

Draft
New England Wind
Construction and Operations Plan
for Lease Area OCS-A 0534

Volume I
Appendices

Submitted to:

Bureau of Ocean Energy Management
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Sterling, Virginia 20166

Prepared by:

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October 29, 2021

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In Association with:

Baird & Associates	JASCO Applied Sciences
Biodiversity Research Institute	Public Archaeology Laboratory, Inc.
Capitol Air Space Group	RPS
Geo SubSea LLC	Saratoga Associates
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Appendix I-H

New England Wind Survey Equipment List

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Prepared by:

Epsilon Associates, Inc. & Geo SubSea LLC

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APPENDIX I-H NEW ENGLAND WIND SURVEY EQUIPMENT LIST

Geophysical surveys for New England Wind will be conducted just prior to construction, during construction, and post-construction for activities such as pre-lay surveys, verifying site conditions, ensuring proper installation of components, conducting as-built surveys, inspecting the depth of cable burial, and inspecting foundations. Geophysical survey instruments may include side scan sonar (SSS), single beam echosounders (SBES), multibeam echosounders (MBES), magnetometers/gradiometers, shallow (chirp subbottom) and medium (sparker) penetration single or multi-channel subbottom/seismic profilers, and all support systems (e.g. positioning, motion sensor, compass, sound velocity profiler [SVP]) as well as high resolution visual imaging systems (e.g. remotely operated vehicles [ROVs], underwater cameras) and passive acoustic monitoring (PAM) systems.

Industry-standard survey grade systems to be utilized include, but are not limited to, the following systems (or equivalent):

- ◆ Applanix POS MV with Trimble Nav-Beacon/USCG differential receiver
- ◆ Atlas H10 Offshore Corrections DGPS
- ◆ SBG Ekinox 2-U Motion Sensor
- ◆ iXSea Blue Octans 3 motion and heading sensor
- ◆ Applanix POSMV M5 with C-NAV differential
- ◆ Hemisphere VS330 GPS Receiver with heading
- ◆ Voyager 5 integrated navigation with Fugro Starfix HP/XP corrections
- ◆ Applanix POS MV with Intuicom RTK Bridge-C
- ◆ Applanix POS MV Oceanmaster DGNSS with a Trimble Nav Beacon XL auxiliary GNSS antenna
- ◆ C-NAV 3050 DGPS antenna (redundant positioning system)
- ◆ Teledyne TSS Meridian gyrocompass
- ◆ POSPac software with Post Processed Kinematic (PPK) solution
- ◆ Veripos LD5A-2 Providing Apex DGPS Corrections
- ◆ QPS QINSy navigation and data logging software
- ◆ HYPACK navigation and digital logging software
- ◆ Sonardyne MiniRanger 2 ultra-short baseline (USBL)
- ◆ Applied Acoustics Easytrak Nexus 2 USBL System
- ◆ iXSea Blue GAPS USBL
- ◆ Reson 7125 MBES
- ◆ Kongsberg EM2040C (dual head) MBES
- ◆ R2Sonic 2024 MBES
- ◆ Reson T50 Dual Head MBES
- ◆ Odom HydroTrac SBES
- ◆ Knudsen 3212 200 kHz SBES
- ◆ Reson Navisound 215 SBES
- ◆ Furuno 200 kHz digital depth finder, hull mounted
- ◆ UNIDEN or Simrad 200kHz digital depth finder
- ◆ EdgeTech 6205 MBES/SSS
- ◆ Klein 3900 side scan sonar
- ◆ Edgetech 4125/4200/4205 multi-frequency Side Scan Sonars

- ◆ Kraken AquaPix Synthetic Aperture Sonars
- ◆ Geometrics G-882 Cesium Marine Magnetometer
- ◆ Geometrics Transverse Gradiometer (TVG) with dual G882 magnetometers
- ◆ Eiva Katria Scanfish with four G882 magnetometers
- ◆ Teledyne-Benthos CHIRP III shallow subbottom profiler
- ◆ Knudsen 3260 2x2 SBP Array (3.5kHz) Pinger
- ◆ EdgeTech 216/512 Chirp Subbottom Profiler
- ◆ Innomar SES 2000 Medium/Standard Parametric Subbottom Profiler
- ◆ GeoMarine Geospark 1000J medium penetration subbottom profiler with 200/400 tip sparker source and 8 element single channel GeoEel streamer
- ◆ Applied Acoustic Dura-spark400 seismic system with AA CSP-N (2400J) power supply
- ◆ Applied Acoustics AAE-200/301 single plate boomer systems
- ◆ Applied Acoustics S-Boom triple plate boomer system
- ◆ Teledyne-Oceanscience RapidCAST sound velocity profiler
- ◆ Valeport Midas SVX2 CTD
- ◆ AML Base-X SVP sensor
- ◆ Valeport Mini SVP sensor
- ◆ Ocean Instruments Towed Camera TLS-500 system
- ◆ Sea Rover survey class ROV with a SONY UMC S3CA 4K video camera
- ◆ DSSI Sea Max MK2 survey class ROV
- ◆ Go Pro Hero 9 Black 4K video and 20 MP stills
- ◆ Outland UWC-330/P HD Camera with UWL-400 light source
- ◆ Generation 3 NVG and Gardline PAMS system
- ◆ MSeis-NH3 (4 hydrophone array) PAM system
- ◆ Seiche-6-hydrophone-PAM Guard64 system