

Regulation of Safety and Health on U.S. Offshore Wind Energy Facilities¹

By Loulan J. Pitre, Jr.

Partner in Charge, Kelly Hart Pitre

Adjunct Associate Professor of Law, Tulane Law School

November 9, 2021

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In March of 2021, the White House announced a goal of 30 gigawatts of U.S. offshore wind energy by 2030.² In light of this ambitious goal, one might assume that comprehensive safety and health regulations are already in place. But that is not a safe assumption. Welcome to a swashbuckling tale of agencies engaged in metaphorical swordfights for jurisdictional territory and a look forward to the New Year, 2022, when better regulations have been promised to arrive.

This paper addresses the regulation of safety and health on offshore wind energy facilities³ in the federal waters of the United States. First, Chapter 1 discusses the various regulatory agencies that could be candidates to regulate safety and health in the U.S. offshore wind industry. Next, Chapter 2 addresses the adoption of the first set of regulations of health and safety on offshore wind energy facilities on the Outer Continental Shelf.⁴ Then, Chapter 3 discusses the reaction to these regulations immediately following their adoption, including pointed calls for adoption of new regulations. Chapter 4 next discusses significant developments during the past decade. Finally, Chapter 5 concludes by summarizing this history and briefly addressing the outlook for the future developments.

CHAPTER 1 **THE ADMINISTRATIVE BACKDROP**

Our story begins in 2005, when Congress authorized the Department of the Interior to grant leases for renewable energy.⁵ The offshore wind energy industry entered U.S. law decades after the creation of several different government agencies that might have seemed qualified to regulate health and safety issues. These included the Occupational Safety and Health Administration, the Minerals Management Service and two of its successor agencies, the Bureau of Ocean Energy Management (BOEM) and the Bureau of Safety and Environmental Assessment, as well as multiple state agencies.

1.1 OSHA – *Safety And Health Are Our Middle Names*

The Occupational Safety and Health Administration, OSHA, was established by congressional act in 1971 within the U.S. Department of Labor.⁶ It is the main regulator of occupational safety and health in the U.S. and has deep expertise in this area.⁷ Contrary to what one might expect, OSHA is *not* the regulator of safety and health on the OCS. OSHA is, however, the federal regulator of occupational safety

² “FACT SHEET: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs,” <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>.

³ As of October 18, 2019, the Department of the Interior stated that it would “act as the principal Federal agency for the regulation and enforcement of safety and health requirements for OCS renewable energy *facilities*,” and DOI further stated that “OCS renewable energy support *vessels* . . . are under the authority of the United States Coast Guard (USCG).” (emphasis added). *See* Policy Statement cited in full at footnote 80 below. This paper does not attempt to address the safety and health regulations applicable to vessels, nor does it attempt to address the legal basis for this distinction or the jurisdictional boundary between facilities and vessels under various possible scenarios. These would provide interesting issues for additional research and writing, as would similar issues involving helicopters regulated by the Federal Aviation Administration (FAA).

⁴ The Outer Continental Shelf (OCS) is a legally defined area, and is not equivalent to the continental shelf in a geological sense. Generally, the OCS extends from the limits of state waters to the limits of the United States' Exclusive Economic Zone 200 miles from shore. *See* Outer Continental Shelf, <https://www.boem.gov/oil-gas-energy/leasing/outer-continental-shelf>.

⁵ Energy Policy Act of 2005, PL 10958, 119 Stat 594 (2005), § 388.

⁶ Occupational Safety and Health Act of 1970, PL 91-596, codified at 29 U.S.C. Ch. 15, §§ 651 *et seq.*

⁷ *See generally* <https://www.osha.gov/>.

and health for U.S. *onshore* wind energy and for offshore wind energy in the Great Lakes and in state waters.⁸

1.2 MMS – *A Hydrocarbon Focus*

The Minerals Management Service, MMS, was established in 1982 within the United States Department of the Interior as the main regulator of oil and gas development on the OCS. The MMS had expansive authority over offshore oil and gas activities in the United States, which were primarily in the Gulf of Mexico, including granting and administration of leases, regulation of health safety and environment, and revenue collection.⁹ When Congress gave the Department of the Interior authority over offshore wind energy on the OCS in 2005, it was logical and expected that MMS would be the agency that exercised that authority. Indeed, MMS was the designated regulatory authority when the first set of federal offshore wind energy regulations were adopted in 2009.¹⁰

1.3 BOEM and BSEE – *The Macondo Hydra*

Then, the Macondo/Deepwater Horizon explosion in April 2010 killed 11 men, sunk the drilling rig, and caused the largest offshore oil spill in U.S. history.¹¹ This sent shockwaves to MMS. MMS was re-branded as the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) in June 2010. There was perception of a need to “[s]eparate[] resource management from safety oversight to allow permitting engineers and inspectors greater independence, more budgetary autonomy and clearer senior leadership focus.”¹² Less than a year later, BOEMRE was divided into three agencies: BOEM, the Bureau of Safety and Environmental Enforcement (BSEE), and the Office of Natural Resources Revenue (ONRR).¹³ For oil and gas on the OCS, BOEMRE’s resource development and energy management functions were assigned to BOEM, and its safety and enforcement functions were assigned to BSEE.¹⁴ The revenue collection functions had been assigned to the Office of Natural Resources Revenue (ONRR) earlier that year.¹⁵

But, interestingly, the separation of development and management functions from safety and enforcement functions was *not* applied in the context of wind energy. Instead, all of the DOI’s jurisdiction over offshore wind energy was assigned to BOEM, *including* safety and environmental regulation and enforcement. BSEE, which had been created for the express purpose of separating leasing and development functions from safety and environment functions with respect to oil and gas, was not given *any* legal jurisdiction over HSE functions applicable to offshore wind energy. However, this approach was

⁸ U.S. Department of Labor, Wind Energy, <https://www.osha.gov/green-jobs/wind-energy/>.

⁹ See Fact Sheet: The BSEE and BOEM Separation, January 19, 2011, <https://www.bsee.gov/sites/bsee.gov/files/fact-sheet/internal-guidance/boemre-reorganization-fact-sheet1.pdf>.

¹⁰ See Bureau of Ocean Energy Management, Regulatory Framework and Guidelines, overview of BOEM’s regulatory framework, available at <https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines>. For a detailed contemporary discussion of the first set of regulations, but without an emphasis on safety, Rolleri, Jacqueline S. (2010) “Offshore Wind Energy in the United States: Regulations, Recommendations, and Rhode Island,” Roger Williams University Law Review: Vol. 15: Iss. 1, Article 7, http://docs.rwu.edu/rwu_LR/vol15/iss1/7 and https://docs.rwu.edu/cgi/viewcontent.cgi?article=1423&context=rwu_LR.

¹¹ See NOAA, Deepwater Horizon, available at <https://darrp.noaa.gov/oil-spills/deepwater-horizon>.

¹² See Fact Sheet: The BSEE and BOEM Separation, January 19, 2011, at <https://www.bsee.gov/sites/bsee.gov/files/fact-sheet/internal-guidance/boemre-reorganization-fact-sheet1.pdf>.

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

later implemented when the offshore wind energy regulations were “updated” in 2011 to reflect the reorganization of MMS/BOEMRE by basically replacing the references to “MMS” in the initial offshore wind safety regulations with “BOEM.”¹⁶

CHAPTER 2 **THE INITIAL REGULATIONS**

As “updated” in 2011,¹⁷ the regulations for OCS offshore wind energy are contained at 30 CFR Part 585.¹⁸ The safety regulations, in particular, are in Subpart H of Part 585, Sections 800 through 833.¹⁹

2.1 The General Safety Standard – *Broad General Duties*

The safety regulations begin with Section 800, which states:

§ 585.800 How must I conduct my activities to comply with safety and environmental requirements?

- (a) You must conduct all activities on your lease or grant under this part in a manner that conforms with your responsibilities in § 585.105(a), and using:
 - (1) Trained personnel; and
 - (2) Technologies, precautions, and techniques that will not cause undue harm or damage to natural resources, including their physical, atmospheric, and biological components.
- (b) You must certify compliance with those terms and conditions identified in your approved SAP, COP, or GAP,²⁰(footnote supplied by author) as required under § 585.615(c), § 585.633(b), or § 585.653(c).²¹

The initial section of this safety Subpart referred, significantly, to provisions of the regulations outside of the safety Subpart. Specifically, it referred to Section 585.105(a)²² and to the sections of the regulations dealing with the regulated entity’s “SAP, COP, or GAP, as required [under other sections of

¹⁶ See Bureau of Ocean Energy Management, Regulatory Framework and Guidelines, overview of BOEM's regulatory framework, available at <https://www.boem.gov/renewable-energy/regulatory-framework-and-guidelines>; <https://www.federalregister.gov/documents/2011/10/18/2011-22675/reorganization-of-title-30-bureaus-of-safety-and-environmental-enforcement-and-ocean-energy>.

¹⁷ The regulations as “updated” in 2011 were substantially the same as those originally adopted in 2009, except for reflecting the re-organization of BOEMRE, but included the decision to give all of DOI's legal jurisdiction over wind energy development on the OCS to BOEM, despite giving BSEE the authority to regulate and enforce safety and environmental issues arising from oil and gas activities on the OCS, including the staffing experienced with such issues.

¹⁸ 30 CFR Part 585, §§ 585.100-585.1019.

¹⁹ 30 CFR Part 585, Subpart H, §§ 585.800-585.833.

²⁰ The COP is the Construction and Operations Plan referred to in §§ 585.620 to 585.638. The SAP is the Site Assessment Plan referred to in §§ 585.605 to 585.618. The GAP is the General Activities Plan referred to in §§ 585.640 to 585.657. The COP, the SAP, and the GAP are the linchpins of the regulated entity's responsibilities under BOEM's offshore wind energy regulations. They must be prepared by the regulated entity and submitted to BOEM for approval. The regulations describe the required contents of the COP, the SAP, and the GOP in substantial detail. The detail of these descriptions does not extend, however, to safety issues. An understanding of the COP, the SAP, and the GAP are critical to the development of offshore wind energy in the OCS, but are beyond the scope of this paper.

²¹ 30 CFR § 585.800.

²² *Id.* at (a).

Chapter 585].”

Section 105(a) of Chapter 584 describes expansive general duties of regulated entities and provides in relevant part:

§ 585.105 What are my responsibilities under this part? As a lessee, applicant, operator, or holder of a ROW grant, RUE grant, or Alternate Use RUE grant, you must:

- (a) Design your projects and conduct all activities in a manner that **ensures** safety and will not cause **undue harm or damage** to natural resources, including their physical, atmospheric, and biological components **to the extent practicable**; and take measures to prevent unauthorized discharge of pollutants including marine trash and debris into the offshore environment.²³

The next three sections of Subpart H deal, respectively, with marine mammals, archaeological resources, and essential fish habitats, each referring to separate pre-existing federal law dealing with those issues.²⁴

2.2 The SMS Requirement – *But What Does It Mean?*

The real meat of Subpart H appears in Section 810, which states:

§ 585.810 What must I include in my Safety Management System? You must submit a description of the Safety Management System you will use with your COP (provided under § 585.627(d)) and, when required by this part, your SAP (as provided in § 585.614(b)) or GAP (as provided in § 585.651. You must describe:

- (a) How you will ensure the safety of personnel or anyone on or near your facilities;
- (b) Remote monitoring, control, and shut down capabilities;
- (c) Emergency response procedures;
- (d) Fire suppression equipment, if needed;
- (e) How and when you will test your Safety Management System; and
- (f) How you will ensure personnel who operate your facilities are properly trained.²⁵

2.3 Additional Regulations – *The Rest Of The Story*

Following Section 810, Subpart H continues with additional provisions²⁶ addressing maintenance and shutdowns,²⁷ equipment failure and adverse environmental effects,²⁸ inspections and assessment,²⁹ and incident reporting and investigation.³⁰ Some of the highlights of these provisions are those allowing BOEM to order the removal of equipment or facilities, requiring regulated entities to report certain items and incidents, requiring repairs of certain facility damage, requiring corrective action plans for certain

²³ 30 CFR § 585.105(a) (emphasis added).

²⁴ 30 CFR §§ 585.801-803.

²⁵ 30 CFR § 585.810.

²⁶ See 30 CFR §§ 585.812-585.833.

²⁷ 30 CFR §§ 585.813.

²⁸ 30 CFR §§ 585.815-585.816.

²⁹ 30 CFR §§ 585.820-585.825.

³⁰ 30 CFR §§ 585.830-585.833.

adverse effects, allowing BOEM to conduct scheduled and unscheduled inspections, and requiring self-inspections and self-assessments.³¹

CHAPTER 3 REACTION TO THE INITIAL REGULATIONS

3.1 Special Report 310 – *An Analytical Tour de Force*

Soon after adopting offshore wind regulations in 2009, BOEM commissioned the Transportation Research Board of the National Academies to conduct the study on the subject entitled “Worker Health and Safety on Offshore Wind Farms.”³² That study resulted in the publication in 2013 of Special Report 310 by the Transportation Research Board of the National Academies.³³

Special Report 310 (SR310) was prepared by an elite and highly qualified group. The effort was led by an eleven-member study committee acting for prestigious group of national institutions: the Transportation Research Board of National Research Council, the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.³⁴ The committee conducted extensive interviews and deliberations, meeting five times over a one-year period.³⁵ The committee then prepared a draft report and submitted it for multiple independent reviews.³⁶ The report is thorough—filling over 150 pages.³⁷

SR310 notes that the initial U.S. offshore wind energy regulations were promulgated with a “sense of urgency,”³⁸ because it was thought that offshore wind farms would be coming soon to the United States.³⁹ The committee asserted that the SMS requirement in Subpart H was intended to *preempt OSHA* regulation of safety and health in the OCS.⁴⁰ But SR310 noted that BOEM knew that its regulations were “vague,” so BOEM planned to “enhance them.”⁴¹ As part of its work, the committee identified hazards and recognized existing regulations, standards, and best practices.⁴² The committee described its scope of work as including three main tasks:

- identify unique risks to worker health and safety on wind farms, as compared with oil and gas operations on the OCS;
- identify any gaps or overlaps in jurisdictional authority; and
- evaluate the adequacy of existing regulations and recommended enhancements to

³¹ 30 CFR §§ 585.813-585.833.

³² TRB. 2013. Special Report 310: Worker Health and Safety on Offshore Wind Farms. Transportation Research Board of the National Academies, Washington, D.C. <https://www.bsee.gov/sites/bsee.gov/files/tap-technical-assessment-program//686aa.pdf> and available for free download at <https://www.nap.edu/catalog/18327/worker-health-and-safety-on-offshore-wind-farms-special-report-310> (cited in this paper as SR310).

³³ *Id.*

³⁴ *Id.* at 5th un-numbered page and p. vii.

³⁵ *Id.* at viii.

³⁶ *Id.* at xi-xii.

³⁷ *See generally id.*

³⁸ *Id.* at vii.

³⁹ *Id.*

⁴⁰ *Id.* at vii and 2.

⁴¹ *Id.* at 12-13.

⁴² *Id.* at 11-13.

regulations for worker health and safety on OCS wind farms.⁴³

SR310 further noted that BOEM's regulations did not specify the required contents of an SMS.⁴⁴

SR310 made a number of general observations regarding the hazards of wind farms. The report stated:

For offshore wind turbines and land-based wind turbines, once the technician is inside the wind turbine, most tasks are exactly the same. . . . Developers of offshore wind projects face similar issues [to developers of onshore wind farms], including extensive planning in a costly process that can take years. . . . All the decisions that the developer makes before installation have consequence and affect all future outcomes . . . This is especially true of health and safety considerations. . . . Consideration of health and safety should begin during the initial planning stages and continue throughout the life of the project. . . . Developers must also understand the seabed conditions at the site, including currents in the subsea terrain, both of which are important in predicting and protecting against scour. . . .⁴⁵

The committee de-emphasized the complexity of the operations phase, stating that “[o]nce they are operational, wind farms are essentially unmanned offshore facilities with personnel accessing them only to perform maintenance and repairs.”⁴⁶ SR310 also discussed wind farm development tasks common to land-based and offshore facilities,⁴⁷ tasks unique to offshore facilities,⁴⁸ similarities and differences between offshore oil and gas facilities and offshore wind farms,⁴⁹ and hazards of wind farm development.⁵⁰

The report also compared the hazards of offshore oil and gas facilities relative to offshore wind farms and included a comparison chart.⁵¹ The committee then included the following non-comprehensive list of “common hazards of wind farms”:

- Assembly and fit up (installation only)
- Chemical exposure
- Confined space entry
- Crane and lifting
- Demolition (decommissioning only)
- Diving
- Dropped objects
- Electrocution and arc flash

⁴³ *Id.* at 15.

⁴⁴ *Id.* at 9.

⁴⁵ *Id.* at 27.

⁴⁶ *Id.* at 31.

⁴⁷ *Id.* at 33.

⁴⁸ *Id.* at 33-34.

⁴⁹ *Id.* at 35-36.

⁵⁰ *Id.* at 36-38.

⁵¹ *Id.* at 38-41.

- Emergency evacuation
- Electric and magnetic field exposure (operations only, once power is being generated)
- Falls from height
- Fire
- Human factors health issues (climbing, awkward postures)
- Human factor safety issues (pinch points, rotating equipment)
- Noise exposure
- Personnel transfers (falls into the water); access by boat; access by helicopter
- Slips and trips
- Vibration
- Weather exposure⁵²

SR310 then discussed jurisdiction and the regulation of worker health and safety.⁵³ The Committee addressed the following agencies and their respective jurisdictions:

- Bureau of Ocean Energy Management (BOEM)⁵⁴
- Bureau of Safety and Environmental Enforcement (BSEE)⁵⁵
- United States Coast Guard (USCG)⁵⁶
- Occupational Safety and Health Administration (OSHA)⁵⁷
- U.S. Army Corps of Engineers⁵⁸
- Federal Energy Regulatory Commission (FERC)⁵⁹
- State “mini-OSHA” programs⁶⁰

SR310 then discussed regulations and best practices addressing unique offshore wind farm worker safety and health hazards.⁶¹ The committee created a detailed chart (Table 4-1) of potential hazards on offshore wind farms and relevant regulations.⁶² This chart occupies three full pages of SR310.⁶³ The report then analyzed these in substantial detail.⁶⁴

After pointing out the sparseness of the BOEM regulations’ descriptions of requirements in an SMS, SR310 extensively reviewed multiple relevant sources to identify the important elements of

⁵² *Id.* at 37.

⁵³ *Id.* at 44-69.

⁵⁴ *Id.* at 46-50.

⁵⁵ *Id.* at 50-53.

⁵⁶ *Id.* at 54-59.

⁵⁷ *Id.* at 59-64.

⁵⁸ *Id.* at 66-67.

⁵⁹ *Id.* at 67.

⁶⁰ *Id.* at -69.

⁶¹ *Id.* at 83-107.

⁶² *Id.* at 85-87.

⁶³ *Id.*

⁶⁴ *Id.* at 88-107.

SMSs.⁶⁵ The committee clearly believed that published SMS standards from other sources provided relevant guidance for offshore wind energy SMSs under the BOEM regulations and listed ten specific examples of relevant sources from institutions such as API, IMO, ILO, ANSI, OSHA, MMS, Cape Wind Project SMS, and BSEE.⁶⁶ The committee then spent over seven pages of SR310 (over four pages of text plus a three-page chart) discussing common elements of these documents.⁶⁷ The committee felt that it had identified key features of SMSs and SEMs, such as a positive safety culture, the use of key performance indicators (KPIs), inspections and audits identifying potential incidents of non-compliance (PINCs), and training.⁶⁸

The committee proceeded from this review and took the explicit step of describing and discussing what it determined to be the common components of SMSs, under the three broad headings of “Safety Policy and Organization,” “Planning,” and “Implementation:”

1. Safety Policy and Organization
 - a. Policy for Ensuring Worker Health and Safety
 - b. Authority and Responsibility for Key Positions
 - c. Personnel qualifications, training, competency
 - e. Management commitment and employee participation
2. Planning
 - a. Hazards Analysis
 - b. Health and safety hazard mitigation; hierarchy of hazard controls
 - c. Operating Procedures
 - d. Management of Change
 - e. Emergency Preparedness, prevention, response
 - f. Quality Assurance, Mechanical Integrity, Maintenance
 - g. Commissioning
3. Implementation
 - a. Communication
 - b. Procurement
 - c. Contracting and Contractors
 - d. Incident Investigation and Reporting
 - e. Audits
 - f. Inspections
 - g. Records and documentation

⁶⁵ *Id.* at 108-138.

⁶⁶ *Id.* at 111.

⁶⁷ *Id.* at 112-119.

⁶⁸ *Id.* at 122-136.

- h. Performance monitoring, measuring, KPIs
- i. Corrective and preventive actions
- j. Continual improvement⁶⁹

Finally, SR30 published the Committee's Findings and Recommendations. The Findings are summarized as follows:

1. BOEM has legal responsibility for worker safety on offshore wind farms on the OCS.
2. BOEM's regulations are not well developed.
3. An SMS can be an effective tool, but only if it is sufficiently detailed and if it is embraced by organizations, and if it reflects a positive safety culture.
4. Goal-based regulations could allow the appropriate flexibility needed for technological changes and continued development.
5. Some SEMS requirements for offshore oil and gas could be adopted to offshore wind, but in general risk is greater for oil and gas than for wind.
6. BOEM's SMS covers everything contained in the SAP, the COP, and the GAP. Therefore, BOEM's jurisdiction over offshore wind includes onshore activities outside of the OCS.
7. A well-defined national regulatory framework would be a resource for OSHA and states in their jurisdictions.
8. Many existing OSHA and USCG standards could be applied to hazards in offshore wind.
9. Human Factor Engineering (e.g., ASTM guidance) is a central element of designing for safety.
10. There is an existing Memorandum of Agreement (MOA) between BOEM and USCG and an existing Memorandum of Understanding (MOU) between USCG and OSHA, but they are unclear as to which regulations will be enforced, and by whom, and do not adequately address issues applicable to offshore wind farms.
11. Valid and reliable data generated by audit (including key performance indicators (KPIs)) are essential for monitoring safety performance and organizational goals.
12. BOEM'S inspection process for wind turbines is not well developed, nor is an audit process part of the regulations.
13. Neither BOEM nor BSEE has established training programs for offshore wind inspectors.
14. Health and safety guidelines lack consistency between manufacturers and operators within the wind industry, leading to redundant training and certification standards.

The committee further made a number of important recommendations,⁷⁰ which are summarized as follows:

1. (a) BOEM should adopt a full SMS rule at a level of detail that includes the baseline requirements described in SR310. (b) BOEM and BSEE should take a leadership role in consultation with a variety of stakeholders to adopt clear SMS standards with guidelines and best practices.

⁶⁹ *Id.* at 112-115.

⁷⁰ *Id.* at 139-151.

2. BOEM's enhanced SMS standards should be contained in a single comprehensive document, promoting positive safety culture and with specific requirements.
3. BOEM, BSEE, and stakeholders should assess in detail the adequacy of current US (e.g., OSHA and USCG) and foreign (e.g., UK Health and Safety Executive) regulations and marine construction guidelines in addressing the hazards for offshore wind farm worker health and safety in the OCS.
4. BOEM and BSEE should require the inclusion of Human Factors Engineering (HFE) and Prevention through Design (PtD) elements in any updated SMS requirement for offshore wind farms.
5. BOEM should review its MOA with USCG, and USCG should review its MOA with OSHA.
6. (a) BOEM should enlist help of industry stakeholders in research, developing, and publishing standards for Key Performance Indicators. (b) BOEM should require organizations operating on the OCS to submit all internal audit plans, including relevant KPIs to be collected, electronically.
7. As it updates inspection and audit processes and procedures, BOEM should examine the holistic approach recommended for wind energy.⁷¹

3.2 Project 709 – *BSEE Is Not Throwing Away Its Shot*

In November 2012, BSEE published a report containing an example hypothetical SMS.⁷² The report was prepared by PMSS American, Inc. (“PMSS”), a consulting firm engaged by BSEE earlier that year⁷³ to develop an example SMS and to develop an assessment framework and principles that BSEE could use to assess the adequacy for managing safety systems contained in an SMS.⁷⁴ The bulk of the body of the document created by PMSS was the example SMS based on a hypothetical business entity called “GoWind.” The report stated:

The purpose of a SMS is to describe how an entity manages its activities in EHS matters. The document describes the organization and risk control measures required to fulfill the Health and Safety (“H&S”) Policy and a systematic approach to EHS management in conformance with industry best practices for SMS and pertinent regulations.⁷⁵

This paper will not attempt to summarize Project 709's hypothetical example SMS, but it is worth noting that it was 85 pages long.

3.3 AWEA Recommended Practices – *Oh, The Movie Never Ends, It Goes On And On*

In 2012, the American Wind Energy Association (AWEA, now American Clean Power

⁷¹ *Id.*

⁷² Proposed Research on Safety of Offshore Wind Operations in the US Outer Continental Shelf: Example Safety Management System and Audit Criteria, United States Department of the Interior, Bureau of Safety and Environmental Enforcement, Contract No. E12PC00041, BSEE Report No. TA&R Project 709, November 2012, Final Report, For Public Use, available at <https://www.bsee.gov/sites/bsee.gov/files/tap-technical-assessment-program//709aa.pdf> (“BSEE Project 709 Report”).

⁷³ *Id.* at 4.

⁷⁴ *Id.*

⁷⁵ *Id.*

Association, ACPA) published Offshore Compliance Recommended Practices (2012), Recommended Practices for Design, Deployment, and Operation of Offshore Wind Turbines in the United States.⁷⁶ While these detailed and thorough guidelines did not acquire the force of law, they attempted to fill the perceived gap in the regulatory structure and created a document that has served as a *de facto* reference for the industry; indeed, it has been called “a consensus-based road map to facilitate ‘best industry practices.’”⁷⁷

CHAPTER 4 THE PAST DECADE

4.1 The Regulations – *The More Things Don't Change, The More They Stay The Same.*

Despite the vigorous and detailed recommendations issued in SR310 at the request of BOEM, Subpart H has not been amended or updated in any way since. Nevertheless, there have been significant developments within the last few years. Notably, beginning in 2017, the U.S. Offshore Wind Standards Initiative began updating the 2012 AWEA Best Practices Document,⁷⁸ with publication promised in December 2021.⁷⁹

4.2 The 2019 Policy Statement – *You Were Serious About That?*

The Department of the Interior has recently taken formal action to clarify its dominance over OSHA and USCG in regulating safety and environmental issues affecting the development of offshore wind energy facilities on the OCS. On October 18, 2019, the Department of the Interior published in the Federal Register a Policy Statement that “clarifies the role of Department of the Interior (DOI) in regulating workplace safety and health conditions on renewable energy facilities on the outer continental shelf (OCS).”⁸⁰ The Policy Statement goes on to state that “DOI will act as the principal Federal agency for the regulation and enforcement of safety and health requirements for OCS renewable energy facilities. DOI considers its regulatory program, described in part above, to occupy the field of workplace safety and health for personnel and others on OCS renewable energy facilities, and to preempt the applicability of Occupational Safety and Health Administration (OSHA) regulations.”⁸¹ The Policy Statement further states in a footnote, “DOI notes that the USCG regulations do not extend to workplace safety on OCS renewable facilities,”⁸² and “DOI will collaborate and consult with OSHA on the applicability and appropriateness of workplace safety and health standards for the offshore wind industry and other offshore renewable industries.”⁸³

In a respectful nod to the Coast Guard, the Policy Statement says, “DOI will continue to collaborate

⁷⁶ American Wind Energy Association, Offshore Compliance Recommended Practices (2012), Recommended Practices for Design, Deployment, and Operation of Offshore Wind Turbines in the United States, available at https://offshorewindhub.org/sites/default/files/resources/awea_9-16-2012_oswrecommendedpractices.pdf.

⁷⁷ U.S. Offshore Wind Standards Initiative, presented at Business Network for Offshore Wind International Partnering Forum 2019, April 10, 2018, available at <http://www.offshorewindus.org/2019ipf/pres/offshore.pdf>, at Slide 3.

⁷⁸ *Id.*

⁷⁹ *Id.* at Slide 10.

⁸⁰ Department of the Interior, Policy Statement, October 18, 2019, 84 FR 55861-55862, available at <https://www.federalregister.gov/documents/2019/10/18/2019-22826/departments-of-the-interior-policy-statement-on-regulating-workplace-safety-and-health-conditions-on> (“Policy Statement”).

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

with the USCG to share relevant safety and training information and promote safety on the OCS.”⁸⁴ Finally, the Policy Statement acknowledged that DOI might need to make its regulatory regime more robust, stating that “[i]n implementing this policy statement, DOI may amend its regulations or issue guidance related to the workplace health or safety of employees on renewable energy facilities on the OCS.”⁸⁵

4.3 The 2020 Memorandum of Agreement – *Here We Come, Walkin' Down The Street*

The relationship between BOEM and BSEE also remains an issue of great interest. In December of 2020, BOEM and BSEE entered into a Memorandum of Agreement that “establishes a general framework for coordination between” BOEM and BSEE in regulating OCS renewable energy activities and “is intended to clarify each bureau's roles and responsibilities and promote efficient use of each bureau's resources.”⁸⁶ The MOA asserts BOEM's legal dominance, stating that “[p]er Secretaries Order 3299, as amended and issued August 29, 2011, BOEM has authority over all aspects of the OCS renewable energy program until the Assistant Secretary for Land and Minerals Management (ASLM) ‘determines that an increase in activity justifies transferring the inspection and enforcement functions to [BSEE].’”⁸⁷

There is clearly pressure for a greater role for BSEE. The MOA states that “BOEM currently has authority over [environmental, inspections, enforcement, and investigations] aspects of the OCS renewable energy program but recognizes that its exercise of this authority would benefit from consultation and coordination with the robust compliance and enforcement functions of BSEE.”⁸⁸ Therefore, the MOA continues, “BSEE will conduct activities, consult, and advise in support of BOEM for the functional areas” listed therein.⁸⁹ The MOA continues, “BSEE will formulate recommendations for BOEM’s consideration regarding potential regulatory actions, including enforcement. BOEM will issue any official regulatory actions within its delegated areas of responsibility.”⁹⁰ The MOA also acknowledges that BSEE’s role is expected to grow as the offshore wind energy grows in the United States, stating “[o]nce the ASLM has directed the transfer of inspection and enforcement functions to BSEE, this MOA will be revised to reflect the changed relationship between the bureaus and modify processes as appropriate.”⁹¹

4.4 Developments in 2021 – *Don't Stop Believing.*

When the new president took office on January 20, 2021, the United States transitioned from having a president who was openly hostile to wind energy to a president who set decarbonization and renewable energy, including offshore wind energy, as high priorities.⁹² And the trend toward a greater role for BSEE, which began in 2019 and 2020 as discussed above, continued and accelerated in 2021.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ Memorandum of Agreement Between the Bureau of Ocean Energy Management And the Bureau of Safety and Environmental Assessment – Renewable Energy, December 2020 (“MOA”), available at https://www.boem.gov/sites/default/files/documents/renewable-energy/BOEM-BSEE-Renewable-Energy-MOA_0.pdf, ¶ I.

⁸⁷ *Id.* at ¶ II.

⁸⁸ *Id.* at ¶ III.

⁸⁹ *Id.* at ¶ IV.

⁹⁰ *Id.*

⁹¹ *Id.* at ¶ VI.

⁹² Executive Order on Tackling the Climate Crisis at Home and Abroad, January 27, 2021, available at <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>.

On May 20, 2021, BOEM and BSEE *jointly* sponsored an Offshore Wind Workshop on the Offshore Wind Regulatory Framework.⁹³ The leaders of the workshop were Darrell François, Office of Renewable Energy Programs, Chief Engineering and Technical Review, and Sheri Hunter, BSEE Renewable Energy Program Coordinator.⁹⁴ The material presented at this workshop discussed BSEE's renewable energy role as extensive and included a slide presentation stating the following:

BOEM is communicating to the current offshore wind lessees that BSEE is acting on behalf of BOEM in connection with the following functional areas:

- Environmental and safety management, including development and oversight of Safety Management Systems
- Incident Reporting
- Inspections
- Investigations
- Facility and equipment maintenance
- Verification activities, including Certified Verification Agent responsibilities
- Structural assessments
- Oil spill preparedness
- Decommissioning and site clearance, including plan review
- Environmental compliance
- All matters involving the safety of personnel⁹⁵

The May 20, 2021 Offshore Wind Workshop also included a presentation by Stanislaus Kaczmarek, Chief Safety and Environmental Management System Section, Office of Offshore Regulatory Programs, BSEE.⁹⁶ His presentation was entitled, “Safety Management System (SMS) Considerations for Renewable Energy Projects on the OCS” and provided great insight into the thinking of BSEE regarding the proper content of an SMS.

The presentation reviewed the parameters of the SMS requirement, considered the anticipated risks in offshore wind energy, provided SMS guidance, discuss the role of standards in the SMS, and urged the need for industry-led standards development and expansion of applicable standards.⁹⁷ The presentation noted that the Department of the Interior had HSE/SMS guidance under development⁹⁸ and focused on the role and availability of standards.⁹⁹ Mr. Kaczmarek explained that the “consensus-based standards” would

⁹³ Slides by Darryl Francois and Cheri Hunter, Offshore Wind Regulatory Framework, Offshore Wind Workshop, May 20, 2021 (“21 May 2021 Offshore Wind Workshop, PDF”), available at <https://www.bsee.gov/sites/bsee.gov/files/offshore-wind-regulatory-framework-ooc-may202021.pdf>.

⁹⁴ *Id.* at Slide 1.

⁹⁵ *Id.* at Slide 6.

⁹⁶ Slides by Stanislaus Kaczmarek, Offshore Wind Workshop, Safety Management System Considerations for Renewable Energy Projects on the OCS, May 20, 2021 (“21 May 2021 Offshore Wind Workshop, PDFb”), available at <https://www.bsee.gov/sites/bsee.gov/files/technical-presentations//ooc-presentation-sms-in-ocs-renewable-projects-may-20.pdf>, Slide 1.

⁹⁷ *Id.* at Slide 2

⁹⁸ *Id.* at Slide 8

⁹⁹ *Id.* at Slide 9.

be preferred over “homegrown approaches.”¹⁰⁰ The presentation said that three approaches to safety would be monitored by DOI/BSEE differently:

- Design out the risk, for which the primary oversight mechanism would be a Certified Verification Agent (CVA)
- Design in safety components, for which the primary oversight mechanism would be self- and BSEE-led inspections
- Create and utilize safety and environmental controls, for which the primary oversight mechanism would be audits (self-, third-party-, BSEE-led)¹⁰¹

The presentation listed standards that might be considered in preparing SMS components, such as, for SMS Standards, ISO 4501, ANSI Z10, and API RP 75,¹⁰² along with additional examples of design standards, U.S. Coast Guard standards, lifting standards, electric standards, and other miscellaneous examples.¹⁰³ The presentation then concluded with the following conclusions regarding “[t]he path ahead”:

- Experience from the oil and gas sector can influence the safety of US OCS renewable energy operations
- International experience and standards gain primacy when US standards are unavailable or lacking
- DOI/BSEE as the regulator will push for the safest applications¹⁰⁴

BSEE’s approach to these issues was amplified a few weeks later at the Gulf of Mexico Intergovernmental Renewable Energy Task Force Meeting on June 15, 2021.¹⁰⁵ The following very strong statement was presented at the meeting:

BOEM and BSEE agree that the offshore renewable energy industries, particularly the offshore wind industry, have now grown sufficiently to justify ... a transfer of functions [from BOEM to BSEE as contemplated by the December 2020 MOA]. There is expectation of a forthcoming transfer of safety and compliance responsibilities to BSEE.¹⁰⁶

BSEE is also formulating Health, Safety, and Environmental (HSE) guidelines, asserted at the request of the offshore wind industry.¹⁰⁷ This presentation discussed the following developments and issues:

- BSEE is developing HSE management guidelines for offshore wind construction,

¹⁰⁰ *Id.* at Slide 10.

¹⁰¹ *Id.* at Slide 11.

¹⁰² *Id.* at Slide 12.

¹⁰³ *Id.* at Slides 13-17.

¹⁰⁴ *Id.* at Slide 18.

¹⁰⁵ Slides by Cheri Hunter, BSEE's Offshore Renewable Energy Program, GOM Renewable Task Force Meeting, June 15, 2021 (“June 2021 GOM Meeting PDF”), available at <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BSEE-Cheri-Hunter.pdf>.

¹⁰⁶ *Id.* at 3.

¹⁰⁷ Video of Presentation by Cheri Hunter, GOM Renewable Task Force Meeting, June 15, 2021 (“GOM Meeting BSEE Video”), available at <https://www.boem.gov/newsroom/videos/gulf-mexico-gom-intergovernmental-renewable-energy-task-force-meeting-bsee>.

installation, and operations activities [for these reasons:]

- Offshore wind industry requested clarification
- Lack of industry guidelines, standards and practices
- Risks and Performance-based Regulation
- SMS Requirements and Guidance
- Role and Availability of Standards
- Demonstrating a Functional SMS
- Monitoring and Reporting
- The SMS defines how 'you' will ensure safety¹⁰⁸

Clearly, BSEE *expects* to become the regulator of safety and health issues arising from offshore wind energy development on the OCS. As of November 2021, its website asserts:

BSEE leads the development of workplace safety and environmental compliance strategies for offshore renewable energy projects on the Federal OCS. BSEE currently has an interdisciplinary team of technical, inspection, and policy experts tasked with our renewable energy mission. Most team members work on both renewable energy and oil and gas programs. This allows our agency to be efficient in our use of resources, engage existing expertise from around the bureau, and be flexible with our use of personnel as the offshore renewable energy industry grows.

BSEE, in collaboration with the Bureau of Ocean Energy Management (BOEM), is developing strategies to:

- Oversee safety and environmental requirements for facility design, fabrication, installation, operation, and decommissioning.
- Promote the safety of operations through regulatory requirements and programs such as safety management systems, inspections, incident reporting, and investigations.
- Enforce compliance with all applicable safety, environmental, and conservation laws and regulations.¹⁰⁹

Further supporting this conclusion is that BOEM formally announced in 2021 that it has “identified opportunities for clarifying its renewable energy regulations” and “is proposing reforms to facilitate offshore renewable energy development in a manner that is safe, environmentally sound, and provides fair return to U.S. Taxpayers.”¹¹⁰ This formal announcement implies that a set of proposed regulations – a “Renewable Energy Modernization Rule” – may be expected to be made public sometime in 2022. The exact contents of the proposed regulations remain subject to speculation, but an expanded role for BSEE should be expected.

¹⁰⁸ June 2021 GOM Meeting PDF, p. 7.

¹⁰⁹ <https://www.bsee.gov/what-we-do/renewable-energy>

¹¹⁰ <https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202104&RIN=1010-AE04>.

CHAPTER 5

CONCLUSION AND OUTLOOK FOR THE FUTURE

The first legal authority for the development of offshore wind energy in the federal waters of the United States came into effect in 2005. Congress delegated the regulatory authority over offshore wind energy on the OCS to the Department of the Interior. Four years later, in 2009, DOI promulgated its first regulations for offshore wind energy. These regulations made the Minerals Management Service DOI's delegated legal authority for regulating offshore wind energy.¹¹¹

But only a year after these regulations were adopted came the Macondo disaster, leading to the division of MMS into BOEM BSEE, and ONRR. But all of DOI's regulatory authority over offshore wind energy went to BOEM, despite BSEE's expertise and staffing in the area of offshore safety and environmental enforcement.¹¹²

With respect to safety and health issues for offshore wind facilities on the OCS, the initial regulations required that regulated entities prepare and use a SMS but did not contain much specificity or guidance as to what should be contained in such an SMS. These initial safety and health regulations seem to have been essentially intended as "placeholders." There was every expectation that they would be amended and supplemented. Yet they have not been, except to transfer the authority from the dismantled MMS to the new BOEM, as the offshore wind industry has not developed in the United States as quickly as had been expected.¹¹³

But in the last few years, there have nevertheless been significant developments. The Department of the Interior has formally published a notice in the Federal Register to clarify that it fully intends to preempt OSHA with respect to all health and safety aspects of offshore wind energy development on the OCS. And BOEM and BSEE have entered into MOA that acknowledges a significant and growing role for BSEE with respect to offshore wind energy, which will ultimately result in the transfer of the jurisdiction for health safety and environmental issues with respect to offshore wind energy facilities on the OCS to BSEE. Anticipating this development, BSEE is devoting substantial resources to developing guidance for the offshore wind industry in the U.S.¹¹⁴

This will likely result in substantial amendment of the applicable regulations, as was anticipated when the initial regulations were first promulgated. This will most probably include an expansion of BSEE's role in the regulation of safety in offshore wind energy facilities in the U.S. OCS. But the scope and nuances of this remain to be seen. These will deserve careful attention when they become available to the public. And until then, participants in the offshore wind industry in the United States would be well advised to closely review and follow industry standards and best practices in preparing their SMSs for offshore wind energy development on the OCS.¹¹⁵

¹¹¹ See Ch. 1.

¹¹² See Ch. 1-2.1.

¹¹³ See Ch. 1.1-3.1, and 4.3.

¹¹⁴ See Ch.4.

¹¹⁵ *Id.*

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