Virginia Offshore Wind Technology Advancement Project (VOWTAP)

BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM)

NEPA Scoping Meeting
Virginia Beach, Virginia
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BOEM Office of Renewable Energy Programs

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Overview

- BACKGROUND
- PROJECT
- NEXT STEPS

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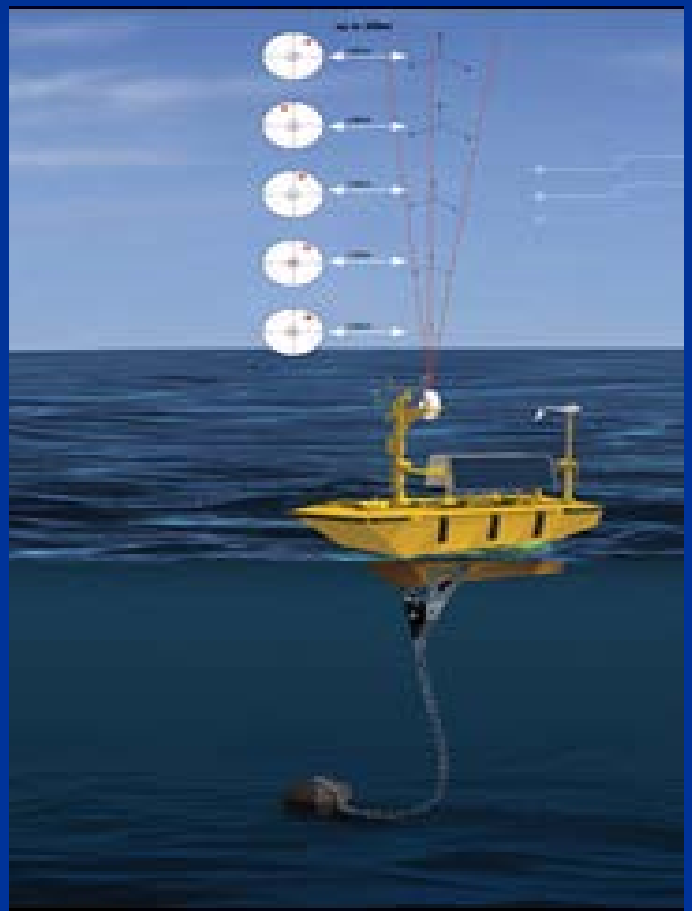
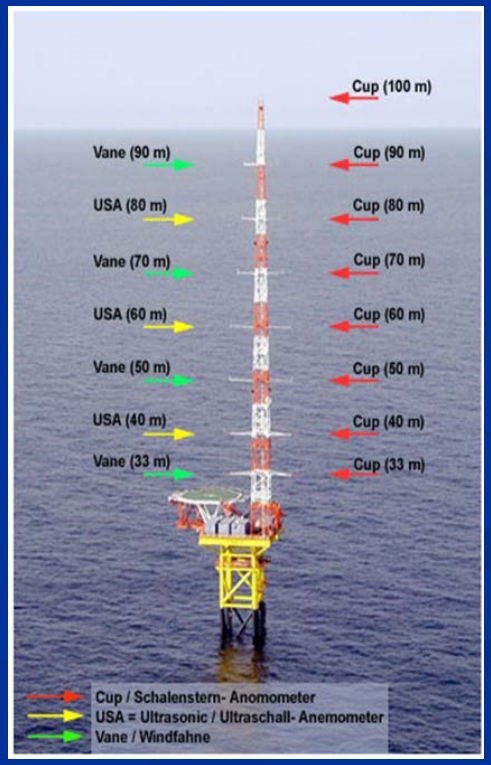
Research Leases

- 30 CFR Part 585 limits the entities able to hold research leases (i.e., state and federal entities).

- The information collected on a research lease issued is made available to the public, and may help support future development.





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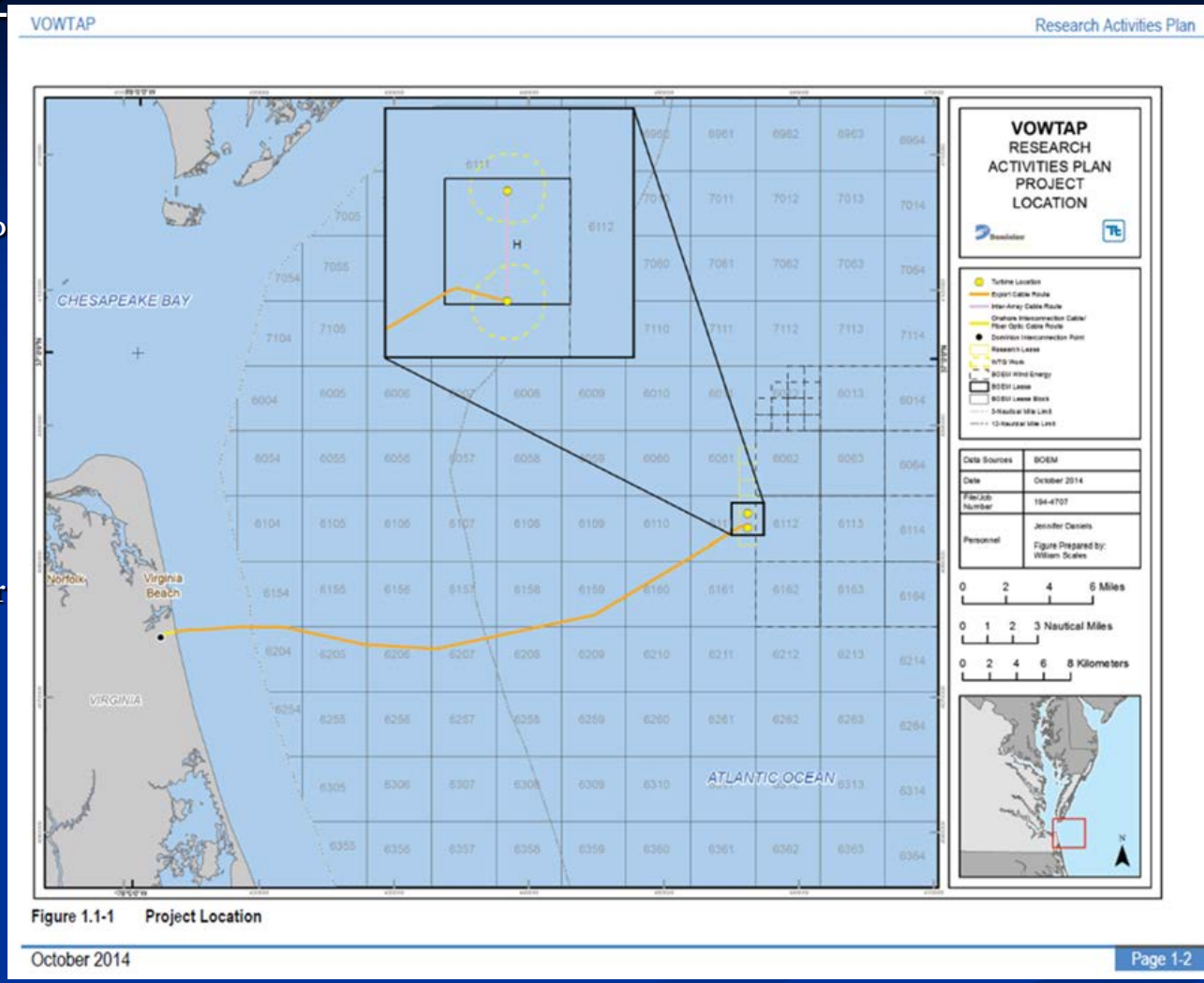
BACKGROUND

- The Commonwealth of Virginia, Department of Mines Mineral and Energy (DMME) in collaboration with the VOWTAP consortium submitted a research lease application to BOEM on February 8, 2013.

- The objective of DMME is to obtain the **first lease in the nation** under 30 CFR 585.238 for siting up to two six-megawatt (MW) turbines, a 34.5 kV or 69 kV subsea export cable and metocean monitoring equipment in six specific aliquots (i.e., sub-blocks).

- The data obtained under this lease will be publicly available and support the future production of renewable energy within Virginia's Wind Energy Area (WEA).



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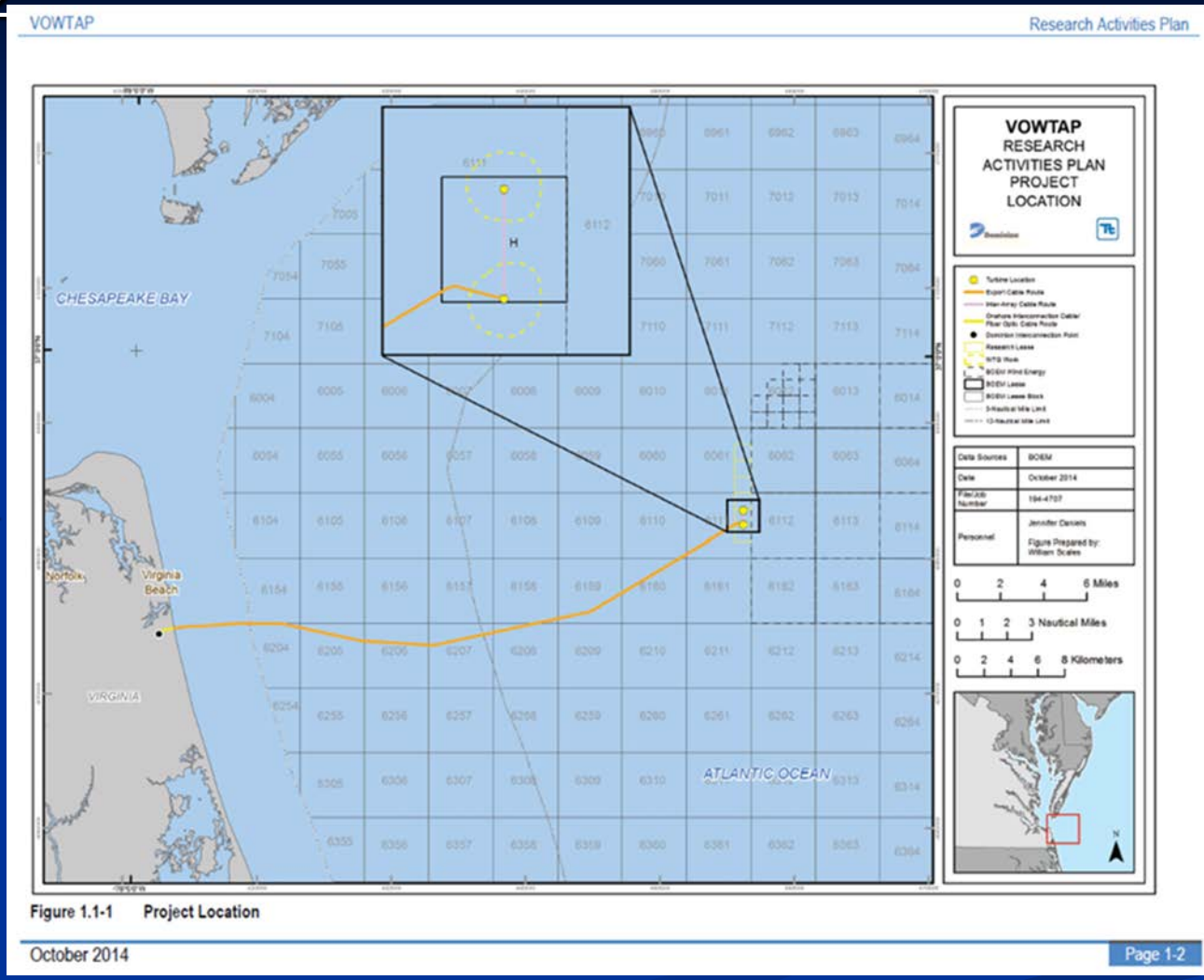
BACKGROUND

- BOEM published a Determination of No Competitive Interest was August 29,2013
- The DNCI cleared the way for BOEM to process the application from DMME and issue a research lease for resource assessment and renewable energy technology testing.
- A Research Activities Plan (RAP) was submitted providing the basis of information to conduct the EA and is available for review.



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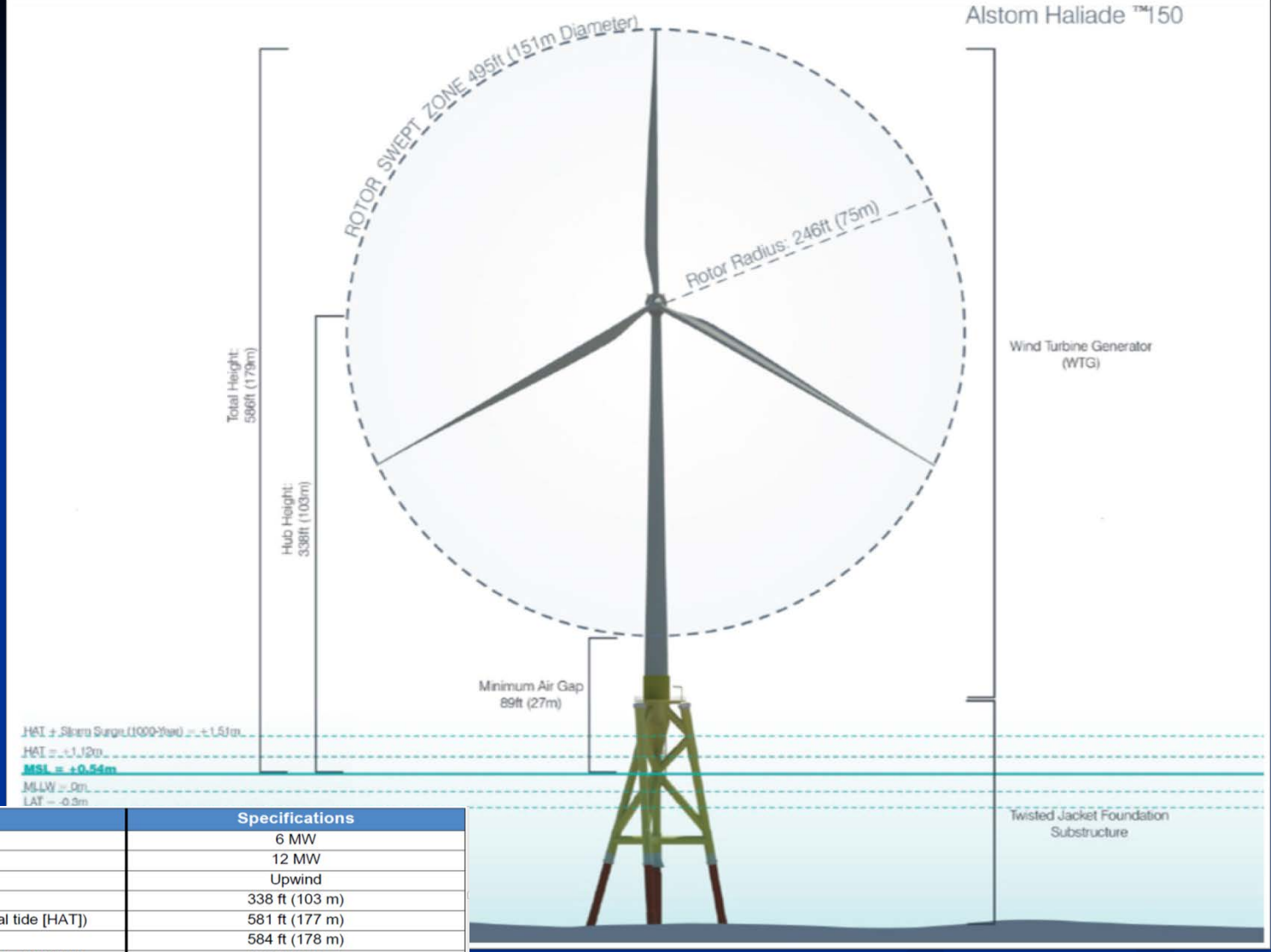
PROJECT

Two 6 MW Alstom Haliade six-megawatt (MW)



WTG Component	Specifications
Individual turbine power output rating	6 MW
VOWTAP nameplate electric generating capacity	12 MW
Position of rotor relative to tower	Upwind
Hub height (from MSL)	338 ft (103 m)
Turbine minimum height (from highest astronomical tide [HAT])	581 ft (177 m)
Turbine height (from mean sea level [MSL])	584 ft (178 m)
Turbine Maximum height (from mean lower low water [MLLW])	586 ft (179 m)
Air gap (MSL to the bottom of the blade tip)	89 Ft (27 m)
Base height (tower height)	267 ft (81m)
Base (tower) width (at the bottom)	20 ft (6 m)
Base (tower) width (at the top)	13 ft (4 m)
Nacelle dimensions	25.3 x 64.3 x 27 ft (7.7 x 19.8 x 8.9 m)
Nacelle radius	13.5 ft (4.1 m)
Blade length	241 ft (73.5 m)
Blade width	10.5 ft +/- 0.11 in (3.2 m +/- 2.7 mm)
Rotor diameter	495 ft (151 m)
Rotor Speed	4 to 11.5 rpm
Operational Cut-in Wind Speed/Cut-Out Wind Speed	6.7 mph (3 m/s) / 56 mph (25 m/s)

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Keystone Inward Battered Guide Structure (IBGS)

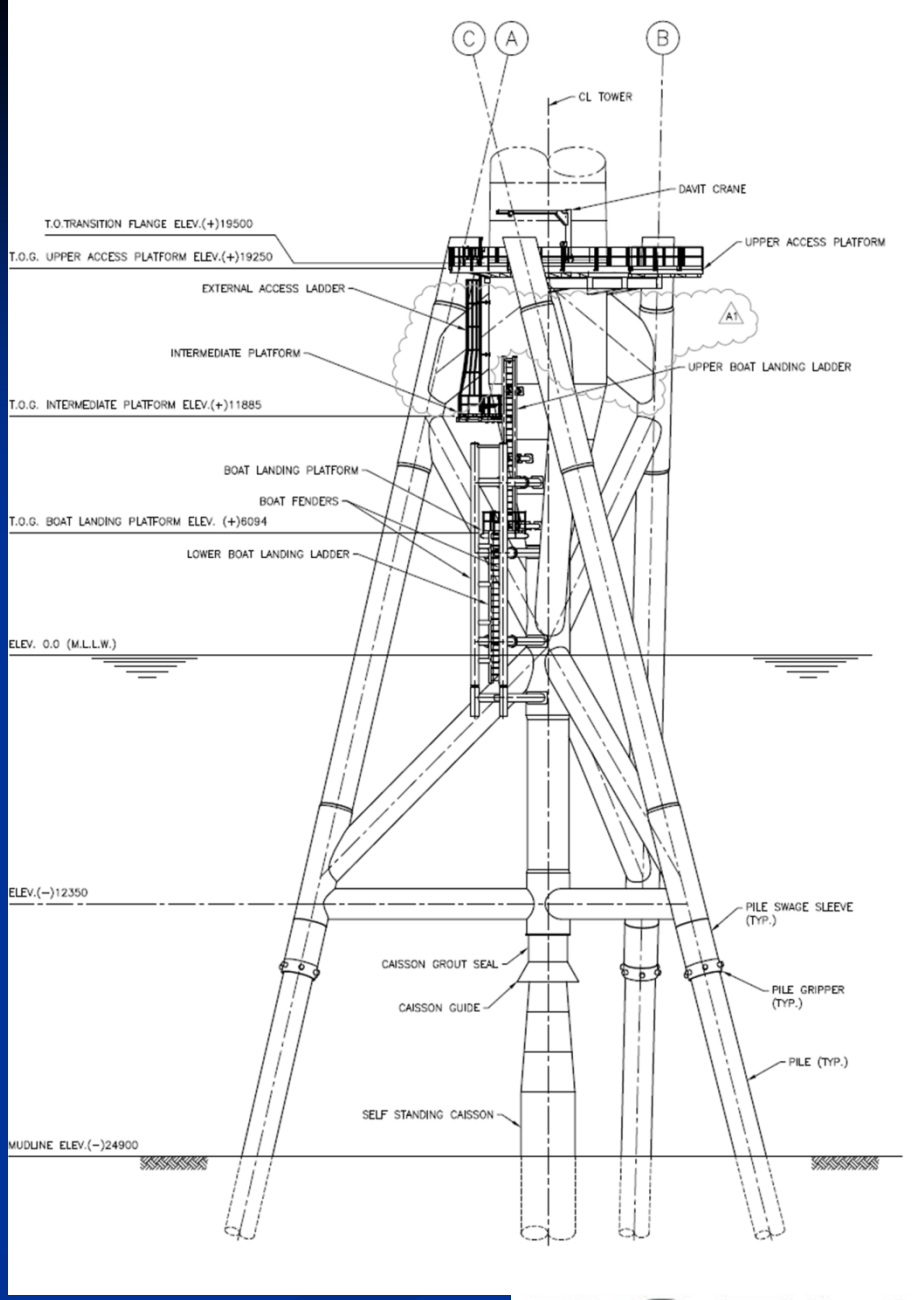
The IBGS foundation consists of

one approximately 10.2-ft (3.1-m) diameter central caisson,

the structural jacket,

and three through-the-leg inward battered piles approximately 5.9-ft (1.8-m) in diameter spaced approximately 95 ft (29 m) apart.

Inward Battered Guide Structure (IBGS)



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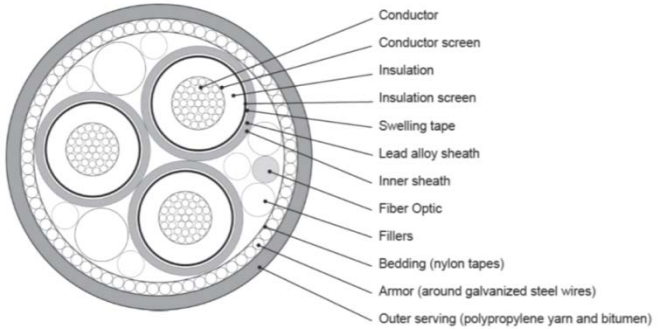
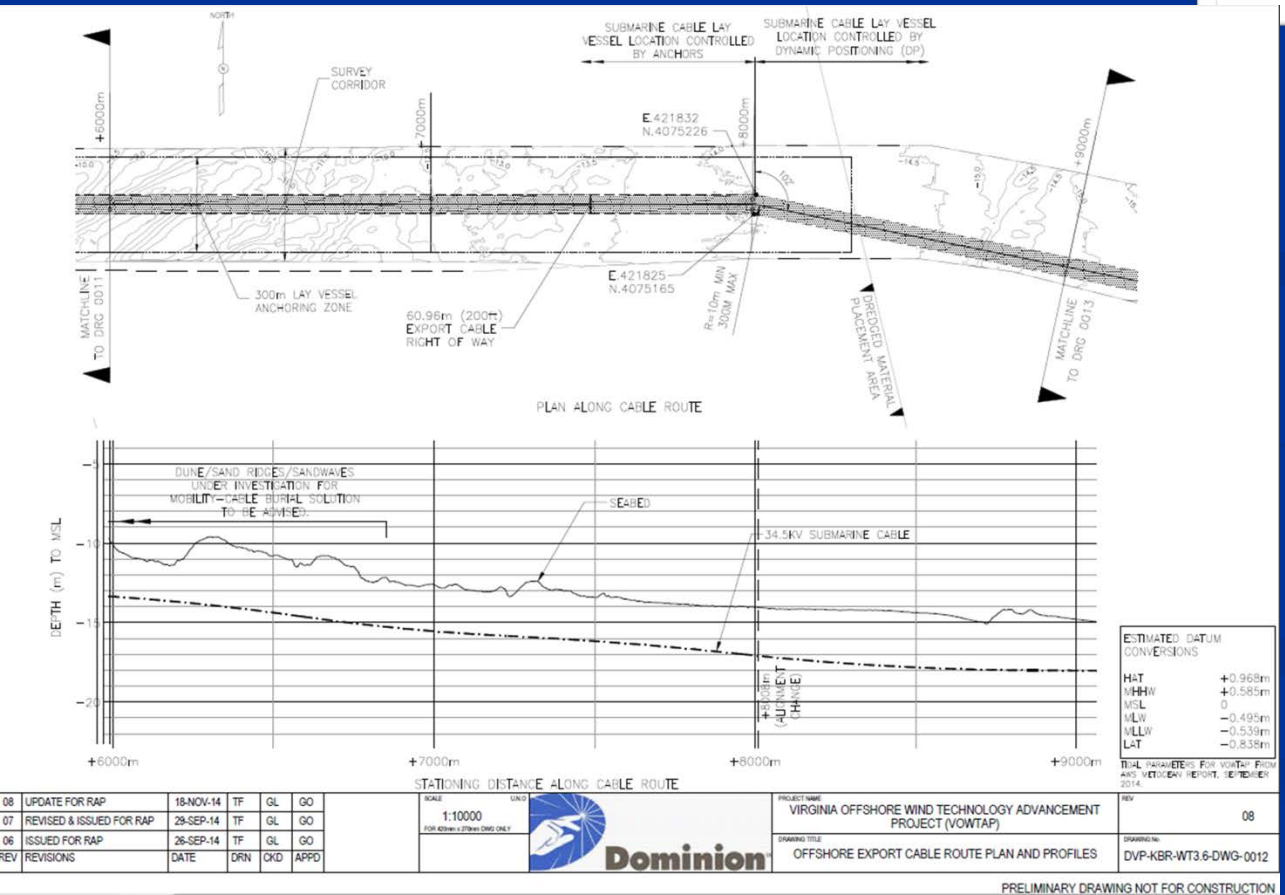
- 27 nautical miles of (110mm or 4.3 inches) 34.5kv or 69kv submarine transmission cable.





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