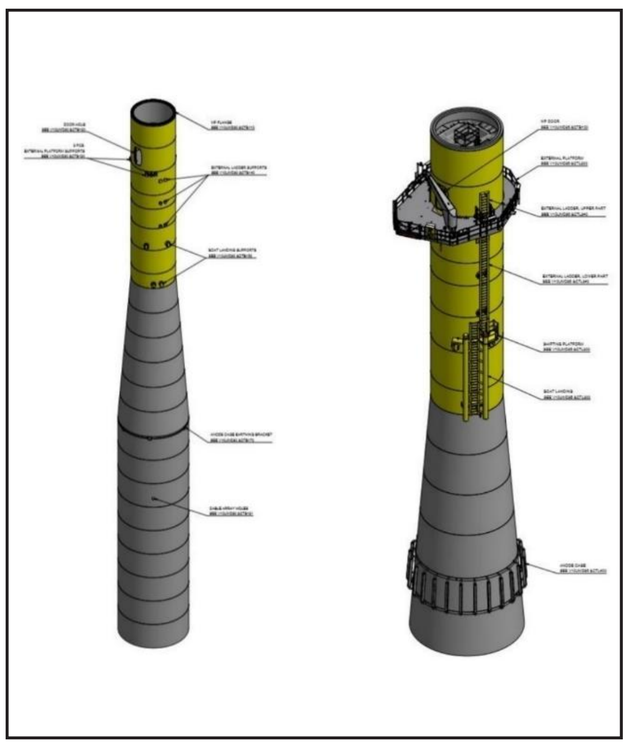
**Sunrise Wind Offshore Wind Farm**

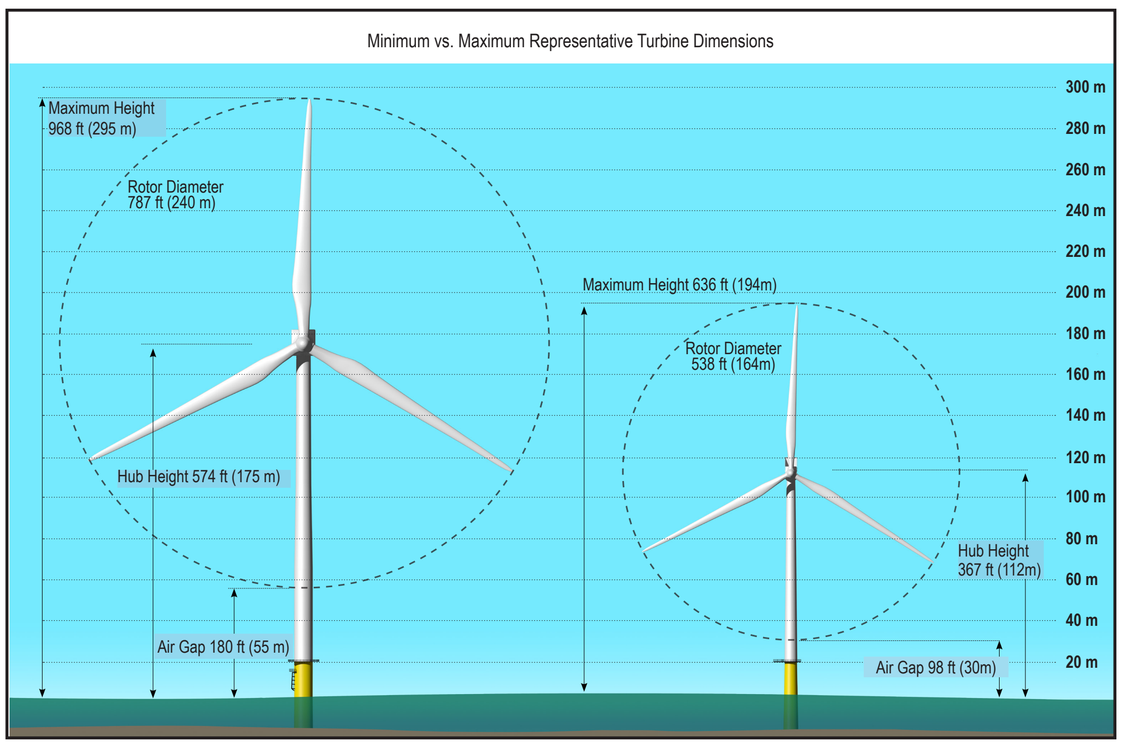
# Project Design Envelope

A project design envelope is a permitting approach that allows a lessee to define a range of design parameters within a Construction and Operations Plan. BOEM then analyzes the maximum impacts that could occur within the range of the design parameters — referred to as the "maximum design scenario."

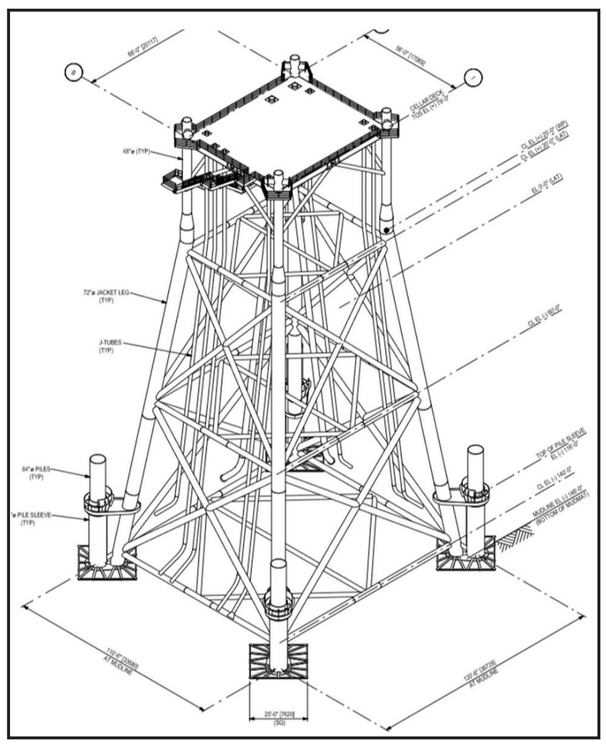
Representative design parameters for the Sunrise Wind project are outlined below. Refer to Sunrise Wind's Construction and Operations Plan for a detailed explanation of the project design envelope.



**Conceptual Monopile**




**Conceptual Rendering of the Min and Max WTGs**



**Conceptual Piled Jacket Foundation**

| Project Component | Representative Project Design Parameters |
|---|---|
| Wind Turbine Generators | • Up to 122 wind turbine generators with rotor diameter up to 787 feet.<br>• Upper blade tip height up to 968 feet from MSL; lowest blade tip height 98 feet from MSL. |
| Turbine Foundations | • Monopile foundations with scour protection.<br>• Foundation piles installed using impact pile driving and/or vibratory pile driving. |
| Offshore Substations | • One offshore converter substation on piled-jacket foundation structure (up to 8 legs).<br>• Foundation piles installed using impact pile driving and/or vibratory pile driving techniques. |
| Inter-Array Cables | • Maximum 161 kV cables with target burial depth of 3 to 7 feet.<br>• Cable protection (e.g., rock placement, concrete or fronded mattresses, rock filter bags, grout bags). |
| Offshore Export Cables | • Consist of 2 cables bundled together with fiber optic cable; target burial depth of 3 to 7 feet.<br>• Three route options being explored to join with onshore transmission cable at Smith Point County Park.<br>• Armoring or sheathing to protect cable from damage. |
| Landfalls and Onshore Export Cable System | • Alternate landfall and onshore cable route options under consideration.<br>• HDD and trenching techniques planned for installation at landfall. |
| Onshore Substations and Interconnector Cable | • One onshore converter station and one onshore interconnection cable with interconnection at existing Holbrook Substation<br>• HDD and pipe jacking techniques to be used for underground burial |

MSL = Mean Sea Level; kV = kilovolt HDD= Horizontal directional drilling

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