

1 Scope

This working group was formed by the Offshore Wind Technical Advisory Panel (OWTAP), which is a subcommittee to the American Wind Energy Association (AWEA) Wind Standards Committee (WSC). AWEA is granted authority to establish wind energy standards by the American National Standards Institute (ANSI). The purpose of this working group is to make recommendations to OWTAP on the use of standards and guidelines related to geotechnical and geophysical concerns for offshore wind in the United States.

The working group shall write Recommended Practices (RP) in compliance with the ANSI/AWEA Standards Development Procedures. The RP developed under this scope shall apply to the following:

- Offshore wind facilities that may potentially be installed in U.S. state and federal waters in the continental United States, Hawaii, and Alaska, including inland bodies of water such as the Great Lakes
- Fresh and salt water at any water depth
- All wind turbine generating (WTG) substructures and foundations in contact with the sea floor
- All offshore substations, meteorological towers and other offshore wind components in contact with the sea floor
- Fixed bottom and floating structure associated with offshore wind components
- All phases of project life: planning, designing, constructing, operating, decommissioning and re-powering

The working group shall consider the following:

- Existing codes, standards, recommended practices and guidelines relevant to this scope
- Geotechnical and geophysical investigation methods, including vessels
- Correlation and interpretation of geophysical and geotechnical results
- In-situ and laboratory testing
- Design issues related to:
 - Applicability of p-y curves for large diameter WTG monopiles
 - Cyclic degradation
 - Soil damping
 - Scour
 - Seismic
 - Integrated modeling

- Requirements for specific WTG substructure and foundation designs including but not limited to monopile, jacket, gravity base, suction bucket, and seafloor connections for floating offshore wind components.
- Requirements for other specific structures related to offshore wind installations including offshore substation substructures and meteorological towers.
- Soil types that could be encountered offshore in state or federal jurisdictions of the US
- Subsurface hazards and areas of concern (e.g. boulders, unexploded ordnance, archeology, hazardous waste)
- Reporting requirements and data management methods

The development of the RP by the AWEA U.S. Geotechnical and Geophysical Investigations and Design Working Group shall include, but is not limited to the following considerations:

- Definition of minimum requirements specific to this scope by reference to existing relevant industry codes, standards and guidelines.
- Working with other OWTAP working groups to manage interfaces among RPs, and explore how synergies can be leveraged to create greater efficiencies throughout a project and the industry.
- Developing methods to fill gaps in existing standards specific to this scope.

The RP shall not cover geotechnical or geophysical considerations for cable burial as these shall be addressed by AWEA OWTAP Working Group 5 on subsea cables.