

NAUSHON ISLAND OVERVIEW

When you live, vacation or conduct business on an island that is completely reliant on 2 diesel generators that run 24/7 you quickly become familiar with the drawbacks. Residents of Naushon Island (off the southern coast of Cape Cod) were feeling the impacts of expensive fuel prices, failing generators, fuel transportation issues, and dirty energy which added up to an unsustainable model that clashed with the pristine surroundings of their beautiful beach community.

As a result NRI was approached ... our team then developed a well rounded microgrid consisting of 30 independent solar arrays, back-up generators, and battery energy storage in an environmentally controlled shelter to delivered cost-savings, energy independence, and reliability to the residents of Naushon Island. Other features of NRI's solution include multiple layers of protection (no system shutdown should a component need maintenance and/or replacement,) direct integration into the island's existing power grid, and a 4,800 Amp-hour, industrial battery system. The battery holds excess solar power for when energy is needed while our system controller monitors all system functions/equipment such as the generators, batteries, fuel tank, environmental, system faults and alarms. Paired SCADA also allows for insight into microgrid operation.

BENEFITS

RELIABLE GENERATION AND STORAGE

PV, generators + energy storage provide a highly reliable and flexible system

FUEL SAVINGS

Hybrid architecture minimizes solar array size and fuel consumption with a 70% + reduction in generator runtime

SHORT ROI

10 year return on investment

INTELLIGENT ENERGY MANAGEMENT

NRI's customized energy storage software monitors, alerts and adjusts the Naushon system for optimum performance



NORTHERN RELIABILITY AND THE MICROGRID STORY

Microgrids deliver energy security and independence via the combination of local power generation produced by renewable energy sources, energy storage and the ability to connect, disconnect and/or be completely independent of the grid. NRI Microgrids can also offer a complete or partial decrease in fossil fuel consumption while adding a level of intelligent energy management via North-View, our control and monitoring software. Our proven and lauded expertise in designing efficient power systems operating all over the world such as Antarctica and Asia make us a trusted partner in the emerging microgrid dialogue taking place today. Whether you refer to microgrids as virtual power plants, minigrids, smart grids, or distributed generation, Northern Reliability will deliver the same outstanding value and reliability for your solution no matter the size, type and location of your project.



SYSTEM CONFIGURATION

126.9kW of photovoltaic power divided into 30 independent and redundant solar arrays

Two 55kW generators with 12 independent and redundant 4.4kW rectifiers for back up battery charging

4,800 Ahr, dual redundant string, AGM VRLA battery system with ground fault protection

60kW, three phase inverter with 63 independent and redundant 1kW modules configured as N+1

Battery, shelter, heating, ventilation and air conditioning (HVAC) system with re-detection

Custom programmable logic control (PLC) system

Custom SCADA system