



STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

June 5, 2024

Mark J. Cook, Esq.  
Tobin, Carberry, O'Malley, Riley & Selinger, P.C.  
43 Broad Street, P. O. Box 58  
New London, CT 06320  
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RE: **PETITION NO. 1623** – HQCA Energy Solutions, LLC 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 and associated equipment located at 40 Norwich Road, Waterford, Connecticut, and associated electrical interconnection.  
**Council Interrogatories to Petitioner.**

Dear Attorney Cook:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than June 26, 2024. Please submit an original and 15 copies to the Council's office and an electronic copy to [siting.council@ct.gov](mailto:siting.council@ct.gov) In accordance with the State Solid Waste Management Plan and in accordance with Section 16-50j-12 of the Regulations of Connecticut State Agencies, the Council requests all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. Fewer copies of bulk material may be provided as appropriate.

**Please be advised that the original and 15 copies are required to be submitted to the Council's office on or before the June 26, 2024 deadline.**

Copies of your responses are required to be provided to all parties and intervenors listed in the service list, which can be found on the Council's website under the "Pending Matters" link.

Any request for an extension of time to submit responses to interrogatories shall be submitted to the Council in writing pursuant to §16-50j-22a of the Regulations of Connecticut State Agencies.

Sincerely,

Melanie Bachman  
Executive Director

MAB/RDM

c: Service List dated March 28, 2024

Enclosure: Revised Schedule, dated June 5, 2024

**Petition No. 1623**  
**HQCA Energy Solutions, LLC**  
**40 Norwich Road, Waterford**

**Interrogatories**  
**June 5, 2024**

**Notice**

1. Has Hanwha Qcells America, Inc. (Qcells) directly received any comments since the Petition was submitted to the Council? If yes, summarize the comments and how they were addressed.
2. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?

**Project Development**

3. What is the estimated cost of the project? How are costs recovered?
4. Does Qcells intend to enter the Project into the Energy Storage Solutions Program?
5. Referencing Petition p. 3, who determined this portion of Waterford was a load pocket?
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?
7. Referencing Petition Figure 1, two types of property lines are shown - solid thick gray line and dashed red line. What does the thick gray line represent? What is the reason the red dashed line on the north side does not follow existing plot lines?
8. Referencing Petition Figure 4, what does the gray box represent in the northwest corner of the parcel?
9. Referencing Petition Figure 4, what is the reason the Project Limit line extends beyond the property boundaries?

**Proposed Site**

10. 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.
11. Referencing Petition p. 12, a portion of the host parcel within which the BESF will be located is leased by the property owner. What uses are permitted under the existing lease? How could these uses conflict with the construction, maintenance and operation of the proposed BESF?

12. Referencing Petition p. 15, does the 4,437 square foot area represent the size of the fenced compound?
13. Provide the distance, direction and address of the nearest residential property line to the proposed facility.
14. Provide the distance, direction and address of the nearest residential structure to the proposed facility.
15. Can the BESF be moved to the east, increasing the distance to the residences on Maple Avenue?

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

16. Referencing Petition Exhibit 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?

### **Energy Output**

17. 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?
18. When would the facility recharge? What factors are considered for the recharge interval?
19. Is the 4 MW AC output based on the point of electrical interconnection?
20. What is the cumulative efficiency of the discharge output (e.g.- the BESF can only discharge 90% of its stored capacity)? What is the depth of discharge for the Sungrow batteries?
21. 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?
22. What storage capacity losses are anticipated for ambient temperatures below freezing?
23. 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?

### **Electrical Interconnection**

24. Referencing Petition p. 15, 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?
25. Referencing Petition p. 15, 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?
26. Would the facility be able to automatically disconnect from the grid in the event of a fault or other electrical disturbance? Explain.

## Public Health and Safety

27. 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.?
28. Referencing Petition p. 22, 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.?
29. Referencing Petition p. 21, the battery units would have fused sprinkler heads for fire safety.
  - a. Where will the connection for the water supply be located?
  - b. Under what conditions might the sprinkler heads be activated, and how long would they continue to jettison water?
  - 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.
  - d. If the sprinkler heads will not be activated under any fire scenario, was this issue discussed with the Town Fire Marshall? If yes, on what date?
30. 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?
31. Referencing Petition p. 21, what BESF design features are included to prevent Thermal Runaway besides the notification system.
32. What is the typical duration of a battery fire before it self-extinguishes?
33. If one battery unit caught fire, can it easily spread to adjacent batteries? What mechanisms are in place to reduce the possibility of a fire from spreading to an adjacent battery unit?
34. What are the typical causes of a battery fire?
35. Referencing Petition pp. 20-21, 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?
36. Would runoff from fire suppression water applied directly to a battery fire be considered hazardous and require cleanup by a hazardous materials response contractor?
37. What type of fire suppression media can be applied to directly to a battery fire?
38. Referencing Petition Exhibit J pp. 16-17,
  - a. Would smoke from the fire be considered hazardous and require notification to state and local authorities?
  - 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?
  - c. If the Fire Marshal is the emergency decision authority, how and when would the Fire Marshal notify all property owners within 330 feet that evacuation or shelter in place orders may be imposed if there was an emergency at the BESF?
  - d. What type of emergency would require the evacuation of all persons 330 feet downwind of the BESF?

- e. To what distance from the BESF would evacuation take place in the event of a fire?
  - f. Provide an aerial image showing all properties within a radius of 75 feet and 330 feet from the proposed BESF.
  - g. Would the final Emergency Response Guide contain a map with addresses of all properties requiring evacuation and/or isolation for certain types of emergencies?
  - h. What methodology was used to determine the size of the evacuation and isolation zones?
39. Referencing Petition Exhibit J p. 18, the diagram shows response actions to protect the transformer from becoming involved in a fire. What materials/fluids within the transformer are combustible?
40. 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?
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.
42. Referencing Petition Exhibit J 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?
43. Referencing Petition Exhibit J p. 5, can the refrigerant storage container within the cooling units potentially explode in the event of a fire?
44. Referencing Petition Exhibit J p. 1, it states the Emergency Response Guide should be placed in the "FACP". Define FACP.
45. What are the industry Best Management Practices for Electric and Magnetic Fields at battery storage facilities?
46. Would the proposed facility have on-site night security and/or maintenance lighting? If yes, identify the type, location and potential visual impacts.
47. Is there a standard or recommended minimum distance of a BESF to a publicly accessible area?
48. Referencing Petition p. 14, 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? If there is a leak, what mitigation measures would be employed?
49. 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?
  - b. Was the modeling performed for the worst-case scenario with all equipment operating simultaneously, including, but not limited to, fans for the cooling/heating system? Explain.
  - c. Would rotating the BESF alignment from north-south to east-west reduce noise at the west and or/north property line?
  - d. Referencing Table 2, what are the distances of the BESF noise emitters to the model receiver points?
  - e. Why was PL-1 used as a model receiver point if the southeast corner of 17 Maple Road is closest to the BESF?

50. What material will the sound barrier be composed of? Submit a specification sheet for the sound barrier.
51. Can the portion of the sound barrier on the north side of the BESF be extend and additional 10-12 feet to account for noise from the northeastern battery unit?
52. Can a sound barrier also be installed on the south side of the BESF to reduce noise at the 30 Norwich Road property line? What would be the modeled noise level at this property line if a sound barrier was installed?

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

53. Referencing Petition p. 20, what is the status of the State Historic Preservation Office review of the Phase 1A cultural resources survey?
54. Referencing Petition Exhibit I, manholes that could be associated with underground storage tanks and pits are within the site development area. Has the site been investigated to determine if underground tanks, pits utilities and other structures are present? If yes, when was the investigation conducted and what were the findings?
55. Has a subsurface investigation been conducted to determine if soils within the construction area have been impacted by contaminants from previous use of the host parcel? If not, when would such a survey be conducted?
56. 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.

### **Facility Construction**

57. Referring to Petition Exhibit G – Geotechnical Report, p. 6 recommends a geotechnical engineer be on-site to observe excavation and site preparation. Does Qcells intend to retain a geotechnical engineer to oversee these activities?
58. Have drainage characteristics of the proposed site been evaluated to ensure water will not pool around the BESF? Where would stormwater be directed to?
59. Where will runoff from the equipment compound be directed? What feature would collect and divert water?
60. Submit a revised site plan that includes the site layout with site grading, sediment controls, sound barrier and proposed landscape plantings with installation detail.
61. Submit a side elevation drawing for the facility that shows required side slopes, retaining wall (if any), and BESF units and associated electrical components.

### **Facility Maintenance/Decommissioning**

62. Referencing Petition p. 5,
  - a. What is the anticipated life of a battery before replacement/replenishment is required?
  - b. What is anticipated annual degradation of battery storage capacity?
  - c. At what remaining battery capacity is replacement/replenishment recommended?
  - d. What is the estimated cost of replacement/replenishment?
63. At what time intervals would the transformers, inverters and switchgear need replacement?
64. At what intervals would vegetation management occur?
65. Referencing Petition p. 23, what minimum snow depth would require removal within the BESF compound? At what height could snow block the airflow to the chiller and/or electronic compartments?



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### REVISED SCHEDULE

**PETITION NO. 1623** – HQCA Energy Solutions, LLC 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 and associated equipment located at 40 Norwich Road, Waterford, Connecticut, and associated electrical interconnection.

Petition received	03/27/2024
Public Comment Period Deadline	04/26/2024
Council 60-day Action – Set Date for Decision to 09/23/2024	05/09/2024
Deadline for Action	05/26/2024
Council Interrogatories	
• Set-One Issued	06/05/2024
• Set-One Responses Due	06/26/2024
<b>Deadline for Decision</b>	<b>09/23/2024</b>