

Block Island Transmission Cables
Northeast United States
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Prepared for:
Northeast Region Ocean Council (NROC)

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1. INTRODUCTION

This dataset represents the location of the submarine cables for the Block Island Wind Farm (BIWF) and Block Island Transmission System (BITS). The BIWF will be a 30-megawatt offshore wind farm consisting of 5, 6-MW wind turbine generators (WTGs) located approximately three miles southeast of Block Island, an Inter Array submarine cable interconnecting the WTGs, and an Export cable connecting the northernmost WTG with Block Island. The BITS will be a submarine cable that connects Block Island with the Rhode Island mainland and which will deliver power to and from the mainland. This dataset represents an update to the proposed cable locations and includes the Inter Array, Export, and Transmission System cables. In 2013, the developer Deepwater Wind received approval for the transmission line to make landfall at Scarborough Beach and plans to begin construction of the transmission line as early as 2014.

This product was created from two GIS datasets, one which contained the proposed cable locations and one which contained an update for the approved final location. The proposed dataset contained two alternate routes from Block Island to the mainland as well as the Export and Inter Array cable lines from Block Island to the wind farm. The finalized cable dataset contained only the updated transmission line from Block Island to the mainland. These two datasets were combined to create a single product.

2. PURPOSE

To support coastal and ocean planning.

3. SOURCES AND AUTHORITIES

- BIWF_TransmissionSystem (Tetra Tech)
- BlockIslandProposedTransmissionCables (Tetra Tech)
- Deepwater Wind LLC
- <http://dwwind.com/block-island-transmission-system>
- <http://dwwind.com/docs/Environmental%20Report%20Exec%20Summary.pdf>

4. DATABASE DESIGN AND CONTENT

Native storage format: ArcGIS File Geodatabase – simple feature class

Feature Types:

Submarine cable lines

Data Dictionary:

Line	Name	Definition	Type	Size
1	OBJECTID	Uniquely identifies a feature	OBJECTID	*
2	Shape	Geometric representation of the feature	geometry	*
3	name	System name	text	50
4	cableType	Type of cable in transmission system	text	25
5	connection	Details of each cable's connection locations	text	50
6	length	Length in feet	double	*
7	Shape_Length	Length in native units	double	*

Feature Class Name: Block Island Transmission Cables

Total Number of Unique Features: 3

Dataset Status: Complete

5. SPATIAL REPRESENTATION

Geometry Type: vector polyline

Reference System: GCS North American 1983

Horizontal Datum: North American Datum 1983

Ellipsoid: Geodetic Reference System 1980

XY Resolution: XY Scale is 1000000000.0000001

Tolerance: 0.0000000089831528411952117

Geographic extent: - 71.567084 To - 71.413028, 41.106390 To 41.392121

ISO 19115 Topic Category: environment, oceans, structure, utilitiesCommunication

Place Names:

Block Island, Block Island Sound, Rhode Island

Recommended Cartographic Properties:

(Using ArcGIS ArcMap nomenclature)

Simple Line Symbol: color: 213-100-66, color mode: HSV, width: 2.0

Scale range for optimal visualization: 200,000 to 100,000

6. DATA PROCESSING

Processing environment: ArcGIS 10.1 SP1, Windows 7 Professional, Intel Core i5 CPU

	Process Steps Description
1	Examined discrepancies between proposed and finalized Block Island transmission cable datasets
2	PROJECTED dataset for proposed cables into NAD 1983 Rhode Island State Plane FIPS 3800 (US Feet)
3	Snapped southern end of BIWF_TransmissionSystem feature to the Block Island mainland in an Edit session using projected proposed dataset as a guide. Integrated the Export and Inter Array features.
4	DELETED unnecessary fields. ADDED and populated new fields to include descriptive information
4	PROJECTED dataset from NAD 1983 Rhode Island State Plane FIPS 3800 (US Feet) to GCS NAD 1983
5	Renamed dataset to BlockIslandTransmissionCables

7. QUALITY PROCESS

Attribute Accuracy: Descriptive attributes are based on public information available from Deepwater Wind and other sources.

Logical Consistency: Line features are topologically consistent.

Completeness: This product is complete based upon information from the developer team.

Positional Accuracy: The position of each cable is based upon data from the developer team. During the comparison process between proposed and finalized cable locations, an offset was detected in the transmission line from Block Island to the mainland. This was in part due to the two alternative cable paths represented in the proposed dataset, neither of which aligned

perfectly with the final cable; however the maximum distance between the final cable and any one of the proposed cables was less than one thousandth of a foot. The exception to this occurred as the cable neared Block Island, where the finalized cable end point strayed slightly north of the proposed cable as it neared Block Island. The final cable did not come into contact with Block Island, nor did it include the export or inter array cables. Therefore the line vertex for the final dataset was snapped to the end of the proposed cable line and the export and inter array cables were added.

Timeliness: This dataset is up to date as of June 2014.

Use restrictions: NOT FOR NAVIGATION.

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