STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

November 16, 2016

Dawn Mahoney, Esq.
General Counsel
Doosan Fuel Cell America Inc.
195 Governor's Highway
South Windsor, CT 06074

RE: **PETITION NO. 1270** - Doosan Fuel Cell America, Inc. petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required to replace an existing customer-side 200-kilowatt fuel cell facility with a 460-kilowatt customer-side combined heat and power fuel cell facility to be located at the Fairfield Wastewater Treatment Facility, 183 Richard White Way, Fairfield, Connecticut.

Dear Attorney Mahoney:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than November 30, 2016. To help expedite the Council's review, please file individual responses as soon as they are available.

Please forward an original and 15 copies to this office, as well as send a copy via electronic mail. 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 is requesting that 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.

Yours very truly,

Melanie Bachman
Acting Executive Director

MB/MP

c: Council Members

Petition No. 1270
Doosan Fuel Cell America, Inc.
183 Richard White Way
Fairfield, CT
Interrogatories

1. Confirm that notice was provided via certified mail to recipients including the host property owner, abutters, and state and local officials. Provide certified mail receipts.

2. Why is the existing 200-kilowatt (kW) fuel cell proposed to be replaced, e.g. age, more electric power capacity, upgrade to more efficient model, etc.?

3. Would the proposed replacement fuel cell be considered an "upgrade?" If yes, explain why, e.g. because of the higher power output, higher efficiency, etc.

4. Is the existing fuel cell currently in use? Would it be removed prior to the replacement fuel cell installation so that the new fuel cell could be located in the same location?

5. Can the existing utility lines from the fuel cell to the building be reused? Or would any of the lines have to be replaced/upgraded? Identify such existing versus proposed utility lines on the site plan in response to question 9.

6. What is the age of the existing fuel cell, relative to its service life? What is the projected service life of the proposed replacement fuel cell?

7. What would Doosan Fuel Cell America, Inc. (Doosan) do with the existing fuel cell to be removed? For example, would it be refurbished at the factory for resale or recycled as (mostly) scrap metal? Is there significant monetary recovery for some/all of its contents?

8. Would the proposed replacement fuel cell be enclosed with a fence or would Doosan rely on the existing security fence for the subject property? Would bollards be used to protect the fuel cell facility from being accidentally struck by vehicles?

9. Provide a detailed site plan that includes but is not limited to location and dimensions of the replacement fuel cell, cooling module, concrete pads, fence design and bollards (if applicable), and utility connections.

10. Page two of the Petition states that the facility would be "...generating heat that will be used for space heating and cooling." Would the fuel cell's waste heat be used only to supplement the heating, or would it also be used for cooling, e.g. absorption cooling?

11. Is the project located outside of the 100-year and 500-year flood zones? If no, would the proposed replacement fuel cell and cooling module be elevated as a flood mitigation measure, e.g. one foot above the 100-year flood elevation? Provide a Federal Emergency Management Agency flood zone map.

12. What is the zoning designation of the subject property? What are the surrounding land uses for areas abutting the site?

13. Provide a decommission plan, including the fuel cell facility infrastructure removal plans and site restoration plans.

14. What is the distance and direction from the proposed fuel cell facility to the nearest wetland?

15. What is the distance and direction from the proposed fuel cell facility to the nearest residence?

16. Is the fuel cell facility located with an Aquifer Protection Area as designated by the Connecticut Department of Energy and Environmental Protection (DEEP)?

17. Is the fuel cell facility located within any environmentally sensitive areas such as DEEP Natural Diversity Database (NDDB) Area, flood zones, wetlands, Connecticut Critical Habitat Area, etc.?

18. How many trees six inches diameter or greater would be removed to construct the proposed fuel cell facility, if any?

19. Is the proposed site located within a Coastal Boundary per Connecticut General Statutes Section 22a-94? If yes, provide a map and indicate how the project would affect the Coastal Boundary.

20. Would the facility only consume water during the initial commissioning start-up or every time the unit cycles on? How much water is used for a start-up? Would the fuel cell run on mostly a 24/7 basis as a baseload facility and thus have infrequent start-ups?

21. Would the fuel cell facility provide backup power in the event of a power outage? If yes, would the fuel cell first shut down and then automatically "black start" to restore power, or would it continue running seamlessly despite the loss of grid power (i.e. provide uninterruptible power)? Please explain.

22. Would any surplus power be sold to the grid? What percentage of the building's energy usage would be provided by the proposed facility under normal conditions?

23. Please provide an Emergency Response Plan for the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

24. Please identify media to be used for pipe cleaning procedures at the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

25. Please submit a noise analysis report to demonstrate compliance with DEEP noise control standards.

26. In the Petition, Doosan predicts a noise level of not more than 62 dBA at 100+ feet away for the fuel cell. Is the cooling module included in this noise prediction? If no, please update this noise prediction accordingly in response to question 25.

27. Which National Fire Protection Association (NFPA) or other codes and standards apply to fuel cell construction, installation and/or modification?

28. Provide a table showing state criteria thresholds and projected emissions from the proposed facility for all greenhouse gasses listed in the Regulations of Connecticut State Agencies Section 22a-174-1(49) with and without the use of waste heat.

29. How would the amount of phosphoric acid in the proposed replacement fuel cell compare with that of the existing fuel cell?

30. Which emission rate in pounds of CO_2 per megawatt-hour (MWh) did Doosan use for the eGRID non-baseload generation for the ISO New England, Inc. electric system? Doosan estimates that annual carbon emissions would be reduced by about 260 metric tons per year. Is this only for displacement of non-baseload electric generation, or would the total carbon reduction be potentially higher if Doosan utilizes the waste heat and reduces the runtime of the building's existing heating system?

31. Natural gas has sulfur dioxide injected as an odorant. Is desulfurization required, e.g. to protect the fuel cell stack from sulfur? Explain. If yes, please submit a desulfurization plan narrative for the proposed fuel cell facility containing the following information:
    a) Chemical reaction overview concerning what substances are produced from the desulfurization process, as well as plans for their containment and transport;
    b) How much solid sulfur oxide would result from the desulfurization process, and methods and locations for containment, transport, and disposal;
    c) Whether any of these desulfurization substances are considered hazardous, and if so, plans for the containment, transport, and disposal of hazardous substances;
    d) Anticipated method of disposal for any other desulfurization substances; and
    e) Whether any gaseous substances resulting from desulfurization can be expected to vent from the fuel cells, as well as the applicable DEEP limits regarding discharge of these gasses.

32. If the project is approved by the Council, approximately when would construction commence and when would it be completed? What are the estimated work hours and days of the week, e.g. Monday through Friday 7:00 a.m. to 5:00 p.m.?