

# **Wind Farm Support**

As the demand for renewable energy solutions continues to grow, offshore wind farms are becoming more prevalent across the globe. They range from fixed platforms in shallow water near the mainland, to miles from the coast in increasingly deeper water depths utilizing offshore floating platforms.

To assist with this effort, Phoenix offers a wide range of personnel and equipment, including inspection class Remotely Operated Vehicles (ROVs), an Autonomous Underwater Vehicle (AUV), magnetometers, and highly qualified diving personnel to organize and carry out the safe construction, inspection, repair, and maintenance of the underwater components of offshore wind farms.

## **ROV/AUV Support**

Phoenix offers a wide variety of ROVs ranging from compact, inspection class to complex, heavy work systems to complete a wide variety of underwater tasks associated with offshore wind farm support. Additionally, our Artemis AUV, equipped with acoustic, optical, and geophysical payloads, is ideally suited to provide quality surveys or optical documentation support.

#### **Construction, Maintenance, and Repair Services:**

- Cables (Depth of Burial Verification and Pull-In)
- Classification Society Annual Foundation Inspections
- Depth of Burial Measurements
- Foundation Repairs
- Installations (Platform and Cable)
- Monitoring
  - o Cable Touchdown; Cable Pull-in
- Installation of Concrete Protection Mats
- Installation of Cable Protection Ducting
- Soil Investigations
- Subsea Installation Monitoring
- Surveys
  - Cable; Hydrographic; Seabed (ROV and AUV); and Subsea Cable (AUV)

### Contact us to learn more

www.phnx-international.com

985.399.0606—Bayou Vista, LA | 954.523.4038—Ft. Lauderdale, FL

281.815.8050—Houston, TX | 301.341.7800—Largo, MD

757.855.7516—Chesapeake VA | 808.486.6595—Aiea, HI

619.207.0871—San Diego, CA | 228.731.7898—Stennis Space Center, MS





### **Diving Support**

Phoenix's divers are highly trained and experienced in air, mixed gas, and nitrox diving. Capabilities for support of offshore wind farms are available throughout the entire project lifecycle; from preliminary surveys and inspections, to installation and on-going operations and maintenance. In limited- or zero-visibility conditions, Phoenix's divers have the necessary skills and knowledge to perform a variety of underwater construction tasks associated with offshore wind platforms.

#### **Key Capabilities:**

- Anode Replacements
- Bolting
- Concrete Breakout and Replacement
- Debris Removal
- Grouting Foundations
- Inspections
  - o Cathode/Anode
  - o Nondestructive Testing (NDT)
- Installations of Mattresses and Scour Protection Systems
- J Tube Installations and Modifications
- Rock Armor Placements
- Seabed Clearance and Leveling
- Search and Recovery (e.g. buoyancy bags)
- Scour Surveys
- Subsea Cable Installations and Repairs
- Underwater Refurbishments
- Underwater Welding/Burning
- Unexploded Ordinance (UXO) Surveys

#### **Our Classifications**

Phoenix International maintains a corporate wide commitment to safety and as such, is an ISO 9001:2015 ABS Management Systems Certified Company.

Other classifications include: American Bureau of Shipping (ABS); American Society of Nondestructive Testing (ASNT); Association of Diving Contractors International (ADCI); Bureau Veritas (BV); China Classification Society (CCS); DNV-GL; International Marine Contractors Association (IMCA); Korean Register of Shipping (KR); Lloyd's Register (LR); Nippon Kaiji Kyokai (NK); and RINA

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