Ocracoke Island Microgrid

Heidi Jernigan Smith
Manager of Marketing & Corporate Communications
Southernmost point in PJM
Ocracoke Island Microgrid Project

Major Components of Generation and Transmission

- Submarine cable (25kV)
- Temporary Recloser (25kV)
- Ocracoke Village Load (12 kV)
- Ocracoke Generator Breakers
- Island Transmission (25kV)
- Ocracoke Generator and Microgrid
- 25kV/12kV
- 34.5kV/25kV
- 34.5kV from Buxton to Hatteras Village
Bridge woes: 1990 barge accident
On July 27, bridge construction crews accidentally damaged transmission cables serving Hatteras and Ocracoke islands. Cape Hatteras Electric Cooperative is restoring transmission service with new overhead lines.
Erosion
# Ocracoke Island Microgrid Facility

## Components:

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Generator</td>
<td>3 MW</td>
</tr>
<tr>
<td>Tesla Power Pack</td>
<td>500 kW, 1 MWh</td>
</tr>
<tr>
<td>Roof Top Solar</td>
<td>15 kW</td>
</tr>
</tbody>
</table>

---

*Image labels: Tesla Batteries*
NCEMC System Microgrid

Carina

Ecobee

Member-Consumers

Ocracoke Island

Microgrid Controller

Operation Center

NCEMC

- 3 MW Diesel Generator
- 500 kW / 1 MWh Tesla Battery Storage
- 15 kW Rooftop Solar

200+ Thermostats
50 Water Heater Controls

Member-Consumers