Bureau of Safety and Environmental Enforcement

2016 International Offshore Wind Partnering Forum

October 3, 2016

"To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement."

Discussion Objective

- Present options BSEE is considering for carrying out its future regulatory role in facility design, fabrication, installation, and operations phases of offshore wind projects
    - Current regulations 30 CFR 585; developing regulations under 30 CFR 285

- Engage industry to gather technical input and suggestions for scoping and implementing Federal regulatory oversight and inspection program

Regulatory Philosophy

- Operator's responsibility to ensure safety on their facilities

- Regulations and compliance verification procedures will reflect a performance based approach

- Require safe working conditions, properly operating equipment, hazards management, careful recordkeeping, minimized pollution, and an overall culture of preparedness

What Does Good Look Like?

- Incorporate relevant global industry standards
- Incorporate industry best practices
- Expect that a strong management system and safety culture will be in place

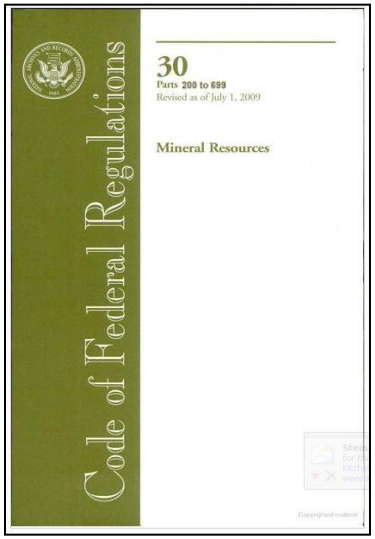
BSEE's "good" sets minimum expectations

- Equal or better

Discussion Points

Current safety requirements (per 30 CFR):

- Safety Management System (SMS)
- Inspections
- Annual self certification program
- Incident reporting



Safety Management System (SMS)

What are typical Offshore Wind Industry Hazards?

- Electrical injury
- Personnel transfers to facility
- Vessels striking offshore wind facility
- Confined space entry and tight working area
- Slips, trips, and falls into water or from heights
- Diving hazards during installation and inspections
- Manual handling of equipment and materials
- Long-term personnel physical wear and tear
- Mechanical hazards (e.g., pinch points)
- Exposure to heat and cold

According to the Transportation Research Board (SR310), potential risks that offshore wind personnel must manage.

What is an SMS?

Performance-based approach that an organization uses to perform healthy, safe, and environmentally conscious operations by:

- Setting HSE goals or objectives;
- Identifying hazards;
- Implementing processes to mitigate risk; and
- Establishing a continual improvement process.

Offshore Wind Inspection Program

Annual inspection cycle

- Safety and environmental compliance certifications by the operator
- Verification audits or inspections of company certification
- Safety Management System
- Combine elements of a compliance and a performance-based approach

In general BSEE feels this approach, with some modifications, is workable

Offshore Wind Inspection Program

Two-phase

- Self certification (may involve 3rd party)
  - Operator prepares a plan covering all facilities
  - Assess integrity of critical components to company standards and industry standards

- Spot checks
  - Verify condition of the offshore facility
  - Assess effectiveness of Operator's SMS

Current discussion of BSEE's future inspection and enforcement program

Guidelines: BSEE's expectations

To assist in identifying available industry standards & selecting appropriate standards for operating model

•Address each type of offshore facility (wind turbines, electrical service platform)

- Address all critical components (foundations, top side structures, electrical systems, etc.)

•Design

•Fabrication and construction

•Operations

•Decommissioning

Annual self certification

•Conducted as one event?

•Multiple inspections (different components) over a one-year period combined as the annual inspection?

- OEM may have different inspection cycle

Discuss use of third parties

•Are there certain components for which a BSEE approved verification organization will be required?

•Third party inspections

- Operator identify the standards used to assess their inspectors

•Third party auditing process

Sample inspection tool

•Check list

Give us your ideas!

Environmental Compliance

- Regulatory Consultations
- NEPA adequacy for ALL BSEE issued permits.
- Office Compliance - Evaluate mitigation measures to determine their effectiveness. Provide feedback to BSEE and BOEM. (Adaptive Management)
- Field Compliance - Inspections, Investigations, Audits, & Follow-on Enforcement Action (Enforcement on behalf of BOEM)

BSEE Technology Assessment Program

30 renewable energy projects, including:

- TAP-747-Offshore Wind Energy Inspection Procedures Assessment Project (March 2015)
- TAP-709-Example safety management system and audit criteria/procedures template and checklist for Offshore Wind (Nov. 2012)
- TAP-686-Regulating Worker Safety in Renewable Energy Operations on the OCS (Dec. 2012)
- TAP-633-Design Standards to Ensure Structural Safety/Reliability/Survivability of Offshore Wind Farms on the OCS (May 2010)

www.bsee.gov/site-page/renewable-energy-research

Recent BSEE rulemaking

Well Control Rule and Part 250 Subpart S (Safety and Environmental Management Systems)

Indicative of the type of regulatory regime BSEE is likely to consider for offshore wind

- Utilizes BSEE approved independent third party
- Real-time monitoring
- Requires the use of accepted engineering practices when operating on the OCS to reduce risks

www.bsee.gov/guidance-and-regulations

Fact sheets and FAQ's

Questions?

To learn more about BSEE, please check out our Annual Report
www.bsee.gov/newsroom/library/annual-report

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