



Tobin, Carberry, O'Malley, Riley & Selinger, P.C.

43 Broad Street | P.O. Box 58
New London, CT 06320-0058
Tel: (860) 447-0335
Fax: (860) 442-3469
www.tcors.com

March 27, 2024

Via Electronic Mail and Hand Delivery

Melanie Bachman
Executive Director / Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Petition of HQCA Energy Solutions, LLC for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is Required for the proposed Construction, Maintenance, and Operation of a 4.0 megawatt (“MW”) Battery Energy Storage Facility Located at 40 Norwich Road, Waterford, Connecticut

Dear Ms. Bachman:

I am writing on behalf of my client HQCA Energy Solutions, LLC, a subsidiary of Hanwha Q CELLS America Inc. and part of the Qcells group of companies, which is submitting the enclosed Petition for a Battery Energy Storage Facility to be located at 40 Norwich Road, Waterford, Connecticut. Please also find enclosed the original and fifteen hard copies of the Petition, including Figures and Exhibits to the Petition. Please also find enclosed a check for \$625 for the petition fee.

Lastly, the electronic version of the Petition may be accessed via the link below.

<https://www.dropbox.com/scl/fo/xao7h2tn5tmggb77izm4w/h?rlkey=3orss0edp3ah2ljmumze2cb&dl=0>

Please do not hesitate to contact me with any questions or concerns regarding this submission.

Sincerely,

A handwritten signature in blue ink that reads "Mark J. Cook".

Mark J. Cook, Esq.

Enclosures

cc: Town Clerk, Town of Waterford, Connecticut
cc: Town Clerk, Town of Montville, Connecticut

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

PETITION OF HQCA ENERGY SOLUTIONS, LLC FOR A DECLARATORY RULING PURSUANT TO CONNECTICUT GENERAL STATUTES § 4-176 AND § 16-50k, FOR THE PROPOSED CONSTRUCTION, MAINTENANCE AND OPERATION OF A 4.0 MEGAWATT BATTERY ENERGY STORAGE FACILITY LOCATED AT 40 NORWICH ROAD, WATERFORD, CONNECTICUT AND ASSOCIATED INTERCONNECTION

March 27, 2024

TABLE OF CONTENTS

Page

I.	INTRODUCTION	1
II.	PETITIONER.....	2
	A. Petitioner’s Experience and Qualifications.....	2
	B. Petitioner Contact Information	2
	i. Petitioner	2
	ii. Petitioner’s Counsel.....	3
III.	HQCA BESF	3
	A. Benefits and Operation of the HQCA BESF	3
	B. Consultation and Outreach.....	5
	Table 1: Record of Municipal Outreach – Town of Waterford.....	10
	Table 2: Record of Municipal Outreach – Town of Montville	11
IV.	PROPOSED HQCA BESF SITE	12
	A. HQCA BESF Host Parcel, Access Easement Area, and Site Description	12
	B. HQCA BESF Description	13
	C. Electrical Interconnection	15
V.	ENVIRONMENT - AIR AND WATER QUALITY STANDARDS.....	15
	A. Air	15
	B. Water.....	16
	1. Wetlands / Vernal Pools / Culvert.....	16
	2. FEMA Flood Zone	16
	3. CT DEEP Coastal Boundary	17
	4. Water Supply Not Required for Standard Operation.....	17
	5. Existing Drainage and Stormwater Discharge.....	17
	6. Existing Water Quality	17
	7. Connecticut Aquifer Protection Area	18
	C. Soils.....	18
	D. Habitat.....	18
	E. Traffic Patterns.....	19
	F. Noise	19
	G. Visibility / Buffer / Screening.....	19
	H. Cultural Analysis	19
VI.	PUBLIC HEALTH AND SAFETY	20
	A. Overview.....	20
	B. Operations and Maintenance Plan.....	22
VII.	CONSTRUCTION SCHEDULE	24
	Table 3 – HQCA BESF Facility – Waterford Milestones.....	25

VIII. DECOMMISSIONING AND RESTORATION.....26

IX. CONCLUSION.....26

- Figure 1. Site Location Map (USGS)
- Figure 2. Site Map (Aerial)
- Figure 3. Water Resources
- Figure 4. Existing Conditions (Survey)

- Exhibit A. Site Plans
- Exhibit B. Fence Slating Specifications Sheet
- Exhibit C. Delineations Report
- Exhibit D. Acoustical Analysis
- Exhibit E. Outreach and Notice
- Exhibit F. Equipment Specifications
- Exhibit G. Geotechnical Report
- Exhibit H. NDDDB Letter
- Exhibit I. Cultural Resources Survey Report
- Exhibit J. Emergency Response Guide
- Exhibit K. SPCC Plan
- Exhibit L. FAA Consultation
- Exhibit M. Decommissioning and Restoration Plan

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF HQCA ENERGY SOLUTIONS, LLC) Petition No. XXXX
FOR A DECLARATORY RULING PURSUANT TO)
CONNECTICUT GENERAL STATUTES § 4-176 AND)
§ 16-50k , FOR THE PROPOSED CONSTRUCTION,)
MAINTENANCE AND OPERATION OF A 4.0)
MEGAWATT BATTERY ENERGY STORAGE FACILITY)
LOCATED AT 40 NORWICH ROAD, WATERFORD,)
CONNECTICUT AND ASSOCIATED INTERCONNECTION) March 27, 2024

PETITION OF HQCA ENERGY SOLUTIONS, LLC
FOR A DECLARATORY RULING

I. INTRODUCTION

Pursuant to General Statutes of Connecticut (“Conn. Gen. Stat.”) §§ 4-176 and 16-50k and Regulations of Connecticut State Agencies (“Conn. Agencies Regs.”) § 16-50j et seq., HQCA Energy Solutions, LLC (“HQCA” or the “Company”), a subsidiary of Hanwha Q CELLS America Inc. and part of the Qcells group of companies (collectively, “Qcells”), respectfully requests the Connecticut Siting Council (“Council”) issue a declaratory ruling that a certificate of environmental compatibility and public need is not required for the location, development, construction, maintenance, and operation of a Qcells 4.0 megawatt (“MW”) battery energy storage facility (“HQCA BESF”) at 40 Norwich Road, Waterford, Connecticut (Town of Waterford Assessor’s ID: 498600).

As described further in this Petition for Declaratory Ruling (the “Petition”), the construction, operation and maintenance of the HQCA BESF satisfy the statutory elements of Conn. Gen. Stat. § 16-50k, meets the air and water quality standards of the Department of Energy and Environmental Protection (“CT DEEP”) and will not have a substantial adverse environmental effect.

II. PETITIONER

A. Petitioner’s Experience and Qualifications

Qcells is a leader in utility-scale solar and energy storage facility turn-key development, construction, and operations in the United States and across the globe. Qcells helps businesses and utilities reach long-term sustainability and resiliency goals.

Qcells’ substantial experience in standalone battery energy storage facilities is highlighted by Qcells’ development and construction of a 190MW / 380MWh standalone BESF in Hunt County, Texas, one of the largest standalone battery energy storage facilities in the United States. In addition, Qcells is in the process of planning for and/or onboarding an additional 7,000MW in battery energy storage facilities across the United States.

Qcells has also installed its advanced battery management platform, Growing Energy Labs, Inc. (“GELI”) Energy Management System (“EMS”, and together with GELI, the “GELI EMS Platform”) in over eighty-five sites under management across the United States, safely managing battery energy storage facilities efficiently and effectively with a cumulative 236MW / 517MWh in battery energy storage.

To date, both Qcells, and its parent company Hanwha Group has invested over \$200 Million in the development, construction, and acquisition of standalone battery energy storage facilities in the United States.

B. Petitioner Contact Information

i. Petitioner

Glen Padilla
HQCA Energy Solutions, LLC
400 Spectrum Center Drive, Suite 1400
Irvine, CA 92618
glen.padilla@qcells.com

ii. Petitioner’s Counsel

Mark J. Cook, Esq.
Tobin, Carberry, O’Malley, Riley & Selinger, P.C.
43 Broad Street, P. O. Box 58
Waterford, CT 06320
(860) 447-0335
mcook@tcors.com

III. HQCA BESF

A. Benefits and Operation of the HQCA BESF

The HQCA BESF will help meet Connecticut’s energy storage goals set forth in Connecticut Public Act 21-53, *An Act Concerning Energy Storage*. The HQCA Front-of-the-Meter (“FTM”) Waterford BESF will store energy already on the electric grid, and then supply that power back onto the grid as appropriate, particularly during high-peak demand timeframes. In doing so, the HQCA BESF will help address the priorities set forth in Public Act 21-53, specifically by improving grid consistency and resilience. The HQCA BESF will help improve grid consistency by supplying saved electricity during high peak demand times thereby helping to avoid numerous brownouts or power failures. The HQCA BESF will provide grid resilience by making saved electricity available during an outage or supplementing the supply of electricity when that supply is temporarily interrupted due to large introductions of or removals of electricity from high-volume users.

The proposed location of the HQCA BESF is within a load pocket area and can help alleviate and address the limited ability for this load pocket area to import electricity.

The HQCA BESF will also help facilitate the integration of clean, renewable energy into the electric grid. This objective is also codified in the Connecticut General Statutes wherein the Connecticut General Assembly prioritized “energy...conservation, energy efficiency and the

development and utilization of renewable sources of energy.”¹ The HQCA BESF will accomplish this objective by saving energy produced by clean, renewable sources of energy, especially during high-generation timeframes, like when the wind or sun are especially strong and consistent. Without the HQCA BESF, that clean, renewable energy may go unused and wasted.

The HQCA BESF will align with the *2022-2024 Conservation & Load Management Plan: Connecticut’s Energy Efficiency and Demand Management Plan*, which emphasizes the importance of “battery storage”² in reaching its defined goals.

The HQCA BESF aligns with the Connecticut Siting Council’s White Paper on the Security of Siting Energy Facilities (“Council White Paper”) as it can help mitigate negative impacts to the energy system during system interruptions.³ The HQCA BESF will comport with the Compliance standards as described in the Council’s White Paper.⁴ Security at the HQCA BESF will be very similar to methods employed for transmission substations, which include the use of a locked security fence.

The HQCA BESF is a proposed stand-alone energy storage system that will participate in wholesale energy, capacity, and frequency regulation markets.

The HQCA BESF will also participate in the ISO-NE Forward Capacity Market to qualify and receive commitments to operate as a resource that can provide electric capacity.

The HQCA BESF utilizes its advanced GELI EMS Platform to continuously respond to electricity market needs. The Qcells Operations Center can remotely and manually override the GELI EMS Platform at any time. If HQCA elects to contract with an entity to provide specific

¹ See General Statutes of Connecticut (“Conn. Gen. Stat.”) § 16a-35k.

² See *2022-2024 Conservation & Load Management Plan: Connecticut’s Energy Efficiency and Demand Management Plan*, Eversource Energy, United Illuminating, Connecticut Natural Gas Corporation, and Southern Connecticut Gas, p. 16

³ See *An Act Concerning Electricity and Energy Efficiency*, Public Act 07-242, Sec. 8. See also *White Paper on the Security of Siting Energy Facilities* (“Council White Paper”), Connecticut Siting Council, Oct. 8, 2009, p. 5.

⁴ See Council White paper, p. 4.

services, the Qcells Operations Center can remotely operate the HQCA BESF to comport with the specific terms and conditions for dispatch management pursuant to such a contract.

The HQCA BESF can charge and discharge between 0.0 MW and 4.0 MW. The HQCA BESF can fully recharge in approximately 2.7 hours at 4.0MW and approximately 5.4 hours at 2.0 MW. Year over year as the batteries approach replacement age, these rates may change.

The HQCA BESF is a Front of Meter HQCA BESF and has no associated net load. As a result, the HQCA BESF will not reserve any battery storage capability for back-up power.

All BESF storage units will be dispatched simultaneously and can operate at any value between 4.0 MW charge and 4.0 MW discharge. All BESF storage units respond together to keep degradation equal across all BESF storage units.

The HQCA BESF is an energy storage system and not an energy generation system and as a result it does not have typical ramp rates compared to other forms of conventional generation. The HQCA BESF is capable of changing from a full 4.0 MW charge to 4.0 MW discharge in less than 1 second.

B. Consultation and Outreach

1. Town of Waterford, Connecticut

HQCA counsel contacted the Honorable First Selectman Rob Brule of the Town of Waterford on January 9, 2024 regarding a proposal by HQCA to construct and operate the HQCA BESF at 40 Norwich Road, Waterford (the “Project”) and offered to meet with First Selectman Brule and members of the Town of Waterford Planning & Development Department to discuss the Project in detail.

On February 7, 2024, HQCA counsel provided the Town of Waterford Planning & Development Department with site plans and other supporting documents regarding the HQCA BESF's proposed location, operation, fire protection, and security.

HQCA counsel reached out to the Waterford Planning & Development Department on February 14 and offered to discuss any aspect of the Project upon the Town's review of the materials provided.

On February 15, HQCA counsel met with Waterford Planning Director Jonathan Mullen and other members of the Planning & Development Department.

On February 26, 2024, Planning Director Mullen provided preliminary Town comments to HQCA counsel and requested a meeting to discuss said comments.

On February 28, 2024 HQCA counsel met with Planning Director Mullen, Planner Mark Wujtewicz, Waterford Town Attorney Robert A. Avena, and Waterford Fire Marshal Steve Dubicki at Waterford Town Hall. The parties discussed the Town's preliminary comments as well as safety, monitoring, and fire protection.

On February 29, 2024, HQCA counsel provided Waterford Fire Marshal Dubicki with additional information regarding the HQCA BESF's monitoring capabilities and safety systems.

On March 1, 2024 Planning Director Mullen issued a letter including nine Town of Waterford recommendations for the proposed HQCA BESF.

Pursuant to the Town's recommendations, HQCA has added, among other items, to its site plans included herein as Exhibit A:

- landscape plantings for screening on all sides of the HQCA BESF fence;
- green privacy slats on all sides of the HQCA BESF fence (Please also see Exhibit B for the privacy slats specifications sheet);

- height of the BESF storage units.

HQCA is also committed to the Town's recommendations to include grading information, perimeter sediment controls, and site stabilization details as well as measures to protect off-site wetlands from sediment and run-off impacts on final site plans developed in the course of the Council's review of this Petition.

The HQCA BESF will comport with all Fire, Electrical, and Building codes. HQCA will continue to work closely with the Fire Marshal's office through every step of the design, construction and operations process.

The Town included a recommendation to relocate the concrete pad further north of the proposed area to allow more room to create and maintain the fill slope on the southern side of the subject parcel, 40 Norwich Road, Waterford ("40 Norwich Road" or the "Host Parcel"). As the Town explains in its recommendations, inland wetlands have been mapped on the abutting property directly south of this property [the Host Parcel] perimeter.

In furtherance of this recommendation, HQCA directed Ian Cole, LLC to perform due diligence and produce a report identifying and delineating any inland wetlands on the Host Parcel and/or abutting properties. Ian Cole, LLC's "Wetland Delineation Report" ("Delineation Report") is dated March 25, 2024 and is included as Exhibit C herein. The Delineation Report concludes that there are no inland wetlands, vernal pools, or watercourses present on the Host Parcel. There are wetlands on the property to the south ("30 Norwich Road") of the Host Parcel. A man-made drainage ditch is also located on 30 Norwich Road. The HQCA BESF will be constructed within an area of less than one acre of land and as a result, the Project will not require a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities under Conn. Gen. Stat. § 22a-430b. As a result, no effects to drainage patterns or storm water discharges

are anticipated and no impact to the wetlands located on an abutting property is anticipated as a result of the construction or operation of the HQCA BESF.

HQCA also had an acoustical analysis performed by CavanaughTocci to ensure compliance with applicable sound standards. The complete acoustical analysis is included as Exhibit D as part of this Petition.

In assessing the results of the acoustical analysis with the Town's recommendation to relocate the BESF equipment, HQCA expresses concern that any shift further to the north could cause the HQCA BESF to exceed the applicable sound limit near the Host Parcel's north boundary. HQCA informed the Town it has examined the Town's recommendation to relocate but could not accommodate that particular recommendation out of concern over exceeding the sound limit near the Host Parcel's north boundary.

2. Town of Montville, Connecticut

A portion of the Town of Montville's southern boundary is within 2,500 feet of the proposed HQCA BESF. Accordingly, and pursuant to Conn. Gen. Stat. § 16-50l(e), HQCA also notified the Honorable Leonard Bunnell Sr. of the Town of Montville and invited Mayor Bunnell and/or members of the Town of Montville's Land Use and Development Department to meet with HQCA counsel regarding details of the Project.

On February 8, 2024 HQCA counsel provided the Montville Land Use and Development Department with site plans and other supporting documents regarding the HQCA BESF's proposed location, operation, fire protection, and security and offered to meet with Mayor Bunnell and/or the Montville Land Use and Development Department to discuss any components of the Project.

On March 5, 2024, Matthew J. Davis, Montville’s Director of Land Use and Development issued an email stating the Town of Montville has no concerns and that there should be no impacts to Montville of concern.

HQCA counsel has reached out to Montville Fire Marshal Paul Barnes and has provided Fire Marshal Barnes with information regarding the HQCA BESF’s monitoring capabilities and safety systems.

3. Abutting Property Owners; Government Officials

Abutting property information is provided in Exhibit A and Exhibit E. Abutters and government officials have been notified of the proposed HQCA BESF via U.S. Certified Mail, return receipt requested and all logs regarding same can be found in Exhibit E.

Table 1 and Table 2 lists the outreach completed by Petitioner.

Table 1: Record of Municipal Outreach – Town of Waterford

Date	Contact	Type	Purpose
1/9/24	Hon. First Selectman Rob Brule; Planning Director Jonathan Mullen	Email	Initiate consultation re: proposed HQCA BESF at 40 Norwich Rd., Waterford.
2/7/24	Planning Director Jonathan Mullen	Email	Share site plans and supporting documents regarding HQCA BESF at 40 Norwich Rd., Waterford.
2/14/24	Planning Director Jonathan Mullen	Email	Coordinate meeting to discuss Town review of site plans and supporting documents.
2/15/24	Planning Director Jonathan Mullen and members of Planning & Development Dept.	In-person	Review preliminary comments from Town.
2/26/24	Planning Director Jonathan Mullen	Email	Planning Director Mullen provides preliminary comments and requests meeting.
2/28/24	Planning Director Jonathan Mullen, Planner Mark Wujtecicz, Waterford Town Attorney Robert A. Avena, Waterford Fire Marshal Steve Dubicki	In-person	Review Town preliminary comments and discuss safety, monitoring, and fire protection.
2/29/24	Waterford Fire Marshal Steve Dubicki	Email	Provide Fire Marshal Dubicki with additional information regarding HQCA BESF's monitoring capabilities and safety systems.
3/1/24	Planning Director Jonathan Mullen	Email	Planning Director Mullen provides Town recommendations.

Table 2: Record of Municipal Outreach – Town of Montville

Date	Contact	Type	Purpose
1/16/24	Honorable Mayor Leonard Bunnell Sr.	Email	Initiate consultation re: proposed HQCA BESF at 40 Norwich Rd., Waterford.
2/8/24	Town of Montville Land Use and Development Department	Email	Share site plans and supporting documents regarding HQCA BESF at 40 Norwich Rd., Waterford.
3/5/24	Director of Town of Montville Land Use and Development Matthew J. Davis	Email	Town of Montville expresses no concerns and that there should be no impacts to Montville.
3/6/24	Town of Montville Fire Marshal Paul Barnes	Email	Provide Fire Marshal Barnes with information regarding HQCA BESF's monitoring capabilities and safety systems.

IV. PROPOSED HQCA BESF SITE

A. HQCA BESF Host Parcel, Access Easement Area, and Site Description.

The HQCA BESF will be located at 40 Norwich Road, Waterford also identified as Town of Waterford Assessor's ID: 498600 (the "Host Parcel"). The Host Parcel is 0.98 acres, previously disturbed and partially graded. There is a small, vacant commercial building on the eastern portion of the property. The Company leases a portion of the Host Parcel within which the HQCA BESF will be located (the "Leased Premises"). An existing utility pole on Norwich Road will be utilized for interconnection via an underground interconnection cable from the HQCA BESF to the utility pole. The utility pole is owned by The Connecticut Light & Power Company d/b/a Eversource Energy ("Eversource"). Please see Figure 1, Figure 2, and Exhibit A for additional information regarding the Host Parcel's topography and general character.

Access ("Access Easement Area") between the HQCA BESF and the public Norwich Road will start from the existing curb cut on the Host Parcel from Norwich Road and over the existing pavement on the Host Parcel. Access to the HQCA BESF will continue in the form of a new gravel access way from the end of the existing paved portion of the Access Easement Area to the gated fence of the HQCA BESF. Per its lease agreement, the Company and its affiliates, agents, and contractors will have the non-exclusive right of ingress and egress on, under, over, and across such Access Easement Area.

The area around the HQCA BESF is generally commercial in nature, including an office building located to the north and a commercial shopping plaza located to the south. A Low Density Residential District (R-40) is located west of the Host Parcel. Connecticut State Route 32 ("CT Route 32" or "Norwich Road") runs to the immediate east of the Host Parcel. Across CT Route 32 is a cemetery.

The Host Parcel is located in a Town of Waterford General - Commercial (“C-G”) zoning district, which would generally allow other types of utility installations via special permit. There is substantial, regenerating vegetation and a growing, mature tree canopy on the Host Parcel’s southern and western boundaries.

B. HQCA BESF Description.

The HQCA BESF will have a total power capacity of 4.0 megawatts (“MW”) AC and can store 11.0 megawatt hours (“MWh”) DC of energy (the “HQCA BESF”). Please see Exhibit A and Exhibit F.

The HQCA BESF will consist of the following:

- Four (4) Sungrow model ST2752UX-US liquid cooled battery energy storage units (“BESF storage units”) placed on poured concrete pads.
 - o Each BESF storage unit measures 30’-8”W x 8’-6”H x 5’-7”D and contains:
 - Forty-eight (48) lithium-ion batteries. All lithium batteries are hermetically sealed within individual protective cases and stored on battery racks within each BESF storage unit, connected to the HQCA BESF.
 - One (1) liquid cooling chiller unit. Each liquid cooling unit utilizes 50-50 ethylene glycol and water for coolant, similar to the antifreeze that automobiles utilize for cooling. Refrigerant is stored separately in a sealed system.
 - One (1) electrical cabinet containing accessory equipment.
 - Two (2) thermal detectors, two (2) gas detectors, and two (2) smoke detectors.

- A fire suppression system consisting of sixteen (16) fused sprinkler heads.
- One (1) Sungrow model SC4000UD-MV-US Power Conversion System (“PCS”) unit measuring 19’-11”W x 9’-6”H x 8’D including one (1) 4,000 kVA medium voltage (“MV”) transformer using degradable Ester Oil. PCS Unit located on poured concrete pad.
- One (1) AC MV switch board;
- One (1) surge arrestor;
- One (1) interconnection cable;
- One (1) communications and auxiliary unit;
- 6’ high chain-link fence with locked gate;
- One (1) aluminum uniblend PVC high speed communications cable for communications between the BESF storage units and the EMS.

The four (4) BESF storage units will be connected to inverters via underground conduit. HQCA BESF inverters will export energy at 13.2 kV. As a result, no additional main step-up transformer or substation is needed.

The HQCA BESF will be connected to the existing utility pole on Norwich Road via an underground electrical interconnection cable to an existing utility pole located in the public right-of-way on Norwich Road. The HQCA BESF will also be connected via high speed communications cable to enable remote monitoring as well as communication with emergency responders. The HQCA BESF’s water-based fire suppression system can be connected to water either via the existing hydrant located at on the front of the Host Parcel or a fire department water tank truck.

The HQCA BESF will be installed, maintained and operated by the Company and its agents and contractors.

No piece of equipment comprising the HQCA BESF measures greater than 9'-6" in height. The HQCA BESF will occupy approximately 4,437 square feet, not including the underground interconnection cable.

C. Electrical Interconnection.

The HQCA BESF will interconnect with Eversource's local electrical distribution system via the existing utility pole on Norwich Road via an underground interconnection cable and travel along existing Eversource underground conduit and utility poles.

The Company filed a request for interconnection with The Connecticut Light and Power Company d/b/a Eversource Energy ("Eversource") on March 30, 2023, designated as Eversource Project Number: INT-77796. The Company entered into an Impact Study Agreement ("Impact Study") with Eversource on July 5, 2023. The Impact Study is currently underway and its anticipated to be completed in the second quarter of 2024.

The HQCA BESF will be connected to an existing utility pole via an underground interconnection cable type General Cable Uniblend PVC High Speed cable.

The existing utility pole does not have to be replaced nor are any upgrades expected for the pole or the appurtenances.

The HQCA BESF will benefit the Eversource 13.2 kV 9L09 circuit.

V. ENVIRONMENT - AIR AND WATER QUALITY STANDARDS

A. Air

The HQCA BESF will not emit any harmful emissions during operation and therefore will comport with and will not require permitting under Conn. Gen. Stat. Chapter 446c.

Construction of the HQCA BESF will cause temporary air emissions from construction vehicles however, Qcells will enforce a well-regulated construction schedule which will seek to minimize any temporary air emissions. During construction, Qcells will require a water spray to control emissions of dust.

B. Water

As discussed below, the HQCA BESF will not impact water resources, will not impact the existing groundwater quality nor will it impact the existing drainage or stormwater discharge.

1. Wetlands / Vernal Pools / Culvert

No wetlands, vernal pools, or watercourses appear on the Southeastern Connecticut Council of Governments ("SCCOG") State Wetlands mapping on the Host Parcel. The Delineation Report concludes that there are no inland wetlands, vernal pools, or watercourses present on the Host Parcel. There are wetlands on the property to the south ("30 Norwich Road") of the Host Parcel. A man-made drainage ditch is also located on 30 Norwich Road. The HQCA BESF will be constructed within an area of less than one acre of land and as a result, the Project will not require a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities under Conn. Gen. Stat. § 22a-430b. As a result, no effects to drainage patterns or storm water discharges are anticipated and no impact to the wetlands located on an abutting property is anticipated as a result of the construction or operation of the HQCA BESF. Please see Exhibit A, Exhibit C, and Figure 3.

2. FEMA Flood Zone

The HQCA BESF is located within a FEMA Flood Zone X, outside any special FEMA flood zones. Please see Figure 3 for a map depicting the HQCA BESF's location in a FEMA Flood Zone X.

3. CT DEEP Coastal Boundary

The HQCA BESF is not located within a Connecticut Department of Energy and Environmental Protection (“CT DEEP”) Coastal Boundary.

4. Water Supply Not Required for Standard Operation

The HQCA BESF does not use water for standard operations and only utilizes water should the sprinkler system be engaged. The HQCA BESF’s liquid cooling system only requires an initial fill-up of water but then recycles the same water for the liquid cooling process.

The HQCA BESF will be unmanned and does not require sewer services.

5. Existing Drainage and Stormwater Discharge

The HQCA BESF will be constructed within an area of less than one acre of land and as a result, the Project will not require a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities under Conn. Gen. Stat. § 22a-430b. Total disturbance of land area by the HQCA BESF is estimated at approximately 4,437 square feet. The access way on the Host Parcel and the areas surrounding the concrete equipment pads within the fence will be gravel. As a result, no effects to drainage patterns or storm water discharges are anticipated. Qcells will implement sedimentation and erosion controls during construction in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as noted on Note 19, Sheet E.001 of the Exhibit A Site Plans.

6. Existing Water Quality

The ground water quality is classified by CT DEEP as Class GA. Class GA designated uses are existing private and potential public or private supplies of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies. All ground waters not specifically classified are considered as Class GA. Please see Figure 3.

7. Connecticut Aquifer Protection Area

The nearest Connecticut Aquifer Protection Area is more than 2 miles away from the proposed location of the HQCA BESF. No effects to drainage patterns or storm water discharges are anticipated. Please see [Figure 3](#).

C. Soils

According to the Delineation Report (please see [Exhibit C](#)), the soils on the Host Parcel are classified as Urban Land which are soils that denote moderately well to well drained earthen material which has been disturbed by cutting, filling, grading to the extent that the original soil profile can no longer be discerned and are co-associated with buildings, roads, parking lots and landscaping of developed areas. Minor inclusions of Agawam and Narragansett soils may be found in undisturbed pockets at the western limits of the Host Parcel. Please see [Exhibit C](#) for the complete Delineation Report.

A geotechnical analysis of the location of the HQCA BESF was performed and the results of such analysis have been included in a report dated September 5, 2023, attached hereto as [Exhibit G](#).

D. Habitat

The Host Parcel is previously disturbed and is partially graded. There is a small, vacant commercial building on the eastern portion of the property.

A CT DEEP Natural Diversity Database Review concludes that no extant populations of federal or State Endangered, Threatened or Special Concern species are known to occur within the Project area. Please see the CT DEEP NDDB Determination attached as [Exhibit H](#).

No trees six inches in diameter or greater will need to be removed for the proposed HQCA BESF.

E. Traffic Patterns

The HQCA BESF will not affect traffic patterns as it will be visited by one (1) technician for regular maintenance no more than twice per year.

F. Noise

Qcells engaged CavanaughTocci to complete an acoustical modeling analysis. The analysis finds that the HQCA BESF will comport with the State of Connecticut’s Control of Noise requirements as per Regs. Conn. Agencies § 22a-69 as well as the Town of Waterford’s standards regarding noise standards. The complete acoustical modeling analysis can be found as Exhibit E attached hereto.

G. Visibility / Buffer / Screening

The HQCA BESF will be screened by substantial, regenerating vegetation and a growing, mature tree canopy on the Host Parcel’s southern and western boundaries. In addition, Qcells has included the Town of Waterford’s recommendations to install landscape plantings for screening on all sides of the HQCA BESF fence as well as green privacy slats on all sides of the HQCA BESF fence.

H. Cultural Analysis

The HQCA BESF will not be located within a federal, State or Town of Waterford historic district.

Heritage Consultants issued a Preliminary Archaeological Assessment Report (“Cultural Resources Survey Report”) in which Heritage concluded that the Site parcel has been subjected to disturbances associated with apparent urbanization and industrialization of the area and as a result no additional archaeological examination of the Project area is recommended prior to construction.

The Cultural Resources Survey Report has been submitted to the State Historic Preservation Office.

The complete Cultural Resources Survey Report can be found as Exhibit I attached hereto.

VI. PUBLIC HEALTH AND SAFETY

A. Overview

The HQCA BESF will be constructed in compliance with the National Electric Code, the International Building Code, the International Fire Code, applicable National Fire Protection Association standards, and the National Electrical Safety Code all as follows, as well as all other State and local Building and Fire standards.

- 2020 National Electric Code (“NEC”)
- 2021 International Building Code (“IBC”)
- 2021 International Fire Code (“IFC”) w/ CT 2022 Amendments
- 2020 National Fire Protection Association (“NFPA”) Standard 855
- 2019 NFPA Standard 110
- 2019 NFPA Standard 111
- 2023 National Electrical Safety Code (“NESC”)

A six-foot chain link fence will be constructed around the perimeter of the HQCA BESF.

The battery cabinets themselves are double-walled and tamper-resistant thanks to multi-level battery protection layers formed by discreet standalone systems including locks on each BESF storage unit as well as each BESF storage unit having its own DC fuse.

Each of the BESF storage units include the following:

- Two (2) smoke detectors
- Two (2) thermal detectors

- Two (2) gas detectors
- Sixteen (16) fused sprinkler heads
- Ventilation exhaust system

Thermal runaway is designed to be avoided by the thermal detectors signaling to the GELI EMS Platform and Fire Action Control Panel (“FACP”) to communicate a potential emergency event to the Town of Waterford Fire Department.

The liquid cooling system will circulate cool air to cool the battery modules within the enclosure when appropriate.

Each BESF storage unit is capable of storing 241.3% of the total volume of liquid coolant contained within each Unit via built-in collection reservoirs acting to collect any leaks of the 50-50 ethylene glycol and water solution. The solution may be safely drained from the reservoir by a trained technician pursuant to all safety protocols.

Each BESF storage unit is monitored by an advanced GELI EMS Platform complemented by numerous smoke, thermal, and gas detectors, as well as ventilation exhaust system, and fused sprinkler heads throughout the BESF storage unit. The self-check GELI EMS Platform monitors the BESF storage units 365/24/7 for any malfunction, temperature inconsistency, and/or leaks. The smoke, thermal, and gas detectors can also signal the HQCA BESF’s GELI EMS Platform to immediately shut down individual Units or the entire BESS HQCA BESF depending on the information supplied by the detectors. The GELI EMS Platform also has the ability to disconnect the battery from the grid in case of a fault or abnormal performance indication.

The HQCA BESF’s smoke, thermal, and gas detectors are pre-wired into a fire action control panel that has the ability to notify the Town of Waterford Fire Department 24 hours per day / 7 days per week / 365 days per year of a potential emergency situation requiring the Fire

Department's response. The HQCA BESF will also be remotely monitored by Qcells weekdays 12:00pm – 8:00pm Eastern Standard Time from the Qcells Operations Center. Both the GELI EMS Platform as well as the Qcells Operations Center are capable of monitoring the BESF for the occurrence of an incident and immediately notifying the appropriate Qcells personnel of those incidents.

An Emergency Response Guide (“ERG”) is provided as Exhibit J. HQCA has met with the Town of Waterford Fire Marshal providing the Fire Marshal with the ERG and will continue to work closely with the Fire Marshal's office through every step of the design, construction and operations process. The ERG will continue to be refined as the Project progresses through the design and engineering phases. Prior to construction, the ERG will be finalized and emergency responder groups listed in the ERG will have received the ERG as well as be able to attend a one-day initial safety training pursuant to the ERG. First responders would access the HQCA BESF directly from the existing curb cut at the Host Parcel.

The HQCA BESF will be considered a Tier 1 HQCA BESF by the United States Environmental Protection Agency (“USEPA”). Consequently, HQCA's Spill-Prevention, Control, and Countermeasure (“SPCC”) Plan is included as Exhibit K herein. HQCA will finalize a final version of the SPCC as the HQCA BESF receives its final approvals.

During construction, a site-specific health and safety plan will be developed and implemented to protect the safety of construction personnel and Project staff.

B. Operations and Maintenance Plan

Operations and maintenance of the HQCA BESF will be conducted in accordance with all manufacturers' recommendations, safety, building, and fire codes and regulations, and all general safety and industry practice standards.

Maintenance will be conducted by a composite team of HQCA personnel as well as trained and qualified manufacturer partners.

HQCA has met with the Town of Waterford Fire Marshal's office and will continue to work with the Fire Marshal as well as with other local emergency responders through every step of the design, construction and operations process. A one-day safety training session will be made available to all fire and other local emergency responders prior to commencing operations. HQCA will also provide a plan depicting the HQCA BESF layout to all local emergency responders.

Each BESF storage unit is monitored by an advanced EMS software platform complemented by numerous smoke, thermal, and gas detectors, as well as ventilation exhaust system throughout the BESF storage unit. The self-check EMS monitors the BESF storage units 24 hours per day / 7 days per week / 365 days per year for any malfunction, temperature inconsistency, and/or leaks. The EMS has the ability to shut down a particular BESF storage unit, or the entire BESS HQCA BESF immediately and can also disconnect the battery racks from the inverters in an emergency. The GELI EMS Platform also has the ability to disconnect the battery from the grid in case of a fault or abnormal performance indication.

The HQCA BESF will also be remotely monitored by Qcells weekdays 12:00pm – 8:00pm Eastern Standard Time from the Qcells Operations Center. The Qcells Operations Center monitors the HQCA BESF via ethernet connection. Both the GELI EMS Platform as well as the Qcells Operations Center are capable of monitoring the BESF for the occurrence of an incident and immediately notifying the appropriate Qcells personnel of those incidents.

Qcells will conduct on-site inspections and maintenance from time to time in accordance with the manufacturers' recommendations. Qcells will maintain the HQCA BESF pursuant to all manufacturers' specifications and applicable codes and/or laws as well as all safety best practices

and industry best practices. Qcells will maintain the area within the fenced HQCA BESF area, including vegetative control, snow removal, and litter clean-up on an as-needed basis to ensure clear, safe ingress and egress to the BESF equipment and to ensure clear intake of the vents for the cooling and electronic equipment. The property owner is responsible for maintaining the landscaping including vegetative control, mowing, snow plowing, and litter clean-up outside the fenced HQCA BESF, including the Access Easement Area over the Host Parcel.

VII. CONSTRUCTION SCHEDULE

The Project area is vacant and is partially graded. As a result, HQCA projects that site preparation will be minimal. Site preparation, installation and interconnection of equipment, and commissioning will require a total of approximately 3 and one-half months to 4 months.

Planned, routine construction will take place Monday through Friday from 8:00 AM to 5:00 PM.

Site Preparation: 2 – 4 weeks

- Including grubbing, grading, brush removal, installation of temporary erosion and sedimentation (“E&S”) controls pursuant to the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, and equipment staging.

Installation: 4 – 6 weeks

- Including construction of concrete equipment pads poured on site, installation of BESF storage units, power conversion unit, interconnection equipment, accessory equipment, fencing, and final grading and seeding as needed.

Commissioning: 4 – 6 weeks

- Including operational acceptance testing; Start-up; Acceptance testing; Function acceptance testing; Shakedown. Before activation and when required by all building,

electrical, and fire code inspection requirements, HQCA will engage a third-party vendor to conduct any required testing.

Petitioner will not require more than a 145’ mobile crane to complete construction and installation at the proposed Site. This information was run along with the proposed Site information in the Federal Aviation Administration’s (“FAA”) Notice Criteria Tool and the FAA Notice Criteria Tool concluded that mobile crane height does not exceed Notice Criteria. The FAA Notice Criteria Tool report is included herein as Exhibit L.

Table 3 – HQCA BESF – Waterford Milestones

HQCA BESF - Waterford Milestones	Date Projected
Interconnection	
Impact Study Report	June 2024
Interconnection Agreement Executed	December 2024
Permitting	
All Approvals and Permits Secured	October 2024
Final Engineering and Design	
90% Construction Engineering Design	August 2025
90% Interconnection Engineering Design	October 2025
Procurement	
BESS Supplier Contract Awarded	April 2025
EPC Contract Awarded	June 2025
Other Major Equipment Procured	November 2025
BESS Delivered to Site	March 2026
Aux. Power Transformer Procured	July 2026
Construction	
HQCA BESF - Waterford - Online	October 2026

VIII. DECOMMISSIONING AND RESTORATION

Upon expiration, HQCA will restore the surface of the Leased Premises to a condition and contour reasonably similar to that existing in the area of the Leased Premises at the commencement of the lease. A complete Decommissioning and Restoration Plan is included as Exhibit M.

IX. CONCLUSION

As set forth herein, this Petition satisfies the statutory elements of Conn. Gen. Stat. § 16-50k and the construction, operation and maintenance of the HQCA BESF meets the air and water quality standards of the Department of Energy and Environmental Protection and will not have a substantial adverse environmental effect. Accordingly, this Petition should be approved by the Council.