that because a BESS is providing energy services in Massachusetts and the asset is available to serve the New England market, the BESS developer may be a public service corporation for the purpose of G.L. c. 40A, § 3.

c. Application to Battery Energy Storage Systems

Department as well as Siting Board precedent hold that any corporation that owns generating assets in Massachusetts and makes those assets available to serve the New England market, is a public service corporation. The Siting Board recently issued two decisions finding that a BESS is not a facility subject to the Board's jurisdiction under the Siting Board's enabling statutes. G.L. c. 164, § 69G. The Siting Board further found that a BESS is not a generating facility under G.L. c. 164, § 69J¼. While the Board found that a BESS does not meet the statutory definition of a generating facility under the rules of strict statutory construction, this finding does not necessarily answer the question of whether a non-utility BESS developer, such as Cranberry Point, is considered a public service corporation for purposes of G.L. c. 40A, § 3. As explained below, the Department finds that because a BESS is providing energy services in Massachusetts and the asset is available to serve the

New England market, the BESS developer may be a public service corporation for the purpose of G.L. c. 40A, § 3.

The standard established by Save the Bay is flexible and applied to reflect competitive changes in the energy landscape, and the restructuring of vertically integrated utility companies that were historically the sole providers of regulated energy services in the Commonwealth. The Department and Siting Board have previously stated that a public service corporation need not hold a franchise from the state to be considered a public service corporation under the Save the Bay test. See, e.g., Berkshire Power at 31. In addition, energy services are now provided to the public by non-utility independent actors in one or more capacities that were once performed solely by vertically integrated utility companies. See Electric Restructuring Act, St. 1997, c. 164; see also Vineyard Wind I; NEC. It is necessary and appropriate that these non-utility entities should be able to avail themselves of the tools provided by the Legislature to ensure that construction of needed projects serving the public convenience or welfare are not obstructed by solely local concerns. See Pereira v. New England LNG Co., Inc., 364 Mass. 109, at 119-121 (1973).

In addition to the structure of the entity that provides energy to the grid, the technology to provide energy services to the public has evolved over time. The Department and Siting Board repeatedly held that the provision of electricity at wholesale is the type of public benefit that qualifies corporations that own and operate generating facilities as public service corporations. NRG at 142-143; Exelon West Medway at 136; USGen at 14, and 14, n.8; Berkshire Power at 35-36. The Department notes that the finding regarding- the provision of electricity at wholesale is a public benefit is not limited by how the electricity is

produced. See Exelon West Medway and NRG (gas-fired generation); Princeton (wind generation); Russell Biomass (biomass generation). It is appropriate to consider that energy services provided to the grid beyond traditional generation is also the type of public benefit that are consistent with public service corporation status, and we do not think that our consideration of these benefits should be limited to generating facilities or particular technologies. The more important consideration for public service corporation status of the applicants is not the type of technology the facility would provide for public use, but rather, that the nature of the service provided meets the "public service" characteristics enunciated in Save the Bay.

In applying the Save the Bay factors, the Department recognizes the flexibility of the criteria and that no single factor is dispositive. In applying the factors in Save the Bay, the Court gave extra weight to the fact that a public service corporation provides service to the public. Save the Bay at 683 ("[m]oreover it appears that New England LNG will, like the facility in the Mezitt case, supply gas to gas companies for distribution to the public in the Commonwealth and New England. That is of primary importance in preserving its status as a public service corporation"). [17] Given the flexibility of the Save the Bay standard, and the goal of G.L. c. 40A, § 3 to provide an avenue for public service corporations to provide a benefit to the public despite local opposition, the provision of energy services by BESS developers is consistent with the intent of Section 3 and the SJC's interpretation. The

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17 Mezitt v. Department of Public Utilities, 354 Mass. 692 (1968).

Department concludes that a BESS developer may be a public service corporation under the Save the Bay standard for the purpose of G.L. c. 40A, § 3.

d. Application of Save the Bay to Cranberry Point

Applying the Save the Bay factors to Cranberry Point, the Department finds that Cranberry Point is a public service corporation for purposes of G.L. c. 40A, § 3.

In assessing the first factor of level of regulation – supply of services to the electricity markets – Cranberry Point is subject to significant regulation. Cranberry Point provides energy pursuant to the Forward Capacity Market rules and has incurred a CSO which dictates several operational and financial rules by which it must operate (Exhs. CP-A at 4-5; CP-Z at 6,12; EFSB-G-5; Tr. 1, at 136, 140). See ISO-NE Transmission, Markets, and Services Tariff (Market Rule 1), Section III.13.3, Critical Path Schedule Monitoring;[18] and ISO-NE Manual for Forward Capacity Market, Manual M-20.[19] Cranberry Point also must interconnect its Project to the New England electricity grid pursuant to a Large Generator Interconnection Agreement (Exh. EFSB-G-13). See Schedule 22 of the Open Access

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1818 Market Rule 1 governs the operation of New England's wholesale electricity markets and includes detailed information on pricing, scheduling, offering, bidding, settlement, and other procedures related to the purchase and sale of electricity. https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_3/mr1_sec_13_14.pdf.

19 Forward Capacity Market Manual, https://www.iso-ne.com/static-assets/documents/2023/04/manual_20_forward_capacity_market_rev27_2023_04_06.pdf

Transmission Tariff (OATT), the Large Generator Interconnection Procedure.[20] In addition, Cranberry Point's financial parameters are dependent on DOER's Clean Peak program (Exh. CP-B, Atts. 2 and 3); Clean Peak regulations, 225 CMR 21.00 et seq).[21] Cranberry Point's activities relative to its BESS Project must comply with a series of prescriptive regulations.

In assessing the second factor, franchise from the state to provide for a necessity or convenience to the general public that could not be furnished through the ordinary channels of private business, the Department, as well as the Siting Board, have stated that a franchise is not necessary for public service corporation status. Save the Bay discussed whether it was *probable* for New England LNG to supply gas to the public. Save the Bay, 366 Mass. at 62. Where a BESS has a CSO, it has obligations to provide energy to the grid, and therefore service to the public. Cranberry Point has secured a CSO for its energy services, which includes substantial financial incentives to provide service, including penalties for non-performance, and therefore it is likely that when constructed, Cranberry Point will provide service to the public (Exhs. CP-B at 1-2; EFSB-G-5; EFSB-G-6).

Further, Department precedent states that the provision of electricity at wholesale via the grid could not be furnished through the ordinary channels of private business. USGen at 13; Berkshire Power at 32. In the Berkshire Power decision, the Department held that: "the provision of electricity over such an integrated and regulated system is not comparable to the

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20 Schedule 22 of Market Rule 1 governing interconnection requirements for large generating units can be found at https://www.iso-ne.com/static-assets/documents/regulatory/tariff/sect_2/sch22/sch_22_lgip.pdf.

21 We note that Cranberry Point will own and operate the BESS (Exh. CP-B at 1, 11).

furnishing of a product through the ordinary channels of business." Berkshire Power at 32. Similarly, in USGen, the Department held that: "a wholesale generator of electricity in an integrated and regulated system provides a necessity to the general public which could not be furnished through the ordinary channels of private business." USGen at 13. After the Electric Restructuring Act, electric generation is no longer provided through vertically integrated monopolies, but non-utility generation providers that operate in a highly integrated and regulated system. For Cranberry Point to provide services to the grid, it may do so only through a set of state and federal regulatory provisions and rules established for the electricity grid generally, and unique aspects of BESS facilities.

In assessing the third factor, the nature of benefit to the public, Department precedent recognizes that electricity constitutes a necessity. See, e.g., Berkshire Power at 35 ("the Department reiterates that the . . . generation of electricity is a public necessity that is critical to public health and safety, and fundamental to the Massachusetts economy"); Boston Edison Co., D.P.U. 92-92, at 42 (1992) ("electricity has become a basic necessity of modern life"); see also USGen at 14. The Electric Restructuring Act characterized electricity service as "essential to the health and well-being of all residents of the [C]ommonwealth, to public safety, and to orderly and sustainable economic development." St. 1997, c. 164.

The Department notes that state policy favors addition of BESS on the grid and has stated that increasing BESS will benefit the public. The Commonwealth created the Energy Storage Initiative ("ESI") in May 2015, with the goal of advancing the energy storage segment of the Massachusetts clean energy industry by: (i) attracting, supporting and promoting storage companies in Massachusetts; (ii) accelerating the development of early

commercial storage technologies; (iii) expanding markets for storage technologies, and valuing storage benefits to clean energy integration, grid reliability, system wide efficiency, and peak demand reduction; and (iv) recommending and developing policies, regulations and programs that help achieve those objectives. The ESI includes a study, demonstration projects, inclusion in broader policy and programs, and a procurement target for electric distribution companies.

The 2050 Clean Energy and Climate Plan ("CECP") identifies battery storage as a key technology critical to achieving Net Zero goals.[22] The development of BESS is also required by statute as the Legislature has set increasing goals for energy storage implementation. St. 2015, c. 188, An Act Relative to Energy Diversity (setting a goal of 200 MWh for energy storage procurement by 2020); St. 2018, c. 227, An Act to Advance Clean Energy (setting a goal of 1000 MWh for energy storage by 2025); St. 2022, c. 179, An Act Driving Clean Energy and Offshore Wind (requiring each electric company to develop an electric-sector modernization plan to upgrade the distribution and, where applicable, transmission systems, including promoting energy storage and electrification technologies).

ISO-NE identifies battery storage projects as approximately 35 percent of the nearly 32,000 MW of new generating resources as of January 2023. [23] ISO-NE notes that battery

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22 2050 CECP, Chapter 8, 134. The 2050 CECP can be found at https://www.mass.gov/doc/2050-clean-energy-and-climate-plan/download.

23 See https://www.iso-ne.com/static-assets/documents/2021/03/new_england_power_grid_regional_profile.pdf.

storage plays an important role in improving reliability by balancing fluctuations in supply and demand with increasing levels of intermittent renewable resources to meet regional system demands.[24]

The Department has assessed Cranberry Point in light of the Save the Bay factors, Department and Siting Board precedent, and the totality of the record in this proceeding, and finds that the Company is in the business of owning and operating facilities that provide energy services to the electric grid, and will make those assets available to the electric grid. See USGen, at 15 n.9. In addition, the Department finds that because Cranberry Point will provide energy services in Massachusetts and the asset will be available to serve the New England market, Cranberry Point would provide a necessity or convenience to the general public which could not be furnished through the ordinary channels of private business; Cranberry Point is subject to the requisite degree of governmental control and regulation; and Cranberry Point would provide a recognized public benefit by providing electricity to the electric grid. In addition, Cranberry Point will provide a benefit to the public that will advance the Commonwealth's climate objectives. Therefore, the Department finds that Cranberry Point is a public service corporation for purposes of G.L. c. 40A, § 3.

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[24] See https://www.iso-ne.com/about/what-we-do/in-depth/batteries-as-energy-storage-in-new-england.

C. Public Convenience and Welfare

1. Standard of Review

In determining whether the present or proposed use is reasonably necessary for the public convenience or welfare, the Department must balance the interests of the general public against the local interest. Save the Bay, 366 Mass. at 680; Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974). Specifically, the Department is empowered and required to undertake "a broad and balanced consideration of all aspects of the general public interest and welfare and not merely [make an] examination of the local and individual interests which might be affected." New York Central Railroad v. Department of Public Utilities, 347 Mass. 586, 592 (1964) ("New York Central Railroad"). When reviewing a petition for a zoning exemption under G.L. c. 40A, § 3, the Department is empowered and required to consider the public effects of the requested exemption in the state as a whole and upon the territory served by the applicant. Save the Bay, 366 Mass. at 685; New York Central Railroad, 347 Mass. at 592.

With respect to the particular site chosen by a petitioner, G.L. c. 40A, § 3 does not require the petitioner to demonstrate that its preferred site is the best possible alternative, nor does the statute require the Department to consider and reject every possible alternative site presented. Rather, the availability of alternative sites, the efforts necessary to secure them, and the relative advantages and disadvantages of those sites are matters of fact bearing solely upon the main issue of whether the preferred site is reasonably necessary for the convenience or welfare of the public. Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987); New York Central Railroad, 347 Mass. at 591.

Therefore, when making a determination as to whether a petitioner's present or proposed use is reasonably necessary for the public convenience or welfare, the Department examines (1) the need for, or public benefits of, the present or proposed use; (2) the present or proposed use and any alternatives or alternative sites identified; and (3) the environmental impacts or any other impacts of the present or proposed use. The Department then balances the interests of the general public against the local interest and determines whether the present or proposed use of the land or structures is reasonably necessary for the convenience or welfare of the public. Boston Gas at 2-6; Tennessee Gas at 5-6.

2. Need for or Public Benefit of Use

a. Description

The Company's Zoning Petition noted that the Department examines the need for, or public benefits of, the present or proposed use in making a determination as to whether to grant a comprehensive zoning exemption request (Exh. CP-Z at 11).[25] Cranberry Point asserts that the Project is needed for reliability purposes (Company Brief at 48). The Company stated that the Project "has the capability of serving multiple applications interchangeably, including providing capacity supply, peak shaving, peak shifting, system resilience, renewable intermittency mitigation and ancillary services" (Exh. CP-Z at 11). The Company noted that the Project "may be able to achieve some of these applications

[25] The Zoning Petition referred to information contained in the Siting Board Petition, filed earlier with the Siting Board, as demonstrating need for the Project's proposed use and the public benefit that would result from meeting that need (Exh. CP-Z at 12).

simultaneously, thereby, combining multiple streams to benefit the public" (Exh. CP-Z at 11-12).

The Company stated that "need for the Project was determined when ISO-NE awarded Cranberry Point a CSO in the FCA 15, based upon its ability to provide 150 MW/300 MWh of capacity at the clearing price" (Exhs. CP-Z at 12; EFSB-G-6). The Company noted that the Project has been designed to participate in ISO-NE's Forward Capacity Market and will contribute to system reliability in the Southeast New England ("SENE") capacity zone of ISO-NE (Exh. CP-A at 3). The Company noted that the Project will also participate in the ISO-NE Day-Ahead and Real-Time energy markets, and ancillary service markets (Exh. CP-A at 3). Cranberry Point indicated that it could also participate as a Limited Energy Resource in the ISO-NE market, which would allow a BESS resource to lower its maximum dispatch limit at any time during the current operating hour or future hours to save the facility's energy for a future period, while continuing to provide reserves up to full capacity (Exh. CP-A at 4). In addition, the Company described its intention to participate as one of the largest BESS sources to date in the Massachusetts Department of Energy Resources ("DOER") Clean Peak Program and earn Clean Peak Standard certificates for the dispatch of energy during prescribed peak periods (Tr. 1, at 137-138; Company Brief at 41).

As noted above, the Company also described how the Project would be consistent with, and help further, the Commonwealth's legislative and policy goals enacted and established over the past several years (Exh. CP-A at 6; Company Brief at 39). Such legislative enactments, policies and programs include: the 2008 Global Warming Solutions

Act ("GWSA"), St. 2008, c. 298; the Energy Storage Initiative launched in 2015; An Act Relative to Energy Diversity, St. 2016, c. 188 (which directed DOER to adopt targets to achieve the state's energy storage goals); An Act to Advance Clean Energy, St. 2018, c. 227, enacted in 2018 that increased the Commonwealth's energy storage target; the Massachusetts Clean Peak Standard, 225 CMR 21.00 (designed to provide incentives to clean energy technologies that can supply electricity or reduce demand during seasonal peak periods, thereby displacing non-renewable generating resources); and the 2050 Net Zero target (adopted in the Next-Generation Roadmap for Massachusetts Climate Policy enacted in March 2021, St. 2021, c. 8) (Exhs. CP-B at 40-43; CP-8S at 14).

According to Cranberry Point, the Project would store electricity during times of oversupply, and dispatch the electricity during times of peak demand on the electric grid (Exh. CP-B at 1). The Company acknowledged that a standalone BESS, like the Project, would not necessarily store only clean or renewable electricity drawn from the grid to recharge the batteries (Exh. CP-8S at 15). The Company noted that according to ISO-NE information, approximately twelve percent of total electricity produced by generators in New England and imported from other regions during 2021 was generated by renewable sources (Exh. CP-8S at 15). The Company stated that with existing clean energy goals in Massachusetts and New England, the amount of electricity produced by generators and stored in the Project's BESS would be generated increasingly by renewable sources (Exh. CP-8S at 15).

The Company acknowledged that a precise quantitative measurement of the amount of stored energy to have originated from renewable sources (or the electricity displaced at fossil

fuel generating facilities by discharge of the BESS) is not currently available with any reasonable certainty through the NEPOOL Generation Information System ("GIS") (Exh. CP-8S at 15; Tr. 1, at 143-145; RR-EFSB-1).[26] The Company noted, however, that the BESS requirements in the Clean Peak Program increase the likelihood of storing grid electricity during hours when renewable energy generation is more prevalent on the system, and discharging energy during peak hours, when fossil fuel generating units (typically operating to meet marginal energy demand) would likely be displaced by the BESS discharge to the grid (Tr. 1, at 23-25, 143-146).[27]

No other parties in the proceeding commented on the need for, or public benefit of use of the proposed BESS.[28]

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[26] The NEPOOL GIS is the generation accounting system used for tracking compliance with various attribute-related electricity market regulatory requirements of Massachusetts and other New England states (RR-EFSB-1; Tr. 1, at 143-146).

[27] DOER Clean Peak regulations specify BESS charging requirements "coincident with periods of typically high renewable energy production as a percent of the grid generation mix…(.)" 225 CMR 21.05(1)(2)(c). Clean Peak Certificates are created for BESS discharge during hours that are coincident with seasonal peak loads, when fossil fuel generating sources are more likely to be meeting marginal electricity demands. 225 CMR 21.05(3)(a); 225 CMR 21.05(4)(a). The Clean Peak regulations also establish a third-party Program Administrator to receive 15-minute interval metering data from eligible BESS facilities that track charging and discharging activity. 225 CMR 21.05(2). Based on the metering data, the Program Administrator determines the number of Clean Peak Certificates a qualified BESS resource has earned in a given period and reports them to the NEPOOL GIS for the purpose of "minting Clean Peak Certificates." 225 CMR 21.05(2).

[28] STPB did note that "[w]hile BESS projects may come with purported benefits, they also come with both recognized and less-understood risks" (STPB Brief at 1).

b. Analysis and Findings

The Company describes the role of the Project in meeting capacity needs in the SENE wholesale electricity market area administered by ISO-NE and ensuring system reliability during the period from 2024 through 2031 (Exh. CP-Z at 12). Despite the Siting Board's earlier determination that the Project is not a "generating facility" for the purpose of 164, § 69J¼, this determination does not alter the need for the Project and its energy resource benefits. The Project has a CSO with ISO-NE to provide capacity by June 1, 2024 (Exhs. CP-Z at 12; EFSB-G-6).

The Siting Board has found on various occasions that successful participation of an energy resource in the ISO-NE wholesale market, and a resulting CSO to provide contracted capacity and energy when called upon, is an indicator that a wholesale energy resource is needed for reliability purposes by Massachusetts customers, and the New England market. See Exelon West Medway at 17; Canal at 143, 156. The Company also identifies other important wholesale market opportunities that the Project may participate in, including the day-ahead and real-time energy, ancillary services, and participation as a Limited Energy Resource in the ISO-NE market (Exh. CP-A at 3-4). The Department views the Project's suitability in providing multiple services in the wholesale market as another indication that it would play a useful role in providing diverse benefits to the respective markets and their customers.

The record in this proceeding also establishes that the Project would provide important benefits in keeping with legislative and policy goals enacted by the Commonwealth over the past several years to advance energy reliability, increased use of clean and renewable energy,

and attainment of net zero carbon emissions in the Commonwealth in 2050 (Exhs. CP-B at 40-43; CP-8S at 14). The Company intends to participate in multiple, complementary market opportunities through ISO-NE, and also at the state level, such as the Clean Peak Program (Exh. CP-A at 3-4; Tr. 1, at 137-138; Company Brief at 41). Importantly, the Company identifies the Clean Peak Program as a significant potential source of market revenue that helps make the economics of the Project favorable (Tr. 1, at 137-138).

The Department observes that Cranberry Point's participation in the Clean Peak Program is relevant to the question of what mix of grid electricity the Project is likely to use to charge the BESS, and what sources of grid electricity the BESS would likely displace when discharged (Tr. 1, at 23-25, 143-145). We note that, by design, the Clean Peak Program requires recharging during hours when renewable energy production is anticipated to be most prevalent and discharging during hours when system peaks are most likely to occur, when fossil fuel generating facilities would likely be displaced by BESS discharge (Tr. 1, at 23-25, 143-145).[29] Although these provisions do not guarantee what type of energy is used to charge the BESS, or would be avoided when discharged, they do provide a degree of assurance of greater use of renewable energy and less use of fossil fuel generating sources on the grid for Massachusetts customers. Therefore, the Project's participation in the Clean Peak Program would help to ensure additional energy and environmental benefits, beyond

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[29] Under the Clean Peak Program, the prescribed hours for BESS recharging are applicable only when a BESS participant has neither a dedicated on-site renewable resource, nor a contractually paired Renewable Energy Portfolio Standard resource available for recharging. See 225 CMR 21.05(1)(2)(c).

those requirements for participation in the ISO-NE wholesale markets. To help ensure attainment of the Project's asserted renewable energy and air emission benefits, the Department requires the Company to submit an application to register the Project as an eligible resource with the Clean Peak Program within 120 days of the facility's commercial operation.

Accordingly, the Department finds that the Company has demonstrated that the Project is needed and that the construction and operation of the Project would result in public benefits.

3. Alternatives Sites Explored

a. Description

Cranberry Point evaluated three alternative sites, including the Project Site, as well as a no-build alternative (Exh. CP-B at 37-39).[30] Cranberry Point stated that it conducted an analysis to determine a suitable location for its 150 MW BESS in Massachusetts (Exh. CP-B at 37). The Company stated that the BESS must be located: (1) adjacent to infrastructure with available transmission capacity; (2) on a parcel of land greater than one acre and available for lease or sale; (3) in an area where construction and operation of the Project would have minimal environmental impact; (4) in ISO-NE's SENE zone; and (5) at a location

30 The Company explained that, under the "no-build alternative," the Project would not be constructed (Exh. CP-B at 37). The Company stated that failure to develop the Project would ignore ISO-NE's purpose for selecting Cranberry Point's bid to provide capacity in the SENE zone (Exh. CP-B at 37). The Company also indicated that the no-build alternative would not achieve the environmental benefits that the Project would provide (Exh. CP-B at 37). The Company did not consider the no-build alternative further (Exh. CP-B at 37).

on the grid where the Project could provide its maximum service potential to local electric reliability (Exh. CP-B at 37).

Besides the proposed Carver BESS site, the Company considered BESS sites in Wakefield (Alternative 2) and Falmouth (Alternative 3) (Exh. CP-B at 37-39). The Wakefield BESS site is approximately 2.24 acres and adjacent to the existing Wakefield Substation in Wakefield, Massachusetts (Exhs. CP-B at 38; EFSB-SS-2; EFSB-SS-7(S1)). The Company described the site as densely forested and surrounded by Isolated and Bordering Vegetated Wetlands (Exh. CP-B at 38). The Company reported that the site would require significant tree clearing and wetland filling (Exh. CP-B at 38). The Company added that the site is located closer to the nearest residence than the Project Site (Exh. CP-B at 38). While the Wakefield site is located within the Boston load center, it is not located near known future offshore wind interconnection points or retiring generation (Exh. CP-B at 38). The Company did not consider the economics at the Wakefield site to be viable (Exhs. CP-B at 38; EFSB-SS-7(S1)). Given the site characteristics and its perceived lack of economic viability, the Company did not consider the Wakefield site further (Exh. CP-B at 38).

The Falmouth BESS site is approximately 2.42 acres and located adjacent to the existing Falmouth Substation in Falmouth, Massachusetts (Exh. CP-B at 38-39). The Company stated that the Falmouth site is on a lower-voltage network near Cape Cod which presented difficulties of delivering power to the Boston load center compared to the Project (Exhs. CP-B at 39; EFSB-SS-11(S1)). The Company added that the anticipated upgrade costs for connecting the Project to the nearest point of interconnection made the Falmouth site uneconomical (Exhs. EFSB-S-42; EFSB-SS-8(S1); Company Brief at 14). The Company

also stated that the Falmouth site is closer to the nearest residence than the Project (Exh. CP-B at 39; Tr. 2, at 249-252). Furthermore, the Company noted that the construction would likely impact an Isolated Vegetated Wetland (Exh. CP-B at 39). The Company stated that, given the above issues, it did not consider the Falmouth site further (Exh. CP-B at 39).

Cranberry Point asserts that, given the cost, siting constraints, land area requirements, environmental considerations and transmission analysis performed, its proposed site in Carver is ideally located for a large, standalone BESS project in Massachusetts (Company Brief at 15).

b. Positions of the Parties

i. Save the Pine Barrens

STPB asserts that Cranberry Point failed to meet its obligation to describe or defend its site selection process (STPB Brief at 32).[31] STPB argues that the Company did not conduct a comprehensive analysis to settle on the proposed site for the Project (STPB Brief at 32). STPB argues that, while the Company's "analysis provides reasons for why Carver is preferred over Wakefield or Falmouth," it did not provide detailed or factual insight into how the Company came to settle upon the three alternative sites, which STPB describes as

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[31] STPB references requirements from G.L. c.164, § 69J¼, regarding the site selection process (STPB Brief at 32). Under the requirements for site selection for a generating facility pursuant to G.L. c. 164, § 69J¼, the Siting Board determines whether an applicant's description of the site selection process used for the proposed generating facility is accurate. For a Department zoning exemption, the present or proposed use and any alternatives or alternative sites identified is a factor to be considered by the Department in making its determination of whether the proposed use is reasonably necessary for the public convenience or welfare. G.L. c. 40A, § 3.

"dramatically diverse" geographic locations (STPB Brief at 32). STPB asserts that the Company's description of certain factors that it used to yield the three sites failed to explain how they were applied (STPB Brief at 32-33; STPB Reply Brief at 8). STPB argues that the origin of the factors considered by the Company is unclear (STPB Brief at 33). STPB also contends that the Company's factors did not appear to consider the presence of EJ populations pursuant to Commonwealth policy (STPB Brief at 33, n.10).[32,33]

STPB opposes the Project, not "as a referendum on policy considerations for Commonwealth's deployment of BESS installations," but rather, on the specific alleged drawbacks of this proposed Project and the Company's failure to analyze this Project's risks and ensure the safety of the residents, school children, low-income housing residents, EJ populations and environment surrounding the Project Site (STPB Brief at 4).

STPB argues that Cranberry Point responded in generalities to STPB's information requests asking for specific documents relating to site selection (STPB Brief at 33, n.11). STPB asserts that the details provided by the Company remained "bare-bones," conclusory, and did not differ from that in the Siting Board Petition (STPB Reply Brief at 8). STPB also argues that the Company was not able to explain why the three alternative sites were chosen

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32 The Department notes that there are no EJ populations within one mile of the proposed Project under applicable legislative definitions (Exh. CP-7, at 14). The nearest EJ population is located approximately 1.45 miles southeast of the Project Site (Exh. CP-7, at 14).

33 The Department notes that, using EEA's EJ map viewer, it appears that there is an EJ population (minority) within one mile of the existing Wakefield Substation. There appears to be two census tracts with EJ populations (low income) within one mile of the existing Falmouth Substation.

compared to other eligible properties or alternatives (STPB Brief at 33-34). STPB argues that, as such, it cannot explain "at any reasonable level of detail" how the Company arrived at its chosen Project alternatives (STPB Reply Brief at 8). STPB concludes that the Company failed to provide the type of description or information concerning its site selection process required by G.L. c. 164, § 69J¼ (STPB Brief at 34).

STPB asserts that the Company's disclosures and information did not substantiate or allow for meaningful review of a methodology that yielded a principled decision to settle on the Project Site (STPB Brief at 34). STPB opines that the statute requires more than a site selection justification "that could easily be contrived to justify a result sought by a petitioner, rather than a description of an objective, meaningful process designed to use market forces to appropriately site these types of facilities" (STPB Brief at 34). STPB asserts that the Company should be required to submit a "comprehensive description" of its site selection process, from the earliest steps that it took to determine site selection factors, until the ultimate selection of the Carver site (STPB Reply Brief at 9).

ii. Company Response

The Company argues that the information it provided describing the site selection process is sufficient to conform with statutory requirements (Company Reply Brief at 16-17). Initially, the Company provided a site selection analysis geared towards the requirements of a Siting Board Petition (Exh. CP-A at 1). In its subsequent Zoning Petition, the Company referred to site selection analysis in the Siting Board Petition, and asserted that it is consistent with the "Department's Standard of Review" for consideration of a zoning exemption request (Exh. CP-Z at 12). The Company maintains that it fully evaluated the alternatives before

selecting the Carver Project location and route (Company Brief at 51-52). Cranberry Point notes that, despite STPB's criticisms, STPB acknowledged that the Company's site selection analysis "provides reasons for why Carver is preferred over Wakefield or Falmouth" and that STPB did not fault the accuracy of the information provided by the Company (Company Reply Brief at 16-17, citing STPB Brief at 32). The Company asserts that the information it provided complies with statutory requirements for site selection, and that STPB is entitled to no more than that (Company Reply Brief at 17).

c. Analysis and Findings

When making a determination as to whether a petitioner's present or proposed use of a site under G.L. c. 40A, § 3 is reasonably necessary for the public convenience or welfare, the Department examines, among other things, the present or proposed use and any alternatives or alternative sites identified. Boston Gas at 2-6; Tennessee Gas at 5-6. Under G.L. c. 40A, § 3, the developer's site selection analysis is one factor to include in a determination of whether a use is reasonably necessary for the public convenience or welfare. See Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987) (the availability of alternative sites, the efforts necessary to secure them, and the relative advantages and disadvantages of those sites are matters of fact bearing solely upon the main issue of whether the preferred site is reasonably necessary for the convenience or welfare of the public); New York Central Railroad, 347 Mass. at 591. The Department acknowledges that the Company relies, in part, on its site selection information provided in the now dismissed Siting Board Petition as support for its Zoning Petition. While the Siting Board Petition was filed pursuant to G.L. c. 164, §69J¼, the Zoning Petition at issue in this proceeding was filed

pursuant to G.L. c. 40A, § 3. Both the petitions were noticed and briefed by the parties. Further, to the extent that the different standard for Department zoning exemptions is material to the parties' arguments, after the Siting Petition was dismissed, the Department allowed supplemental briefing to present additional argument.[34]

Cranberry Point provided descriptions of three sites for the Project, including the proposed use of the site in Carver, Massachusetts, as well as a "no-build" alternative (Exh. CP-B at 37-39). The record shows that the Project is needed and that the construction and operation of the Project would result in public benefits (Exh. CP-A at 4-5). Specifically, the Project is required to provide capacity to the SENE zone; would provide multiple services in the ISO-NE wholesale market; and would ensure additional energy and environmental benefits (Exh. CP-A at 3-6). Therefore, the Department finds that the "no-build" alternative is not a viable solution.

The other two site alternatives are in two different municipalities, namely Wakefield and Falmouth (Exh. CP-B at 38-39). The Company briefly described the process it undertook to elucidate the three site alternatives in three different municipalities (Exh. CP-B at 37-39). The Company also provided the multiple factors it considered in its evaluation, including whether the site is (1) adjacent to infrastructure with available transmission capacity; (2) on a parcel of land greater than one acre and available for lease or sale; (3) in an area where construction and operation of the Project would have minimal environmental

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[34] The Department notes that STPB and the limited participants did not file supplemental briefs.

impact; (4) in ISO-NE's SENE region; and (5) at a location on the grid where the Project could provide its maximum service potential to local electric reliability (Exh. CP-B at 37). The Department notes that Cranberry Point is not required by G.L. c. 40A, § 3 to demonstrate that its preferred site is the best possible alternative, nor does the statute require the Department to consider and reject every possible alternative site presented. Martarano v. Department of Public Utilities, 401 Mass. 257, 265 (1987). The record shows that in comparison to the Company's proposed site in Carver, the other two site alternatives had various comparative deficiencies, such as requiring more tree clearing- imposing additional impacts to wetlands; being located closer to residences; and added concerns about economic viability (Exhs. CP-B at 37-39; EFSB-SS-7(S1); EFSB-SS-8(S1); EFSB-SS-11(S1); EFSB-SS-14). Accordingly, the Department finds that the Company's weighing of alternatives and decision to pursue the Project Site is reasonable.

4. Impacts of the Proposed Use

a. Introduction

In accordance with its statutory responsibility to consider the general public convenience and welfare, the Department examines the impacts associated with construction and operation of the proposed Project to identify impacts that may occur during construction and operation. In Section III.C.4.b.x, below, the Department considers impacts associated with emergency events.

b. Impacts of Project

i. Construction Schedule

The Company anticipates Project construction between 7:00 a.m. and 4:30 p.m., Monday to Friday (Exh. EFSB-NO-8). The Company estimates that construction of the Project would take approximately 280 days (Exh. EFSB-G-2(A-1)). Cranberry Point describes the phases of construction for the BESS including the Company's new Project Substation as follows: (1) land clearing; (2) grading; (3) excavations for drainage, foundation, electrical infrastructure; (4) installation of concrete foundations; (5) equipment installation; (6) cabling, wiring and electrical termination; and (7) testing and commissioning (Exh. EFSB-CM-1). The Company states that the major phases of construction at the Eversource Switching Station include: (1) site preparation; (2) civil work; (3) equipment and control wiring installation (including the overhead line); and (4) testing and commissioning (Exh. EFSB-CM-2).

ii. Land Use, Historical and Archeological Impacts

The Company indicated that the closest residence to the Project is approximately 400 feet away, west of the proposed fence line, but shielded by forest (Exh. CP-B at 6). The Company stated that it would alter 4.8 acres of the six-acre Project Site (Exh. CP-B at 27). Specifically, the Company stated that it will need to remove approximately 615 trees located over three acres of the six-acre Project Site (Exh. CP-9S at 4; RR-DPU-3).[35] The Company

[35] Of these trees, approximately 360 trees would be greater than ten inches in diameter and approximately 260 trees would be between 6-10 inches in diameter (Exh. CP-8S at 4).

proposed an "off-site" tree mitigation plan to the Town in 2019 (Exh. CP-9S at 9). The Company will provide monetary compensation to the Town to fund the replacement of ten percent of trees greater than ten inches in diameter (Exh. CP-9S at 9).

The area surrounding the Project Site is zoned "Residential Agricultural" (Exh. EFSB-LU-1(A-2)). However, according to the Company, of the nearly six acres of land required for the BESS development, there was no history of or current plans for using the land for agriculture (Exh. CP-B at 27). The Company reported that, according to the Natural Heritage and Endangered Species Program ("NHESP") Atlas, the Project Site is not located within an area of Estimated Habitats of Rare Wildlife or an area of Priority Habitats for Rare Species (Exhs. CP-8S at 2; CP-B at 9). The Company also stated that there were no certified vernal pools located on or near the site (Exh, CP-B at 9).[36]

The Company submitted a Project Notification Form to the Massachusetts Historical Commission ("MHC") for the Project on July 1, 2021 (Exh. EFSB-LU-7). On July 20, 2021, MHC notified the Company that the Project Site is "in proximity" to several ancient Native American archaeological sites and requested that an "intensive (locational) archaeological survey" be conducted within the archaeologically sensitive portions of the Project impact area (Exhs. CP-13; EFSB-LU-2(S1)). The Company provided the requested survey to MHC on January 31, 2022 (Exh. CP-14). On April 13, 2022, the MHC

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[36] However, the Project Site is located within two miles of three ponds supporting priority habitats for rare species, as defined by the Massachusetts Endangered Species Act, G.L. c. 131A (Exh. CP-7, at 43).

determined that no further action was necessary for the Project as proposed (Exh. EFSB-LU-2(S1)).

iii. Wetlands, Water, and Groundwater Resources

The Company indicated that there would be no direct impacts to wetlands bordering the Project Site (Exh. CP-B at 9; Company Brief at 20). Additionally, the Company stated that no Project facilities involving structures or impervious surfaces would be located within the 65-foot setback required by the Carver Wetlands Bylaws (Exh. CP-B at 8-9). The Company asserted that portions of the Project would be located within the 100-foot buffer zone of a delineated Bordering Vegetated Wetland, as established by the Massachusetts Wetlands Protection Act ("WPA") (Exh. CP-B at 21). The Company explained that, while buffer zones are not jurisdictional under the WPA, they are considered resource areas pursuant to the Carver Wetlands Bylaw (Exh. CP-B at 8). The Company represented that it would not introduce any impervious surfaces in the buffer zone (Exh. CP-B at 21). The Carver Conservation Commission, which implements the WPA, issued an OOC for the Project on February 6, 2019 (Exh. CP-B at 20-21).

In total, the Company stated that it would create 4,217 square feet of impervious area (Exhs. CP-8S, App. I at 1; CP-B at 12). As part of the OOC, the Carver Conservation Commission stated that all work associated with the Project is subject to Massachusetts Stormwater Standards, and imposed conditions to address stormwater impacts (Exh. CP-B at 22). The Company commits to perform all work as it pertains to stormwater in compliance with the OOC (Exh. CP-B at 22). The Company will also submit a Stormwater Pollution Prevention Plan to the Town (Exh. CP-3, at 5). The Company proposed to install two

infiltration basins at the eastern and western portions of the Project Site (Exh. CP-B at 22). The Company explained that each basin was sized for the potential runoff associated with a 10-year, 24-hour storm event (Exh. CP-B at 22). The Project Site is located outside of flood hazard areas subject to a 100-year flood event, as determined by the Federal Emergency Management Agency ("FEMA") (Exh. CP-B at 9).

The Project Site is located on the Plymouth/Carver Sole Source Aquifer (Exh. EFSB-W-12).[37] The Project is located outside of Zone 1 Protection Area for Public Water Supply, as well as Interim Wellhead Protection Zones in Carver (Exh. EFSB-W-6). The Company avers that the Project would not impact water resources (Exh. CP-A at 5; Company Brief at 18). During construction, the Company is required by the Special Permit to maintain soil erosion controls (Exh. CP-3, at 5).

iv. Visual

The Company represents that the Project would have a minimal visual impact on the surrounding area (Exh. CP-B at 22; Company Brief at 21). The Company explained that there is existing tree cover on adjacent properties and existing electrical infrastructure to the north of the Project Site (Exh. CP-B at 22-23). According to the Company, the nearest residence with a direct line of sight of the Project is over 700 feet away (Exh. CP-B at 23). The Company indicated that the nearest residence is actually 400 feet west of the proposed Project fence line but is shielded by forest (Exh. CP-B at 6, 8, 25, 38). The Company will

[37] According to STPB, the aquifer is the sole source of drinking water for the Town of Carver (STPB Brief at 26).

install permanent pole-mounted lighting at the facility but limit the height of the poles to 15 feet (Exh. CP-B at 25). The Company received a Special Permit from the Town of Carver, which requires the Project to have an approved lighting plan with a photometric analysis before a building permit is issued by the Town, as well as a vegetative barrier or fencing on all sides of the Project (Exhs. CP-B at 25; CP-3, at 5). Cranberry Point does not anticipate using temporary lighting during construction because it would abide by Town limits on construction to daylight hours (7:00 a.m. to 4:30 p.m., Monday through Friday) (Exh. CP-B at 25).

v. Traffic

Cranberry Point contends that traffic impacts during construction and onsite maintenance would be minimal and limited to regularly scheduled site inspections (Exh. CP-A at 5; Company Reply Brief at 29). The Company represented that traffic impacts would be temporary, with construction vehicles accessing the Site (Exh. CP-B at 5). According to the Company, construction vehicles would include, but are not limited to, bulldozers, excavators, backhoes, dump trucks, graders, concrete trucks, cranes, and bucket trucks (Exh. EFSB-CM-1). Cranberry Point stated that, during operation, the only ongoing traffic impact would be from regularly scheduled site inspections (Exh. CP-A at 5). The Company indicates that it discussed required traffic management changes for construction with the Town of Carver, which are set forth in the Site Plan Review and Special Permit for the Project (Exh. CP-A at 5).

vi. Noise

The Company asserts that the Project would have minimal noise impacts to the surrounding community and complies with MassDEP's noise regulation and policy (Exh. CP-B at 25; Company Brief at 22).[38] Cranberry Point indicated that the Town of Carver does not have a numerical decibel requirement (Exh. CP-B at 26).[39] The Company commissioned an initial noise study, performed in August 2021, to determine the Project-generated sound levels at adjacent properties (Exh. CP-10). The Company analyzed baseline ambient noise levels and predicted Project operational noise levels at the four closest noise-sensitive receptor property lines (Exh. CP-10 at 6).[40] In response to a staff request, the Company conducted an additional baseline noise survey during the wintertime period to have a comparison when noise producing animals were not active (Exh. EFSB-NO-1). The new baseline survey measurements were approximately 6-10 decibels (dB) quieter (Exh. EFSB-NO-9). The Company stated that the lowest 1-hour sound levels measured during the winter

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38 To be compliant with the MassDEP limit, the noise increase from a Project cannot exceed 10 A-weighted decibels ("dBA") above the ambient background level (Exh. CP-B at 25).

39 The Carver Zoning Bylaw requires narrative descriptions of noise in Site Plan Review submittals, and has requirements that no use is allowed that would cause noise within 40 feet from boundaries in a residential district (Exh. CP-Z, Att. 1, Town of Carver Zoning Bylaws at 38, 65, Section 3600 Environmental Controls, 3610 Disturbances).

40 Ambient background level is defined as the L_{90} level as measured during proposed operating hours (Tr. 2, at 181). L_{90} is defined as a sound level exceeded for 90 percent of a measurement period (Exh. CP-10, at 6, Table 6).

period survey ranged from 26 to 30 dB, which represent the baseline ambient noise levels (Exh. EFSB-NO-9).

The main source of noise from the BESS would be the BESS unit cooling fans (Exh. CP-10, at 5). The Company explained that because the BESS units were designed for desert temperatures upwards of 120 degrees Fahrenheit, in a temperate climate such as New England, Cranberry Point could cap the "duty cycle" of the fans to 40 percent even during the hottest summer months (Exh. CP-10, at 5). However, Cranberry Point stated that, to be conservative, it assumed a duty cycle of 50 percent in its acoustic analysis (Exh. CP-10, at 5). The Company also asserted that because it made baseline measurements at the property lines, and not at the residential structures, residences would experience lower impacts from Project noise than modeled (Company Brief at 25).

The Company collected reference sound levels for the proposed BESS modules and main site transformer from their respective manufacturers (Exh. CP-10, at 5).[41] The Company represented that the modeled noise increases at the nearest residences were between zero and four dBA (Exh. CP-10, at 10; CP-B at 26). The Company concluded that all predicted levels from the Project are within 10 dBA and thus would not exceed the MassDEP noise regulation standard (Exhs. CP-B at 26; EFSB-NO-9; Company Brief at 23).

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[41] The sound power level from a BESS at 50 percent duty cycle is 85.9 dBA (Exh. CP-10, at 5). The sound level from the Project Substation transformer is 95.5 dBA (id. at 5).

Additionally, the Company stated that its "pure tone"[42] noise assessment showed that the Project would be compliant with the applicable MassDEP noise standard regarding pure tones (RR-EFSB-12).

vii. Air

Cranberry Point stated that the Project would have zero emissions during normal operations (Exh. CP-B at 17; Company Brief at 16). The Company also represented that the Project could displace conventional generation facilities and thereby reduce emissions of carbon, particulates, and other air pollutants (Exhs. CP-B at 17; EFSB-A-6). As noted above, the Company intends to participate in the Clean Peak Program and earn Clean Peak Standard certificates for the dispatch of energy during prescribed peak periods (Tr. 1, at 137-138).

The Company commits to performing construction in accordance with applicable sections of the MassDEP Air Pollution Control Regulations, including: (1) conducting mechanical street sweeping of the existing paved access road and surrounding streets as needed; (2) complying with MassDEP's Diesel Retrofit Program by using ultra-low sulfur diesel in off-road engines; (3) removing construction wastes from the site in covered or enclosed trailers; (4) wetting exposed soils and stockpiles as needed to prevent dust generation; (5) turning off construction equipment when not in use; (6) minimizing vehicle

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42 The Company explained that a "pure tone" is a sound containing a single frequency, e.g., a tuning fork (Exh. CP-10, at 12).

idling times; and (7) minimizing the duration soils are uncovered or exposed (Exhs. CP-B at 30; EFSB-A-3; CP-3, at 5; Company Brief at 43-44).

viii. Solid Waste and Hazardous Materials

Cranberry Point states that the Project will not produce solid or hazardous waste during operations (Exh. CP-B at 22; Company Brief at 21).[43] According to the Company, over time, as batteries are used, they will degrade and store less electrical charge (Exh. CP-B at 15-16). The Company will build the Project with sufficient physical and electrical space to add new enclosures to maintain the Project capacity (Exh. CP-B at 15-16). The operational life of the Project is 20 years (Exh. EFSB-G-22). The Company stated that it will recycle batteries from the Project based on recycling standards and requirements for material at the time of decommissioning (Exh. EFSB-G-38). During construction, the Company will use contractors to transport solid waste offsite in accordance with local, state, and federal guidelines (Exh. CP-B at 22). The Company asserted that although heavy equipment will be used that contains petroleum products, there would be no on-site storage of gasoline or diesel fuel (Exh. EFSB-W-9). The Company indicated that, in the event of a spill during construction, it will implement procedures outlined in a site-specific Spill Prevention Control and Countermeasures ("SPCC") plan (Exh. EFSB-W-9). The Company also stated that it will confine refueling and vehicle maintenance to a designated area (Exh. EFSB-W-9). The

[43] While not likely to be emitted during operation, the Department notes that a Tesla Megapack 2XL contains a refrigerant product (Exh. EFSB-S-24). The Company provided the material safety data sheet for the refrigerant (Exh. EFSB-S-16).

Company's OOC with the Carver Conservation Commission specifies that refueling must be done outside of 100-foot wetland buffer zones (Exh. EFSB-W-9).

ix. Magnetic Fields

Cranberry Point stated that all modeled post-Project magnetic field ("MF") levels outside the Project fence line were well below "health-based" exposure guidelines for MF (Exh. EFSB-MF-3).[44] The Company studied MF levels for both charging and discharging at full capacity as model conditions (Exh. EFSB-MF-3). The Company modeled MF levels at a height of one meter (approximately 3.3 feet) above the ground surface per industry practice (Exh. EFSB-MF-3). The Project model included two existing 115 kV overhead lines present in the ROW to the west of the Project Site (Exh. EFSB-MF-3).[45] The modeling assessment focused on MF levels outside the Project fence line; the Company provided isopleth maps comparing pre-project magnetic field contours with post-project magnetic field contours (Exh. EFSB-MF-3, Figures 1-3). The Company's MF isopleth maps show that there will be some

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44 The Company assertion is based on the guidelines established by the American Conference of Governmental and Industrial Hygienists; International Commission on Non-Ionizing Radiation Protection; and Institute of Electrical and Electronics Engineers (Exh. EFSB-MF-3).

45 The Company modeled Project MF sources including the modified existing transmission lines, the proposed 115 kV ring bus, the overhead 115 kV tap lines and the overhead 115 kV monopole interconnection structures between the Project Substation and the ring bus (Exh. EFSB-MF-3). The Company did not include any of the direct current ("DC") Project electrical components, such as the batteries and DC collector lines within the battery lines, or the Project Substation (Exh. EFSB-MF-3). The Company explained that the MF generated by the DC components drop off rapidly with distance, and that the Project Substation would not be expected to be a source of MF beyond the fence lines as it is at least 200 feet from the Project Site fence (Exh. EFSB-MF-3).

localized increases in MF levels primarily within the Project fence line and utility ROW, but that levels will drop off rapidly with distance (Exh. EFSB-MF-3, Figures 1-3). The predicted MF at the closest residential dwellings would remain below 0.5 milliGauss[46] ("mG") (Exh. EFSB-MF-3, at 3).

x. Public Safety

(A) Safety Standards and Plans

Cranberry Point states that the Project will be designed, constructed and operated in a manner that will promote and maintain public safety (Company Brief at 32). The Company notes that the BESS is designed in conformance with the Massachusetts Fire Code and the associated National Fire Protection Association ("NFPA") standard, NFPA 855 – Standards for the Installation of Stationary Energy Storage Systems (Exhs. CP-B at 32; CP-3, at 4).[47] The Company added that the Project would comply with the following international, national, and state safety requirements standards, and best practices: UL 1642: Standards for Lithium Batteries; UL 1741: Standards for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources; UL 1973: Standard for Batteries for Use in Light Electric Rail Applications and Stationary Applications; IEC 62619: Secondary cells and batteries containing alkaline or other non-acid electrolytes; NFPA 1

46 Gauss is a unit of measurement of magnetic induction.

47 The NFPA is a non-profit organization that creates and publishes codes and standards for fire, electrical, and related hazards, typically used by regulatory authorities, experts and emergency responders (Exh. STPB-MTP-1, at 10).

National Fire Code; [48] NFPA 844 Energy Storage Systems; IEC 62933-5-2; UL 9540; and UL 9540A (Exh. CP-B at 32).

Cranberry Point stated that, in line with requirements of NFPA 855, it prepared a draft Emergency Response Plan ("ERP") and draft HMA in consultation with the CFD and the Company's consultant, ESRG (Exhs. CP-11; EFSB-S-37). The Company represented that the ERP would provide information such that the CFD will be able to appropriately manage any site emergency (Company Brief at 37; Exh. CP-B at 35). Specifically, the ERP identifies and characterizes potential emergency events at a facility or location, and provides detailed information (strategies, tactics, procedures, equipment, etc.) to be employed by the responding personnel (Exh. STPB-MTP-1, at 22). The Company's HMA provides an analysis of six potential major types of emergencies of a BESS and safety related consequences (Exhs. CP-11, at 14; STPB-MTP-1, at 21-22).

The Company's Special Permit with the Town also addresses safety and stipulates related conditions, including the requirement to develop the final draft ERP before the issuance of an Electrical Permit (Exh. CP-3, at 4-5). The Company asserts that, per the Special Permit, the Company will retain an independent third-party Fire Protection Engineer selected by the CFD to review the complete fire protection design and final draft ERP and HMA (Company Brief at 38; Exh. EFSB-CP-3, at 5). The Company stated that the ERP will be finalized after this review and prior to construction, to ensure that any necessary

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[48] The Department notes that the Massachusetts Fire Code adopts and incorporates the provisions of NFPA Fire Code, the NFPA 1 Fire Code, 2021 edition as modified by 1.05. 527 CMR 1.04.

conditions are incorporated into both plans (Tr. 1, at 16, 88; Tr. 2, at 223; Company Brief at 38). The Company also noted that the ERP would be a "living document" that is continuously updated throughout the life cycle of the Project (Tr. 1, at 88).

The Company asserted that it has met with the CFD on numerous occasions and incorporated several of the CFD's recommendations into the proposed Project, including an approximately 20-foot access road around the Project to allow fire truck access throughout; eight feet of spacing between battery enclosures; and coordinated emergency planning (Exh. CP-B at 35). In addition, the Company submitted evidence that the CFD has reviewed the Project, including the modifications approved by the Carver Planning Board on April 25, 2023 (RR-DPU-1(1) at 3). Specifically, the Company provided a copy of the Carver Planning Board's April 25, 2023 approval which summarized comments from the CFD (RR-DPU-1(1) at 3). The Carver Planning Board's summary indicates that (1) the CFD supports the Company's changes in the site configuration/roadway access as an improvement in the design which meets or exceeds the existing requirements of the CFD and the NFPA 855; (2) the CFD characterizes the change in battery model and chemistry as an improvement, representing an advancement in cell safety and meeting or exceeding the CFD, NFPA and UL requirements; (3) the CFD training for the Project has already begun based on the draft HMA and ERP; and (4) the CFD will continue its own training with in-house trained and certified instructors once the Project is fully commissioned (RR-DPU-1(1) at 3).

(B) Battery Testing and Design

As noted above, the Company proposes to use Tesla Megapack 2XL battery enclosures for the Project (Exhs. CP-B at 15; STPB-1-1). The Company provided a test

report prepared by TÜV Rhineland ("TÜV Report"), in addition to an analysis by Fisher Engineering, Inc. ("Fisher Report"), which Cranberry Point asserts demonstrates that the Megapack 2XL has undergone significant testing under a "credible worst-case failure" scenario pursuant to UL 9540A testing parameters (Exh. STPB-1-1, Att. TÜV Report). The UL 9540A is a standard set by independent, non-profit entities, including UL and the American National Standard Institute (Exh STPB-1-1. Att. TÜV Report). The test was conducted by TÜV Rheinland of North America, Inc. at a Tesla facility (Exh. STPB-1-1, Att. TÜV Report at 1).

Additionally, the Company provided a description of "full-scale" – cell-, unit- and module-level testing – information (Exh. EFSB-S-37, Att. at 14-18). The Company asserted that the "credible worst-case scenario" included in the TÜV and Fisher Reports is a forced thermal runaway of six battery cells in a tray of a module at the bottom of the unit by simultaneously heating the cells with four film heaters, and the battery unit's safety mechanisms turned off (Company Brief at 36; Exh. STPB-1-1, Att. TÜV Report at 28; Att. Fisher Report at 9).[49] The Fisher Report explains that the number of cells and location were selected to provide the greatest thermal exposure to battery trays above and below, and to simulate a mass failure of multiple cells in a localized area within the same battery module (Exh. STPB-1-1, Att. Fisher Report at 9).

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[49] The term "thermal runaway" describes the rapid uncontrolled release of heat energy from a battery cell, due to the battery creating more heat than it can dissipate (Exh. STPB-MTP-1, at 10-11).

The TÜV Report documents that in the test, the thermal runaway did not propagate further than one additional cell within the Megapack 2XL (Exh. STPB-1-1, Att. TÜV Report at 23). Additionally, the TÜV Report states that there were no signs of distress in the initiating battery module, no liquid or runoff observed, and no visible indications of fire damage to surrounding components (Exh. STPB-1-1, Att. TÜV Report at 23).[50] Air sampling tested for 27 different hazardous metal pollutants; no traces of any of these metals were detected in the gas samples collected (Exh. STPB-1-1, Att. Fisher Report at 21). The air testing also included mercury and hydrogen fluoride ("HF"), two byproducts that are commonly of concern when discussing a lithium-ion battery fire or thermal runaway event (Exh. STPB-1-1, Att. Fisher Report at 21). The test detected no traces of mercury (Exh. STPB-1-1, Att. Fisher Report at 21). The test detected HF at values of 0.10 and 0.12 parts per million ("ppm") in the two sampling locations – two orders of magnitude below NIOSH's Immediately Dangerous to Life or Health ("IDLH") standard of 30 ppm (Exh. STPB-1-1, Att. Fisher Report at 21).[51]

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50 The Fisher Report indicates that the Megapack 2XL battery demonstrated better performance in the UL 9540A safety test than the original Megapack, which uses NMC based lithium-ion chemistry (Exh. STPB-1-1, Att. Fisher Report at 22). In the original Megapack, internally heated cells led to cascading thermal runaway of all cells within an enclosure, while in the Megapack 2XL, internally heated cells led to the thermal runaway of only one additional cell (Exh. STPB-1-1, Att. Fisher Report, app. 2). During the test, the fire consumed the entire cabinet of the original Megapack and flames were observed outside the cabinet exiting through the thermal roof (Exh. STPB-1-1, Att. Fisher Report).

51 The IDLH standard is an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life; would cause irreversible

The Megapack 2XL uses LFP-based battery chemistry (Exh. EFSB-G-25).[52] Cranberry Point asserted that the Megapack 2XL has several safety control mechanisms that provide the ability to interrupt an electrical fault current (Company Brief at 34; Exh. CP-B at 33). The Company explained that these features include: battery module overcurrent protection; inverter DC protection; and inverter AC protection; and ground fault protection (Company Brief at 34; Exh. CP-B at 33). The Company also stated that the battery enclosures are equipped with a thermal management system that operates by flowing a cooling liquid through a coolant loop into each module to ensure each cell is controlled thermally (Exh. CP-B at 33). Each enclosure also has an automatic shut-down sequence in the event a particular battery cell operates outside predetermined values of temperature, voltage and electrical impedance (Exh. CP-B at 34). The Company indicated that the enclosure design has internal physical separation elements including layers of protection using thermal barriers and compartmentation that have been demonstrated to eliminate thermal runaway propagating between BESS enclosures (Exh. EFSB-S-13).

The Fisher Report states that, as required by NFPA 855, the Megapack 2XL has overpressure vents and sparker systems that work to mitigate risk of overpressure and deflagration events (Exh. STPB-1-1, Att. Fisher Report at 7; Company Brief at 35).

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or delayed adverse health effects; or would interfere with an individual's ability to escape from a dangerous atmosphere (Exh. STPB-1-1, Att. Fisher Report at 21).

[52] According to the Company, the U.S. Department of Energy describes LFP as having lower energy density and more thermal stability than other battery chemistries (Exh. EFSB-G-25).

According to the Fisher Report, the overpressure vents create a natural ventilation flow path, which would not allow flammable gases to accumulate within the Megapack 2XL cabinet to compromise cabinet integrity through deflagration or an explosion (Exh. STPB-1-1, Att. Fisher Report at 7-8). Furthermore, the sparker systems are designed to ignite gases early in a thermal runaway event before there is time for the gases to accumulate within the battery enclosure and become an explosion hazard (Exh. STPB-1-1, Att. Fisher Report at 7). The Fisher Report finds that, by maintaining the Megapack 2XL cabinet integrity, the likelihood of a thermal event having an impact on public safety is significantly reduced (Exh. STPB-1-1, Att. Fisher Report at 8). Additionally, the Fisher Report states that the likelihood of a fire propagating to other bays within the same enclosure, adjacent Megapack 2XL cabinets or electrical equipment is reduced by maintaining cabinet integrity (Exh. STPB-1-1, Att. Fisher Report at 8). The Company states that the sparker systems include an alarm that would trigger if the systems are not functioning properly (Exh. EFSB-S-38).

During normal operation the BESS would be unmanned and remotely monitored (Exh. CP-B at 5). The Company stated that, if an alarm condition occurred during operation based on equipment temperature, or if the thermal detection system notes a heat rise in the equipment above normal operating limits, the system would be automatically shut down, along with appropriate notification to 24/7 operators monitoring the system remotely (Exh. CP-B at 33-34). Cranberry Point and Tesla would both remotely monitor the Megapack 2XLs 24/7 through "network operations centers" (Exh. STPB-1-1, Att. Fisher Report at 8; Tr. 2, at 293-294). The Megapack 2XL has an integrated battery management system ("BMS") that tracks the performance, voltage, current and state of charge of the cells (Exhs.

CP-B at 15; STPB-1-1, Att. Fisher Report at 6; Company Brief at 32). In addition to the built-in safeguards of the BMS, the Megapack 2XL is supported by the Tesla's global network operation center (Exh. STPB-1-1, Att. Fisher Report at 6).

The Fisher Report discusses that, depending on the severity of a fault condition, the BMS could automatically isolate an affected battery module temporarily or physically disconnect the module (Exh. STPB-1-1, Att. Fisher Report at 6). Fault conditions include over-temperature, loss of communications, over-voltage, and isolation (Exh. STPB-1-1, Att. Fisher Report at 6). All faults are transmitted to Tesla operation centers, alerting Tesla to abnormal conditions that may require corrective action (Exh. STPB-1-1, Att. Fisher Report at 6). The Company also stated that Project design includes the ability for the CFD or operators to manually shut down the system if needed (Exh. CP-B at 34).

(C) Emergency Response and Impacts

According to Cranberry Point, lithium-ion batteries could release flammable and toxic chemicals when subject to electrical or physical damage, including fire (Exh. CP-11, at 11). The Company stated that the potential toxic chemicals released is highly dependent on the failure condition and can vary greatly (Exh. EFSB-S-12). The Company indicated that these chemicals could include methane, carbon dioxide, hydrogen and carbon monoxide, similar to residential and commercial fires (Exh. EFSB-S-12).[53] STPB witness, John Hinckley

[53] Cranberry Point asserted that the decision on how best to minimize any risks is consistent with and similar to how the fire service handles structural residential or commercial fires (Exh. EFSB-S-13).

conducted a literature review of available studies[54] to create a list of potential air pollutants that could be released if a thermal runaway event were to occur, causing a battery fire (Exh. STPB-JH-1, at 13). The list of potential pollutants is summarized in Table 1 below.[55]

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54 The studies consulted by Mr. Hinckley included fire tests of batteries of various lithium-ion based chemistries, including LFP; and various applications, including cell-level thermal runaway (Exh. STPB-JH-1, Exhibit 6). The studies are referenced in the right-most column of Table 1.

55 Mr. Hinckley explained that he cannot say with certainty that the list is completely accurate, given that he did not have access to material safety data sheets from the Project facility and his research is based on published research studies, which are not specific to this Project (Exh. STPB-JH-1, at 13). Nonetheless, Mr. Hinckley argued that it is important to have such a list, which has not been submitted by Cranberry Point (Exh. STPB-JH-1, at 13).

Mr. Hinckley explained that he limited the list to pollutants regulated by the U.S. EPA and MassDEP for facilities that are subject to federal and Commonwealth air pollution control regulations, such as fossil power plants, manufacturing plants, and colleges (Exh. STPB-JH-1, at 13). Mr. Hinckley asserted that these pollutants are regulated because they can adversely affect human health (Exh. STPB-JH-1).

Table 1. STPB's Air Pollutants Summary Table.

Chemical Name	CAS#	Hazardous Air Pollutant (HAP) (Y/N)	MassDEP Air Toxic (Y/N)	Criteria Pollutant (Y/N)	Reference
1,3-Butadiene	106990	Y	Y		Naval Research Lab 2014 - Table 15
1,4-Dioxane	123911	Y	Y		Naval Research Lab 2014 - Table 15
Benzene	71432	Y	Y		Naval Research Lab 2014 - Table 13
Carbon Monoxide	630080			Y	Naval Research Lab 2014 - Table 13
Carbon Tetrachloride	56235	Y	Y		Naval Research Lab 2014 - Table 14
Carbonyl Sulfide	463581	Y	Y		Naval Research Lab 2014 - Table 13
Chlorobenzene	108907	Y	Y		Naval Research Lab 2014 - Table 14
Chromium (metal)	7440473	Y	Y		Lithium Battery Chemistry
Ethanol	64175	N	Y		Fernandes 2018 - Figure 6
Ethylbenzene	100414	Y	Y		Naval Research Lab 2014 - Table 15
Formaldehyde	50000	Y	Y		Combustion Biproduct
Hydrogen Chloride	7647010	Y	Y		Naval Research Lab 2014 - Table 14
Hydrogen Fluoride	7664393	Y	Y		Anderrson 2013 - Table 7 & 16
Methanol	67561	Y	Y		Fernandes 2018 - Figure 6
Nitrogen dioxide	1102440			Y	Ribiere 2012
Particulate matter				Y	Wang 2020
Phosphoric Acid	7664382	N	Y		Naval Research Lab 2014 - Table 15
Styrene	100425	Y	Y		Naval Research Lab 2014 - Table 15
Sulfur dioxide	7446095			Y	Naval Research Lab 2014 - Table 14
Sulfuric Acid	7664939	N	Y		Naval Research Lab 2014 - Table 14
Tetrahydrofuran	109999	N	Y		Naval Research Lab 2014 - Table 14
Toluene	108883	Y	Y		Naval Research Lab 2014 - Table 15

Source: Exh. STPB-JH-1, at 108, Exhibit 5. Table 2.

The Company stated that it did not conduct dispersion modeling as it is not required for BESS by any applicable battery standards or codes (Exh. EFSB-S-13).[56] The Company

[56] Dispersion modeling uses mathematical formulations to characterize the atmospheric processes that disperse a pollutant emitted by a source. See https://www.epa.gov/scram/air-quality-dispersion-modeling.

also noted that the closest residence to the battery units is 650 feet away (Exh. EFSB-S-13).[57] Based on the UL 9540A test, the levels of chemicals detected 20-feet downwind and five feet upwind of the cells would not be harmful to health (Exh. STPB-1-1, Att. Fisher Report, at 21). Mr. Hinckley developed meteorological data suitable for air dispersion modeling, which he states is required in some circumstances for certain emissions sources (Exh. STPB-JH-1, at 14). Mr. Hinckley argued that the meteorological data combined with the air pollutants list in Table 1 helps to illustrate that air pollutants could travel away from the Project facility in the event of thermal runaway (Exh. STPB-JH-1, at 15).

Cranberry Point emphasized that it does not recommend use of water on BESS units experiencing thermal runaway unless the CFD deems that conditions warranting such use exist (Exh. CP-8, at 7). The Company recommends allowing a battery fire to burn itself without use of water unless there is a threat to life (Exh. EFSB-S-44, at 33). The Company explained that a thermal event would end once the fuel sources within an enclosure are consumed (Exh. CP-B at 34-35; Tr. 2, at 302-304). The Company, however, stated that the CFD could decide to apply water to adjacent equipment as a defensive approach (Tr. 1, at 86). The Company cautioned that if water were used, there could also be some risk to responders from exposure to high voltages of the BESS and Project equipment (Exhs. CP-B; STPB-1-1, Att. Fisher Report). Should the CFD choose to utilize water, the Company

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[57] The Department notes that this distance is further from the distance between the closest residence and the proposed Project fence line, which is 400 feet (Exh. CP-B at 6).

indicated that a mobile water source will be used to transport water[58] (Exh. CP-B at 20). The Company indicated that these water sources would be CFD vehicles, including four engines, two tankers and one fire truck available to the Town (Exh. EFSB-W-3; Tr. 2, at 302-303).

The Company indicated that in the event that water is used during a fire, the water would not come into contact with the contents of the BESS containers, as the BESS container are hermetically sealed (Tr. 2, at 305). The Company claimed that any water used during an incident likely would have the same impact on the BESS as to rainwater (Tr. 2, at 307). The Company maintained that should any chemical(s) be released during a thermal event, the water used in fire suppression would carry the chemical(s) to the Project's stormwater basins and not be discharged (Exh. EFSB-W-13). Instead, the Company would use an environmental response team, such as Clean Harbors, Inc., to pump and remove water from the infiltration basins before they are able to drain (Exhs. EFSB-S-38, ref.19; CP-10, at 12-13).

The ERP states that CFD personnel should not attempt to enter a battery enclosure or undertake any disassembly of the enclosure, under any circumstances (Exh. EFSB-S-44, at 35). Instead, the Company recommended that the CFD should rely on trained experts to inspect any enclosure once the event is over (Exh. EFSB-S-44, at 35). According to the Company, its operation and maintenance plan, to be submitted to the Town, would outline

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[58] The Project site does not have access to Town water and, therefore, a fire hydrant will not be connected onsite.

post-incident Emergency Maintenance Procedures – required to be completed within seven calendar days of an incident (Exhs. EFSB-W-13; CP-3, at 5). Under the Emergency Maintenance Procedures, the Company would clear drainage conduits on the portions of the site impacted by fire suppression activity, and remove all sediment accumulated in the sumps of the stormwater catch basins (Exh. EFSB-W-13). The Company would also remove the top six inches of topsoil within an affected infiltration basin and sediment forebays and replace and reseed the basins to original design standards (Exh. EFSB-W-13).

As discussed above, the Company stated it has held numerous meetings with the CFD to discuss the proposed Project and has incorporated several of CFD's recommendations in the Project design, including coordinated emergency planning and training on responding to an emergency (Exhs. CP-B at 35; CP-8S at 7). [59] According to the Special Permit, the Company will provide funding for emergency equipment and training for the CFD (Exh. CP-3, at 4). The CFD is a certified call fire department, with most of its firefighters responding only when a call occurs (Tr. 2, at 279). The CFD is located less than a mile away from the proposed Project Site (Exh. CP-8S, at 4).

(D) Facility Security

The Company stateed that Project Site security measures include a chain-link perimeter fence consistent with local codes and standards (Exh. EFSB-V-1). The Special Permit also requires that all gated access points have the ability to accommodate a CFD

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[59] As discussed above, the CFD has already begun training based on the draft HMA/ERP (RR-DPU-1(1) at 3).

supplied padlock (Exh. CP-3, at 4). The site perimeter will also include prohibitive signage, which will have to be approved by the Town, as well as remote security camera monitoring (Exhs. CP-B at 12; CP-3, at 5). To ensure public safety, the Company will install a total of three gates to restrict access to only authorized site personnel during construction, installation, operation, and maintenance (Exh. CP-B at 13). The Company also indicated that it will comply with all applicable cybersecurity requirements, including North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection standards, National Institute of Standards and Technology ("NIST") Special Publication 800-53 ("Security and Privacy Controls for Federal Information Systems and Organizations"), and Special Publication 800-82 Rev. 2 ("Guide to Industrial Control Systems") (Exhs. EFSB-G-34; EFSB-G-39). The Company asserted that the Project is considered a "low" impact facility by NERC (Exh. EFSB-G-34).

c. Positions of the Parties

i. Save the Pine Barrens

(A) Safety Standards and Plans

STPB asserts that the Project's proposed siting poses an unacceptable environmental risk, and public health and safety hazard (STPB Brief at 13). STPB argues that the Company cannot rule out a thermal runaway incident occurring in Carver and that the Company's reliance on NFPA standards does not sufficiently protect against public or environmental risk (STPB Brief at 14, 18). STPB notes that the NFPA is not a regulatory body and contends that NFPA 855 does not purport to be the most protective standards (STPB Brief at 19, citing

Exh. CP-B, CP-1-15). STPB urges requiring more than NFPA 855 to ensure that all hazards are identified and addressed appropriately (STPB Brief at 19).

STPB argues that the Company's efforts to satisfy the NFPA standard have repeatedly fallen short and STPB has no confidence in the Company's management of the Project's possible risks (STPB Brief at 20). STPB contends that the Company's revision of the ERP and HMA was strategically timed to deprive STPB's witnesses of any reasonable time to evaluate the new documentation (STPB Reply Brief at 4). STPB notes that NFPA 855 requires "full-scale" fire testing at the cell, unit, and module level; it alleges that Cranberry Point "engaged in a belated effort to secure evidence of [full-scale fire] testing after STPB testified to the importance of fire testing and demanded the results" (STPB Brief at 21, citing Exhs. STPB-MTP-1; EFSB-S-37, Att. at 14-17).

STPB faults the Company for not producing a draft HMA or sharing it with the CFD until October 2022, more than a year after the Petition was filed (STPB Brief at 22, citing Exhs. EFSB-S-37, STPB-MTP-1). STPB contends that without the HMA, the CFD lacked critical information on which to base its evaluation of the facility, emergency planning, and preparation (STPB Brief at 22). STPB further argues that the draft HMA is lacking in the level of detail expected by fire engineering professionals, including a failure to identify, analyze, and quantify each of the risks listed by the Company in its HMA (STPB Brief at 22; RR-STPB-2; Exh. STPB-MTP-2, at 2). Furthermore, STPB contends that the HMA does not provide validation of the systems proposed to mitigate risks, such as the BMS, fire detection system, or deflagration protection system (STPB Brief at 22, citing Exhs. STPB-MTP-2; EFSB-S-37, Att., Table 5-2).

STPB notes that Cranberry Point did not produce or provide a draft ERP until October 2022 (STPB Brief at 23, citing Tr. 2, at 278). According to STPB, the most glaring issue is the ERP's failure to prepare the CFD or others around the facility for the variety of unique emergencies at the facility (STPB Brief at 23). STPB asserts that the ERP does not include details regarding emergency shut-offs to be located at the facility, and potential communications with nearby residents, including possible evacuations or shelter-in-place measures (STPB Brief at 23-24).

STPB contends that BESS technology brings novel challenges for even experienced firefighters (STPB Brief at 24; Exh. STPB-MTP-1, at 10). STPB contrasts this with the CFD, which is mostly staffed by firefighters who are not full time and have no experience with BESS installations of this scale (STPB Reply Brief at 7). STPB asserts that a comprehensive and effective ERP is critical for the successful outcome of any BESS incident (STPB Brief at 24, citing RR-STPB-2, at 4). STPB faults the ERP for not "thoroughly characterizing each potential hazard and providing step-by-step guidance to first responders at each decision point they may face upon the occurrence of each such hazard" (STPB Brief at 24, citing Tr. 2, at 284; Exh. STPB-MTP-1, at 22). For example, STPB notes that the ERP does not explain how long it would take for a battery fire to burn itself out or how to determine when the fuel source is depleted, leaving first responders to make that determination (STPB Brief at 25).

STPB alleges that the Company does not have the expertise to be able to provide guidance to first responders upon the occurrence of a hazard, while at the same time stating its position as deference to the expertise of the CFD (STPB Brief at 24-25). STPB argues

that the Company did not explain how an incident commander would decide whether to use water to cool adjacent BESS units, the volume of water that could be required to cool adjacent units, where the water would come from, or if CFD had enough water tank trucks to transport the water that may be necessary (STPB Brief at 25, 27, citing Tr. 2, at 302-303, 308). For example, STPB asserts that the Company did not quantify the necessary numbers or amounts of personnel, apparatus or equipment that should be available in the event of a large-scale event (STPB Reply Brief at 6; Exh. STPB-MTP-1, at 28).

(B) Battery Testing and Design

STPB is skeptical of Cranberry Point's attempts at distinguishing the Project (which would use the latest-generation Tesla Megapack 2XL) from the earlier Tesla Megapack model involved in prior incidents in Australia, Arizona, and California (STPB Brief at 17; Exh. EFSB-S-37). STPB points to testimony by the Company, which stated that the Megapack 2XL's safety characteristics are different but not significantly changed from the original Megapack 1 (STPB Brief at 17, citing Tr. 2, at 236). Moreover, STPB questions the new battery chemistry as having little if any worldwide operational experience, and that the Company did not submit independent testing or validation (STPB Brief at 18; STPB Reply Brief at 5; RR-STPB-2).

STPB contends that the UL 9540A test performed on the Megapack 2XL addressed a forced thermal runaway of only six cells out of 8,064 cells in a Megapack 2XL enclosure and does not address other events that could cause wider fire propagation (STPB Brief at 20,

citing Exhs. STPB-1-1, Att.; STPB-MTP-1, at 27). [60] STPB notes that the result of the test has had an outsized influence on the Company's emergency planning approach (STPB Brief at 20-21).

(C) Emergency Response and Impacts

STPB indicates that in the past few years, fires and explosions have occurred at BESS installations, including installations using Tesla technology (STPB Brief at 13, citing Exhs. STPB-JH-1, at 9; STPB-MTP-1, at 18-19).[61] STPB explains that BESS installations "pose unique risks, particularly the risk of thermal runaway, which is different than 'normal' fire" (STPB Brief at 14, citing Tr. 1, at 44). STPB also questions whether the Company's safety protocols and, what it calls excessive deference to the local on-call fire department, would assure that a thermal runaway event could be handled in a way that meets NFPA standards and protects public health, safety and welfare (STPB Brief at 14). STPB asserts that any of several fault conditions, including electrical faults, overcharging, and particulate/moisture contamination could lead to an escalated temperature in one lithium-ion cell (STPB Brief at 14-15, citing Exh. STPB-MTP-1, at 12). STPB states that thermal runaway in a single cell could result in a chain reaction that heats neighboring cells (Exh. STPB-MTP-1, at 5-6).

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60 As stated above, the UL 9540A test report was generated at the request of Tesla Inc. (Exh. STPB-1-1, Att. TÜV Report).

61 STPB cites to fire and explosion events at large-scale BESS installations, including in Victoria, Australia; Surprise, Arizona; and Monterey County California (STPB Brief at 16-17; Exhs. STPB-MTP-1, at 18-19; STPB-JH-1, at 9). STPB uses the previous incidents to illustrate that the risks to Carver include fires that burn for days, explosions, and emissions of toxic gases into the community (STPB Brief at 17; Exhs. STPB-MTP-1, at 18; STPB-JH-1, at 9).

STPB states that if the chain reaction continues to heat additional cells, a battery fire or explosion could result, eventually engulfing the entire BESS (STPB Brief at 14, citing Exh. STPB-MTP-1, at 5-6, 10-11; Tr. 2, at 209).

STPB also states that, once started, lithium-ion battery fires are difficult to extinguish, requiring specific training and firefighting materials and equipment (STPB Brief at 15; Exh. STPB-MTP-1, at 18-19). STPB asserts that extinguishing BESS fires may require significant resources to prevent their further spread, at great risk to emergency responders and firefighters (STPB Brief at 15; Exh. STPB-MTP-1, at 19). STPB concludes that "[f]ar too many critical safety details are pushed off to the future and the call of the CFD" (STPB Reply Brief at 7). STPB also argues that people nearby may be exposed to smoke and off-gases from thermal events long after flames are extinguished (STPB Brief at 15, citing Exh. STPB-MTP-1, at 19). STPB adds that BESS fires can produce and emit dangerous gases into the air from within the battery enclosure (STPB Brief at 15; Exh. STPB-MTP-1, at 10).[62]

STPB argues that, unique to BESS, energy can be retained or stranded within the BESS even after a thermal runaway event and fire or explosion (STPB Brief at 16; Exh. STPB-MTP-1, at 10-12). STPB asserts that safely discharging stranded energy from damaged BESS terminals can be difficult, creating shock hazards (STPB Brief at 15-16). Finally, STPB asserts that "lingering" stranded energy can also cause a fire to reignite hours

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62 STPB's witness, Mr. Puchovksy testified that these "flammable and toxic" gases could include carbon dioxide (CO_2), hydrogen (H_2), ethylene, methane, benzene, hydrogen fluoride (HF), hydrogen chloride (HCl), and hydrogen cyanide (HCN) (Exh. STPB-MTP-1, at 15).

or days after an initial fire or explosion (STPB Brief at 16; Exh. STPB-MTP-1, at 10-12). STPB also argues that the Company did not provide evidence that the Megapack 2XL systems were not used at installations that have experienced thermal runaway events (STPB Reply Brief at 5).[63]

STPB asserts that the Company has not established that the Project has sufficient safeguards to avoid environmental harm in the event of a thermal runaway at the facility (STPB Brief at 26). Referring to extra-record information, STPB alleges that the aquifer is highly vulnerable to contamination due to its geological characteristics (STPB Brief at 26). STPB alleges that Cranberry Point has "largely ignored" the risks to the sole-source aquifer in the region in its approach to the use of water in an emergency on the Project Site (STPB Brief at 27).

STPB argues that the Company does not identify contaminants that may be contained in water that is discharged following attempts to extinguish a fire in the BESS (STPB Brief at 28). STPB contends that the discharge could include hazardous materials, requiring a Chapter 21 Emergency Response (STPB Brief at 28). STPB then asserts that the Company did not explain how discharging "potentially contaminated water" used to extinguish a thermal runaway fire event into the stormwater detention basin would be acceptable, legal, or

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63 The Department notes that, it appears that the Company did provide evidence of the battery type for each incident (Exh. EFSB-S-37). The Company's evidence shows that these facilities used either NMC or nickel cobalt aluminum ("NCA") lithium-ion battery chemistry (Exh. EFSB-S-37). Additionally, the Surprise, Arizona facility was installed before NFPA 855 and UL 9540A testing standards were established, and the Victoria, Australia facility used the original Tesla Megapack (Exh. EFSB-S-37).

prevent contamination of nearby private and public drinking water wells (STPB Brief at 28). STPB adds that the Project also endangers ecosystems including food crops, streams, rivers, and wetlands that are interconnected to the aquifer (STPB Brief at 29).

Regarding possible air emissions, STPB questions the Company's statement that the minimum distance of 650 feet between a battery enclosure and a residence is sufficient such that smoke or off-gas from the battery container during a thermal event are not expected to pose a risk (STPB Brief at 30, citing Exhs. CP-11, at 12; STPB-JH-1, at 11). STPB reiterates that thermal runaway events, and associated off-gassing, can continue for hours or days at a time based on the previous incidents (STPB Brief at 30; Exh. STPB-JH-1, at 11). STPB argues that people outdoors near the Project Site, such as at the cranberry bog which is 60 feet from the nearest BESS unit, could be impacted by such emissions (STPB Brief at 30, citing Exhs. CP-B; CP-11, at 11). STPB faults the Company for lacking protocols for communication with, or safeguarding, people who live, work and recreate nearby (STPB Brief at 30).

STPB asserts that meteorological data in the area of the Project shows that prevailing winds could carry off-gases and toxic pollutants associated with a fire or explosion to areas that include homes, cranberry bogs, and a school (STPB Brief at 30, citing Exh. STPB-JH-1, Exhibit 7). STPB concludes that "far more" needs to be understood about how and where air pollution may travel in the event of an emergency (STPB Brief at 32).

(D) Proposed Conditions

STPB provides a list of proposed conditions for the Department to impose on the HMA and ERP, as well as conditions regarding the Company's emergency planning (STPB

Brief at 43-47). These STPB proposed conditions, as well as the Company's responses are also shown in Table 2 below.

ii. Company Response

Cranberry Point asserts that, contrary to STPB's statements, the Company has demonstrated that the Project is safe for the public and the environment (Company Reply Brief at 4). Cranberry Point claims that STPB reiterates debunked information about the results from previous battery fires (Company Reply Brief at 5). The Company states that it has provided information on the causes of previous BESS fires, any impacts to first responders and abutters, and safety features incorporated into the Project in response to the prior incidents (Company Reply Brief at 8, citing Exhs. EFSB-G-23, Att.; EFSB-S-38).[64] The Company asserts that STPB ignored this information and reiterated the same points made by its witnesses in their pre-filed testimonies (Company Reply Brief at 8). The Company contends that STPB uses partial or unverified information to exaggerate risks and impacts from previous battery fires (Company Reply Brief at 8). The Company states that neither of STPB's experts professed intimate knowledge about the previous fire incidents (Company Reply Brief at 8).

The Company notes that the Megapack 2XL LFP has a lower energy density and is more thermally stable than other battery chemistries (Company Reply Brief at 5, citing Exh. EFSB-G-25). Furthermore, Cranberry Point contends that STPB's claim that escalated

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64 The Company maintains that the explicit learnings from the previous incidents informed Tesla's development and design changes on the Megapack 2XL (Company Reply Brief at 9).

temperature in one cell would engulf 8,064 battery cells ignores two facts about the Megapack 2XL (Company Reply Brief at 5-6). First, the Company points to the ignitors (also referred to as "sparkers") that ignite flammable gas to prevent additional cells from igniting (Company Reply Brief at 6). The Company adds that the battery sparker system is in full compliance with NFPA 855 and will be monitored by an alarm if not functioning properly (Company Reply Brief at 11). Second, the Company claims that the Megapack 2XL underwent a test conducted under UL 9540A guidelines (Company Reply Brief at 6).[65]

Cranberry Point notes that STPB accepts that regulators, experts and emergency responders regularly rely on NFPA standards as NFPA is a body with recognized expertise, developed over many years (Company Reply Brief at 11, citing STPB Brief at 18-19). Thus, the Company argues, NFPA's expertise should be relied upon by the [Department] (Company Reply Brief at 11). The Company contends that STPB did not point out any standard or code that the Megapack 2XL does not meet or what standards should be imposed in the place of the NFPA (Company Reply Brief at 12). Cranberry Point takes issue with STPB's assertion that the Company has no experience with the new battery chemistry of the Megapack 2XL

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65 The Company also questions a statement made by STPB's witness regarding the result of the test: "And, while Mr. Puchovsky states that as a 'test method, UL 9540A testing does not provide certification as a pass/fail result, it does support important safety decisions about how the BESS will be installed and used'. [Exh. STPB-MTP-1, at 28]. Interestingly the TUV Rheinland Report does grade on a pass/fail basis and the Tesla Megapack 2XL passes (Exh. STPB-1-1 (a), Att.1)" (Company Reply Brief at 6).

citing witness Quaranta's experience using LFP-based battery systems since 2011-2012 (Company Reply Brief at 11, citing Tr. 2, at 237; see STPB Brief at 18).[66]

The Company asserts that, in its criticism of the UL 9540A testing for the Megapack 2XL, STPB did not offer any credible evidence that would negate what the UL 9540A test is designed to do (Company Reply Brief at 12). The Company adds that it did not create or design the protocols for the UL 9540A testing; nor did it conduct the test, which was performed by independent third-party engineering experts, hired by Tesla, that followed the UL requirements (Company Reply Brief at 15; Exh. STPB-1-1, TUV Report).

The Company also argues that STPB's claim that a thermal runaway can produce and emit dangerous gases fails to recognize that the Fisher Engineering Report determined that during the UL 9540A test, hydrogen fluoride gases were two orders of magnitude lower than health thresholds (Company Reply Brief at 6, citing Exh. STPB-1-1, Att. 2).[67] The Company contends that it addressed the issue of lingering stranded energy within a BESS in its ERP by stating that the CFD personnel should not attempt to enter a battery enclosure or undertake disassembly of the battery enclosure under any circumstances (Company Reply Brief at 7, citing Exh. EFSB-S-44, at 35).

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66 The Company described its parent company's experience siting and constructing several BESS of similar size and scope in Texas, Hawaii and Maine (Exh. EFSB-G-18).

67 The Company contends that STPB's witness did not directly contradict the Company's evidence (Company Reply Brief at 7 n.7).

Cranberry Point insists that the record is clear that use of water is not recommended in the event of a thermal runaway (Company Reply Brief at 13; Tr. 2, at 302). Cranberry Point acknowledged that, if water is deemed necessary by the CFD incident commander, water could be used during a potential thermal event to cool adjacent structures or to mitigate the spread of a fire outside the fenced installation (Company Reply Brief at 13). The Company repeats its stance that the decision of whether, and how much water to use would be the CFD's sole decision (Company Reply Brief at 14). The Company alleges that much of the Town of Carver does not rely on town water supplies to extinguish fires, and the CFD would decide the origin of any water to be used (Company Reply Brief at 14).

Cranberry Point argues that, per its Special Permit with the Town of Carver, it is committed to providing the most detailed and accurate information in its ERP and HMA when the Project design is completed (Company Reply Brief at 15). The Company indicates that the design would be completed after the Project receives siting approval (Company Reply Brief at 15).

The Company asserts that the CFD is a capable and actively engaged fire safety partner in its Project design and development efforts to date (Tr. 2, at 279-280, 302-303). The Company notes that the CFD is a certified on-call fire department in the Commonwealth of Massachusetts and is governed under the Massachusetts Fire Code, and that staff must complete appropriate trainings per NFPA (Tr. 1, at 77; Tr. 2, at 279). The Company points out CFD has unusual capabilities for an on-call fire department in Massachusetts in that they have "one of the best call times in the state, of under five minutes," are capable of doing their own certification training, and have designated trainers as part of their full-time staff, as

well as training apparatus and facilities that are used not only by CFD but by other fire districts in the state (Tr. 2, at 279-280). Notwithstanding CFD's own expertise, the Company has committed to funding the work of an independent third-party expert, to be chosen by CFD, to assist the CFD in reviewing and proposing any revisions to the ERP and HMA (Company Reply Brief at 16; Exh. CP-3, at 5; RR-DPU-1 (1)). The Company also notes that as the agency having jurisdiction ("AHJ"), the CFD would have final sign-off authority on the ERP (Company Reply Brief at 16; Tr. 1, at 88).

Finally, the Company offered a point-by-point response to each of STPB's proposed conditions (Company Reply Brief at 30-34). Table 2 below summarizes the proposed conditions and the Company's responses.

Table 2. STPB Proposed Conditions and Company Responses.

No.	STPB Condition	Company Response
Emergency Response Planning and Hazard Mitigation Analysis		
1	Creating a highly detailed decision tree for firefighters, first responders, and emergency personnel, including any personnel and equipment that may be required from surrounding municipalities, which identifies a variety of scenarios that may occur on the site.	The Company will adhere to any and all provisions required by the CFD. STPB has no training regarding the necessary measures to address any fire event, and the Company recommends this detail be left to the professional CFD staff.
2	Determining how many personnel, equipment (including PPE), and apparatus would be required to combat a large or multi-day thermal event.	Such information would be included in the ERP and HMA. As documented on the record, there has been no multi-day thermal event in any fire that has occurred.
3	Ensuring that such personnel, equipment, and apparatus would be available and from what source (including neighboring fire departments).	This information would be included in the ERP and HMA. Massachusetts fire regulations would be adhered to in the unlikely event neighboring fire

No.	STPB Condition	Company Response
		departments needed to respond to the Project Site.
4	Submitting on the record a specific training plan for the CFD and adjacent fire departments and emergency response in FEMA Region 5 and evidence of completion of said training plan.	The Department should not set precedent to take on the role of an AHJ or to approve a training program. Instead, the Department should rely on the CFD to make these determinations as to what training it needs.
5	Create an "emergency response guide" in conjunction with the CFD, like what the DPU ordered in DPU 17-114. Such a document should be focused on response scenarios for the Fire Department such that various emergency scenarios are identified, and discussed in advance, and specific response actions and equipment are planned out in writing for reliance by emergency responders in the event an emergency occurs.	These scenarios are already covered by existing procedures in the Town of Carver and surrounding communities (e.g.., reverse 911).
6	Coordinate emergency response and preparedness with Southeastern Mass Regional Planning District (SRPEDD) and incorporate the ERP and HMA in the Town of Carver HMP, 2022.	The Company has no governmental authority to 'coordinate emergency response and preparedness with SRPEDD." This should be left to the governmental agencies with this specific expertise and knowledge of mutual aid provisions already in place in Carver.
7	Identify and designate a Professional Emergency Director certified and trained by Massachusetts Emergency Management Agency (MEMA) and ensure that the Director coordinates with Region 5 as designated by the Emergency Preparedness Bureau of the Massachusetts Department of Public Health.	This is outside the scope of this proceeding. There is no need to supersede existing and well-established fire-fighting procedures.
8	Provide documentation of approval by the Massachusetts Office of Preparedness and Emergency Management of the ERP and HMA and the CFD policies and procedures	The Massachusetts Office of Preparedness and Emergency Management is not responsible for approving the ERP or HMA or the CFD policies and procedures.

No.	STPB Condition	Company Response
	for an emergency response to an event at the site.	
9	Justify, through air modeling or other means, its assertion that 650 feet is a sufficient distance from the project site that residents will not be harmed by emissions from a large-scale or multi-day thermal runaway event.	Information about air emissions and what would happen in a worst-case credible scenario in the unlikely event of a thermal runaway is documented on the record in this proceeding. This condition is outside the scope of this proceeding and would be discriminatory in nature.
10	Create a plan for communicating with residents near the project site in the event of any emergency at the site and fund all methods and means of communication and have a written plan for communication to be updated annually.	The Town of Carver utilizes the statewide reverse 911 system. There is no need for the Company to propose a new system to replace one that is in place already.
11	Create an evacuation plan for residences, schools, offices, and workplaces, and communicate in writing with the Town of Carver, Plympton, Wareham, Plymouth, and SRPEDD about such a plan before constructing the facility.	The Town of Carver utilizes the statewide reverse 911 system.
12	Require reporting of incidents of any size and duration to the Town and the CFD and MEMA.	The record states that the CFD would be notified in the event of an incident concerning the BESS. If the incident requires notification to MEMA, there is an established statewide system on how that agency is notified of an emergency. The statewide system should not be superseded by the Department at the unreasonable request of STPB.
13	Condition construction of this Project on the Company's representations that it will provide appropriate training to the CFD by requiring the Company to create a training plan approved by the Fire Chief (or his designee) and further requiring that the Company fund all required training; add a requirement	The Company has committed to funding and working collaboratively with the CFD on such a training program. The Company cannot commit to seek approval as to whether or not other Region 5 emergency responders will be called upon, and/or to obtain written approval from MEMA and the MA Department of Health that such plan and

No.	STPB Condition	Company Response
	that the Company provides in writing a justification for its claim that Carver is adequately equipped and whether or not other Region 5 emergency responders will be called upon, and obtain written approval from MEMA and the MA Department of Health that such plan and training is sufficient.	training is sufficient. Such a requirement is based upon protocol between MEMA and (perhaps) the Department of Health and is beyond the scope of documentation that a project developer/operator could provide.
14	Condition construction of the Project on the Company identifying all equipment necessary to respond to the various emergency scenarios that are identified in the aforementioned emergency response guide, subject to approval by the Fire Chief (or his designee), and further requires the Company to fund the purchase of all such equipment not already in the Town's possession or the possession of other emergency responders and Fire Departments in Region 5.	This is already a condition of the Company's Site Review Plan and Special Permit.
	Water-Related Conditions	
15	Investigating and identifying the volume of water or other suppressants that may be required.	Cranberry Point has clearly stated, based on facts, that water will not extinguish a thermal runaway event, and is not recommended to be used. If water is used on adjacent enclosures to maintain a cooling effect, it is by definition not coming in contact with any burning material and is (obviously) not contaminated. Tr. At 305, *see also* EFSB S-38, reference number 19. Additionally Clean Harbors will be called as needed. Thus, this condition is not warranted based on record evidence.
16	Ensuring that any contaminated water will indeed be contained in the stormwater basins and not allowed to infiltrate the aquifer.	As detailed on the record in this proceeding, no battery enclosure in any fire (except one where a firefighter opened the container) released toxins that contaminated the ground. The Company continues to commit to retaining Clean

No.	STPB Condition	Company Response
		Harbor in the unlikely event of a thermal runaway to preclude toxins from entering the aquifer. Thus, this condition is not warranted based on record evidence.
17	Identifying the specific potential contaminants including hazardous materials as identified under G.L. c. 21E that may be contained in the water, their levels, and maximum contaminant levels for drinking water.	Cranberry Point should not be mandated or relied upon to test the water levels of the Town of Carver for possible contaminants unrelated to a BESS. And, as documented on the record, the BESS is enclosed in above-ground enclosures and no materials would be released into drinking water. This condition is outside the scope of this proceeding and unwarranted based upon record evidence.
18	Installing groundwater monitoring wells as determined by an independent third-party hydrologist retained by the Company to ascertain the number of wells, location, and sampling protocols to determine the baseline of water quality before the project breaks ground.	To the Company's knowledge, the Town of Carver does not require project developers to install wells around buildings or housing developments in the unlikely event that the building or house caught on fire and water was used. Such a requirement imposed on one company would be discriminatory and in violation of Massachusetts and federal laws. Moreover, this condition is outside the scope of this proceeding and unwarranted based upon record evidence.
19	Developing a long-term groundwater monitoring and reporting program to ensure the safety of the drinking water of the Town of Carver resulting from threats to groundwater from discharges to the stormwater basins on the site.	Again, this would be an unnecessary, illegal and unprecedented condition. If an event did occur, all state and local rules and regulations would be followed, including retaining Clean Harbor to clean up any potential contaminants. This is the same process that the Town would undertake in the event of a fuel spill on a state highway and/or large fire in the Town.
20	Identifying the potential for the contamination of the Aquifer by the PFAS family of "forever chemicals".	This proposed condition is outside the scope of this proceeding and certainly not based upon record evidence in this proceeding.

No.	STPB Condition	Company Response
21	Issuing a surety bond to cover the cost to the Town of Carver for mitigating and remediating any groundwater contamination and contamination of public and private drinking water wells, for the life of the project.	This 'condition' is not tied to the Project and would be unnecessary, unprecedented and illegal. The record shows that there is a stormwater basin in place to protect the groundwater. Moreover, the record demonstrates that the Company will use Clean Harbor to mitigate any unlikely contaminant spill from the BESS.
22	Identifying the source and volume of water and ensuring there will be a sufficient quantity available to combat a multi-day thermal event.	Discussed above.
Project Decommissioning		
23	Creating a decommissioning plan.	This is already a condition of the Company's Site Plan Review and Special Permit.
24	Developing a disposal plan and surety bond for the cost of disposing and removing the BESS from the town of Carver at the end of its life.	Discussed above.
25	Developing a plan for site cleanup and certification by a Licensed Site Professional at the end of the project life.	Discussed above.

Source: STPB Brief at 43-47; Company Reply Brief at 30-34.

d. Analysis and Findings

i. Construction and Normal Operations

The Project would alter approximately five acres of undeveloped woodland adjacent to existing commercial cranberry bogs (Exh. CP-B at 9, 27). The record shows that the Company will remove approximately 620 trees as part of its land clearing and that it will provide the Town with funding to replace ten percent of the 360 mature trees included in that count (Exh. CP-9S at 4; RR-DPU-3). The Company has an Option to Lease the Project Site (Exhs. CP-B at 1; CP-8; CP-9; EFSB-G-7; Tr. 1, at 10). The record shows that the area is

zoned for residential and agricultural use. However, the Town of Carver's Master Plan requires the land be used for economic development (Exh. CP-B at 27). The record also shows that the closest neighboring residential property sits approximately 400 feet away from the Project Site, with forest buffer (Exh. CP-B at 6). Additionally, the record shows the presence, bordering the Project Site, of existing industrial land uses such as a cell tower and an Eversource Substation and ROW (Exh. CP-B at 28). After the Company provided an archaeological survey to MHC, MHC determined that no further action was necessary for the Project (Exhs. CP-14; EFSB-LU-2(S1)).

The record shows that the Project would not directly impact wetlands (Exh. CP-B at 9). In addition to the Massachusetts WPA requirements, the Town of Carver's Wetland Bylaw requires a 65-foot setback for Project facilities and regulates construction in the 100-foot buffer zone of wetlands (Exh. CP-B at 8-9). The Company will adhere with the 65-foot setback requirement but would construct within portions of the buffer zone (Exh. CP-B at 8-9, 21). The record shows that the Company received an OOC from the Town Conservation Commission in February 2019 approving the Project (Exh. CP-B at 20).

The record also shows that the Project's OOC imposed conditions on the Project with regard to stormwater impacts (Exh. CP-B at 20). The BESS Project would create 4,217 square feet of impervious area in total, however, none of the impervious area would be within the 100 feet buffer zone of a wetland (Exhs. CP-8S at 4; CP-B at 21). The Company will comply with the conditions in the OOC, as well as the Massachusetts Stormwater Handbook (Exh. CP-B at 20). The record shows that the Project Site is located on the Plymouth/Carver Sole Source Aquifer (Exh. EFSB-W-12). The record shows that normal

operation of the Project would not result in emission of hazardous materials or other pollutants that could impact water resources (Exh. CP-B at 22).

The record shows that potential visual impacts of the Project on surrounding residences would be mitigated by the existing tree cover canopy, and the fact that there are already existing visible industrial uses nearby (Exh. CP-B at 22-23). The Company would install permanent pole-mounted lighting at the facility but limit the height of the poles to 15 feet (Exh. CP-B at 25). The Special Permit issued by the Town Planning Board includes conditions regarding visual impacts of the Project (Exh. CP-B at 25). The record also shows that the Project would not have construction lighting related impacts as the Company would only construct during daylight hours (Exh. CP-B at 25).

The Project would have traffic impacts related to construction, as well as some impacts during Project operation (Exh. CP-A at 5). The record shows that the impacts during operation would be minimal and consistent with the traffic already existing related to operation of the Eversource Substation (Exh. CP-A at 5). Cranberry Point has discussed traffic impacts during construction with the Town of Carver (Exh. CP-A at 5).

To mitigate known disruptions to abutters to the Project site, the Department directs Cranberry Point, in consultation with the Town of Carver, to develop a community outreach plan to be used by the Company to inform potentially impacted stakeholders of plans for Project construction and operation, and file a copy with the Department. The outreach plan should, at a minimum, identify procedures for providing prior notification to affected residents of the following: (1) the scheduled start, duration, and hours of construction; (2) any construction that must take place outside the normal hours or days indicated above; (3)

any operation the Company intends to conduct that could result in unexpected community impacts due to unusual circumstances; and (4) process for complaints to be submitted to the Company and Company response procedures, including contact information.

The record shows that the main source of noise from the Project would be from cooling fans in the BESS enclosures (Exh. CP-10, at 5). Because the Tesla Megapack 2XL is designed for a range of ambient conditions, including desert conditions of 120 degrees, the Company is able to reduce the fan speed for the Project in a more temperate climate such as that of Massachusetts, thus reducing the noise level (Exh. CP-10, at 5). Based on this operating condition, the Company modeled an increase of between zero to four dBA over existing noise levels at residences (Exhs. CP-10, at 10; CP-B at 26). This value is within MassDEP noise standards (Exhs. CP-B at 26; EFSB-NO-9). Additionally, the Project would not present "pure tone" conditions (RR-EFSB-12).

The Department expects Cranberry Point and its contractors and subcontractors to minimize construction noise by using best construction practices. Further, the Department directs Cranberry Point to limit construction to its proposed schedule of Monday to Friday from 7:00 a.m. to 4:30 p.m. In the event the Company needs to extend construction work outside of the building beyond those hours and days (with the exception of emergency circumstances on a given day that necessitate work beyond such times), Cranberry Point should seek permission from the Town of Carver prior to the commencement of such work and notify the Department and all parties and limited participants in this proceeding with documentation that such permission was granted. The record shows that the Project would have no air emissions during normal operations (Exh. CP-B at 17). The record also shows

that the Company would implement several mitigation measures to reduce air impacts during construction of the Project (Exhs. CP-B at 30; EFSB-A-3). The record shows that the Project would not produce solid or hazardous waste during normal operations (Exh. CP-B at 22). The Company will recycle batteries from the Project at the time of decommissioning, adhering to best practices for battery recycling (Exh. EFSB-G-38). The Department expects the Company to continue to abide by local, state, and federal guidelines and regulations regarding the removal of battery units that have reached the end of their useful life on the Project Site. During construction, the Company would use petroleum products and would implement a SPCC plan in the event of a spill (Exh. EFSB-W-9). The record shows that the maximum magnetic field level at the closest residential dwelling would remain below 0.5 mG (Exh. EFSB-MF-3, at 3). These predicted magnetic field values are significantly lower than levels for projects previously approved by the Department. See NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21, at 44-45 (2019); New England Power Company d/b/a National Grid, D.P.U. 14-128/14-129, at 33 (2015); NSTAR Electric Company, D.P.U. 14-08, at 26-27 (2015).

ii. Safety

(A) Introduction

As described above, safety-related issues have been actively litigated in this proceeding, involving detailed arguments about battery technology and testing; safety standards, plans, preparedness, and emergency response; potential impacts to air and water resources from responding to a fire incident; and eventual BESS decommissioning. While the Company and STPB argued these matters, the entity most directly responsible for

ensuring public safety in Carver – the CFD – did not participate in this proceeding. We note, however, that the record contains comments from the CFD which were included in the findings of the Planning Board in approving the updated site modifications for the Project (RR-DPU-1 (1) at 3). In the written approval, the Planning Board reiterated comments made by the CFD who did not raise any objections to the Project (RR-DPU-1(1) at 3). The recitation related to the CFD comments makes three points: (1) the support of the CFD for the changes in the site configuration/roadway access at the Project Site as an improvement in the design which meets or exceeds the existing requirements of the CFD and the NFPA 855; (2) the change in battery model and chemistry is an improvement, representing an advancement in cell safety and meeting or exceeding the CFD, NFPA and UL requirements; and (3) provisions for CFD training (RR-DPU-1(1)).

While the Department is duly deferential to permit decisions by local authorities, we are mindful that potential safety issues from the proposed Project may impact our independent analysis of whether the present or proposed use of the land or structures is reasonably necessary for the convenience or welfare of the public. See Save the Bay, 366 Mass. at 684-685. In some instances, as noted below, the Department finds it necessary and appropriate to adopt additional conditions to those already established locally to help ensure that the Project is built and operated in a safe manner. See Save the Bay, 366 Mass. at 684-685.

(B) Battery Design and Testing

The Company has chosen to use the Tesla Megapack 2XL model for the Project, which is a modular, fully integrated BESS that is an updated version of the original

Megapack 1 (Exh. EFSB-S-37, at 10). The chief difference between the two models is that Megapack 2XL uses LFP battery cells instead of the nickel manganese cobalt oxide/nickel cobalt aluminum oxide cells used in the Megapack 1 (Exh. EFSB-S-37, at 10).[68] The record shows that the LFP-based battery chemistry of the Megapack 2XL is recognized as being more thermally stable[69] than other lithium-ion battery chemistry compositions and also has a lower energy density than the Megapack 1 (Exh. EFSB-G-25(A-1), Chapter 3 at 4-5). This combination of factors makes the Megapack 2XL less prone to thermal runaway events than its predecessor (Exh. EFSB-G-28). STPB's witness acknowledged that higher energy density in a BESS creates a greater hazard risk (Tr. 3, at 382).

The results of safety testing, under the UL 9540A Unit Level Test, demonstrate significant improvements in safety for the Megapack 2XL relative to its predecessor: (1) only one additional cell experienced thermal runaway versus cascading thermal runaway of all cells in a Megapack 1; (2) no fire propagation and no evidence of sustained flaming versus fire propagation that consumed the entire cabinet in the Megapack 1; (3) no flames observed outside the cabinet versus flames observed outside the cabinet exiting via the thermal roof in the Megapack 1; and (4) no heat fluxes recorded at distances of up to 20-30

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68 Many safety features of the Megapack1 and 2XL appear to be similar, such as the thermal management system, electrical fault protection, BMS, and deflagration systems, with some incremental improvements in the Megapack 2XL (Exh. STPB-1-1, Att. Fisher Report, app. 2)

69 The US Department of Energy's Energy Storage Handbook describes LFP as more thermally stable because it is generally more difficult for an LFP-based chemistry to self-produce oxygen needed for a thermal runaway event compared to other lithium-ion chemistries (Exhs. EFSB-G-28; EFSB-G-25, Chapter 3, at 4-5).

feet from the cabinet versus heat fluxes at that distance in the Megapack 1 (Exh. STPB-1-1, Att. Fisher Report, App. 2).

Although the Megapack 2XL is a new model, with limited operational experience, the results of independent, unit-level testing in the record demonstrate that the Megapack 2XL has a much-improved safety profile relative to the Megapack 1 (Exh. STPB-1-1, Att. Fisher Report, app. 2). In addition, the Megapack 2XL also meets applicable BESS component and design certification requirements (UL 9540A and IEC 62933-5-2) and installation level codes and standards (IFC and NFPA 855) (Exh. STPB-1-1, Att. Fisher Report at 5). The record also shows that the Megapack 2XL meets the UL 9540A requirements of cell-level testing (Exh. EFSB-G-29) and module-level testing (Exh. EFSB-S-37, at 10; Tr. 2, at 211).[70]

STPB points to several known BESS safety incidents involving the Megapack 1 and concludes that the risk of thermal runaway for the Megapack 2XL "is not zero" (STPB Brief at 13; Exh. STPB-JH-1, at 17). The Company asserts that the Megapack 2XL is a better and safer product, which incorporates important lessons learned from incidents involving the Megapack 1 (Company Reply Brief at 9-11, citing, Exh. STPB-1-1, Att. Fisher Report, app. 2).

Both parties are correct: the risks of thermal runaway for the Megapack 2XL, although not zero, appear to be lower than the risks associated with the Megapack 1 in view

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[70] The Department notes that the CFD maintained that the Megapack 2XL is an improvement to the original design and an advancement in cell safety that satisfied the requirements of the NFPA, the UL and the Carver Fire Department (RR-DPU-1(1) at 3).

of the cell-, module-, and unit-level testing performed on the Megapack 2XL, and its compliance with applicable codes and standards. Moreover, the Department does not believe that ensuring that a grant of a zoning exemption requires a zero-risk performance standard, as such a standard is unattainable. The Department finds adequate assurance in the record that the Megapack 2XL meets the necessary parameters for public safety of the proposed Project.

(C) Safety Standards and Plans

The record shows that Cranberry Point will comply with various federal and state, as well as industry safety standards, in particular NFPA 855 (Exh. CP-B at 32-33). NFPA 855 addresses the design, construction, installation, commissioning, operation, maintenance and decommissioning of stationary energy storage systems (Exhs. CP-B at 32; STPB-MTP-1, at 10). The record shows that codes and standards published by NFPA for fire, electrical, and related hazards are nationally recognized and widely used by regulatory authorities, experts and emergency responders (Exh. STPB-MTP-1, at 10). Importantly, NFPA 855 is a standard tailored to the needs and experience of BESS safety and has evolved along with BESS technology, and incident experience to date including the important lessons learned (Exh. STPB-1-1, Att. Fisher Report, app. 2). The record shows that Company has experience in using LFP battery chemistry; furthermore, the Company's developers have experience operating and constructing projects of similar sizes (Tr. 2, at 237; Exh. EFSB-G-18).

As part of compliance with NFPA 855, the Company will prepare an HMA and an ERP (Exhs. CP-11; EFSB-S-37). STPB faults the Company's efforts to finalize its HMA and ERP (STPB Brief at 22-23). With regard to the HMA and ERP, the Company correctly

notes the key role that the CFD plays as the as AHJ to determine the sufficiency of such plans, and the procedures that must be developed and coordinated with the CFD regarding the safe operation of the Project and responses to fire incidents and emergencies (Company Reply Brief at 16; Tr. 1, at 88). The record shows that the CFD is fully engaged in this task, and will avail itself of an independent, third-party fire safety engineering consultant of its own choosing, with the costs borne by the Company, as required by the Special Permit (Exh. EFSB-CP-3, at 5).

Regarding the HMA, STPB argues that the HMA lacks the level of detail expected by fire engineering professionals (STPB Brief at 22). STPB recommends a list of HMA- and ERP-related conditions (STPB Brief at 43-47). These proposed conditions, and the Company responses, are shown above in Table 2, Conditions 1-14. The Company opposes each of these proposed conditions for various reasons, such as appropriate deference to the CFD; inconsistency with record evidence; lack of BESS safety expertise by STPB; or unnecessary duplication with information and requirements already contained in the draft HMA, ERP, or other documents (Company Reply Brief at 30-34).

The Department finds that several of the proposed STPB conditions would be useful, do not suffer from the defects alleged by the Company, and would help to ensure improved safety planning – and improve public assurance of safety. Therefore, the Department finds that the Company shall address following conditions (derived from our consideration of the STPB proposals and the Company responses) in the Company's efforts to revise the ERP and HMA drafts into final documents:

- To ensure that the Company's HMA and ERP processes are completed in a timely

and transparent manner, the Department directs the Company to provide quarterly updates to the service list in this proceeding on the progress of finalizing its HMA and ERP, with the first update due within 45 days of this Order. The Company's updates should, at a minimum, include descriptions of any incremental updates to the plans, including compliance regarding the Department's ERP/HMA conditions. The Company is required to file finalized ERP and HMA with the CFD and the Department 30 days prior to commercial operations.

- The Department expects the Company's ERP to include information regarding personnel, equipment, and apparatus required to respond to a significant thermal event.

- Consistent with the Special Permit, the Department expects the Company, in consultation with the CFD, to provide training, emergency equipment and funding for a fire safety consultant.

- The Department directs the Company to work with the Town of Carver and the CFD to include provisions in the ERP/HMA to provide residents near the Project Site real-time notification and instructions in the event of an emergency at the site. Further, the Department expects that the Company, in consultation with the Town of Carver and the CFD, to include in the ERP/HMA evacuation and/or shelter-in-place protocol for residents near the Project Site, in the event of an emergency at the site.

- To promote transparency, the Department directs the Company to report to the Department and to the service list in this proceeding within seven days following any incidents at the Project Site that require notification to the CFD. The report should include a description of the incident and any actions taken by the Company.

- The Department encourages the Company to work with CFD to determine whether to develop a joint action plan as part of its ERP/HMA to provide neighboring fire departments the appropriate information including necessary training to understand various emergency scenarios and provide if necessary a coordinated response in the event of a thermal event at the Project Site.

In addition, to ensure that the Department and the public are provided with timely information about the Project's safety performance and other matters of public concern, the Department directs the Company to submit informational monthly reports to the Department during the first six months of commercial operation. Each report shall detail: (1) any safety

incidents of the Project that required notification of the Carver Fire Department, including a full description of the incident, actions taken, and lessons learned for future operation of the facility; and (2) a summary of any complaints regarding the Project received by the Company, including the date received and nature of the complaint, actions taken by the Company in response to the complaint and when, and the ultimate resolution of the complaint. All summaries of complaints shall exclude information that would identify the complainant.

(D) Air and Water-Related Safety Issues

STPB argues that thermal runaway events at other BESS locations have resulted in explosions, fires, and toxic air emissions and associated pollutants (STPB Brief at 1). STPB alleges that that the Company has not undertaken a meaningful analysis of the air pollutants and toxic gas impacts, or the capabilities of the CFD to respond, were such an event to occur (STPB Brief at 1). In response, the Company contends that information about air emissions from a worst-case thermal runaway scenario is documented in the record, and that a thermal runaway would have little or no impact on the community (Company Reply Brief at 7, n.4, citing RR-CP-1, at 34).

The Department notes that UL 9540A testing of the Megapack 2XL, involving induced module-level thermal runaway conditions, included hazardous air emission sampling and testing in close proximity to the battery (20 feet upwind and five feet downwind) (Exh. STPB-1-1, Att. Fisher Report at 21). The battery cabinet remained intact as a result of the testing and did not show visible emissions releases (Exh. STPB-1-1, Att. Fisher Report at 21). The testing only detected trace amounts of hydrogen fluoride, two orders of magnitude

below the NIOSH IDLH standards for hydrogen fluoride, and no traces 27 different hazardous metal pollutants such as mercury (Exh. STPB-1-1, Att. Fisher Report at 21). As noted above, the nearest distance between a battery enclosure for the Project and a residence is approximately 650 feet, which is far greater than the distance used during the hazardous air testing cited above (Exh. CP-11, at 12).

STPB asserts that meteorological data in the area of the Project shows that prevailing winds could carry potentially harmful pollutants associated with a fire or explosion to areas that include homes, cranberry bogs, and a school (STPB Brief at 30, citing Exh. STPB-JH-1, Exhibit 7). STPB's witness Mr. Hinckley, points to several lithium-ion battery fire safety studies he provided with his testimony and suggests that a wider range of hazardous emissions could be associated with a thermal runaway event involving the Project (Exh. STPB-JH-1, Exhibit 6). Based on this literature review, Mr. Hinckley included a list potential hazardous air pollutants that could be released in a thermal runaway event (Exh. STPB-JH-1, at 13).

Mr. Hinckley attached 13 documents that address potential emissions from lithium-ion battery thermal runaway conditions. These studies were published by: SP Technical Research Institute of Sweden (2013) (Exh. STPB-JH-1, App. 6, at 110); ERM on behalf of BASF (April 9, 2014) (Exh. STPB-JH-1, App. 6, at 220); Journal of Power Sources (2018) (Exh. STPB-JH-1, App. 6, at 318, 363); Energy and Environmental Science Journal (Royal Society of Chemistry) (2014-2017) (Exh.-JH-1, Exhibit 6, at 332, 342, 358,); U.S. Naval Research Laboratory (August 25, 2014) (Exh.-JH-1, Exhibit 6, at 370); MDPI (March 7, 2016; September 4, 2019) (Exh.-JH-1, Exhibit 6, at 438, 484); Energy & Environmental

Science (2012) (Exh.-JH-1, Exhibit 6, at 448); European Commission, Joint Research Centre/Vrije Universiteit (2018) (Exh.-JH-1, Exhibit 6, at 458); Tsinghua University (February 28, 2020) (Exh.-JH-1, Exhibit 6, at 501). Mr. Hinckley stated that his intention was to develop a list of hazardous and non-hazardous air emissions that *may* be associated with the Project. Although these studies include tests of various types of lithium-ion batteries – including LFP chemistry, which is used in the Megapack 2XL – none of these studies involve tests of either the original Tesla Megapack 1, or the Megapack 2XL. Accordingly, the UL 9540A testing is a better predictor of the safety profile or emissions of the Project given its specific use of Megapack 2XL battery units (Exh. STPB-JH-1, Exhibit 6).

STPB requests that the Company conduct air modeling to confirm that residents would not be harmed by emission from a large-scale thermal runaway event (STPB Brief at 46, Table 2 Condition 9). While the record does show that trace amounts of hydrogen fluoride were emitted during induced thermal runaway testing of the Megapack 2XL, the levels were two orders of magnitude below applicable NIOSH safety standards, and the test indicated no other detectable hazardous air emissions (Exh. STPB-1-1, Att. Fisher Report at 21). STPB's witness does not reject the Megapack 2XL test results, but suggests that there may other potential emissions, even though the studies STPB provided do not involve testing of either the present or prior model of Tesla's Megapack products (Exh. STPB-JH-1, at 13).

As described above, the Department found that the risk of thermal runaway with the Megapack 2XL is lower than that of batteries with NMC chemistry, such as the earlier Tesla Megapack 1 model. Additionally, the record shows that the Megapack 2XL has several built-in safety management systems that are designed to prevent the propagation of a thermal

runaway within and between battery units (Company Brief at 34; Exh. CP-B at 33). The Company and Tesla will also continuously monitor various safety-related parameters of the battery units during operation and effect shutdown of a battery unit, given any indications of thermal or other irregularities that could lead to a safety incident (Exh. CP-B at 33-34). For these reasons, the Department finds that the record does not support the need for the air modeling advocated by STPB. Nevertheless, the Department has imposed a condition above requiring the Company to report on and describe on any incidents that require the notification of the CFD. See Section III.4.d.ii(C).

Turning to water-related impacts, STPB alleges that the Company has largely ignored the risks to the Plymouth/Carver Sole Source Aquifer of the Project (STPB Brief at 27). STPB asserts that as a result, the Project could endanger food crops, streams, rivers, and wetlands interconnected to the aquifer (STPB Brief at 29). STPB's arguments appear to assume that there would be a release of contaminants from the BESS enclosures that would be transported by water used in response to a fire at the Project site. The Company responds that it does not recommend use of water by the CFD in responding to a fire incident at the Project but ultimately it is the decision of the CFD incident commander whether to use water (Company Reply Brief at 14). Given the inherent safety design and performance of the Megapack 2XL, the Company has made no provision for on-site firefighting water availability or use, leaving that matter to the discretion of the CFD.

The Department shares the Company's view that the performance characteristics and safety features of the Megapack 2XL suggest that any thermal event inside the unit should not propagate to other cells within the unit, or to other adjacent units. However, were such an

event to occur, the Company acknowledges that the CFD (which has authority over fire response at the Project) may decide that use of firewater is necessary to extinguish or stop the spread of fire. While the Company recommends against this, the decision would be made by the CFD.

Although the Town of Carver Special Permit does not obligate the Company with providing firefighting water at the Project Site, or making any arrangements for such water supplies, STPB raises this concern and asks for relevant conditions. The Department agrees that the use of firefighting water, and the potential for related environmental impacts, cannot be discounted, and that appropriate conditions to address this area are warranted.

Again, STPB has proffered a number of water-related conditions, should the Department grant the zoning exemption (STPB Brief at 43-47). These proposed conditions, and the Company responses, are shown above in Table 2, Conditions 15-22. The Company opposes each of these proposed conditions for various reasons, as noted above in Table 2 (Company Reply Brief at 30-34).

The Department finds that several of the proposed conditions would be useful, do not suffer from the defects alleged by the Company, and would help to ensure improved safety planning – and improve public assurance of safety. Therefore, the Department finds that the Company shall address following conditions (derived from our consideration of the STPB proposals and the Company responses) in the Company's efforts to revise the HMA, ERP, and incorporate in other related permitting activities:

- Consistent with the Special Permit, the Department expects the Company to include in the ERP/HMA a plan to ensure that any firefighting water effluent would be fully contained in the stormwater basins and not be discharged outside

the basin, or otherwise infiltrate into the ground. The ERP/HMA shall include a plan to collect samples for testing of any water used in fire suppression in the event of a thermal runaway event. To promote transparency, the Company shall submit a report to the Department with the results of such testing.

- The Department directs the Company to ensure its compliance with MassDEP poly-fluoroalkyl substances ("PFAS") regulations, 310 CMR 112.

The Department concludes that with the Project's compliance with (1) all applicable federal, state, and local laws and regulations; and (2) the avoidance, minimization, and mitigation measures that Cranberry Point has stated it will implement during Project construction and operation, the impacts of the Project are identified and minimized. In addition, the Department has placed reasonable conditions to mitigate some of the impacts and promote ongoing community engagement and transparency to further mitigate health, safety and other community concerns resulting from the zoning exemption.

5. Conclusion on Public Convenience and Welfare

Based on the foregoing analysis of (1) need for or public benefits of use; (2) alternatives explored; and (3) impacts of the proposed use, the Department finds that the Project is necessary for the purposes alleged, the benefits of the Project to the general public exceed the local impacts, and the Project is reasonably necessary for the convenience or welfare of the public. The Department finds that the Project aligns with the Commonwealths clean energy goals and will further energy reliability and help meet peak demand.

D. Zoning Exemption Required

1. Standard of Review

In determining whether exemption from a particular provision of a zoning bylaw is "required" for purposes of G.L. c. 40A, § 3, the Department makes a determination whether

the exemption is necessary to allow construction or operation of the petitioner's project. K Street at 8; Hopkinton LNG at 10; Tennessee Gas Company, D.P.U. 92-261, at 20-21 (1993). It is a petitioner's burden to identify the individual zoning provisions applicable to the project and then to establish on the record that exemption from each of those provisions is required:

> The Company is both in a better position to identify its needs, and has the responsibility to fully plead its own case . . . The Department fully expects that, henceforth, all public service corporations seeking exemptions under [G.L.] c. 40A, § 3 will identify fully and in a timely manner all exemptions that are necessary for the corporation to proceed with its proposed activities, so that the Department is provided ample opportunity to investigate the need for the required exemptions.

New York Cellular Geographic Service Area, Inc., D.P.U. 94-44, at 18 (1995); K Street at 9; Hopkinton LNG at 10.

In this proceeding, Cranberry Point is not requesting individual zoning exemptions, but a comprehensive zoning exemption. It is Cranberry Point's obligation to establish why such a zoning exemption is "required" for purposes of G.L. c. 40A, § 3.

2. Background

a. 2022 Moratorium

As stated earlier, at the April 12, 2021 Town meeting, the Town of Carver adopted a eleven and one-half month moratorium on the new use of land for BESS and undertake a planning process examining the potential impacts of BESS facilities on local residents including the health, welfare and safety of the Town, and the development of zoning bylaw provisions to address BESS (Exh. CP-Z at 2, 9; RR-EFSB-7). Cranberry Point filed its request for a comprehensive zoning exemption petition with the Department in light of the

zoning bylaw amendment adopting the moratorium. Subsequently, on November 14, 2022, the Office of the Attorney General issued a letter decision determining that the zoning bylaw moratorium violates G.L. c. 40A, § 3 (RR-EFSB-21).

In the Zoning Petition to the Department, Cranberry Point requests a comprehensive zoning exemption stating that depending on the timing for commencement of construction, the moratorium and resulting changes in zoning could preclude the Company from obtaining necessary permits from the Town, preventing or delaying the Project's construction or operation construction or operations of the Project prior to the implementation of the zoning bylaw amendment moratorium halting the construction of a BESS; or (2) may not be able to commence construction within 12 months after the issuance of the Special Permit, given that the Company's future construction or operations under the applicant's Special Permit (Exh. CP-Z at 1-2; Company Brief at 50-51; Company Reply at 26-27)

b. Recent 2023 Changes to Carver Zoning Bylaws and Company Position

The 2023 Annual Town Meeting was held on April 11, 2023 and April 13, 2023 (RR-EFSB-19). The Company asserts that based on discussion with the Town Planner, certain bylaw changes, specifically Article 28 and Article 29, would preclude construction of the Project (RR-EFSB-19).

Article 28 created a new zoning bylaw, Section 3590, which requires a 200-foot property line setback and forestry restoration/preservation requirements that would preclude construction of this Project as presented in the existing site plan (RR-EFSB-19(A1)). Specifically, the Company identifies the following provisions as roadblocks to the Project:

- 3590.50(1) Utility Connections. This section appears to require all utility connections to be either underground or pad mounted.

Cranberry Point notes that the Project would connect to Eversource transmission circuit 127 via overhead 115 kV electrical lines (RR-DPU-3). The Company claims that the redesign of the interconnection to be placed underground will impose significant delays and costs and may not meet Eversource utility standard requirements at this location (RR-DPU-3). The Company states that to comply with this zoning bylaw, the Project would face a substantial schedule delay as well as a "prohibitive" cost impact (RR-DPU-3).

- 3590.50(5) Setbacks. A minimum of 200 foot setbacks shall be required from each lot line abutting the property.

Cranberry Point states that the current Project design does not meet this setback requirement (RR-EFSB-19; RR-DPU-3). The Company argues that to comply with this setback requirement, a major site redesign would be required resulting in a much smaller buildable area and therefore a reduction below its contracted amount of 150 MW to ISO-NE (RR-DPU-3). As a result of this zoning bylaw, the Project would face a substantial schedule delay as well as a cost impact and, as currently designed, is not buildable (RR-DPU-3).

- 3590.50(10) Mitigation for Loss of Carbon Sequestration and Forest Habitat.

Cranberry Point states that this section would require the applicant to maintain forestland equal to two times the amount of impacted forestland that would be cut during construction (RR-DPU-3). As the Company plans to cut approximately three acres of trees from the Project Site, Cranberry Point asserts that compliance with this requirement would necessitate replanting the six-acre site of trees (RR-DPU-3). The current design does not

meet this Mitigation for Loss of Carbon Sequestration and Forest Habitat requirement and effectively would "more than halve" the buildable area which would eliminate the ability to provide 150 MW required by the Company's CSO with ISO-NE (RR-DPU-3).

Article 29 modifies the uses permitted for the zoning district in which the Project Site is located (RR-EFSB-19(A1)). Under the revised Table of Use Regulations (Section 2230) included in Article 29, the list of uses for the RA district in which the Project and the existing Eversource Transmission Circuits and Substation are currently located excludes BESS (RR-EFSB-19; RR-DPU-3). Under the previous zoning provision, the use of battery storage would be allowed in a Residential Agricultural district after obtaining a Special Permit and Review (RR-EFSB-19). Cranberry Point maintains that under the new bylaw provisions contained in Article 29, a BESS could not be constructed at the Project Site (RR-DPU-3).

c. Eversource Interconnection Facilities

Eversource interconnection facilities include those that are located within the Project Site (Exhs. CP-A: CP-B). The BESS will interconnect with Eversource's transmission system via an Eversource switching station on the Project Site, which will consist of a new 115-kilovolt three-breaker ring-bus, circuit breakers, closed circuit televisions, disconnect switches, lightning arrestors, metering units, station service voltage transformers and a new 115- kV control house that will be designed, installed, and operated by Eversource (Exhs. CP-A at 1, 12; CP-7, at 12; CP-Z at 6; EFSB-G-33(1)). In addition, new transmission structures would be constructed in the ROW; tap lines, approximately 130 feet in length, would be installed as part of the Project to connect the Switching Station with existing

Line 127 (Exhs. CP-Z at 7; CP-A at 12-13). Said interconnecting line, and the two new dead-end structures, would not cross any public ways and would be entirely located on the Project Site and Eversource's ROW (Exh. CP-A at 13).

Eversource asserts that the provisions of Article 28 (with the new zoning provision 3590.50(1) Utility Connections) also would impose unacceptable limitations on the Eversource facilities (Eversource Supplemental Letter at 1). Eversource notes that this section appears to require all utility connections to be either underground or pad mounted (Eversource Supplemental Letter at 1). Eversource notes that the current interconnection design would connect Cranberry Point's BESS to the Eversource transmission system via an overhead 115 kV line (see Exhs. CP-A at 1, 12; CP-7, at 12; CP-Z at 6; EFSB-G-33(1)). Eversource argues that redesign to comply with the requirements of Section 3590.50(1) will be costly, impose significant delays on construction of the Interconnection Facilities and may not meet Eversource utility standard requirements at this location (Eversource Supplemental Letter at 1-2).

3. Positions of the Parties

Both the Company and Eversource maintain that the Department should grant a comprehensive zoning exemption to ensure that Carver's Zoning Bylaw, both now and in the future do not constrain or prohibit the design, construction and operation of the BESS and the Eversource facilities necessary for the Project to interconnect to the regional electric grid (RR-DPU-3; Company Supplemental Brief at 5-8; Eversource Supplemental Letter at 1-2). Both Cranberry Point and Eversource identify new zoning amendments adopted at the April 2023 Carver Town Meeting as obstacles to the construction and design of the Project and the

Eversource facilities (Company Supplemental Brief at 5-8; Eversource Supplemental Letter at 1-2).

Cranberry Point asserts that a comprehensive zoning exemption remains critical to the proposed Project's ability to meet its CSO to ISO-NE, especially in light of the adoption of additional zoning amendments, and the appeals by Save the Pine Barrens of the Planning Board's most recent approvals expected by the Company (RR-DPU-2: RR-DPU-4; Company Supplemental Brief at 6-8). Cranberry Point argues that the grant of the zoning exemption would assist the proposed Project to be completed without further delay and remove potential uncertainty regarding the application of the most recent zoning amendments to the proposed Project (RR-DPU-4; Company Supplemental Brief at 6-8).

Cranberry Point argues that the April 2023 changes in zoning bylaws are designed to prohibit the construction of a BESS and therefore why a comprehensive zoning exemption remains imperative (RR-EFSB-19; RR-DPU-2; Company Supplemental Brief at 6). In its Supplemental Brief, Cranberry Point notes there are additional provisions of the Carver Zoning Bylaw that may be applicable to the Project, including, but not limited to, § 3600 (Environmental Controls), § 3620 (Erosion Control), and § 4300 (Water Resource Protection) (Company Supplemental Brief at 7). Cranberry Point concludes that the grant of a comprehensive exemption would forestall the need to litigate any additional changes in local zoning bylaw and permit the Company to move forward with its Project (Company Supplemental Brief at 7).

Eversource asserts that it can be difficult to apply the language of local zoning provisions to the design of an energy project (Eversource Supplemental Letter at 2). Eversource contends

that the grant of a comprehensive exemption would remove any doubt as to the ability of the Project to move forward immediately without violating any existing provision of the Zoning Bylaw (Eversource Supplemental Letter at 2). Eversource also maintains that the Department should grant a comprehensive zoning exemption in light of the new zoning amendments (Eversource Supplemental Letter at 1).[71] Eversource notes that the amendments require that all utility connections either be underground, or pad mounted, which is not included in the existing interconnection design (Eversource Supplemental Letter at 1). Eversource asserts that a redesign to comply with the new zoning requirements would be costly, impose significant delays on construction of the Eversource Transmission Facilities and may not meet Eversource utility standard requirements (Eversource Supplemental Letter at 1).

Cranberry Point recently obtained updated Site Plan approvals and an extension of the term of its Special Permit approval from the Carver Planning Board through March 31, 2024 (RR-DPU-1). However, Cranberry Point maintains its request for a comprehensive zoning exemption to remove uncertainty related to additional zoning bylaw amendments passed at the most recent Carver Town Meeting on April 2023 (RR-DPU-1; RR-DPU-2) and expected appeals of the latest Planning Board approvals (RR-DPU-3). The Company asserts its expectation that these Town approvals will be challenged in court by local opposition leading to delay in the proposed Project's construction and frustration of its ability to meet its 2024 CSO to the ISO-NE (RR-DPU-6).

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[71] The full text of the zoning amendment referred to by Eversource is included in RR-EFSB-19(A1) including requirements for undergrounding at page 34 of that exhibit.

Cranberry Point contends that these legal challenges will delay substantial commencement of construction for months or years, and most certainly beyond March 2024 date of the expiration of the Special Permit (Cranberry Point Supplemental Brief at 5). The Company points to the adoption of new amendments to the Zoning Bylaw which would prevent the construction of the proposed Project as planned and presented in this record, and to the Town of Carver (RR-EFSB-19; RR-DPU-3). The Company advocates for the approval of a comprehensive zoning exemption as the solution to prevent challenges to its ability to construct the BESS and remove uncertainty related to the proposed Project's construction (Cranberry Point Supplemental Brief at 5-7).

In its supplemental brief, Cranberry Point notes that the Attorney General has yet to issue its decision on whether to approve the new zoning bylaws, but if approved, the Company would be subject to them if it is unable to substantially commence construction by March 31, 2024 when Company's existing Special Permit expires (Company Supplemental Brief at 6). The Company also characterizes expected legal challenges to the recent Planning Board approvals from STPB as a realistic threat to introduce extensive delay with the ultimate goal to delay the Project long enough for the Company to no longer be able to commercially support the Project (Cranberry Point Supplemental Brief at 6-7).

STPB did not provide a supplemental brief to address the most recent permitting approvals or new zoning bylaw amendments but opposed the Company's request for a zoning exemption in its briefs filed earlier in this proceeding.

4. Analysis and Findings

Both Cranberry Point and Eversource present a compelling case that the most recent amendments to the Carver Zoning Bylaw contain provisions that could increase the cost of the Project, require a redesign of the plans presented to the Department and the Carver Planning Board, and serve to delay and potentially prevent the construction of the Project. At this time, the new provisions have not yet been assessed by the Attorney General. However, if those regulations become effective, we agree that the provisions represent a roadblock to the timely construction and operation of the Project. Therefore, the Department finds that exemptions are required from the Town of Carver Zoning Bylaws.

Moreover, within the record of this proceeding, the most recent zoning changes represent yet another change to the zoning provisions critical to the path of local permitting for this BESS project. We recognize that the Company has engaged in long and detailed permitting efforts and recently secured an extension of the special permit granted by the Carver Planning Board as recently as May 9, 2023, with a number of conditions designed to respond to local concerns regarding public health and safety with regard to the Project (RR-DPU-1). In light of the approvals granted by the Carver Planning Board and the concerns identified regarding the most recent zoning amendments which could impact the Project, we next review the need for a comprehensive zoning exemption to remove uncertainty regarding

the impact of the Carver Zoning Bylaw and any future changes in those provisions on the Project.[72]

E. Comprehensive Zoning Exemptions

1. Standard of Review

The Department considers requests for a comprehensive zoning exemption on a case by-case basis. Westfield at 54; Hopkinton LNG, D.P.U. 17-114, at 73 (2018) ("Hopkinton LNG"); Princeton Municipal Light Department, D.T.E./D.P.U. 06-11, at 37 (2007) ("Princeton"). The Department will not consider the number of exemptions required as a sole basis for granting a comprehensive exemption. Princeton at 37. Rather, the Department will consider a request for comprehensive zoning relief only when issuance of a comprehensive exemption would avoid substantial public harm. Westfield at 54; K Street at 41; Hopkinton LNG at 73.

2. Position of the Parties

The Company acknowledges that the Department grants zoning exemptions based on the specifics of each individual case but notes that the Department considers a grant of comprehensive zoning relief when issuance of a comprehensive exemption is imminently needed to avoid substantial public harm,(Company Brief, citing, NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid, EFSB 15-04/D.P.U. 15-140/15-141, at 150 (2018); NSTAR Electric Company d/b/a Eversource

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[72] We note that Eversource did not request a zoning exemption for the Eversource interconnection facilities located on the adjacent Eversource ROW.

Energy, EFSB 14-2/D.P.U. 14-73/14-74, at 98 (2017); NSTAR Electric Company d/b/a/ Eversource Energy, D.P.U. 15-85, at 39 (2016) ("Woburn Substation") at 41 (Exh. CP-Z at 9).

The Company notes that a comprehensive zoning exemption goes beyond the provisions in the current Zoning Bylaw (from which an individual zoning exemption may be granted), to exempt the Project from any future zoning enactment that comes into effect that has the potential to jeopardize the Project (Exh. CP-Z at 10). "The very purpose of a comprehensive zoning exemption is thus to provide a mechanism for relief from local zoning that would not be available if only individual zoning exemptions were able to be secured" (Exh. CP-Z at 10). Notably, Cranberry Point filed its request for a comprehensive zoning exemption after the implementation on April 21, 2022 of a moratorium which precluded the construction and operation of a BESS pending the development of new zoning bylaws (Exh. CP-Z at 2; 7-11). At that time, the Company informed the Town of its intention to file a Zoning Petition (Exh. CP-Z at 10).

In support of its request, the Company submits that there are five factors that the Department has articulated as relevant to deciding whether to grant a comprehensive exemption: (1) the project is needed for reliability; (2) the project is time sensitive; (3) there are multiple municipalities involved that could have conflicting zoning provisions that might hinder the uniform development of a large project spanning these communities; (4) the project proponent has actively engaged the communities and responsible officials to discuss the applicability of local zoning provisions and address local concerns; and (5) the

communities affected by the project do not oppose the issuance of a comprehensive zoning exemption (Exh. CP-Z at 9).

In its supplemental brief, Cranberry Point notes that in view of more recent zoning amendments, not yet evaluated by the Attorney General, but which could have an impact on the Project's design and construction in the event that substantial completion is not achieved by the expiration of the term of its Special Permit and with potential delays associated with appeals of local permits, the Department's grant of a comprehensive zoning exemption would provide certainty to resolve questions related to new zoning requirements and potential appeals of local permits (Cranberry Point Supplemental Brief at 7). Similarly, Eversource supports the Company's request for a comprehensive zoning exemption to allow the construction of the Interconnection Facilities owned and operated by Eversource to be built consistent with the design presented to the Department in the record of this proceeding (Eversource Supplemental Letter at 1-2).

STPB opposes the Company's comprehensive zoning request (STPB Reply Brief at 9-10). In support of its opposition, STPB notes that:

> [t]he Company will either submit to the Town's jurisdiction or not. If the comprehensive zoning exemption is granted and the Project approved, the Town will be left with most of the responsibility for incidents at the Project Site, while the Company benefits from exemption from local laws. The Company's Initial Brief does state that it will comply with the requirements of the Town's Special Permit and Site Plan Review Approval. (Company Brief at 28, 50). However, if the comprehensive exemption is granted, there would be nothing requiring the Company to uphold this promise.
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> (STPB Reply Brief at 9).

3. Town Objections to the Comprehensive Zoning Exemption

Both the Select Board and the Planning Board of the Town of Carver have provided comments which oppose the Company's request for a comprehensive zoning exemption. On July 13, 2022, the Carver Planning Board filed a letter with the Siting Board, stating its opposition to the Company's request for a comprehensive zoning exemption based on concerns over health, safety and appropriateness. Similarly, the Carver Select Board filed a July 11, 2022 letter noting its opposition to Cranberry Point's petition for a comprehensive zoning exemption and the unanimous vote on July 6, 2022 of the Select Board to oppose the issuance of a comprehensive zoning exemption.

4. Consultation with Municipal Officials and Community Outreach

The Company states that the Company and the Town have engaged in more than three years of discussions regarding zoning and local approval processes related to the Project. Outreach with the community began in 2018 (Exh. CP-Z at 10, 13-14). In its Zoning Petition, Cranberry Point identifies numerous meetings with Town representatives during the 2020–2022 period, including meetings with the Carver Planning Director/Town Planner, the CFD, the Town Administrator, the Carver Conservation Commission and the Building Department (Exhs. CP-Z at 13-14; CP-PNS-1, at 2-3). As noted above, the Carver Select Board and the Carver Planning Board filed comments expressing opposition to the Company's request for a comprehensive zoning exemption.

5. Analysis and Findings

The grant of a comprehensive exemption is based on the specifics of each case. Compared to the grant of individual zoning exemptions, which is tailored to meet the

construction requirements of a particular project, the grant of a comprehensive exemption serves to nullify a municipality's zoning code in its entirety with respect to the project under review. Thus, compared to the grant of individual zoning exemptions, a comprehensive zoning exemption constitutes a broader incursion upon municipal home rule authority. In the absence of a showing that substantial public harm may be avoided by granting a comprehensive exemption, the granting of such extraordinary relief is not justified. The Department continues to favor the resolution of local issues on a local level whenever possible to reduce concern regarding any intrusion on home rule. NSTAR Electric Company d/b/a Eversource Energy, D.P.U 18-155, at 65 (2020) ("Oak Bluffs"); K Street, at 40; Hopkinton LNG, at 79; Eversource Electric Company, D.P.U. 15-85, at 39 (2016); Eversource Electric Company, D.P.U. 13-126/13-127, at 37 (2014).

To make a determination regarding substantial public harm, the Department and the Siting Board have articulated relevant factors, including, but not limited to, whether (1) the proposed project contributes to a reliable energy supply for the Commonwealth; (2) the project is time sensitive; (3) the project involves multiple municipalities that could have conflicting zoning provisions that might hinder the uniform development of a large project spanning these communities; (4) the proponent of the project has actively engaged the communities and responsible officials to discuss the applicability of local zoning provisions to the project and any local concerns; and (5) the affected communities do not oppose the issuance of the comprehensive exemption. The Department notes that this list of factors is not exhaustive and is applied on a case-by-case basis. Hopkinton LNG, at 79; see also Vineyard Wind, at 153.

In this case, the Project does not involve more than one municipality. However, the record shows that the Project is necessary in 2024 for system reliability, thereby making the Project time sensitive and a proper subject for a comprehensive zoning exemption.

In the most recent filings provided in the record, Cranberry Point identified new zoning provisions adopted at the April 13, 2023 Town meeting held by the Town of Carver which could have an impact on the proposed Project. In RR-EFSB-19, the Company states that there were multiple articles proposed as part of the full Town meeting warrant that would preclude construction of the Project. Two specific articles were attached to Cranberry Point's response that addressed setback and forestry requirements, as well as prohibitions restricting the construction of a BESS in the zoning district in which the proposed Project would be located even by Special Permit (RR-EFSB-19). In RR-DPU-2 and RR-DPU-3, Cranberry Point provides further detail regarding the requirements of the newly adopted amendments to the Zoning Bylaws that the Company asserts would prohibit the construction of the proposed Project as presented to the Town of Carver officials and the Department (Company Supplemental Brief at 6-7). In its supplemental brief, Eversource also notes that the new zoning provisions would prohibit the planned Eversource interconnection facilities from being built as presented (Eversource Supplemental Letter at 1).

These examples demonstrate that potential zoning changes adopted by the Town of Carver could have an impact on the construction and operation of the Project as proposed, introducing further delay and uncertainty with regard to a proposed Project which has secured a CSO for June 2024 and found to be needed in Section III.C.2 of this Order. Cranberry Point has emphasized the compelling need to avoid delay in constructing the

proposed Project to meet its proposed CSO operational date of June 1, 2024 with ISO-NE (Exh. CP-Z at 10, 13-14; Company Supplemental Brief at 5-8). Cranberry Point has demonstrated that the proposed Project is needed for system reliability and to further the development of renewable energy resources (Exh. CP-Z at 7-12; Company Supplemental Brief at 4-7). See also Section III.C.2 infra. In light of the June 2024 commercial operation date, the need is immediate.

The Department notes that Cranberry Point did not request any individual zoning exemptions or provide a list of individual zoning provisions that the Company identified that it needed for construction or operation of the Project. Instead, Cranberry Point requests a comprehensive zoning exemption to exempt the Company from all existing and future zoning exemptions which could negatively impact the Project's design, construction or operation. The Department has the authority to grant requests for comprehensive exemptions even in the absence of a petitioner's identification of a complete list of individual zoning provisions within a municipality's zoning bylaw. The Department can exempt specified uses of specified property from by-laws and ordinances to the extent applicable to the extent that the land, structure, and use are specified. Planning Board of Braintree v. Department of Public Utilities, 420 Mass 22, 29 (1995).

In addition, in this instance, Cranberry Point has secured the approval of the Carver Planning Board in the form of a Special Permit which includes a list of conditions established by the Planning Board as necessary to protect the health and safety of Carver residents. We recognize that the Company has committed to complying with these conditions (Company

Brief at 50; Company Supplemental Brief at 4).[73] We note that the Special Permit provides the context in which we have drafted this Order. NSTAR Electric Company d/b/a Eversource Energy, EFSB 15-04/D.P.U. 15-140/15-141, at 94 (2018) ("Woburn-Wakefield"). We base our decisions in part on the commitments made by the Company and expect the Company to abide by its commitments. While we are exempting the Project from the Carver Zoning Bylaws, we expect that the Company will meet its commitment to comply with the Special Permit conditions.[74] The Company's compliance with those conditions ensures that the provisions that the Carver Planning Board deemed essential to the protection of Carver residents will be included as a mandatory component of the approval of the Company's Zoning Petition. Because the Department relies on the Company's commitments in the Special Permit, where any future deviations from the Special Permit's conditions may alter material facts or assumptions relied upon by the Department in the Final Order, the Company is obligated to notify the Department and the service list in this proceeding in writing so that it may consider whether further inquiry is required.

The Town of Carver, as represented by the Select Board and the Planning Board, does not support Cranberry Point's request for a comprehensive zoning exemption.

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73 On March 19, 2019, the Carver Planning Board issued a decision related to the Company's Site Plan and Special Permit for the Project which contained 22 conditions to that approval (Exh. CP-3). The Carver Planning Board issued an additional decision which approved the site plan modifications with eleven additional conditions on April 25, 2023, noting the continuing effect of the conditions contained in the 2019 approval (RR-DPU-1).

74 We note that the Town of Carver, not the Department, is the appropriate entity to enforce the conditions in the Special Permit.

However, the Department's expectation that the Company comply with the Special Permit conditions should address the Town's concerns. Based on the record in this proceeding, the Company has demonstrated that Cranberry Point engaged in numerous meetings with Town officials and provided detailed information related to the proposed construction and operation of the Project. In addition, the Company has actively engaged with the Town to discuss a broad array of safety and environmental concerns and agreed to the incorporation of conditions by Town officials on the Special Permit granted by the Town Planning Board to address those concerns (RR-DPU-1; Cranberry Point Supplemental Brief at 4). After consideration, the Department finds that the Company has engaged in a good faith effort to consult with municipal authorities and that the Company's communications have been consistent with the spirit and intent of Russell and the other cases cited above.

Considering all of the factors discussed above, the Department finds Cranberry Point's request for a comprehensive zoning exemption is warranted and necessary to avoid substantial public harm. Accordingly, the Department grants a comprehensive zoning exemption for the Project.[75,76]

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[75] In granting a comprehensive exemption as requested, the Department notes that the zoning exemptions granted are limited in nature to the Project as specifically described by the Company in this docket and not universally applicable to any and all future uses. See, e.g., K Street at 44.

[76] The Department notes that this grant of a comprehensive zoning exemption applies to the land and structures on the Project Site. The Eversource transmission line is located on the Eversource ROW and is not included in the grant of a comprehensive zoning exemption. Eversource did not request a zoning exemption for the transmission line, and it appears that Eversource does not need a zoning exemption to construct its transmission line.

F. Conclusion on Request for Comprehensive Zoning Exemption

G.L. c. 40A, § 3 includes exemptions from local zoning requirements for certain types of uses. Tracer Lane II Realty LLC v. City of Waltham, 489 Mass. 775 (2021). G.L. c. 40A, § 3 reflects the Legislature's intent that certain uses should be protected from local community opposition as a matter of public policy, including religious, educational, and agricultural uses. Included in these protected uses the use of land or structures by a public service corporation, and Section 3 allows a public service corporation to petition the Department for an exemption to local zoning bylaws. G.L. c. 40A, § 3. The purpose of this exemption provision is to ensure that local opposition does not prohibit needed services. See Berkshire Power at 30; see also Save the Bay, 366 Mass. at 685-586; Town of Truro, 365 Mass. at 407; New York Central Railroad, 347 Mass. at 592. Without the ability of the Department to balance the state's need for electricity with local interests, local opposition could implement veto power over facilities serving the state.

We note this circumstance appears to be the case for proposed BESS facilities in multiple communities, with the enactment of restrictive zoning provisions. We received similar petitions filed by Medway Grid, LLC in D.P.U. 22-18/22-19 and Wendell Energy Storage 1, LLC, in D.P.U. 23-05 requesting zoning relief. If the Department interprets G.L. c. 40A, § 3 in manner that makes it impossible for BESS developers to request exemptions from local zoning, BESS developers would likely be forestalled from providing this service, even when the developers can demonstrate that the use of the land or structure is reasonably necessary for convenience or welfare of the public. The objections of a few residents could

make it impossible and necessary to achieve the Commonwealth's energy storage mandates. This is neither a logical or acceptable result.

As described above, the Department finds that: (1) Cranberry Point is a public service corporation;(2) the proposed use is reasonably necessary for the public convenience and welfare; and (3) zoning relief is required for purposes of G.L. c. 40A, § 3. Additionally, we find that the Company has engaged in good faith in discussions with local public officials in the Town of Carver.

IV. SECTION 61 FINDINGS

MEPA provides that "[a]ny determination made by an agency of the [C]ommonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact" ("Section 61 findings"). G.L. c. 30, § 61. Pursuant to 301 CMR 11.01(4)(c), Section 61 findings are necessary when an Environmental Impact Report ("EIR") is submitted to the Secretary of EEA, and the findings should be based on such EIR. The Company was required to prepare an EIR (Exh. CP-9S at 2). Accordingly, the Department must comply with MEPA review requirements in this proceeding and make all required MEPA Section 61 findings.

Cranberry Point filed copies of its SEIR (Exh. CP-8S) and the October 18, 2022 Certificate of the Secretary of EEA (Exh. CP-9S). The Secretary of EEA issued a Certificate finding that the SEIR adequately and properly complies with MEPA, which included proposed mitigation measures relative to the potential environmental impacts of the Project, including mitigating GHG emissions (Exh. CP-9S at 12-14). In the SEIR Certificate, the

Secretary noted the Company's commitment to replace ten percent of the large-diameter trees it will remove during construction through monetary compensation to the Town of Carver to purchase and plant trees at locations of the Town's choosing (Exh. CP-9S at 9-10). The Secretary also noted the increasing importance of tree cover to GHG reduction goals (Exh. CP-9S at 10).

The Department concurs with the views expressed in the SEIR Certificate about the importance of maintaining tree cover for purposes of carbon sequestration, and maintaining other environmental and natural resource benefits. The Department acknowledges that the Company will remove mature trees, to be replaced by the Town of Carver with different, younger trees and such replacement will not result in the same carbon sequestration potential as mature trees. We urge the Company to continue to examine opportunities for on-site mitigation as the Company finalizes its construction plans and while during operations. We advise future applicants to take all feasible measures to avoid or minimize the impacts of the loss of tree cover associated with project development activities. Such measures should fully consider the costs and benefits of on-site tree preservation and/or off-site mitigation, and offer the maximum protection and/or mitigation possible based on such an evaluation. The Department also expects full and complete descriptions in future filings of how such measures would be accomplished.

In Section III.C.4, above, the Department conducted a comprehensive analysis of the environmental impacts of the proposed Project. Further, the record contains, and the Department has reviewed the MEPA documents submitted by the Company, including the EENF and SEIR for the Project, as well as public comments on the SEIR (Exhs. CP-8S and

CP-9S). In accordance with the requirements of MEPA, the Department evaluated and made a determination on the impact of the Project on the natural environment; and specified in detail in this Order measures to be taken by Cranberry Point to avoid damage to the environment or, to the extent damage to the environment cannot be avoided, to minimize and mitigate damage to the environment to the maximum extent practicable. G.L. c. 30, § 61.

The SEIR also included an assessment of potential project impacts on surrounding EJ populations, including impacts such as fire hazards and noise, as requested by MEPA; the Company also addressed whether and how emergency management plans would address those populations. The Certificate issued by the Secretary notes that the SEIR describes the emergency plans and protocols that are adequate to provide equal protection to vulnerable populations and that mitigation measures for traffic were included to avoid potential impacts to identified EJ populations (Exh. CP-9S at 5).

The Certificate also identifies final mitigation commitments related to land alteration and impervious surfaces, public safety, noise and air quality, climate adaptation and resiliency and construction (Exh. CP-9S at 12-14). The Department notes that the Secretary has determined that the SEIR for the Project adequately and properly complies with MEPA (Exh. CP-8S). Accordingly, the Department finds that all feasible measures have been taken to avoid or minimize the environmental impacts of the proposed Project. See G.L. c. 30, § 61; 301 CMR 11.2(5).

V. ORDER

Accordingly, after due notice, hearing, and consideration, it is hereby

ORDERED: That the petition of Cranberry Point seeking a comprehensive exemption from the operation of the Town of Carver Zoning Bylaw pursuant to G.L. c. 40A, §3, is granted; as provided herein; and it is

FURTHER ORDERED: That Cranberry Point and its contractors and subcontractors comply with all applicable state and local regulations for which Cranberry Point has not received an exemption; and it is

FURTHER ORDERED: That Cranberry Point obtain all other governmental approvals necessary for the Project; and it is

FURTHER ORDERED: That within 90 days of Project completion, Cranberry Point shall submit a report to the Department documenting compliance with all conditions contained in this Order, noting any outstanding conditions yet to be satisfied and the expected date and status of such resolution; and it is

FURTHER ORDERED: That Cranberry Point and its successors in interest shall comply with all other directives contained in the Order; and it is

FURTHER ORDERED: That Cranberry Point or its successors in interest notify the Department of any changes other than minor variations to the Project so that the Department may decide whether to inquire further into a particular issue; and it is

FURTHER ORDERED: That because the issues addressed in this Order relative to this Project are subject to change over time, construction of the Project must commence within three years of the date of this Order; and it is

FURTHER ORDERED: That the Secretary of the Department transmit a certified copy of this Order to, and that Cranberry Point serve a copy of this Order on the Select Board, Town Manager, Planning Board, Department of Public Works, Conservation Commission for the Town of Carver and Town Zoning Board of Appeals, within five business days of its issuance, and that Cranberry Point certify to the Secretary of the Department within ten business days of its issuance that such service has been accomplished; and that said certification be served upon the Hearing Officer to this proceeding; and it is

FURTHER ORDERED: To help ensure attainment of the Project's asserted renewable energy and air emission benefits, the Department requires the Company to submit an application to register the Project as an eligible resource with the Clean Peak Program within 120 days of the facility's commercial operation; and it is

FURTHER ORDERED: To mitigate known disruptions to abutters to the Project site, the Department directs Cranberry Point, in consultation with the Town of Carver, to develop a community outreach plan to be used by the Company to inform potentially impacted stakeholders of plans for Project construction and operation, and file a copy with the Department. The outreach plan should, at a minimum, identify procedures for providing prior notification to affected residents of the following: (1) the scheduled start, duration, and hours of construction; (2) any construction that must take place outside the normal hours or days indicated above; (3) any operation the Company intends to conduct that could result in

unexpected community impacts due to unusual circumstances; and (4) process for complaints to be submitted to the Company and Company response procedures, including contact information; and it is

FURTHER ORDERED: The Department expects Cranberry Point and its contractors and subcontractors to minimize construction noise by using best construction practices; and it is

FURTHER ORDERED: The Department directs Cranberry Point to limit construction to its proposed schedule of Monday through Friday from 7:00 a.m. to 4:30 p.m. In the event, the Company needs to extend construction work outside of the building beyond those hours and days (with the exception of emergency circumstances on a given day that necessitate work beyond such times), Cranberry Point should seek permission from the Town of Carver prior to the commencement of such work and notify the Department and all parties and limited participants in this proceeding with documentation that such permission was granted; and it is

FURTHER ORDERED: The Department expects the Company to continue to abide by local, state, and federal guidelines and regulations regarding the removal of battery units that have reached the end of their useful life on the Project Site; and it is

FURTHER ORDERED: To ensure that the Company's HMA and ERP processes are completed in a timely and transparent manner, the Department directs the Company to provide quarterly updates to the service list in this proceeding on the progress of finalizing its HMA and ERP, with the first update due within 45 days of this Order. The Company's updates should, at a minimum, include descriptions of any incremental updates to the plans,

including compliance regarding the Department's ERP/HMA conditions. The Company is required to file finalized ERP and HMA with the CFD and the Department 30 days prior to commercial operations; and it is

FURTHER ORDERED: The Department expects the Company's ERP to include information regarding personnel, equipment, and apparatus required to respond to a significant thermal event; and it is

FURTHER ORDERED: Consistent with the Special Permit, the Department expects the Company, in consultation with the CFD, to provide training, emergency equipment and funding for a fire safety consultant; and it is

FURTHER ORDERED: The Department directs the Company to work with the Town of Carver and the CFD to include provisions in the ERP/HMA to provide residents near the Project Site real-time notification and instructions in the event of an emergency at the site. Further, the Department expects that the Company, in consultation with the Town of Carver and the CFD, to include in the ERP/HMA evacuation and/or shelter-in-place protocol for residents near the Project Site, in the event of an emergency at the site; and it is

FURTHER ORDERED: To promote transparency, the Department directs the Company to report to the Department and to the service list in this proceeding within seven days following any incidents at the Project Site that require notification to the CFD. The report should include a description of the incident and any actions taken by the Company; and it is

FURTHER ORDERED: To ensure that the Department and the public are provided with timely information about the Project's safety performance and other matters of public

concern, the Department directs the Company to submit informational monthly reports to the Department during the first six months of commercial operation. Each report shall detail: (1) any safety incidents of the Project that required notification of the Carver Fire Department, including a full description of the incident, actions taken, and lessons learned for future operation of the facility; and (2) a summary of any complaints regarding the Project received by the Company, including the date received and nature of the complaint, actions taken by the Company in response to the complaint and when, and the ultimate resolution of the complaint. All summaries of complaints shall exclude information that would identify the complainant; and it is

FURTHER ORDERED: The Department encourages the Company to work with CFD to determine whether to develop a joint action plan as part of its ERP/HMA to provide neighboring fire departments the appropriate information including necessary training to understand various emergency scenarios and provide if necessary a coordinated response in the event of a thermal event at the Project Site; and it is

FURTHER ORDERED: Consistent with the Special Permit, the Department expects the Company to include in the ERP/HMA a plan to ensure that any firefighting water effluent would be fully contained in the stormwater basins and not be discharged outside the basin, or otherwise infiltrate into the ground. The ERP/HMA shall include a plan to collect samples for testing of any water used in fire suppression in the event of a thermal runaway event. To promote transparency, the Company shall submit a report to the Department with the results of such testing; and it is

FURTHER ORDERED: The Department directs the Company to ensure its compliance with MassDEP poly-fluoroalkyl substances ("PFAS") regulations, 310 CMR 112.

By Order of the Department:

James M. Van Nostrand, Chair

Cecile M. Fraser, Commissioner

Staci Rubin, Commissioner

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.