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March 20, 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 No. 1607 - Hanwha Q Cells America Inc. petition 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 AC battery energy storage facility located at Parcel No. 95-F10-247-5 and 95-F10-247-5A, 163 State Pier Road, New London, Connecticut and associated interconnection**

Dear Ms. Bachman:

I am writing on behalf of my client Hanwha Q Cells America Inc. ("Qcells") in connection with the above-captioned Petition. Enclosed please find the answers and supporting Attachment Exhibits provided by Qcells in response to the Interrogatories posed by the Connecticut Siting Council on February 28, 2024.

The electronic version of the above described documents have been sent via email to your attention.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Mark J. Cook".

Mark J. Cook, Esq.

Enclosures

**STATE OF CONNECTICUT**  
**CONNECTICUT SITING COUNCIL**

PETITION OF HANWHA Q CELLS AMERICA )	PETITION NO. 1607
INC. FOR A DECLARATORY RULING FOR )	
THE CONSTRUCTION, MAINTENANCE AND )	
OPERATION OF A 4.0 MEGAWATT BATTERY )	
ENERGY STORAGE FACILITY AT PARCEL NO. )	
95-F10-247-5 AND 95-F10-247-5A, 163 STATE )	
PIER ROAD, NEW LONDON, CONNECTICUT )	March 20, 2024

Petitioner Hanwha Q Cells America Inc. (“Qcells”) hereby submits the following responses to the Interrogatories issued by the Connecticut Siting Council (“CSC” or the “Council”) to Qcells on February 28, 2024.

**Project Development**

**1. Has Hanwha Qcells America, Inc. (Qcells) received any comments since the Petition was submitted to the Council? If yes, summarize the comments and how they were addressed.**

Other than the letter dated February 2, 2024 and submitted to the Connecticut Siting Council by the State Historic Preservation Office stating that no historic properties will be affected, Qcells has not received any other comments since the Petition has been submitted to the Council.

**2. Referencing Petition pp. 5-6, did any residents comment on the proposed facility at the Planning and Zoning meeting held on June 15, 2023? If yes, what were their concerns and how were the concerns addressed?**

No residents spoke regarding the proposed facility at the June 15, 2023 City of New London Planning and Zoning meeting.

**3. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?**

The following permits are anticipated to be necessary for the construction and/or operation of the Project:

- Building Permits from the City of New London;

- Electrical Permits from the City of New London; and
- Council approval.

Qcells anticipates it will transfer the Council’s Declaratory Ruling to a wholly-owned subsidiary. That subsidiary would hold the Building and Electric Permits for the Project.

**4. What is the estimated cost of the project? How are costs recovered?**

Qcells objects to this interrogatory to the extent it seeks information that is beyond the scope of a petition for declaratory ruling as provided for under the Public Utility Environmental Standards Act, General Statutes of Connecticut (“Conn. Gen. Stat.” § 16-50g, *et seq* (“PUESA”). In addition, Qcells believes that its cost information consists of trade secrets that are protected from disclosure under Conn. Gen. Stat. § 1-200 *et seq.* Subject to the foregoing objection, Qcells replies that it has provided the Council with a Motion for Protective Order supported by an Affidavit of Daehyun Kim, which has been sent to the Council in a separate filing and contains information responsive to this interrogatory.

**5. Does Qcells intend to enter the Project into the Energy Storage Solutions Program?**

The Project is a proposed stand-alone energy storage system that will participate in wholesale energy, capacity, and frequency regulation markets. The Energy Storage Solutions Program (“Program”) is designed to incentivize residential and commercial customers to consider adding storage at their homes and/or businesses. At present, the Program does not appear to be applicable to the proposed Project, nor has Qcells sought to participate in the Program.

**6. If Qcells transfers the facility to another entity, would Qcells provide the Council with a written agreement as to the entity responsible for any outstanding conditions of the Declaratory Ruling and quarterly assessment charges under CGS §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee?**

If Qcells transfers ownership of the facility to another entity, Qcells will provide notice to the Council of the entity responsible for management and operations of the Project and any outstanding conditions of the Declaratory Ruling as well as the transferee entity’s contact information.

**Proposed Site**

**7. Submit a map clearly depicting the boundaries of the battery energy storage facility (BESF) site and the boundaries of the host parcel(s). Under Regulations of Connecticut**

**State Agencies (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.**

A map depicting the boundaries of the battery energy storage facility (BESF) site, the boundaries of the host parcel, and the information requested herein is attached as Attachment Exhibit A hereto.

- 8. Has the property owner expressed any concerns or requested any specific requirements related to decommissioning or site restoration at the end of the project’s useful life? If so, please describe.**

The property owner has not expressed any concerns or made any requests for information regarding the decommissioning or site restoration at the end of the Project’s useful life.

- 9. Referencing Petition p. 11, does the 1,935 square foot area represent the size of the fenced compound?**

The size of the fenced compound will be 97’ 1” x 28’ 10”, or approximately 2,797 square feet. The reference to 1,935 square feet is an approximation of the square feet the BESS equipment will actually occupy on the ground.

- 10. Provide the distance, direction and address of the nearest residential property line to the proposed facility.**

The nearest property with a residence is located at Huntington Street, New London (New London Assessor ID 95-F09-247-7), 113 feet northwest of the facility’s fence.

- 11. Provide the distance, direction and address of the nearest residential structure to the proposed facility.**

The nearest residential structure is located at Huntington Street, New London (New London Assessor ID 95-F09-247-7), 138 feet northwest of the facility’s fence.

### **Energy Output**

- 12. What distribution system benefits (ex. resiliency of critical infrastructure, reliability of the electric system, etc.) would be provided by the facility? How does the facility meet the objectives of the state Energy Storage Solutions program?**

Qcells objects to this interrogatory to the extent that it seeks information beyond the scope of a petition for declaratory ruling, as opposed to an application for a Certificate of Environmental Compatibility and Public Need, as provided for under PUESA. Subject to the foregoing objection, Qcells provides that the Program, as currently constituted, is designed to serve commercial and residential customers behind the meter and is not applicable to the Project. Rather, the Project provides benefits at the electricity market wholesale-level, as envisioned by Public Act 21-53, which incentivizes front-of-the-meter (“FTM”) projects on the distribution network that can help improve grid consistency and resilience by supplying saved electricity during high peak demand times, helping to avoid numerous brownouts or power failures. The Qcells BESS Facility will also 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.

**13. Would the facility recharge during off-peak hours? Explain.**

The facility will recharge at optimal market periods when the cost of electricity is at its lowest because of low demand and high supply periods. These are typically off-peak period.

Also, the results of Eversource’s interconnection studies may limit the Project’s charge periods so as not to coincide with periods when the infrastructure used by the Project is under high stress. If Eversource concludes that this is required, such time-of-day limitations will be included in the interconnection agreement. These periods for allowed charging will likely coincide with off-peak periods.

**14. Is the 4 MW AC output based on the point of electrical interconnection?**

Yes, the Project’s location has been selected due to system capacity availability data from Eversource, and further consultation and study performed in cooperation with Eversource to identify the capacity of the system at this location. Qcells determined that 4 MW was the appropriate size for the Project at this location.

**15. What is the cumulative efficiency of the discharge output (e.g.- the BESF can only discharge 90% of its stored capacity)?**

The Growing Energy Labs, Inc. (“GELI”) Emergency Management System (“EMS”, and together with GELI, the “GELI EMS Platform”) will manage the discharge of the BESF from 100% to 10% of its stored capacity.

- 16. If the BESF is contracted to discharge its full charge, would any of the battery export capacity be held in reserve to prolong battery life?**

The utility mandates a charge and discharge schedule that QCells is required to follow, dictating the regular cycle the battery experiences. This cycle significantly impacts the battery's lifespan, and adhering to these standard charge and discharge rates is essential for maximizing battery life. A full depletion of the batteries would cause batteries to degrade faster and would cause voltage regulation issues on the MV bus, and thus also on the HV bus, and would cause setpoint deviation issues. Batteries also degrade over time.

- 17. What storage capacity losses are anticipated for ambient temperatures below freezing?**

The BESF's GELI EMS will manage and maintain appropriate temperature. As a result, no losses are anticipated due to ambient temperatures below freezing.

- 18. Would the BESF utilize power for cooling and heating of the battery packs? If yes, would this power source be from stored energy or from the local distribution system?**

Yes, the BESF will utilize power for cooling and heating of the battery packs from the local distribution system.

- 19. Would Qcells participate in any other ISO-NE markets (ex. ancillary services)?**

Qcells objects to this interrogatory to the extent it seeks information that is beyond the scope of a petition for declaratory ruling as provided for under PUESA. Subject to the foregoing objection, Qcells provides that the Project will seek to participate in all applicable energy markets to maximize the Project's benefits.

### **Proposed Facility and Associated Equipment**

- 20. Referencing Petition Attachment B, the specification sheet for the ST2752UX-US unit includes a 2-hour unit and a 4-hour unit. What type of unit will be installed? Does the timeframe reference the maximum hours of output? Why is the specification sheet marked "Preliminary"?**

The ST2752UX-US units to be installed will be 2-hour units. The 2-hour timeframe references the maximum number of hours of output before needing to recharge.

A non-preliminary version of the specification sheet for the ST2752UX-US BESS unit is included on Sheet E.400 of the site plans marked and attached as Attachment Exhibit B. The

specification sheet for the ST2752UX-US BESS unit is also separately included in Attachment Exhibit C.

### **Interconnection**

- 21. Referencing Petition p. 11, is Eversource's local electrical distribution system three-phase, or would it have to be upgraded to three-phase to accommodate energy output from the BESF? If yes, for what circuit length and to what location?**

Circuit 13.2 kV 9L09 on State Pier Road/Crystal Avenue is a three phase, 23kV line with sufficient capacity to accommodate the Project. Based on preliminary results from the Eversource System Studies, no upgrades are expected.

- 22. Referencing Petition p. 11, what is the status of the system impact study with Eversource? Is it anticipated the battery manufacturer/model will change based on the interconnection agreement?**

Eversource has completed its system impact study and is presently conducting an engineering design review.

Qcells does not presently anticipate a change in the battery manufacturer/model based on the interconnection agreement.

- 23. Would the facility be able to automatically disconnect from the grid in the event of a fault or other electrical disturbance? Explain.**

The smoke, thermal, and gas detectors can signal the Qcells BESS Facility's GELI EMS Platform to immediately shut down individual BESS units or the entire BESS Facility 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.

### **Public Safety**

- 24. Is a gap proposed between the bottom of the fence and grade? What animal deterrents are in place for small animals, such as nesting birds, chewing rodents, etc.?**

The fence is proposed to be secured to the ground to deter any animals or rodents from entering. Additionally, the BESS containers/enclosures are designed to prevent small animals or birds from entering the containers where they may chew or cause damage.

**25. Referencing Petition p. 20, if the site is monitored and can be dispatched 24/7 by an Energy Management System, what additional tasks does the Qcells Operations Center perform from 12:00 p.m. to 8:00 p.m.?**

The Qcells Operations Center does not perform any additional tasks. 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.

**26. Referencing Petition p. 19, the battery units would have fused sprinkler heads for fire safety.**

**a. Where will the connection for the water supply be located?**

Water via a fire tank truck could be connected to the sprinkler system from the outside of the respective BESS unit by the responding fire department. However, emergency response guidance for this equipment continues to evolve as advances in safety testing and practices are made. Current guidance instructs that the sprinkler system should not be used, and any fire event should be allowed to burn out in a controlled manner while nearby resources are monitored and protected using water as a proactive cooling agent on the exterior of the battery units.

Caution should be exercised if water is applied directly to the exterior of an affected BESS enclosure, as this will not stop a thermal runaway event and may potentially delay eventual combustion of the entire ESS product. Defensive firefighting tactics are generally recommended, with water being applied to nearby exposures for cooling, as necessary. Any hoseline operations should be limited to hose and master stream application from the outside of the construction perimeter as far back as hose and stream ranges allow. The decision to provide thermal cooling via hoselines should be made in coordination with the BESS Facility owner / operator, local emergency responders, and any other required Subject Matter Experts (“SMEs”).

A fog pattern from a handline or monitor nozzle may potentially be utilized to control smoke and gases from the affected enclosure and to prevent them from migrating to unwanted areas. The use of water as the primary agent removes the concerns with runoff from fire chemical agents. Use of water on the exterior only prevents the contaminated runoff from any chemicals associated with the BESS Facility and cooling system.



In all instances, power shut down and isolation involving any high voltage feeder lines must be confirmed before any defensive measures are taken involving application of water to the site.

Qcells will continue to coordinate with the City of New London Fire Marshal and Fire Department to refine the emergency response plan and to provide training to local responders prior to construction with the best available procedures and recommendations at that time.

- b. **Under what conditions might the sprinkler heads be activated, and how long would they continue to jettison water?**

The sprinkler heads will not be activated. Use of the sprinkler heads requires the emergency responders to perform duties that would go specifically against training, including entering the BESS facility fence line, connecting their equipment to the sprinkler system on the BESS unit, and releasing water from the fire department sources. Use of sprinkler systems is not an easy error to make, it would take many decisions and steps during which trained professionals would be able to arrest the improper actions. Local emergency responders will be trained with proper procedures, all of which will include not entering the fence line and not attempting to connect to the sprinkler system. Training will be held prior to construction and prior to operation.

- c. **In the event that such sprinkler heads are activated, would the ground surrounding the proposed facility be graded to direct sprinkler water to a certain location or area? If yes, identify such location.**

As discussed in Petitioner's response above, the sprinkler heads will not be activated.

27. **Is the use of water applied directly to a battery fire currently a best management practice for fire control and extinguishment? If no, why are fused sprinkler heads proposed?**

As discussed in Petitioner's response to interrogatory number 26 above, current guidance instructs that the sprinkler system should not be used, and any fire event should be allowed to burn out in a controlled manner while nearby resources are monitored and protected using water as a proactive cooling agent on the exterior of the battery units.

Please refer to the International Association of Fire Chiefs ("IAFC") Recommended Fire Department Response to Energy Storage Systems ("ESS"). Qcells follows the guidance from the IAFC for defensive fire-fighting which includes the best practices of containment strategy for any fire until it is exhausted and use water on surrounding structures to prevent any spread

of fire. A copy of this document is included with these interrogatory responses attached as Attachment Exhibit D.

Please also refer to the American Clean Power's First Responders Guide to Lithium-Ion Battery Energy Storage System Incidents (the "ACP Guide"). A copy of this document is also included with these interrogatory responses as Attachment Exhibit E. The ACP Guide provides more context related to the current industry guidance for incident response that minimizes life safety and environmental impact issues.

Consistent with the IAFC guidelines, section 4.3 of the ACP Guide notes that "application of water should be limited to cooling and protecting nearby exposures." Per section 4.6, introduction of water within the BESS units can create potential for problematic run off. Per section 5.1, the uncertainties, risks, and complications of introducing water or other fire control substances lead to the same conclusion provided by the IAFC, namely to respond to fire with a defensive containment strategy.

The sprinkler system is included as equipment from the manufacturer and was not selected as a design option by Qcells.

**28. What BESF design features are included to prevent "Thermal Runaway?"**

The first and most important line of defense for Thermal Runaway is the monitoring performed by the advanced GELI EMS Platform complemented by numerous smoke, thermal, gas detectors, and ventilation exhaust system. The self-check GELI EMS Platform monitors the BESS Units 365/24/7 for any malfunction, temperature inconsistency, and/or leaks. The smoke, thermal, and gas detectors can also signal the Qcells BESS Facility's GELI EMS Platform to immediately shut down individual Units or the entire BESS Facility depending on the information supplied by the detectors.

The Qcells BESS Facility's smoke, thermal, and gas detectors are pre-wired into a fire alarm / fire action control panel that has the ability to notify the City of New London 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.

Training for local emergency responders prior to systems operation will be provided with a full review of these systems and guidance for the appropriate approach, use and actions. An initial training will be provided prior to construction, prior to commissioning, and once more, prior to operation.

**29. What is the typical duration of a battery fire before it self-extinguishes?**

A BESS fire could last for approximately forty-eight hours, provided the containment strategy is applied as prescribed.

**30. If one battery unit caught fire, can it easily spread to adjacent batteries? What mechanism are in place to reduce the possibility of a fire from spreading to an adjacent battery unit?**

The system design includes different compartments to prevent a fire from spreading to other portions of the system as demonstrated through equipment stress and fire testing. The system equipment proposed by Qcells passes UL 9540A, which requires that no propagation may occur between a cell that has been ignited and the other system unit cells.

**31. Referencing Petition p. 10, where is the existing fire hydrant located on the host parcel?**

There is an existing hydrant located approximately 25 feet southwest of the proposed BESS facility location.

**32. Will the facility be designed in accordance with the 2022 Connecticut State Fire Code Chapter 52- Energy Storage Systems?**

Yes, the Qcells BESS Facility will comply with the 2022 Connecticut State Fire Code Chapter 52 - Energy Storage Systems (the “2022 CT SF Code - ESS”). The citation to the 2022 CT SF Code – ESS has been added to Sheet E.000 of the Site Plans attached and marked as Attachment Exhibit B.

**33. Referencing Petition p. 19, when and what type of testing would be conducted on the BESF fire extinguishing agent and venting actuators, and smoke, thermal and gas detectors prior to installation at the site?**

Besides the dry sprinkler fire suppression system, no fire extinguishing agent is included. Before activation and when required by all building, electrical, and fire code inspection requirements, Qcells will engage a third-party vendor to conduct any required testing.

**34. Referencing Petition Exhibit F pp. 16-17,**

**a. Would smoke from the fire be considered hazardous and require notification to state and local authorities?**

Qcells will notify and cooperate with local emergency responders and fire safety authorities in the event of a fire. In recent BESS fire incidents, monitored results

concluded that gases released are similar to “fires involving materials such as sofas, mattresses, or office furniture.” Please see p. 4 of the attached Attachment Exhibit F – American Clean Power – Battery Energy Storage Safety – Frequently Asked Questions.

- b. **Would smoke require area residences to stay in place or evacuate? If yes, who would determine if these actions are necessary and who ensures notifications have been made?**

Ultimate decision-making authority rests with the City of New London Fire Marshal concerning any orders to shelter in place or evacuate. Per the IAFC guidance on fire response, persons should maintain a safe distance from the unit involved. Typically, for large commercial systems, this distance is at least three hundred (300) feet. Please see the attached Attachment Exhibit D included herein.

- c. **What type of emergency would require the evacuation of all persons 330 feet downwind of the BESF?**

While an emergency event causing the release of smoke or gas might require the evacuation of all persons 330 feet downward of the BESS, the City of New London Fire Marshal will have the ultimate decision-making authority concerning any orders to shelter in place or evacuate. Per the IAFC guidance on fire response, persons should maintain a safe distance from the unit involved. Typically, for large commercial systems, this distance is at least three hundred (300) feet. Please see the attached Attachment Exhibit D.

- d. **To what distance from the BESF would evacuation take place in the event of a fire?**

Per the IAFC guidance on fire response, persons should maintain a safe distance from the unit involved. Typically, for large commercial systems, this distance is at least three hundred (300) feet. Please see the attached Attachment Exhibit D.

- e. **Why is there no mention of a downwind distance for the 1/3-mile Isolation Zone?**

In response to an emergency event, page 16 of Petition No. 1607 Exhibit F - *Emergency Response Guide* recommends considering an initial downwind evacuation of at least 330 feet and more. The Emergency Response Guide goes on to recommend isolation for 1/3 mile in all directions in the case of a confirmed fire event. While “isolation” suggests an evacuation of persons within 1/3 of a mile in all directions, the City of New London Fire Marshal will have the ultimate decision-making authority concerning any orders to shelter in place or evacuate. Per the IAFC guidance on fire response, persons

should maintain a safe distance from the unit involved. Typically, for large commercial systems, this distance is at least three hundred (300) feet. Please see the attached Attachment Exhibit D.

- f. **Would the final Emergency Response Guide contain a map with addresses of all properties requiring evacuation and/or isolation for certain types of emergencies?**

The Office of the City of New London Fire Marshal will be provided with a final Emergency Response Guide listing all properties within a radius of 75 feet; 330 feet; and 1/3 of a mile. The Fire Marshal can utilize this information in considering any orders to evacuate or shelter in place. A copy of the final Emergency Response Guide will also be placed at the BESS Facility.

- g. **What methodology was used to determine the size of the evacuation and isolation zones?**

The Emergency Response Guide is produced by the manufacturer of the equipment, Sungrow. While Qcells is not privy to Sungrow's particular methodology, it is noted that similar evacuation distances are published in the IAFC Recommended Fire Department Response to Energy Storage Systems which is attached as Attachment Exhibit D. In addition, as stated, the City of New London Fire Marshal will have the ultimate decision-making authority concerning any orders to shelter in place or evacuate and/ or establish an area of isolation.

35. **Would firewater or other runoff from a battery fire be considered hazardous and require cleanup by a hazardous materials response contractor?**

The direct application of water to the exterior of an affected BESS enclosure should be avoided, as the use of water can cause a battery fire to appear extinguished when it is not and cause complications with runoff. This is consistent with the attached guidance from the International Association of Fire Chiefs and American Clean Power First Responders Guide. Please see Attachment Exhibit D and Attachment Exhibit E.

The use of water as the primary agent removes concerns with run off from fire chemical agents. Use of water on the surrounding structures and environment only prevents the contaminated runoff from any chemicals associated with the BESF and cooling system.

36. **What type of media and/or specialized equipment would be necessary to extinguish a battery storage/electrical component fire?**

The use of water as the primary agent removes concerns with run off from fire chemical agents. Use of water on the surrounding structures and environment only prevents the contaminated runoff from any chemicals associated with the BESF and HVAC system.

- 37. Referencing Petition Exhibit F p. 18, the diagram shows response actions to protect the transformer from becoming involved in a fire. What materials within the transformer are combustible? Is the ester oil flammable?**

Ester oil will be used inside the transformer. Ester oil is flammable but it has a higher flash point, typically above 300°C.

- 38. Would Qcells dispatch personnel to the BESF in the event of a fire? Where would Qcells personnel be located that can respond to on-site emergencies? Do first responders have to wait for Qcells personnel to arrive before beginning emergency response measures?**

The GELI EMS Platform will notify Qcells personnel to be dispatched from New York and/or New Jersey however local first responders do not have to wait for Qcells personnel to arrive on-site before beginning emergency response measures.

- 39. Referencing Site Plan E.100, a “Non-Exclusive Access Way” is shown extending across the parking lot at 163 State Pier Road. Who would ensure access to the facility is not blocked by vehicles that could impede access to the BESF during an emergency?**

The owner of Parcel No. 95-F10-247-5 and 95-F10-247-5A, 163 State Pier Road will ensure that access to the facility is not blocked by vehicles during an emergency. A turnaround area for emergency vehicles has been added to Sheet E.100 of the site plans depicting the area the owner will keep clear for facility access. Please see Attachment Exhibit B.

- 40. Can a dedicated access drive extending from Crystal Avenue be included in the Project design?**

There is a limited distance from Connecticut Route 32 to where a new curb cut on Crystal Avenue would need to be located, if allowed by municipal and/or State regulations. Vehicles coming from Connecticut Route 32 and attempting said turn from Crystal Avenue may stop abruptly due to the limited distance and may cause traffic logjams that could endanger the flow of traffic on Connecticut Route 32. Partial or complete removal of the fence running along Crystal Avenue and separating Crystal Avenue from the proposed BESS Facility fence would be required.

41. **Would placards be installed at the facility to alert emergency responders as to how to extinguish a fire, the fire media to be used, and contact numbers for BESF operations personnel? If yes, provide detail. If no, explain why such measures are not necessary.**

A standard UN placard will be affixed to the BESS units. Telephone and emergency contact numbers will be provided on the project fence and gate. The Project's BESS units will have the placard of UN3536, 9. This is for lithium batteries installed in a cargo transport unit.

Qcells will provide local emergency responders with training in fires involving lithium ion batteries and their potential generation of hydrogen fluoride gas. Emergency response instruction will be directly provided and documented in a handbook provided to emergency responders. Qcells will provide training to local emergency responders during initial construction and commissioning of the BESS. Such training and documentation will be updated when appropriate and repeated annually pursuant to NFPA 855 code.

42. **Referencing Petition Exhibit F p. 15, what role does the battery supplier have in fire emergency response? What procedures would be followed if the battery supplier is not available?**

Qcells as well as the battery supplier will provide guidance remotely initially regarding the incident as it develops. Qcells will work with the battery supplier to review alarms and other data available to evaluate the current conditions within the battery enclosures, take the appropriate operational actions (if not already completed by the GELI EMS Platform), and will determine when it is considered safe to access a battery enclosure after a fire event is reported. During the training provided by Qcells, Qcells will instruct local first responders to take up defensive firefighting positions outside of the BESS fence perimeter and should not enter the facility or open an enclosure without guidance from Qcells or the battery supplier.

43. **Referencing Petition Exhibit F p. 5, can the refrigerant storage container within the cooling units potentially explode in the event of a fire?**

Each liquid cooling unit utilizes 50-50 ethylene glycol and water for coolant and possesses a low risk of explosion in the event of a fire.

44. **Referencing Petition Exhibit F p. 1, it states the Emergency Response Guide should be placed in the "FACP". Define FACP.**

"FACP" stands for Fire Action Control Panel.

**45. What are the industry Best Management Practices for Electric and Magnetic Fields at battery storage facilities?**

BESS EMF emissions are expected to be similar to those of transmission substations with respect to 60-Hz magnetic fields, whereas the sources inside the facility are not generally substantial sources of 60-Hz magnetic fields outside the facility. The transmission and distribution lines entering and exiting the facility are the dominant sources of MEF at the property line and beyond.

Further, industry best management practices have yet to be established for EMF due to the lack of evidence that exposure to minimal EMF, as will be the case at this site, is a significant issue according to studies performed by the World Health Organization.

**46. Describe how the proposed facility would comply with the Council's White Paper on the Security of Siting Energy Facilities, available at: [https://portal.ct.gov/-/media/CSC/1\\_Dockets-medialibrary/Docket\\_346/whitepprFINAL20091009114810pdf.pdf](https://portal.ct.gov/-/media/CSC/1_Dockets-medialibrary/Docket_346/whitepprFINAL20091009114810pdf.pdf)**

Security at the facility will be very similar to methods employed for transmission substations, which include the use of a locked security fence. The Project will comply with the State compliance regulations as described under "Compliance" on page four of the Connecticut Siting Council's White Paper on the Security of Siting Energy Facilities, published October 8, 2009.

**47. Would the proposed facility have on-site night lighting? If yes, identify the type, location and potential visual impacts.**

Qcells is not proposing the BESF have any on-site night lighting.

**48. Is there a standard or recommended minimum distance of a BESF to a publicly accessible area?**

Section 1207.8.3 of the 2021 International Fire Code lists a minimum 10 foot clearance from any public way or lot line. The location of the BESF equipment is in compliance with this section.

**49. Is there an existing fence along the east property line, separating the Crystal Avenue sidewalk from the host parcels? If yes, what is the type and height of the fence. Would this fence remain in place?**



There is an approximately five-foot tall chain link fence spanning the entire eastern property lines of Parcel Nos. 95-F10-247-5 and 95-F10-247-5A. While ownership of the fence is unknown, the entity that owns Parcel Nos. 95-F10-247-5 and 95-F10-247-5A has no intentions of removing that existing fence.

- 50. Referencing Petition p. 10, the transformers would contain a “degradable ester oil.” Does the transformer have a containment system in the event of an insulating mineral oil leak? Are there alarms (such as low-level oil alarms) to alert monitors of a leak?**

While there is no containment system for the degradable ester oil in the transformer, a low pressure oil alarm will monitor the level of oil within the transformer and automatically alert the appropriate personnel of an indication of a low ester oil level.

- 51. Referencing Petition Exhibit E – Acoustic Analysis,**

- a. Will the system generate noise during charging of the facility, discharge of the facility, neutral conditions (i.e. neither charging nor discharging), or all three?**

The system will generate sound during charge, discharge, and in a steady maintenance state at varying levels.

- b. Was the modeling performed for the worst-case scenario with all equipment operating simultaneously, and does such scenario also take into account any fans for the cooling system? Explain.**

The sound level modeling represents the worst-case scenario, which would involve the transformer and all four Battery Energy Storage System units operating at full load with the liquid-cooling system including fans also running at full capacity.

### **Environmental Effects and Mitigation Measures**

- 52. Referencing Petition p. 16, what is the status of the Phase 1A cultural resources survey?**

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 Attachment Exhibit G attached hereto.

- 53. Referencing Petition Figure 5, access to the facility would be through an area marked as “Area of Undetermined Flood Hazard”. Is this area under review by the Federal Emergency Management Agency?**

The Map Theme Legend initially provided in Figure 5 used an incorrect color to represent 0.2% Annual Chance Flood Hazard. A corrected Map Theme Legend has been included in Attachment Exhibit B and in Attachment Exhibit H. That area of access is designated by FEMA as a 0.2% Annual Chance Flood Hazard zone.

- 54. Have drainage characteristics of the proposed site been evaluated to ensure water will not pool around the BESF? Where would stormwater be directed to?**

The BESF has been designed to maintain existing topography and mimic existing drainage patterns to the maximum extents feasible. Under existing conditions, runoff from the Project Area generally flows in a northeasterly direction towards the existing parking lot and eventually to an existing storm drain on State Pier Road. The existing storm drain is approximately 200 feet northeast of the BESF and appears to be in good working condition.

Final grading and erosion and sedimentation control designs will prevent pooling around the BESF and mimic existing drainage patterns to the maximum extents feasible.

- 55. Referencing Petition p. 8, what City of New London park is located 210 feet away from the BESF?**

The City of New London lists the park at the intersection of Connecticut Route 32 / Water Street and Crystal Avenue as Fulton Park but it also is commonly referred to as Winthrop Cove Park.

- 56. Referencing Petition Attachment A- Site Plans- Watershed Plan, what is the distance of the BESF to Winthrop Cove Park at its closest point?**

The distance from the east face of the BESF compound fence to the nearest fence located at Winthrop Cove Park is 86 feet. There is a steep slope on the park grounds immediately east of this fence. Further to the east of the slope are recreational facilities.

- 57. Referencing Petition p. 16, provide a photo and/or specification sheet of the opaque material proposed for the west end of the compound fence. What is the estimated**

**lifespan of this material? What off-site areas/receptors would be able to view the west end of the BESF?**

Slatting manufactured specifically for chain link fences and intended to effectively screen visibility is proposed for the west end of the proposed compound fence to screen views from the northwest end of the adjacent residential apartment building located on Huntington Street, New London (New London Assessor ID 95-F09-247-7). The estimated lifespan of the slatting is 7 years. Qcells will inspect the slatting once per year and will replace slatting as needed to maintain screening. Please see Attachment Exhibit I for the fence slatting specification sheet.

**58. Would the existing berm screen the entire facility from viewpoints to the south? What is the height of the berm?**

The existing berm as well as the existing tree canopy located near the southern boundary of the Host Parcel contributes to a dense buffer to views from the south. The elevation at the top of the berm is measured at 37' AMSL while the elevation at the proposed BESS Facility location is measured at 22' AMSL. In addition, there is a substantial buffer of evergreen and deciduous trees located on the southern boundary of the Host Parcel. Most of the trees in that buffer measure 50' above ground level (AGL) and higher. The smaller trees range in height from 28' AGL to 41' AGL and 45' AGL. Regenerative vegetation is also present at the base of this tree buffer.

**59. Are there existing shrubs between the BESF and Crystal Avenue? If yes, would these shrubs remain in place?**

There are no shrubs between the proposed BESF and Crystal Avenue.

**60. Would Qcells be willing to install landscape shrubs along the east side of the BESF to screen the facility from Crystal Avenue and Winthrop Cove Park?**

Qcells would be happy to install shrubs along the 28' 10" east portion of the BESF fence provided they are installed more than 10' away from the BESF facility equipment in compartment with applicable fire codes.

**61. Submit photographic site documentation with notations linked to the site plans or a detailed aerial image that identify locations of site-specific and representative site features. The submission should include photographs of the site from public road(s) or publicly accessible area(s) as well as Site-specific locations depicting site features including, but not necessarily limited to, the following locations as applicable:**

**For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site features include, but are not limited to, as applicable:**

- 1. wetlands, watercourses and vernal pools;**
- 2. forest/forest edge areas;**
- 3. agricultural soil areas;**
- 4. sloping terrain;**
- 5. proposed stormwater control features;**
- 6. nearest residences;**
- 7. Site access and interior access road(s);**
- 8. utility pads/electrical interconnection(s);**
- 9. clearing limits/property lines;**
- 10. mitigation areas; and**
- 11. any other noteworthy features relative to the Project.**

**A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site-specific and representative site features show (e.g., physical staking/flagging or other means of marking the subject area).**

**The submission shall be delivered electronically in a legible portable document format (PDF) with a maximum file size of <20MB. If necessary, multiple files may be submitted and clearly marked in terms of sequence.**

Photographic site documentation including a photolog graphic has been prepared and is attached herein as Attachment Exhibit J.

### **Facility Construction**

- 62. Referring to Petition Attachment D – Geotechnical Report, p. 7 recommends a geotechnical engineer be on-site during excavation and site preparation. Does Qcells intend to retain a geotechnical engineer to oversee these activities?**

Qcells intends on having a geotechnical engineer on-site during excavation and site preparation.

### **Facility Maintenance/Decommissioning**

- 63. Referring to Petition p. 5,**

**a. What is the anticipated life of a battery before replacement/replenishment is required?**

The anticipated life of a battery before replacement/replenishment is required is approximately fifteen years.

**b. What is anticipated annual degradation of battery storage capacity?**

Battery storage capacity degrades roughly 2% annually.

**c. At what remaining battery capacity is replacement/replenishment recommended?**

Upon fifteen years of use.

**d. What is the estimated cost of replacement/replenishment?**

Qcells objects to this interrogatory to the extent it seeks information that is beyond the scope of a petition for declaratory ruling as provided for under the Public Utility Environmental Standards Act, General Statutes of Connecticut (“Conn. Gen. Stat.” § 16-50g, *et seq* (“PUESA”). In addition, Qcells believes that its cost information consists of trade secrets that are protected from disclosure under Conn. Gen. Stat. § 1-200 *et seq*. Subject to the foregoing objection, Qcells replies that it has provided the Council with a Motion for Protective Order supported by an Affidavit of Daehyun Kim, which has been sent to the Council in a separate filing and contains information responsive to this interrogatory.

**64. At what time intervals would the transformers, inverters and switchgear need replacement?**

Transformers, inverters and switchgear typically start to need replacement after fifteen years.

**65. At what intervals would vegetation management occur?**

Vegetation management will occur on an as-needed basis to ensure clear, safe ingress and egress to the BESF equipment, to ensure clear intake of the vents for the cooling and electronic equipment and to ensure there are no tree limbs or vegetation within ten feet of the BESF equipment.

**66. Referencing Petition p. 20, what minimum snow depth would require removal within the BESF compound?**

Snow will be removed around the BESS units should the snow reach a height and volume that could act to block airflow of the chiller and/or electronic compartments of the BESS units.