DRAFT

Petition No. 1647
East Point Energy, LLC
North Larkey Road, Oxford, Connecticut

Staff Report
May 22, 2025

Notice

On October 23, 2024, the Connecticut Siting Council (Council) received a petition from East Point Energy, LLC (EPE) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k for the construction, operation and maintenance of a 17.3-megawatt (MW) alternating current (AC) battery energy storage facility (BESF) and associated equipment located at Parcel No. 25-25-1-BB-2, North Larkey Road, Oxford, Connecticut, and associated electrical interconnection (Petition or Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40 on or about October 16, 2024, EPE notified abutting property owners, Town of Oxford (Town) officials, and state officials and agencies of the proposed Project.

On October 24, 2024, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the municipality to contact the Council with any questions or comments by November 22, 2024. No comments were received.

On October 25, 2024, the Council issued a letter to EPE deeming the Petition incomplete due to lack of notice to the Office of Consumer Counsel (OCC). On October 28, 2024, EPE submitted proof of notice to the OCC. Also on October 28, 2024, the Council deemed the Petition complete.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. During a regular meeting held on December 19, 2024, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than April 21, 2025, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

On January 15, 2025, EPE filed a Motion for Protective Order related to the disclosure of manufacturer equipment specifications, operations and maintenance manual, decommissioning plan and emergency response plan for the proposed facility, pursuant to CGS §1-210(b) and RCSA §16-50j-22a(d), on the basis that the subject documents contain confidential, proprietary information. On February 11, 2025, EPE withdrew the Motion for Protective Order.

The Council issued interrogatories to EPE on January 23, 2025. EPE submitted responses to the Council's interrogatories on February 13, 2025.

On March 12, 2025, EPE filed a second Motion for Protective Order related to the disclosure of the manufacturer operations and maintenance manual for the proposed facility, pursuant to CGS §1-210(b) and RCSA §16-50j-22a(d), on the basis that it contains confidential, proprietary information. During a regular meeting held on April 3, 2025, the Council issued a Protective Order related to the disclosure of trade secrets associated with the manufacturer operations and maintenance manual.

On March 27, 2025, pursuant to CGS §4-176(i), the Council requested an extension of time to render a final decision on this Petition until June 27, 2025. On March 28, 2025, EPE consented to such extension.

The Council issued a second set of interrogatories to EPE on April 2, 2025. EPE submitted responses to the Council's second set of interrogatories on April 23, 2025 and requested an extension of time to respond to interrogatory nos. 87 and 88 until May 16, 2025. On April 28, 2025, the Council granted such extension. EPE submitted the responses to interrogatory nos. 87 and 88 on May 1 and May 9, 2025, respectively.

Jurisdiction

Under CGS §16-50x, the Council has exclusive jurisdiction over energy storage facilities. CGS §16-50i(a)(3)(C) specifically exempts facilities with a capacity of 1 MW of electricity or less utilizing ***renewable energy sources***. Under CGS §16-1, renewable energy sources include, but are not limited to, wind, solar, fuel cells, geothermal or biogas. The definition of renewable energy sources does not include BESF.

Pursuant to CGS §16-50k, the Council shall in the exercise of its jurisdiction over the siting of energy storage facilities, approve by declaratory ruling any distributed resources facility with a capacity of not more than 65 MW unless the Council finds a substantial adverse environmental effect.

The capacity of a BESF is determined by the amount of stored energy that could be injected into the grid as electricity, or alternatively, when the BESF acts like a generating facility during discharge. CGS §16-50k(a)(B) directs the Council to approve by declaratory ruling the construction of any customer-side distributed resources facility or grid-side distributed resources facility with a capacity of not more than 65 MW. This includes BESF with output capacities of 1 MW or less. Therefore, pursuant to CGS §16-50i(a)(3)(C) and §16-50k(a)(B), BESF of any output capacity are under the Council's jurisdiction, including the BESF proposed in this Petition.[1]

Community Outreach

Between June 4, 2020 and August 13, 2024, EPE presented Project information to Town officials including, but not limited to, the First Selectman, Planning and Zoning Commission, Town Attorney, Town Fire Chief, and Tax Assessor. Specifically, Project presentations/introductions were provided to the Town Planning and Zoning Commission and the Town First Selectman on May 18, 2021 and August 18, 2021, respectively. EPE was also in contact with the Town Fire Chief between September 20, 2023 and August 13, 2024.

On May 30, 2024, EPE held a BESF fire safety and training session with the Town where equipment needs and responder training for personnel from the Town and adjacent towns were discussed. These concerns, among others, are addressed in the Public Health and Safety section of this document, pursuant to CGS §16-50p.

The Town did not have any further comments since the filing of the Petition.

State Agency Comments

On October 24, 2024, pursuant to RCSA §16-50j-40, the Council sent correspondence requesting comments on the proposed Project from the following state agencies by November 22, 2024: Department of Energy and Environmental Protection (DEEP); Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); the State Historic Preservation Office (SHPO); and the Office of Consumer Counsel (OCC).

[1] See Council Declaratory Ruling for Petition No. 1646, available at pe1646_dcltr_022125_a.pdf

On November 20, 2024, CEQ submitted comments regarding farmland soils, wildlife, and spill prevention.[2] These concerns, among others, are addressed in the Environmental Effects and Mitigation Measures section of this document, pursuant to CGS §16-50p.

No other state agencies provided written comments on the Project.

Public Act 21-53

Public Act 21-53, "An Act Concerning Energy Storage," established a statewide goal to deploy 1,000 MW of energy storage in Connecticut by the end of 2030. It requires the PURA to develop programs for customer-side and grid-side energy storage systems connected to the electric distribution system and enables DEEP to issue requests for proposals for energy storage systems paired with renewable energy sources and stand-alone energy storage systems connected to the electric transmission or distribution system.[3]

On July 28, 2021, PURA developed a nine-year electric storage program, the Energy Storage Solutions (ESS) Program[4], that is administered by the Connecticut Green Bank, Eversource Energy (Eversource) and the United Illuminating Company (UI). It offers performance incentive payments to residential, commercial, and industrial customers who host on-site battery energy storage systems as follows:

1. Behind the Meter (BTM): customer-side distributed resource that serves on-site load (paired or stand-alone) behind a customer meter; and
2. Front of the Meter (FTM): grid-side distributed resource that does not serve on-site load (paired or stand-alone) behind a customer meter.[5]

A paired BTM or FTM storage system has a separate input and output source. For example, a paired system could have a solar facility-generated input and a 23-kV electric distribution line output. A stand-alone BTM or FTM storage system has the same input and output source, such as a 23-kV electric distribution line. Among the technical requirements for storage systems in the ESS program is the capability of the system to provide backup power or island from the grid during outage events.

The proposed BESF is a stand-alone FTM system that would participate in wholesale energy, capacity and frequency regulation markets and is not part of the ESS.

Public Benefit

Pursuant to CGS §16-50p(c), a public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity.

The state Comprehensive Energy Strategy (CES) examines future energy needs and identifies opportunities to reduce ratepayer costs, ensure reliable energy availability, and mitigate public health and environmental impacts. CES Strategy No. 8(B) is "Integrate efficiency, storage, and renewables to meet peak demand." The state Integrated Resource Plan (IRP) assesses the state's future electric needs and a plan to meet those future needs. IRP Strategy No. 13 is "Support the development of energy storage resources that can support the reliable integration of variable renewables and avoid fossil peaking generation."

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[2] https://portal.ct.gov/-/media/csc/3_petitions-medialibrary/petitions_medialibrary/mediapetitionnos1601-1700/pe1647/determinations_comments/pe1647_ceq-commentsrecd_112024_a.pdf?rev=9aded52932794f389b9afc74ba0a21e5&hash=7B49DC39F31C1A28E45F97AFF7B77CE6

[3] The interim goals of the program are 300 MW by year-end 2024 and 650 MW by year-end 2027.

[4] https://energystoragect.com/

[5] Energy Storage Solutions Program Manual, CT Green Bank, Eversource and UI, dated January 20, 2023, *available at* https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/a3ee00544b1b1fc285258940006564b7/$FILE/ESS%20Program%20Manual_Updated%201.20.2023_CLEAN.pdf

A "customer-side distributed resources" facility is defined under CGS §16-1(a)(34) as "generation of electricity from a unit with a rating not more than 65 MW at customer premises within the transmission and distribution system or a reduction in the demand for electricity at customer premises through conservation and load management. A "grid-side distributed resources" facility, is defined under CGS §16-1(a)(37) as "generation of electricity from a unit with a rating not more than 65 MW that is connected to the transmission or distribution system."

The proposed BESF is a grid-side distributed resource facility. It would benefit the reliability of the electric power supply of the state by drawing energy from generation resources at times of low demand and subsequently injecting that energy back into the system at times of high demand.

The Project would participate in the regional electricity market, contributing to a competitive electric supply by purchasing and storing energy during low demand periods and discharging the energy back into the grid during high demand periods leading to an efficient and cost-effective electric market. The proposed BESF would also reduce reliance on imported energy resources by supporting the storage and use of locally-generated renewable energy.

EPE would participate in the ISO-NE England, Inc. (ISO-NE) Forward Capacity Market, subject to the terms of a future revenue agreement.

The proposed facility would provide winter reliability benefits in the event that natural gas supplies are curtailed and/or backup oil supplies are limited.

The proposed facility is designed to achieve the goals of the state Conservation and Load Management Plan, including, but not limited to, shifting energy demand and servicing system load. It is located near load pockets and sources of intermittent generation. PURA encourages the siting of resources on these circuits to balance the supply and demand for reliability.

The proposed facility would be dispatched in response to ISO-NE dispatch instructions. These instructions would be based on bids and offers submitted by ENE in response to ISO-NE price signals regarding the needs of the wholesale electricity system.

Proposed Site

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the BESF "site." Under RCSA §16-50j-2a(29), "site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the facility "site." This includes portions of the host parcel retained by the property owner and portions of the host parcel the property owner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the "site."

Under a lease agreement with the host parcel owner, EPE proposes to construct the BESF on an approximately 2.5-acre site on a 23.5-acre host parcel that is owned by David Sippin. The host parcel, zoned industrial, is located on the west side of North Larkey Road. The host parcel is primarily undeveloped forested land, except for an existing Eversource electrical transmission line right-of-way (ROW) which runs through the center of the parcel in a north-northeast to south-southwest direction.

At the end of the lease, EPE would decommission the Project and restore the site substantially to pre-existing conditions.

EPE selected the site due to availability, size of the parcel, industrial zoning, proximity to an electrical interconnection, and proximity to load pockets and intermittent renewable generation. Pursuant to CGS §16-

50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.[6]

Land use in the surrounding area includes the Larkin State Park Bridle Trail and Waterbury-Oxford Airport to the west, a residential structure and forested land to the north, North Larkey Road to the east, and an Eversource substation and forested land to the south.

The BESF would be located in the southeastern portion of the host parcel between North Larkey Road and the Eversource ROW.

Proposed Facility and Associated Equipment

The proposed BESF would consist of twenty-four 5.0 MWh Powin Pod lithium-ion battery storage units. Additional battery storage may be deployed in the future to counteract battery degradation.

EPE selected the Powin Pod battery storage units due to cost, compatibility with commercially available inverters, and its design focus on fire safety.

The battery containers would be installed within a fenced compound, arranged in groups of four that are approximately 11.4 to 12.8 feet apart. Each group would be served by an inverter and transformer pad.

The BESF would be capable of providing a maximum of 69.2 MWh of electrical energy to the grid based on 17.3 MW AC at the point of interconnection. Each battery storage unit has a maximum energy storage capacity of approximately 5 MWh for a total maximum storage capacity of approximately 120 MWh. The battery has a rated efficiency of 86.34 percent at beginning of life.

Each battery storage unit would consist of six battery racks. Each rack would consist of eight battery packs, and each battery pack would consist of 104 battery cells. The hermetic seals of the battery packs are designed to last for the lifetime of the Project, approximately 25 years. The manufacturer provides quality control inspections of battery packs before they are installed into the battery container.

Other equipment associated with the BESF includes, but is not limited to, six transformer/inverter pads each containing a Sungrow SC5000 inverter and a 13.8-kV/900 Volt transformer. The transformer/inverter pads would be approximately 19.9 feet long by 8 feet wide.

Each battery storage unit measures approximately 19.8 feet long by 8 feet wide by 9.5 feet high. Each unit includes, but is not limited to, batteries, battery management system, HVAC equipment, and electrical equipment. The thermal management system includes a liquid coolant system connected to a chiller. The battery storage units operate normally between temperatures of -22º F to 122º F.

Distances from the BESF and the nearest property lines are as follows:

a) The nearest property line from the BESF perimeter fence is 95 feet to the east at 16 North Larkey Road.
b) The nearest residential property line from the BESF perimeter fence is 335 feet to the southeast at 14 North Larkey Road.
c) The nearest property line from the nearest portion of the battery containers is 220 feet to the east at 16 North Larkey Road.
d) The nearest residential property line from the nearest portion of the battery containers is approximately 385 feet to the southeast at 14 North Larkey Road.
e) The Eversource electric transmission ROW is approximately 100 feet to the northwest of the BESF perimeter fence.

[6] *Corcoran v. Conn. Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2024)

f) The Eversource electric transmission ROW is approximately 160 feet to the northwest of the nearest portion of the battery containers.

The Connecticut State Fire Prevention Code (CSFPC) requires a minimum distance of 10 feet between BESF battery containers and lot lines, public ways buildings, stored combustible materials, hazardous materials, high-piled stock and other exposure hazards not associated with the electrical grid. The design of the BESF complies with the CSFPC setback requirements.

The BESF would be installed within an irregular shaped compound approximately 200 feet long by 163 feet wide and enclosed by a 7-foot chain-link fence. No control house is proposed for the compound. One 20-foot long storage container would be located in the northeastern corner of the fenced compound to store spare parts and tools. A permanent parking area will be located in the southeastern portion of the fenced compound. Developed areas contained within the fenced compound would generally have a gravel surface.

Access to the BESF would be via a new 57-foot long access drive that extends from North Larkey Road to the compound gate. Within the compound, a 20 to 26-foot wide gravel drive would loop around the interior of the fenced compound to provide access to the battery containers and other equipment.

Construction of the facility, including the access drive, BESF compound and electrical interconnections, would disturb an approximate 2.5-acre area.

The proposed facility would have two 13.8-kV electrical interconnections: one overhead connection to an existing distribution line to the east on North Larkey Road and one overhead/underground connection to Eversource's Oxford 26N Substation to the west. The two interconnections will require a total of 15 new utility poles, approximately 35 feet in height. Two interconnections were preferred by Eversource because the existing transformer in the Oxford 26N Substation could only support approximately 14.3 MW, and the balance of 3 MW could be supported by the existing distribution line on North Larkey Road.

The distribution line interconnection includes an underground electrical line extending from an electrical pad in the southwestern portion of the site transitioning to overhead and supported by nine new utility poles along the south side of the site to interconnect with an existing distribution circuit on the east side of North Larkey Road.

The substation interconnection includes an underground electrical line extending from an electrical pad in the southeastern portion of the site, transitioning to overhead to extend along the southern portion of the site, and parallel to the distribution connection, supported on six new utility poles, transitioning back to underground for approximately 560 feet through the southeastern portion of the host parcel to the Eversource ROW, and then turning to the south for approximately 60 feet to connect to the Oxford 26N Substation.

An approximately 311-foot long by 15-foot wide gravel access drive extending from North Larkey Road will be installed to service meter and recloser equipment on the interconnection poles.

An Eversource Feasibility Study was completed in April 2021 and indicated that the local distribution grid could support the current size of 17.3 MW. Eversource's System Impact Study is pending. The associated Facility Study will be completed approximately one month after the System Impact Study.

The estimated cost of the facility is approximately between $22M and $26M. Costs would be recovered through wholesale market participation and/or future long-term revenue agreements.

Public Health and Safety

Noise

The primary sources of equipment noise for the proposed BESF are the 24 battery containers and 6 inverters. Noise would be produced during full charge and discharge. When the BESF is neither charging nor discharging, the BESF would continue to generate noise through operation of the HVAC system to manage the battery temperatures.

A noise analysis determined the facility would meet state noise control standards with noise mitigation measures. Specifically, an 8-foot tall noise barrier would be installed along the southern portion of the BESF site, adjacent to the overhead distribution connection line. An inverter silencer kit would also be installed. Projected noise levels at the nearest industrial property line to the east would be approximately 55 dBA, and projected noise levels at the nearest residential property line to the southeast would be approximately 47 dBA. This is in compliance with the state noise control standards of 70 dBA and 51 dBA, respectively.

Construction noise is exempt from the DEEP Noise Control Regulations.

Operation of the BESF would not cause discernible vibrations at off-site locations.

Electric and Magnetic Fields

During operation of the BESF, electric and magnetic fields (EMF) would be produced by the power inverters and overhead and underground electrical interconnections. Project equipment would be located over 300 feet from the nearest residential property. Thus, EMF levels from these sources would dissipate quickly with distance and therefore would be similar to pre-existing EMF background levels in the vicinity of the nearest residence.

Security

The facility would be monitored remotely on a 24/7 basis to detect abnormalities in operation. It includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. If operational abnormalities occur, the BESF can be remotely shut down and emergency responders can be notified if necessary.

The proposed site would comply with the Council's White Paper on the Security of Siting Energy Facilities. Security measures include, but are not limited to, a locked security fence and security cameras. Safety placards would be installed on the exterior of the fence as required.

The 7-foot tall perimeter fence would comply with the National Electrical Code [7] and feature anti-climb mesh. The site will have a locked gate, limiting access to authorized personnel only. High voltage warning signs would be posted at the site. BESF lighting would be needed for security and/or maintenance work and would be designed to avoid impacts to adjacent properties.

[7] Section 110.31 of the National Electrical Code (NEC), 2020 Edition notes that for over 1,000 Volts, "…a wall, screen, or fence shall be used…A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more…utilizing barbed wire or equivalent."

Fire Protection

The BESF would be designed in accordance with the National Fire Protection Association (NFPA) 855 – Standard for the Installation of Stationary Energy Storage Systems and the 2022 Connecticut State Fire Code Chapter 52- Energy Storage Systems.

BESF safety factors include module design, module configuration, battery management and safety features, fire protection systems, and the location of the BESF.

Battery fires are typically caused by electrical issues (i.e., short circuit, overcharge, etc.), mechanical issues (i.e., physical damage, excessive heating both internally and from external fire sources, etc.), or manufacturing defects which can cause a cell to go into thermal runaway. A full state of charge will likely increase the duration of an emergency.

The Powin Pod is certified to UL 9540, which ensures the batteries are designed and assembled with quality materials and methods reducing the likelihood of manufacturing defects. Each battery cell is hermetically sealed and would be replaced if Battery Management System (BMS) sensors detect any abnormalities.

The facility would be monitored on a 24/7 basis by multiple integrated management systems to continuously monitor system voltage, temperature, and insulation of each battery cell. A BESF BMS is included within each battery unit. The BMS ensures early detection of pre-fault conditions and rapid detection of potential fault events. If parameters exceed pre-determined operational values, the BMS would automatically disconnect the affected rack or module and send an alarm to the operations center, in accordance with the Connecticut State Fire Prevention Code and NFPA 72 – National Fire Alarm and Signaling Code.

Each battery cabinet contains one smoke and one heat detector, two gas detectors, strobes, and bells which are monitored by both the Fire Alarm Control Panel (FACP) and the BMS. When the FACP receives an alarm, such as combustible gas, heat or smoke, the notification is routed to the BMS, which autonomously isolates the respective battery cabinet.

In accordance with NFPA 69 - Standard on Explosion Prevention Systems, each battery storage unit would be equipped with a pressure-controlled ventilation system that would exhaust flammable gases during a thermal event. Battery gas from a single cell can be vented within a 1-3 minute time frame. Gases would be detected by the gas detection system installed inside the cabinet, activating the venting system to exhaust the gases from the cabinet to outside ambient air.

The typical equipment separation distances between the battery containers would aid in preventing fire spreading from one battery container to another.

The Powin Pod battery container includes an optional aerosol battery fire suppression system; however, EPE does not intend to utilize this optional system because it is considered ineffective in containing a battery fire.

Current guidance from the International Association of Fire Chiefs (IAFC) suggests that BESF fire events should be allowed to burn out in a controlled, contained manner while nearby resources are monitored and protected using water as a proactive cooling agent exterior to the battery containers.[8] Water is considered the preferred agent for managing lithium-ion battery fires, wetting nearby combustibles/vegetation, cooling nearby exposures, and controlling smoke. Water applied directly to compromised battery racks may generate water run-off concerns and the potential for water damage to other battery units. Other traditional fire protection suppression methods, such as gaseous agents, dry chemicals, aerosols, or foams, have been demonstrated not to be effective.

[8] https://www.safetystanddown.org/wp-content/uploads/2023/06/Training-Sheet-Day-2-Firefighting-Operations.pdf

The nearest fire hydrant is approximately 0.6-mile to the southwest of the proposed site. Thus, it is anticipated that emergency responder would need to utilize tanker trucks to supply fire water.

NFPA 855 and International Fire Code 1207 - Electrical Energy Storage Systems, require the facility owner/operator to designate and train staff to respond 24/7 within a timely manner to investigate emergency BESF incidents.

EPE has developed a draft Emergency Response Plan (ERP) for the site with information regarding the battery units and response procedures. EPE would finalize the ERP in collaboration with local first responders and a third-party consultant prior to commencement of construction, EPE would provide training to local emergency responders prior to facility operation. No specialized equipment is expected to be required to respond to a BSEF incident.

EPE would maintain emergency contact information on signage at the site. Additionally, EPE would provide the fire department with a copy of the ERP and train fire department personnel on the ERP prior to site operation. The ERP will explicitly prohibit the use of firefighting suppressants containing per- and polyfluoroalkyl substances (PFAS).

In the event of a fire that includes a battery burst/rupture, toxic decomposition products or gases could emitted, including, but not limited to, carbon monoxide (CO). A site-specific plume analysis was performed to assess the potential impact to the surrounding area. Based on modeled results, it is unlikely that levels of CO above the threshold level for serious health effects would reach populated areas in the event of a single BESF unit experiencing a failure event.

Per August 1, 2023 IAFC guidance on fire response, persons should maintain a distance of at least 150 feet from the battery storage unit involved. This should be maintained until an assessment of the incident severity determines that the separation distance can be safely reduced.

If one battery unit is involved with a fire incident, the ERP recommends emergency responders establish a minimum 100-foot buffer zone around any powered equipment and 200-feet from any battery enclosure. This should be maintained unit until an assessment of the incident severity determines that the separation distance can be safely reduced.

During a fire event, industry guidance recommends real time monitoring at the BESF fence/property line and at nearby receptors to help develop emergency response decisions including, but not limited to potential evacuation zones.

First responders would assess the emergency and determine if real-time monitoring of any smoke/plume is warranted. Monitoring could be performed by emergency responders, or a third-party contractor dispatched to the site. Based on results from real-time monitoring, first responders can adjust the exclusion zone around the involved battery unit(s).

Based on water sampling from other fire events at other BESF facilities, fire water runoff is expected to pose minimal risk to the environment. Results from other BESF incidents indicate that the runoff water has a similar composition to that of non-BESF related fires.

In the event of a fault or other electrical disturbance, the facility would be able to disconnect from the grid automatically via the main disconnect switch and manual shutdown mechanisms. Although disconnected, the battery units would remain energized and can pose an electrical hazard to emergency responders.

The 2022 Connecticut State Fire Prevention Code requires the BESF to have a minimum 10-foot clearance from any public right-of-way or lot line. The BESF perimeter fence would be 45 feet from the nearest property

line at North Larkey Road. The nearest residential structure is approximately 492 feet south-southeast of the BESF.

Aviation Safety

The nearest airport is Waterbury Oxford Airport, located approximately 775 feet to the northwest of the proposed BESF fence. On October 24, 2024, the Federal Aviation Administration issued a Determination of No Hazard to Aviation Safety for the proposed electrical interconnection poles. No marking or lighting of the utility poles would be required.

A crane would be required to construct the BESF. EPE would file any required notice with FAA and seek FAA approvals for the crane use as necessary.

Environmental Effects and Mitigation Measures

Air and Water Quality

The facility would not require a DEEP Air Permit. No hazardous air emissions would be produced during the operation of the facility.

Water would not be used during the operation of the facility.

The site is not located within a DEEP-designated Aquifer Protection Area. The site is not located within a Federal Emergency Management Agency-designated flood zone.

The site is located within the Housatonic Major Basin Watershed. The Project is not expected to impact water quality within this area.

EPE developed a Spill Prevention, Control and Countermeasures Plan (SPCCP) for the Project that includes spill response procedures, reporting protocols and contact information for DEEP and local first responders. If fuels are stored on site, they would be stored in upland areas at least 100 feet from wetlands.

The BESF units utilize an ultra-long-life coolant for its chiller system, and spill prevention measures would be consistent with the SPCCP for the Project.

EPE performed its original wetland survey on June 1 and 2, 2021, and a more recent survey was performed on March 20, 2024. These surveys identified five wetlands as follows:

Wetland 1 – a palustrine forested deciduous wetland located along the southeastern limits of the host parcel.

Wetland 2 – a palustrine forested deciduous wetland located along the western portion of the host parcel.

Wetland 3 – a palustrine deciduous emergent forested wetland located along the southwestern portion of the host parcel.

Wetland 4 – a palustrine scrub-shrub wetland located within the transmission line ROW and the eastern-central portion of the host parcel.

Wetland 5 – a palustrine scrub-shrub wetland located within the electric transmission line ROW.

EPE would maintain a 100-foot minimum wetland buffer for the majority of the Project footprint. One portion of the underground electrical interconnection would pass through the 100-foot buffer. There would be

approximately 1,600 square feet of disturbance within the 100-foot buffer area on the host parcel. This area would be restored.

No vernal pools were identified at the site.

Pursuant to C.G.S. §22a-430b, a DEEP Stormwater Permit is required for any disturbance greater than 1 acre. The construction limit of disturbance area for the proposed facility is approximately 2.5-acres, therefore the Project would require a DEEP Stormwater Permit.

E&S controls for the proposed facility would comply with the *Connecticut Guidelines for Soil Erosion and Sediment Control.*

The proposed transformers would utilize a biodegradable vegetable oil. Low oil alarms would trip and alert the operations team in the event of a low oil condition.

Forests and Parks

Development of the site would require approximately two acres of tree clearing. The proposed tree clearing would not impact core forest.

The Larkin State Park Bridle Trail (LSPBT) is located approximately 670 feet west of the proposed BESF fence.

There are no other state parks or forests within 0.25-mile of the site.

Scenic, Historic and Recreational Values

The State Historic Preservation Office determined that the Project would not affect historic properties.

There are no state-designated scenic roads proximate to the site.

The nearest publicly-accessible recreational resource is the LSPBT located approximately 670 feet west of the proposed BESF fence. Due to the distance, forested wetland corridor and existing electric transmission ROW, the proposed facility is not expected to be visible from the LSPBT. The proposed facility would not affect recreational use of the LSPBT.

Existing wooded vegetation on the host parcel would screen views of the proposed facility along the north, west and south. The entrance to the BESF facility would be visible from a short portion of North Larkey Road. Parcels on the opposite side of North Larkey Road consist of industrial uses. Views of the proposed BESF from the nearest residence on North Larkey Road to the southeast would be obstructed due to existing vegetation and distance. The proposed BESF is not expected to be visible from the residential area at Jacks Hill Road to the southeast due to the distance and existing vegetation.

No landscaping is proposed.

Fish, Aquaculture and Wildlife

On February 5, 2024, DEEP issued its final Natural Diversity Database determination that no known state-listed species occur at the site.

The northern long-eared bat (NLEB), a federal and state-listed Endangered Species occurs in Connecticut. However, there are no known occurrences of NLEB in Oxford. Additionally, no potential NLEB habitat was observed at the site. Thus, the proposed Project is not expected to impact the NLEB.

Agriculture

The host parcel contains approximately 10.7 acres of prime farmland soils. Development of the proposed BESF would impact approximately 1.9 acres of prime farmland soils. However, the site does not currently support any active agricultural uses and has not been utilized for agricultural farmland since at least the early 1930s.

Facility Construction

Construction would proceed with the installation of E&S controls and the stormwater management system. After disturbed areas are stabilized, tree clearing and grubbing would occur, followed by installation of BESF infrastructure.

Construction of the facility, including the access drive, BESF compound and electrical interconnections, would disturb an approximate 2.5-acre area.

Development of the site would require approximately 1,500 cubic yards of net cut material. This material would be utilized to help level the equipment pads and correct the grade deformations created by stump removal. Temporary staging areas would be located in the open areas south of the site; and between the site and North Larkey Road.

Soils at the site consist of fine sandy loam. EPE anticipates that the depth of bedrock is greater than 6 feet deep. Blasting is not anticipated to construct the proposed BESF.

Construction of the BESF is expected to begin in the summer of 2026 with completion by year-end 2026. Typical construction hours would be from 7:00 a.m. to 6:00 p.m. Monday through Friday and from 8:00 a.m. to 5:00 p.m. on Saturday.

Operation and Maintenance

Once operational, the facility would require routine maintenance visits for the electrical equipment approximately two to three times per year. Vegetative maintenance would occur on an as needed basis.

EPE would remove snow from the BESF area when it reaches 18 inches deep or when maintenance is required.

The Project has a projected service life of 25 years. The anticipated annual degradation of the battery units would be approximately 1.5 percent annually. Approximately 60 percent state-of-health (SOH) is considered the end of life for the batteries. However, this level may not be reached during the projected 25-year service life. Thus, rather than replace batteries, EPE may consider adding additional battery capacity in the future to compensate for battery degradation.

Decommissioning

At the end of the Project's service life, the BESF would be dismantled and removed, including but not limited to, BESF mechanical infrastructure, concrete pads, fencing and utility connection. Underground infrastructure would be removed to a depth of two feet. Modular equipment would be removed as modular components. Equipment would be reused, recycled or sold as scrap to the greatest extent possible.

The access drive would remain in place for the host parcel owner's future use. All disturbed areas would be graded, if necessary, and reseeded for soil stabilization.

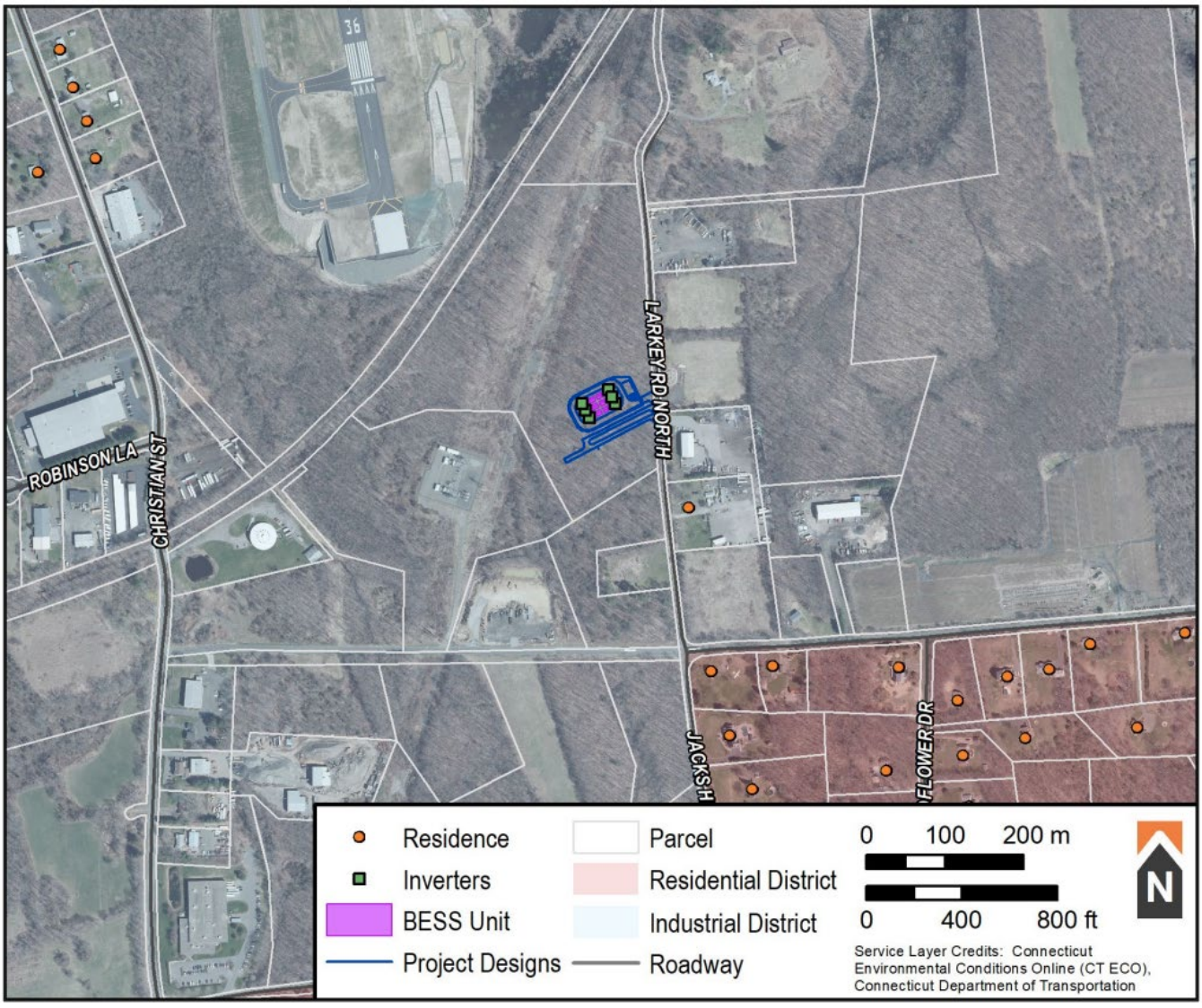
Conclusion

The BESF is a grid-side distributed energy resource with an output capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. The proposed Project would further the State's energy policy by integrating storage to meet peak demand and support the reliable integration of variable renewable resources.
If approved, staff recommends the following conditions:

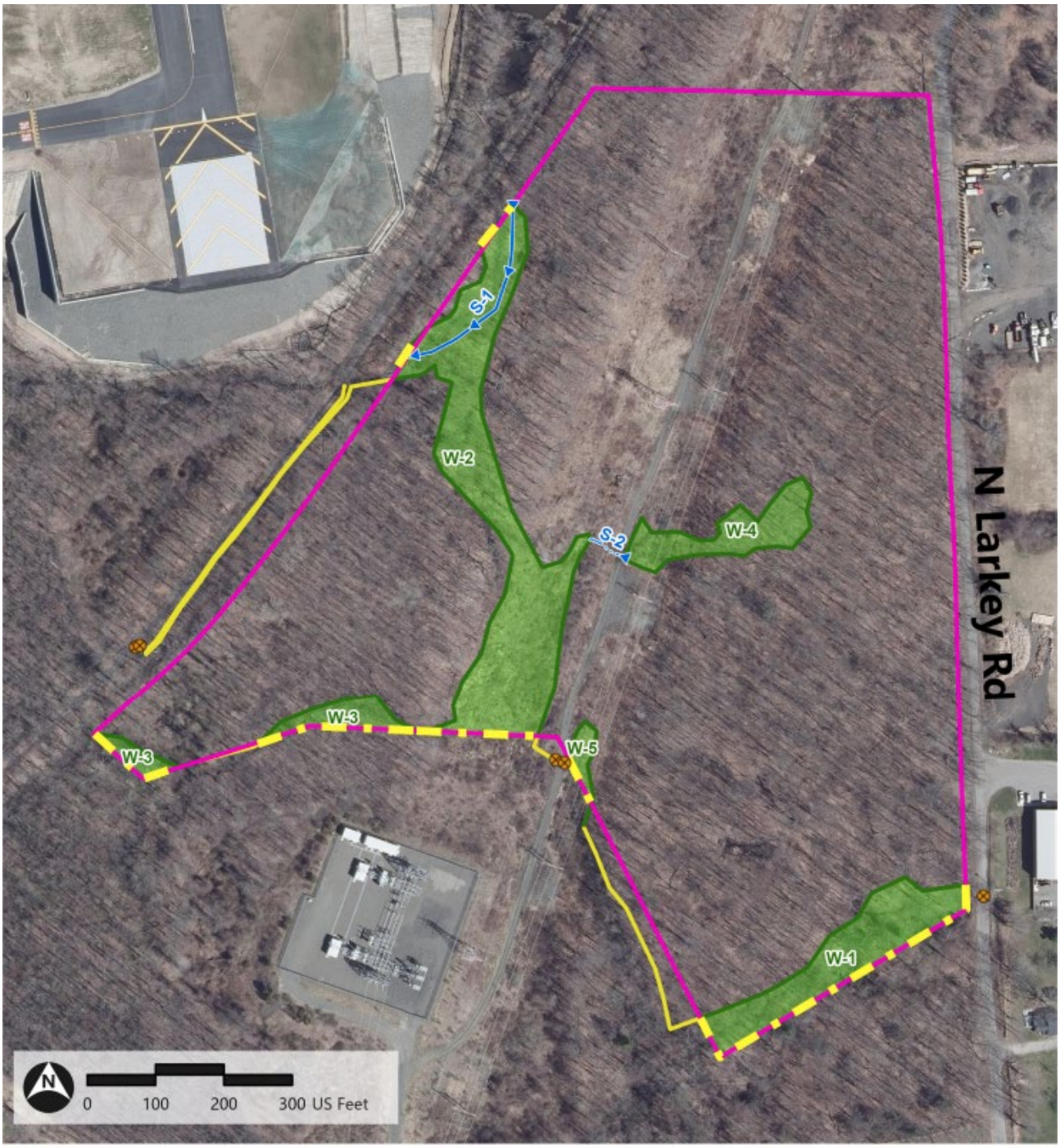
1. Approval of any Project changes be delegated to Council staff;
2. Submit a copy of the DEEP Stormwater Permit prior to the commencement of construction;
3. Submit the final seed mixes for disturbed areas and wetland buffer at the site including the stormwater basin that are pollinator-friendly species to the extent feasible, prior to commencement of construction;
4. Submit final staging/laydown area locations and erosion and sedimentation control plans for such areas, if necessary, prior to commencement of construction;
5. Submit final Spill Prevention, Control and Countermeasures Plan for the Project prior to commencement of construction;
6. Submit a final lighting plan prior to commencement of construction;
7. Provide a copy of the final Emergency Response Plan that includes an itemized list of necessary fire suppression equipment to the Council and local emergency responders prior to facility operation, and provide emergency response training;
8. Provide a signed certification by the Fire Chief that training has been completed and the ERP is approved prior to commencement of operation;
9. Submit a copy of the building permit prior to commencement of operation; and
10. Submit a post-construction operational noise study that documents compliance with state standards, and if necessary, the identification of any noise mitigation measures that are employed to adhere to the standards.

Site Location

Area Land Use

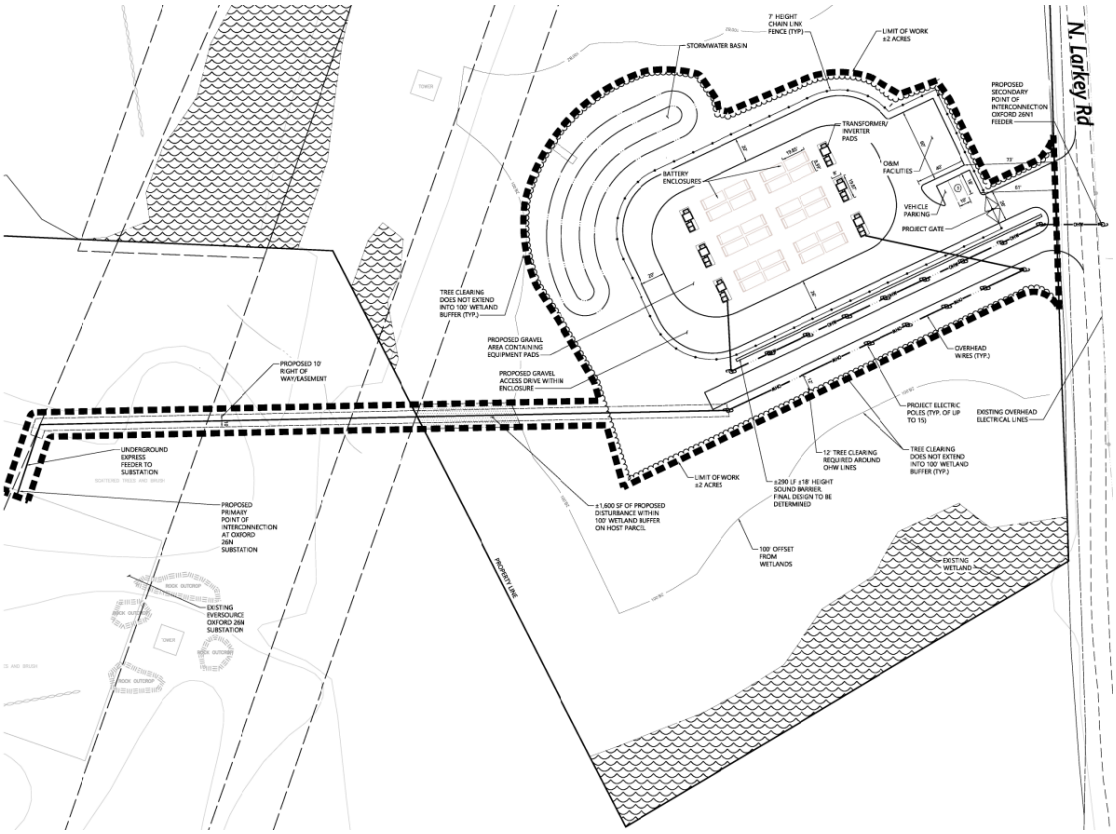


Host Parcel – Existing Conditions



Host Parcel – Proposed Conditions

Proposed Site Layout



Facility Rendering from North Larkey Road