

BRUCE L. MCDERMOTT
203.772.7787 DIRECT TELEPHONE
860.240.5723 DIRECT FACSIMILE
BMCDERMOTT@MURTHALAW.COM



June 10, 2021

Melanie A. Bachman, Esq.
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. 1406A - Doosan Fuel Cell 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 grid-side 9.66-megawatt fuel cell facility and associated equipment to be located at 600 Iranistan Avenue, Bridgeport, Connecticut, and associated electrical interconnection to the United Illuminating Company's existing Congress Street Substation. NuPower Bridgeport FC, LLC Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b)

Dear Ms. Bachman:

NuPower Bridgeport FC, LLC's ("NuPower") hereby submits to the Connecticut Siting Council ("Council") its responses to Joseph Provey's interrogatories.

Given that the Council has waived all hard copy filing requirements as part of its response to the COVID-19 pandemic, by this letter, NuPower submits to the Council an electronic copy of this filing. A hard copy of this filing will be mailed to the Council. I certify that a copy hereof has been furnished on this date via electronic mail to all parties, intervenors and participants of record according to the Council's service list.

Should the Council have any questions regarding this filing, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Bruce L. McDermott".

Bruce L. McDermott

Enclosure

Murtha Cullina LLP
265 Church Street
New Haven, CT 06510
T 203.772.7700
F 203.772.7723

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Interrogatory JP-1

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-1: Is there an example of a similar fuel cell tower (20 or more modules) in the United States? How many fuel cell modules does it contain? Where is it located? Will it be near residences, cultural or recreational resources, railroads, or interstate highways? Please provide contact information for developer of said project and describe it in as much detail as possible, including renderings or photos if available?

A-1: There is no example of a similar fuel cell tower (20 or more modules) in the United States.

Interrogatory JP-2

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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- Q-2:** Does NuPower or Doosan have plans to build other facilities similar to the one proposed for 600 Iranistan Avenue in the United States? If a similar facility is planned, how many fuel cell modules will it contain? Where will it be located? Will it be near residences, cultural or recreational resources, railroads, or interstate highways? Please provide contact information with developer of said project and describe it in as much detail as possible, including renderings or photos if available.
- A- 2:** NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower.

Interrogatory JP-3

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q- 3: Were alternate sites considered for the fuel cell power plant? If so, where? Were they near residential areas? Why were these sites rejected? Please provide correspondence and notes of meetings with alternate lessors. When was the subject of leasing the proposed site first discussed with the lessor? Please provide a copy of correspondence and notes of meetings with lessor. Please produce a copy of the lease or option to lease agreement.

A-3: No alternate sites were considered. The subject property at 600 Iranistan is properly zoned and adequately sized for the proposed project.

Interrogatory JP-4

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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- Q-4:** Has the petitioner provided a detailed rendering of the proposed facility per the request from the CSC during previous rounds of interrogatories? If so, please provide a copy. If not, why not? Please note that we are looking for a *rendering* that shows what the facility will look like, including all associated, visible, equipment.
- A-4:** There have been no requests for detailed renderings in interrogatories in Petition 1406A. However, see Attachment A to Petition 1406A.

Interrogatory JP-5

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-5: Is it fair to say that the photos of the South Korean fuel cell facilities submitted by petitioner depict what the proposed fuel cell tower would look like? Given that the Korean facility does not use natural gas -- and the proposed facility will -- how does this difference affect the appearance of the fuel cell tower? Will it, for instance, require additional venting? Other equipment, such tanks or valves? De-sulfuring equipment? Have these items been incorporated in the rendering?

A-5: NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower. Further, NuPower objects to this interrogatory to the extent it contains factual statements.

Notwithstanding the forgoing objections, NuPower's response is the photos of the Korean fuel cell facilities were provided only for the purpose of giving the Siting Council members a sense of what a multi-level fuel cell project looks like.

No additional equipment is necessary for the use of natural gas fueled units.

Interrogatory JP-6

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-6: How many tons of CO₂ will the proposed plant emit per year? How many tons of methane will it emit? The petitioner claims that such emissions are “below levels that would render the Project a ‘major stationary source.’” Has the petitioner considered the cumulative effect of these and other emissions when added to those from the other nearby sources of greenhouse gases? If so, please share data, source, and projections.

A-6: See page 17 of Petition No. 1406A.

Interrogatory JP-7

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-7: Will the facility add other air pollutants, odors, or noise during regular maintenance? Will the presence of sulfur in the fuel cell process cause odors during operation or maintenance? Will the de-sulfuring of natural gas cause the release of odors?

A-7: No.

Interrogatory JP-8

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-8: How many tons of CO2 per MWh will the facility produce annually? How does this compare to the solar and wind projects currently being discussed for Connecticut? How does it compare with the newly constructed gas power plant, PSEG's Harbor Station No. 5? Please provide sources and documentation for your projections.

A-8: The fuel cell system will produce electricity and heat. When running at 100% utilization, 3,368 tons of CO2 per MW will be released annually for the electricity production portion only. In comparison, per the published New England region CO2 emissions in eGRID 2018 with transmission line losses of 4.88%, a fossil fuel power plant will release 4,157 tons of CO2 per MW annually. This results in fossil fuel power plant like Harbor Station releasing 789 tons more CO2 per MW annually than the apportioned electricity production from the fuel cell system.

The natural gas fuel source for the fuel cell is uninterrupted but the same is not true for solar and wind. The typical availability of a solar facility is 17% and the typical availability of wind is 25%. This means a fossil fuel power plant must operate 83% of the time to backfill the solar production gap and 75% of the time to replace the wind production gap. This results in the release of 3,450 tons of CO2 per MW annually or 82 tons more compared to the fuel cell system to cover the down-time associated with solar and the release of 3,118 tons of CO2 per MW annually or 250 tons less compared to the fuel cell system to cover the down-time associated with wind. Approximately 200 times more land is needed to replace the MW output of the proposed fuel cell system with solar or wind.

Interrogatory JP-9

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-9: The plant would be visible to many residences in the South End of Bridgeport because it is much taller than the railroad viaduct that separates it from the Division Street Historical District to the north and because of the clear line of sight under the I-95 overpass (see photos) from the south. It will also be prominent and visible to those who drive into the South End, towering over Iranistan Avenue. Aside from the meeting with Seaside Village, has the petitioner reached out to other nearby communities/residents, to discuss light and noise pollution, emissions, and loss of view/sunlight? If so, when and with whom did the petitioner have these discussions? Please provide dates and notes from the meetings.

A-9: NuPower objects to this interrogatory to the extent it contains factual statements.

Notwithstanding the forgoing objection, NuPower's response is the plant will not be prominent and visible to those who drive into the South End of Bridgeport (See Attachment JP-9-1 for a representation of the modelled views of the proposed Fuel Cell Support Structure from the southeast corner of Iranistan Avenue and South Avenue), and notice of the filing of Petition 1406A was provided to abutting property owners and no comments were received.

Additionally, throughout the process, NuPower has kept the City and state regulators apprised of the Project's progress and engaged in providing feedback on Project design and permitting. NuPower has been committed to soliciting input from officials from the City and from the general public in an effort to develop a Project that results in the most public benefit with the least impact. For example, since 2016 representatives of the Project have met with the Bridgeport South End Revitalization Zone and Bruce Nelson, the City's Building Official, Lynn Haig, the City's Director of Planning and Max Perez, the City's Director of Business Development. Additionally, a site tour was conducted for City Council members Denese Taylor-Moye and Jorge Cruz whose districts include the subject property.

Interrogatory JP-9

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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The City has indicated that the “plans for this project are consistent with the overall intent of Plan Bridgeport – Bridgeport’s Plan of Conservation and Development (“POCD”) and that the City finds the Project “is in the best interests of the City and will provide significant fiscal and conversation benefits.” Finally, the letter concludes that the City “supports Interrogatory JP-9 the Connecticut Siting Council approval of this Project”. Additionally, the Project has the support of the Bridgeport state legislative delegation and the Bridgeport Regional Business Council. See Petition 1406A, Attachment G.

In addition to the February 27, 2021 informational meeting NuPower and Doosan held for the Seaside Village Homeowners Association at NuPower's Cherry Street fuel cell project NuPower has responded to numerous questions concerning equipment safety, emissions, chemicals, EMF, and noise emissions from residents of Seaside Village. Those topics were also discussed at the February information meeting.



Red boxes represent the modeled views of the proposed Fuel Cell Support Structure from the Southeast corner of Iranistan Ave and South Ave.

Interrogatory JP-10

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-10: What are the funding sources for the fuel cell tower and thermal loop? What portion of the projected \$80 million fuel cell tower cost would UI ratepayers be expected to fund? Would the project reduce electricity costs in the South End of Bridgeport?

A-10: NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower.

Interrogatory JP-11

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-11: In previous rounds of interrogatories, it was found that thermal energy must be subject to firm customer commitments before the PURA could approve grants. Firm customer commitments would also help mitigate the risk of a UI ratepayer funded project. How has this requirement been resolved in the current petition?

A-11: NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower. Further, NuPower objects to this interrogatory to the extent it contains factual statements.

Interrogatory JP-12

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-12: Have any principals of NuPower or Doosan been investigated, admonished, sued or banned from equity roles in past Connecticut green energy projects because of a history of project failure? If so, when and where? Have any principals of NuPower or Doosan been involved in a failed renewable energy project that resulted in default on loans from the Renewable Energy Investment Fund? If so, what was the project and reason for failure? What was the amount of the loan?

A-12: NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower.

Interrogatory JP-13

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

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Q-13: What is the projected annual tax revenue to the city of Bridgeport How has this amount been determined? Was it negotiated with city officials? Upon what is the tax projection based? Will the taxes paid to Bridgeport depreciate during the 20-year life of the plant?

A-13: It is anticipated that the Project will generate \$250,000 in annual revenue to the City. This projection is based on the larger Bridgeport Fuel Cell Park which pays the City \$250,000 per year and while the NuPower project is smaller the same tax payment has been offered to the City by the project owners. It is anticipated that the payment will be fixed for 20 years.

Interrogatory JP-14

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-14: A net reduction in local green house gas emissions is predicated upon the construction of a thermal loop in Bridgeport. This was discussed in the first petition, 1406, but is barely mentioned in the revised petition. Why was it eliminated in 1406A? Have plans for the thermal loop been abandoned?

A-14: NuPower objects to this interrogatory to the extent it contains factual statements. Notwithstanding the forgoing objections, NuPower's response is plans for the thermal loop have not been abandoned. The Connecticut Siting Council does not have jurisdiction over thermal loops so that part of the Project was not included in Petition 1406A.

Interrogatory JP-15

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-15: If plans for the thermal loop are still active, when is construction planned to begin on the thermal loop? What other waste heat producers have signed on to contribute waste heat to the thermal loop? What buildings in the area have signed contracts for using the waste heat? What percent of waste heat generated by the proposed facility has been committed to confirmed customers? When the facility ceases operation in 20 years, how will customers heat and cool their operations? If via other waste heat providers, please name them. Please provide a copy of any relevant documents that confirm participation of the waste heat providers and waste heat users.

A-15: See response to CSC-5. The thermal loop is expected to be constructed, installed and operational concurrently with the fuel cell facility.

NuPower respectfully objects to the rest of this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower.

Interrogatory JP-16

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-16: Were city councilors, state representatives and senators, and/or developers given copies of a supporting letter, drafted by the city administration, and asked to sign it? If so, who drafted the letter, which officials, representatives, and developers signed it, and which ones declined to do so? Was it presented to city council members from the South End's 131st district? Did city council representatives from the South End's 131st district sign it? Did the South NRZ vote to support the plan and provide a letter of support? If so, when? Please provide said document

A-16: NuPower respectfully objects to this interrogatory because it seeks information that is not relevant and not likely to lead to the discovery of admissible evidence which will assist the Council's review of the project and the approval sought by NuPower.

Notwithstanding the foregoing objection, NuPower's response is NuPower has no knowledge of a "supporting letter, drafted by the city administration".

Support for the Project is discussed in response to JP-9 and Attachment G of Petition 1406A.

Interrogatory JP-17

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-17: Currently, Iranistan Avenue is the primary egress to a large number of South End residents. The entrance and exit for Windward Commons (a 500-plus-unit affordable housing development currently under construction), and Seaside Village both exit onto Iranistan Avenue. Seaside Park visitors and University of Bridgeport students and staff also exit via Iranistan Avenue. Has an evacuation route in case of a plant accident, fire or explosion been submitted to the City of Bridgeport? If so, when? Please provide a copy of the plan.

A-17: NuPower objects to this interrogatory to the extent it contains factual statements.

Notwithstanding the forgoing objection, NuPower's response is no evacuation plan has been developed.

Interrogatory JP-18

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-18: Resilient Bridgeport, a group whose mission is to mitigate flooding in Bridgeport, has singled out Iranistan Avenue and neighboring Park Avenue underpasses for being flood prone. It has proposed using sites, such as 600 Iranistan Avenue, to serve as catch basins for the regular flash floods and the larger flood events we experience in the South End. Has Resilient Bridgeport been apprised of the petitioner's plans for raising the elevation of the proposed site, precluding its use as a catch basin? If so, when, and what was its response.

A-18: NuPower objects to this interrogatory to the extent it contains factual statements.

Notwithstanding the forgoing objection, NuPower's response is Resilient Bridgeport has been apprised.

Interrogatory JP-19

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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- Q-19:** Are there expansion plans for the fuel cell facility, and if so where would additional fuel cells go? Do preliminary plans exist? Have they been discussed with any city officials? If so, please supply dates of meetings, meeting notes, and associated correspondence. Are there plans to eventually fuel the facility with hydrogen gas, should it become available? How would the hydrogen gas be delivered? What safety precautions would be required given the hazards associated with hydrogen gas?
- A-19:** There are no expansion plans. There are no plans to fuel the facility with hydrogen gas.

Interrogatory JP-20

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-20: Where does electricity generated by the fuel cell tower go? How does it benefit the South End, which already hosts several much larger power plants? Is it true that Connecticut currently produces more energy than it needs and that much of Connecticut's electricity production currently goes to other states? If so, why is a community, already overburdened with power plants, being asked to host yet another power-generating plant?

A-20: Reference page 10 of Petition No. 1406A.

NuPower's 10 MW fuel cell facility will be connected to the UI distribution system whereas the larger power facilities are connected to the New England ISO grid system using the high voltage transmission system. This configuration results in the fuel cell project being used to satisfy local Bridgeport power needs ahead of the other larger transmission voltage units.

Interrogatory JP-21

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-21: The bank of fans atop the fuel cell tower would be quite loud judging from our experience with the relatively small bank of fans at NuPower's Cherry Street Loft project. We were told they also require free airflow to cool effectively. What option does the petitioner have for sound mitigation for the proposed (and much larger) fan bank that will not impede cooling? Blankets would seem problematical because they would impede airflow. Can the petitioner provide an example of a similar fuel cell tower that employs the sound mitigation systems the petitioner has proposed? Do the South Korean facilities employ these sound-reduction designs? If so, are decibel readings available for said facilities? Please provide any noise data available from Doosan-supplied projects in South Korea. If these facilities do not use sound mitigation, why not?

A-21: NuPower objects to this interrogatory to the extent it contains factual statements and on relevancy grounds.

Notwithstanding the forgoing objection, NuPower's response is sound mitigation is discussed in Petition No. 1406A.

Interrogatory JP-22

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-22: If, once built, the fuel cell tower exceeds sound limits, and if further sound mitigation efforts fail, will the plant be decommissioned because it is not in compliance with city ordinances? Who would pay for removing the tower? Will the petitioner commit to removing the structure in the event of noise non-compliance?

A-22: Sound from the project will be further mitigated if there is an exceedance following construction.

Interrogatory JP-23

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-23: Fans and fan noise will be at about the same elevation and within a mere 12 feet of car traffic on I-95. Will it startle and distract drivers as they drive by? Has this issue been discussed with the DOT? If so, when and with whom? Please supply any relevant meeting notes and correspondence.

A-23: There is no basis upon which to suggest the fans and fan noise will startle or distract a driver.

Interrogatory JP-24

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-24: Will the electric cables go underground or overhead to the substation? If overhead, has there been an assessment of electromagnetic radiation (EMR)? Does the petitioner have an estimate of the increase in mG readings from current readings? If so, when and with whom did the petitioner work to estimate readings?

A-24: Please see page 10 of the Petition. The EMR increases will be negligible. The site is surrounded by 115kv transmission lines and directly adjacent to existing high voltage railroad lines.

Interrogatory JP-25

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-25: Assuming no thermal loop, how much water would the facility discharge annually and where would it go? If to the city's antiquated combined storm and sewer system (a constant source of back ups in Seaside Village and elsewhere in the South End). Has the petitioner met with the WPCA to ensure that the plant does not further exacerbate the problem? If so, when and with whom?

A-25: NuPower objects to this interrogatory to the extent it contains factual statement.

Notwithstanding the forgoing objection, NuPower's response is please see page 18 of Petition 1406A. See *a/so*, CSC's December 18, 2020 letter regarding Petition No. 1406 ("The fuel cell facility would comply with all applicable DEEP water quality standards as no water would be consumed or discharged once the facility is operational.")

Interrogatory JP-26

NuPower Bridgeport FC, LLC

Witness: Daniel Donovan

Petition No. 1406A

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Q-26: The South End of Bridgeport is, unfortunately, plagued with illegal dumping, litter, trash, and graffiti. Local companies and residents have teamed up to try to control the problem. A fenced in area, such as the one proposed, would make clean up efforts difficult. What plan does the petitioner have for keeping the facility from becoming blighted by trash and graffiti? How regularly will NuPower/Doosan maintenance crews clean out the fenced in facility and remove graffiti?

A-26: NuPower objects to this interrogatory to the extent it contains factual statements.

Notwithstanding the forgoing objection, NuPower's response is the facility will utilize a decorative anti-climb steel fence and gates. The entire area will be under 24 hour video surveillance, will be physically inspected daily and will be alarmed with police call out. The area within the gates will be maintained clean of trash and litter as necessary.