

May 27, 2021

From Joe Provey

To Melanie Bachman, Walter Bonola, Dan Donovan, Bruce McDermott, CT Siting Council

Dear All,

Here is our answer to interrogatory number 4, including our specific concerns about Petition 1406A.

4. What are the specific concerns of the SVHA regarding the proposed Project? Were these concerns discussed with the SVHA at the February 27, 2021 information meeting with the Petitioner? Did the Petitioner attempt to resolve these concerns?

Yes, our concerns were expressed at the February 27, 2021 meeting with the Petitioner but were not resolved. Our concerns about the project extend to early February when we first learned of it. While we were aware of the on and off again status of the thermal loop project for several years, we were unaware of the proposed siting for the fuel cell tower until February of this year.

Our specific concerns are detailed here and in the attached file (Interrogatory 4 Reasons we oppose).

Reasons We Oppose Fuel-Cell Tower at 600 Iranistan

Many South End residents in Bridgeport are dismayed by the fuel cell tower proposal by Doosan and Nupower to the CT Siting Council, no. 1406A. I represent, per a vote of its board, Seaside Village, Inc. Seaside Village is a model co-operative housing corporation of more than 500 residents located approximately 500 feet from the proposed power plant. As a former board member of Bridgeport's South End NRZ and community organizer, I also represent a larger constituency ... many of whom have signed our petitions.

We feel that siting a multi-fuel cell tower at 600 Iranistan Avenue would damage our community in five areas: cultural resources, health and safety of residents, the environment, and the local economy.

1. Impact on Cultural Resources

In its petition, Nupower/Doosan claim no impact on cultural resources. This conveniently ignores the facts. The proposed site is at one of two primary gateways to Seaside Park, a 375-acre, 2.5 mile long stretch of beach, recreational areas, ball fields, an amphitheater, fishing pier, boat launch, historic monuments, and picnic areas. Designed by Frederick Law Olmstead in the 1860's, it is on the National Historic Register and remains Bridgeport's primary outdoor recreation area. [https://en.wikipedia.org/wiki/Seaside_Park_\(Connecticut\)](https://en.wikipedia.org/wiki/Seaside_Park_(Connecticut)). We believe the park will become a less attractive place to visit if hemmed in by another power plant. There has already been serious encroachment with a new gas power plant at its eastern end and a trash-burning power plant, and concrete and asphalt plants at its western end.

The 600 Iranistan site is also one of two primary gateways to Bridgeport University, a financially troubled university that will hopefully be transformed thanks to its recent take-over by Goodwin University. In 2018 UB served over 5000 students. It also has served the community as a venue for concerts, lectures, art exhibitions, and sporting events. To place a power plant on the doorstep of this institution, will further harm its chances for a successful future.

The proposed site is at the gateway to Seaside Village, co-operative housing built in 1918 and on the historic register. Described as an architectural gem and studied by architectural schools, including Yale University, Seaside Village offers a model for what housing developments should look like. It's 257 units house over 500 residents of all income levels, ages and ethnicities. https://en.wikipedia.org/wiki/Seaside_Village_Historic_District The attached PDF is a history of the Village written as part of our 100-year anniversary in 2018. (See Seaside Village History.)

Building another power plant, especially of this scale, is not in keeping with small town houses in Seaside Village and the cottages of the South End. Although referred to as a 3.5 story structure, that's misleading. At a height that exceeds 70 feet, it is equivalent to a 6 or 7-story residential building ... of which there are none in our community.

There are several other parks and schools within close proximity of the proposed site, including Wentfield Park at 111 Norman Street (one block away), Roosevelt Elementary at 680 Park Ave. (one block away), and the Bridgeport Military Academy at 160 Iranistan Avenue,

There are numerous possible sites for fuel cells, less prominent to residents and visitors, not near parks or schools that would be suitable for a fuel cell installation. Although we are not advocating for the fuel cell tower to be built anywhere in Bridgeport, the proposed 600 Iranistan site is the worst of all options. Connecticut's Environmental Protection Act states that any development, such as the one proposed by petition 1406A, cannot adversely affect cultural (including historic) resources.

Seaside Village and surrounding communities, believe the installation of a large fuel cell tower will undermine its historic and cultural value, and affect the health and wellbeing of its residents.

2. Health of Nearby Residents

The multi-fuel cell tower would use large quantities of natural gas to produce the requisite hydrogen it needs for operation. Doing so produces greenhouse gas (GCG) emissions like any other fossil-fueled power plant. Doosan says in its petition that "when the hydrogen economy arrives," the Iranistan Ave. installation could switch to hydrogen gas ... which of course would raise new concerns. More benign ways to produce electricity are on the way, including battery storage coupled with truly renewable energy sources, such as wind and solar power.

Doosan/Nupower's original argument was that its plant would be part of a thermal loop. By using its waste heat to heat local buildings, less gas and oil would be burned locally and, theoretically, there would be a net reduction in local greenhouse gas emissions. This is a dubious argument given that the thermal loop is far from breaking ground. In fact, the revised petition 1406A barely mentions the thermal loop. Without the thermal loop, the fuel cell tower simply becomes yet another gas-fueled contributor of CO2 and other emissions in our district.

We argue that until the thermal loop moves forward, there is no offset and no benefit to the community. Furthermore, we feel the thermal loop was never a viable idea, has few commitments to it, and is very ambitious for a city that cannot even get its sewer system in order. Thermal loops have been successfully used in several European countries but only because of policies that mandate their use with all new construction and that ban fossil-fueled boilers. <https://cbey.yale.edu/our-stories/renewable-thermal-heating-lessons-from-scandinavia>

The petitioner also argues that statewide, the fuel cell tower would displace the need to produce electricity with less efficient plants. This may be true, but not to a great extent. The Department of Energy states that this type of fuel cell is only marginally more efficient than conventional gas plants. Phosphoric acid fuel cells ... "PAFCs are more than 85% efficient when used for the co-generation of electricity and heat but they are less efficient at generating electricity alone (37%–42%). PAFC efficiency is only slightly more than that of combustion-based power plants, which typically operate at around 33% efficiency." Newer plants, such as the combined-cycle plant, Harbor Station no. 5 recently built in Bridgeport, recover their own heat to power its turbines and are significantly *more efficient* than the proposed fuel cell tower if waste heat is not used. According to Ipieca, such plants are 50 to 60 percent efficient. <https://www.ipieca.org/resources/energy-efficiency-solutions/power-and-heat-generation/combined-cycle-gas-turbines/>

The CO₂ greenhouse gas emissions from the proposed plant would equal about one million tons during the 20-year life of the facility, or about 45,000 tons per year. The plant will also emit a significant amounts of methane CH₄ (10.5 ton/yr.) and nitrous oxide N₂O (.21 ton/yr) as well as Sulfur Hexafluoride SF₆, Hydrofluorocarbon HFC (very detrimental greenhouse gases), and perfluorinated compound PFC, classified as a “persistent organic pollutant,” recently found in mothers’ milk.

In addition to emitting greenhouse gases, which of course add to global warming, these gases are primary contributors to the formation of ground-level ozone. Unlike the protective atmospheric ozone layer, ground-level ozone can harm lung function and irritate the respiratory system (see American Geophysical Union. "Carbon Dioxide Tied to Air Pollution Mortality. Science Daily, 4 March 2008). You can Bridgeport’s smog when driving south on route 8, beginning in Shelton.

According to the EPA’s CBSA Factbook 2019, the greater Bridgeport region has the highest ground-level ozone average east of the Mississippi River (.084 ppm), well above the maximum acceptable level (0.07 ppm). Some of this is due to ozone blowing in from elsewhere, but much of it is due to the proliferation of power plants and other sources in our area. Bridgeport’s South and West End already host two gas-fired power plants, a former coal plant that is just being decommissioned, a trash to energy plant, and several smaller scale, gas-fueled fuel cells. Additional emissions are released by I-95 traffic, nearby concrete and asphalt plants, and associated heavy diesel traffic on our streets.

It is not surprising that the South End of Bridgeport, and Bridgeport in general, see high rates of asthma and allergies in its children – three times as much as its more affluent power-plant free neighbors. (<https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/hems/asthma/pdf/Fullreportwithcoverpdf.pdf>, <https://www.aafa.org/asthma-capitals-top-100-cities-ranking/>)

Increasing emissions in this already distressed neighborhood will worsen the situation. A growing body of environmental justice literature examines how unequal exposures to environmental pollutants and social determinants manifest as health disparities (Brulle & Pellow, 2006; Downey, Dubois, Hawkins, & Walker, 2008).

3. Safety

In its petition, Doosan touts its safety record and built-in safety overrides. These are largely untested due to the novelty of proposed ganged-fuel cell installation. (The developers must point to South Korea for projects similar to this one, but even those differ from what is proposed here given that they don’t use natural gas.) Doosan’s primary defense against disaster includes automatic shut-off valves and tanks of nitrogen gas that would theoretically deploy in the event of a fire. Unfortunately, valves are notoriously subject to failure.

Further, on-site equipment is subject to theft, vandalism, and weather events such as lightning and tornadoes. We feel the risk is too great for so unnecessary a project with so little benefit to the host community. There is very little security offered by the proposed fencing, video monitoring, and street side nature of the project. In addition, the proposed site has a minimal setback (12 feet) from a 60-ft. tall raised portion of a major interstate. It is also very close to several on-off ramps, high-voltage electrical cables, and a major rail line that serves both Metro North and Amtrak. We believe that an accident, vandalism-generated damage, or cyberattack (not farfetched given the recent Colonial gas pipeline headlines) would have catastrophic repercussions for not only Bridgeport, but for transportation throughout the Northeast corridor.

The bottom line is this installation would be the first of its kind in the United States, untried and untested, and situated adjacent to critical transportation infrastructure. Such a siting, we feel, would be reckless.

4. Environmental Harm

Putting a power plant in the middle of a residential area (less than 100 feet from homes to north; about 220 feet from the south) will have negative effects on area residents beyond health and safety. No matter how it’s presented, the structure represents a monstrous eyesore that will make noise, and emit light and emit various greenhouse gases. For a visual check of what the facility would look like to the thousands who pass the site every day, see the petitioner’s supplied photos of fuel cell towers in South Korea. Then note that these towers were not installed near residential areas or next to critical transportation infrastructure.

Doosan/Nupower claim the new plant will be compliant with current noise regulations – but if it's not, sound dampening will be added in the form of blankets once the plant has been built. Sound, however, is very difficult to control via absorptive panels alone. Carefully sealing off the source of noise is required. That would be difficult or impossible. The loud cooling fans must, of course, be left open and exposed. So, what if the noise abatement plan doesn't work? Has it been tried on this scale next to residential areas? The argument that the site is already subject to noise from traffic is not a good one. Highway and rail traffic noise is intermittent, with lengthy quiet periods. The fuel cells will make noise all the time. It is also important to consider that the primary noise source (cooling fans) will be within a car's length or two from the I-95 traffic. Passing drivers will likely be startled by the sudden noise.

Our worries about impact on our environment include issues more subtle than noise as well. For example, given that CO₂ is heavier than air, higher concentrations can be expected in the South End under certain conditions. At higher ground-level concentrations, it is known to stimulate growth of vegetation as well as mold. It also stresses our native trees, which are our first line of defense with both CO₂ absorption and high ground water. Anything we put in the air eventually comes down, says Kristina Wagstrom, Assistant professor of chemical and biomolecular engineering at University of Connecticut.

<https://today.uconn.edu/2019/01/changing-air-quality-land-steady-habits/>

CO₂ emissions from yet another fossil fuel powered plant, will further stress our local urban landscape, including our trees and gardens. Seaside Village maintains several hundred trees on its property, in addition to large community vegetable and butterfly gardens. Improved landscaping efforts are also being made in Seaside Park, nearby Went Park and throughout the Windward Commons development. For more on air pollution, including CO₂, see <https://extension.tennessee.edu/publications/Documents/SP657.pdf>

Of further concern, is water runoff. The South End is just a few feet above high tide and floods frequently. We have been participating with Resilient Bridgeport to find ways to mitigate flooding. The nearby Windward housing development has promised a large catch basin and pump to keep water runoff from the Village. We had hoped that this proposed site would eventually host a catch basin as well.

5. Adverse Economic Impact

The South End of Bridgeport, especially the area west of Park Ave., is virtually devoid of shops and eateries. We have a liquor store, a gas station and a deli, all of which have seen better days. With the advent of the Windward housing development, it is hoped this will change. Placing a power plant at the gateway to this area is likely to have a discouraging effect on any further food store or restaurant openings in the area.

Homeownership will also become less attractive. Who would want their kids to walk past 21 buzzing fuel cells on their way to school every day? (Note that the Korean fuel cell towers, referenced by Doosan in its petition, were installed at an industrial complex, not adjacent to pedestrian and cycling routes.)

Decommissioning of this plant, in 20 years, calls for removal of spent modules and associated equipment, but not of the footings or steel structure itself. So we have concerns that in twenty years, the property becomes just another example of blight. In the past, parcels such as the proposed site have been earmarked by Resilient Bridgeport for permeable open space and catch basins that could be used to mitigate the South End's periodic flooding problems.

<https://resilientbridgeport.com/bridgeport/>