

Block Island Wind Farm and Transmission Line Project

Block Island, Rhode Island



Black & Veatch provided engineering design and conceptual exploration services for the Block Island Transmission System and Block Island Wind Farm Project. The projects included a new 35 kV armored submarine power cable, approximately 22 miles, to serve as the electrical

connection between five wind turbines off the coast of Block Island and the mainland Rhode Island.

Black & Veatch Role on Project

Black & Veatch services were phased as follows:

- Phase 1: Engineering exploration that consists of the evaluation of the conceptual HDD designs and geotechnical information, and development of a new geotechnical exploration program.
- Phase 2: Detailed HDD and cofferdam designs.
- Phase 3: Construction support during the installation of the HDDs and cofferdams.
- Phase 4: As-built drawing package for closeout purposes.

Challenges

There are many challenges associated with the project such as small workspace areas, poor weather conditions, high compressive strength rock (25,000 psi), environmental constraints, land to below water HDD, and large cofferdams.

Technical Details

This submarine cable installation project consisted of three horizontal directional drills and three temporary cofferdams. One drill from the mainland Rhode Island routing underneath the Scarborough Beach via a 24-inch diameter bore hole through 25,000 pounds per square inch (psi) rock approximately 2,250 feet in length and two drills on Crescent Beach in Block Island approximately 250 feet in length in loose sand underneath protected sand dunes. Each of these HDDs exited into cofferdams and the product pipes were pulled through successfully.

Black & Veatch Role

- Engineering

Technology

Overhead Transmission
Underground
Transmission

Project Elements

- Overhead Transmission
- Underground Transmission

Location

Block Island, Rhode
Island, USA

Black & Veatch Contact

Bill Bernoe,
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