

National Grid: Backup needed to keep up with summer demand

Energy: New 12 MW generator almost double

Energy: Town supports expansion

By Joshua Balling

jballing@inkym.com If one of the two undersea cables that supplies power to the island were to fail at the height of the summer, there probably wouldn't be enough backup electricity available to keep all the lights on, National Grid officials said this week.

That's why the public utility is looking to increase its emergency production capability on the island by replacing a pair of aging generators off Bunker Road with a more efficient and environmentally-friendly system nearly twice the size.

"In the winter, with a much smaller island population, if one of the cables goes out, it's not an issue," National Grid project manager Timothy Smith told the Planning Board Monday night.

"In the summer, the increase in population brings with it an increase in energy usage. If one of the cables goes out, we're in trouble. We need a backup solution. The other issue is, what if the power on the mainland goes down? At least you'll have a working generator."

National Grid cleared the first hurdle in its move to upgrade the Bunker Road facility Monday, when the Planning Board amended its ENERGY, PAGE [4A](#)

National Grid: Backup needed to keep up with summer demand

Energy: New 12 MW generator almost double

Energy: Town supports expansion

(Continued from page 1A)

major commercial development special permit to allow for the replacement system, subject to a sign-off by its consulting engineer.

The proposal still needs a number of other state and federal permits and Historic District Commission approval before it can move forward.

National Grid hopes to break ground by September, with construction completed in time to have the back-up generator online by April 2018.

"Hopefully, we'll never have to use it, but the current (seven-megawatt) generator is going to be inadequate given future demand. In addition to needing more energy, these generators are corroding. Our engineers say the structural integrity is an issue. We need to replace them," Smith said.

As proposed, the new facility will include a diesel-powered 12-megawatt combustion-turbine generator in place of two 3.5-megawatt generators, a 50-foot chimney to replace the current 40-foot stack, and a 30,000-gallon fuel tank. Eventually, National Grid would like to connect the generator to the bulk-fuel tank farm planned for Harbor Fuel property 300 feet away.

The facility is designed to meet federal and state noise, safety and environmental standards, and the Federal Aviation Administration has indicated that the 10-foot increase in height of the proposed chimney is not likely to cause aviation concerns, officials said.

A second phase of construction calls for the installation of six more megawatts of battery storage, but the system has not yet been designed and is not part of National Grid's current request.

Officials did not provide a cost estimate for the project.

The power provider's back- ENERGY, PAGE 5A

National Grid: Backup needed to keep up with summer demand

Energy: New 12 MW generator almost double

Energy: Town supports expansion

(Continued from page 4A)

-up generation quandary is a pressing example of the larger power dilemma currently facing the island.

During the majority of the year, the two undersea cables – capable of providing 36 and 38 megawatts of electricity, respectively – are more than adequate to supply Nantucket's average needs, about 15-20 megawatts of power.

But demand spikes in the summer, when the population can more than double in July and August, particularly between 5-9 p.m., when residents and vacationers return home from work or the beach and turn on their air-conditioners.

Peak demand spiked last August at 47 megawatts, and Nantucket's overall electricity usage – thanks in part to increased development and a rising year-round population – is currently growing at five times the state average, National Grid officials said.

As a result, the power provider sees a need for the installation of a third cable from the mainland within the next 20 years, at a potential cost of \$75 million to \$100 million. Nantucket ratepayers are still on the hook for the two existing cables through 2026.

In an attempt to delay – or in a best-case scenario eliminate – the need for a third cable, National Grid is promoting a number of initiatives, including increased conservation efforts and the exploration of on-island alternative- energy generation.

The replacement generator is needed regardless of the need for a third cable, National Grid attorney Christopher Novak said.

“The cable and the generator serve somewhat different purposes. The generator is to provide back-up. The need for a third cable is something in the future, depending on load growth that might not even happen, that could be alleviated with solar or other conservation efforts. The need for the generator is now,” he said.

Lauren Sinatra, the town's energy coordinator, spoke in favor of the project Monday.

“It will strengthen reliability and resiliency, and the undersea cables, the two that we have, our ratepayers, about 2,000 of them, are paying for those. It's my understanding this is considered a transmission project, which would be paid for by ratepayers across the state.”

According to the lengthy National Grid filing with the Planning Board, a recent analysis of the existing generators on the Bunker Road site revealed them to be “in a significant state of decay, and eventual failure is inevitable in their current state. The assessment recommended that a strategy be put in place to address the degrading systems of the turbine generators through refurbishment or replacement . . . National Grid has also identified a need for increased contingency capacity beyond the seven megawatts of existing on-island generation.”

In the event one of the cables fails, the generator would be brought online between 11 a.m. and 11 p.m. to accommodate peak demand. It would likely be in operation for three to four days, or 36 to 48 hours, using an estimated 28,800 to 38,400 gallons of fuel. Refueling would be required by the 36th hour.

Even if the existing generators don’t fail, should one of the cables go down during peak demand, ensuring full power to the island would require at least five “roll-on” generators from the mainland to supplement the current back-up power, the analysis concluded.

By 2027, the need could rise to 12 portable generators, including six at National Grid’s waterfront Candle Street substation downtown.

“The mobilization of roll-on generation presents logistical and operational challenges, and the staging of generation at Candle Street presents potential community concerns given the substation’s central location,” the filing reads.

The National Grid application boiled down to “a matter of upgrading what’s already there,” Planning & Land Use Services director Andrew Vorce said.

“There’s already a major commercial development there. It’s an industrial use in an industrial zone. It’s modernizing and enlarging the equipment to recognize our growth. It’s not a sensitive site. It’s in an area where those uses are supposed to be,” he said.

“They actually had an approval that was never acted upon to do a fuel farm of their own there. It just never moved forward.”