

Project Number:	701
Category:	<i>Standards/Regulations</i>
Dates:	April, 2011
Subject:	<i>Structural Integrity of Offshore Wind Turbines—Oversight of Design, Fabrication, and Installation</i>
Performing Activity:	Transportation Research Board
Principal Investigators:	R. Keith Michel
Contracting Agency:	Bureau of Safety and Environmental Enforcement
Summary:	<p>This study provided guidance to BOEM on the direction and intent of its approach to overseeing the development and safe operation of offshore wind turbines. It provided findings regarding:</p> <ul style="list-style-type: none"> • The applicability and adequacy of existing standards and practices; • The role of CVAs; and • CVA qualifications.
Key Findings:	<ul style="list-style-type: none"> • Many existing standards can be applied to offshore wind turbines in the U.S., but none are complete, with more work needed on hurricane conditions and methods of strength analysis. • BOEM regulations 30 CFR 585 are inadequate, as they do not specify standards that an offshore wind turbine must meet. Additionally, updated standards are needed to allow the development of the offshore wind industry in the U.S.
Recommendations:	<ul style="list-style-type: none"> • BOEM should update regulations with goal-based standards governing structural safety of offshore wind turbines and power platforms. Standards should be risk-based and cover design, fabrication, and installation. • BOEM should review industry-developed guidelines for conformance with goal-based standards to approve their use on U.S. OCS projects. • BOEM should strengthen the current CVA program for renewable energy to more closely reflect the CVA program for oil and gas. Operators should submit CVA plans to BOEM for approval.
Subsequent Studies/Activities:	<ul style="list-style-type: none"> • This study provides the basis for BOEM rule making efforts that are underway regarding the role of CVA and the use of existing technical standards.
Report Link:	AA : Structural Integrity of Offshore Wind Turbines - Oversight of Design, Fabrication, and Installation, April 2011, by R. Keith Michel et al., National Research Council, Washington, D.C.