**UNITED STATES DEPARTMENT OF THE INTERIOR**
**BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT**

December 17, 2010

# Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan (COP)

## INTRODUCTION

This document provides guidance on the information requirements for a Construction and Operations Plan (COP) for Outer Continental Shelf (OCS) renewable energy activities on a commercial lease, as required by 30 CFR Part 285. The Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) is providing these guidelines to clarify and supplement information requirements for COP submittals. Specifically, the purpose of this document is to provide guidance on survey requirements, project-specific information, and information to assist BOEMRE in complying with the National Environmental Policy Act (NEPA) and other relevant laws.

This document is intended to be used as informal guidance to the regulated community and is not intended to set information or data standards or prescribe additional requirements. Rather, the purpose of this document is to further explain the applicable provisions of BOEMRE's renewable energy regulations, found at 30 CFR Part 285, and provide examples of documentation that you may submit to help BOEMRE evaluate whether you meet the requirements found in the regulations.

### Authority and Background

On April 29, 2009, BOEMRE (formerly known as the Minerals Management Service) published final regulations in the *Federal Register* for 30 CFR Part 285 which became effective on July 28, 2009. The regulations establish a program to issue leases, easements, and rights-of-way (ROW) grants for renewable energy project activities on the OCS. A COP contains information describing your proposed commercial renewable energy activities, including generation, storage, or transmission of electricity or other energy products (except hydrokinetic projects). "You" refers to the commercial lease applicant, leaseholder or operator of facilities on a commercial lease.

The information required to be submitted in a COP is specified in 30 CFR 285.626 (a) and (b). In addition to your COP, detailed information and certifications (as specified under Part 285.627) must also be submitted to assist BOEMRE in complying with its NEPA obligations and those of other relevant environmental laws. The BOEMRE will review your submitted COP, and the information pursuant to § 285.627, to determine if it contains all the required information necessary to conduct its environmental and technical reviews. Additional information in the form of best management practices (BMPs) resulting from the Record of Decision for the 2007

*Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf* (Section 2.7), prepared by BOEMRE is presented in Appendix A. You should review and refer to the BMPs as you design your project and incorporate them in all your project planning and implementation stages. BMPs that are not proposed as part of your project may be included as conditions of approval of your COP.

A COP will typically be submitted six months prior to the completion of the site assessment phase. You also have the option of submitting a Site Assessment Plan (SAP) and COP concurrently. The COP (or concurrent SAP/COP) is submitted only after you have a clearly defined project proposal and sufficient data and information for BOEMRE to conduct technical, NEPA, and other required reviews.

This guidance is designed to explain what information is required by the regulations and the appropriate level of detail necessary such that BOEMRE can deem your COP complete and ready for consideration. Your COP should include, as part of the information pursuant to Part 285.627, the requested baseline information requirements and impact-producing factors found in Attachment F. Additional information and/or analyses may be needed after your COP is submitted that are integral to BOEMRE's review process. The scope of additional information and/or analyses will be identified on a project-by-project basis, and is determined by the (1) alternatives developed and analyzed for your project; (2) concerns raised during the public scoping and hearing processes; and (3) technical design reviews by BOEMRE of your proposed project. Attachment F identifies other possible information needs. The need for, and process of providing additional information and/or analyses may change your proposed project plan and affect the project schedule. Additional mandatory mitigation measures and monitoring requirements may be identified or changed during the environmental review process.

The information in a COP is intended to inform BOEMRE of proposed construction, commercial operations, and decommissioning activities. You should design your project and conduct all activities in a manner that ensures safety and will not cause undue harm or damage to archaeological or natural resources, and take measures to prevent the unauthorized discharge of pollutants including marine trash and debris into the offshore environment (30 CFR 285.105). The information in a COP is also used to meet requirements of the Outer Continental Shelf Lands Act (OCSLA), NEPA, and other applicable laws and regulations.

A COP must be submitted in a form and provide content that is satisfactory to BOEMRE. This document provides guidance regarding the form and content of your COP submission.

**Release of COP Information**

Following COP submittal, BOEMRE will conduct a completeness review to ensure that the required elements of your submittal are present. Once the Bureau has determined that your submittal is complete, it intends to make the COP a public document, and may make it available on BOEMRE's web site. However, before doing so, BOEMRE will remove all privileged or confidential information from the version of the submittal that will be made public.

The BOEMRE will protect privileged or confidential information that you submit as required by the Freedom of Information Act (FOIA) and the Trade Secrets Act. Exemption 4 of FOIA applies to trade secrets and commercial or financial information that you submit that is privileged or confidential. If you wish to protect the confidentiality of such information, clearly mark it and request that BOEMRE treat it as confidential. The BOEMRE will not disclose such information, subject to the requirements of FOIA and, as applicable, the Trade Secrets Act. However, BOEMRE will not treat as confidential any aggregate summaries of such information or comments not containing such information. Please label privileged or confidential information "Contains Confidential Information" and consider submitting such information as a separate attachment. In addition, Section 304 of the National Historic Preservation Act requires BOEMRE, after consultation with the Secretary of the Interior (Secretary), to withhold the location, character, or ownership of historic resources if determination is made that the disclosure may, among other concerns, risk harm to the historic resources or impede the use of traditional religious site by practitioners.

**Paperwork Reduction Act (PRA) Statement**

The collection of information referred to in this document provides clarification, descriptions, or interpretations of requirements found in 30 CFR Part 285. This document does not impose additional information collection requirements subject to the Paperwork Reduction Act.

**Number of Copies**

**30 CFR 285.622:** You are required to provide BOEMRE with one paper copy and one electronic version of your COP and all supporting materials. Please consult the appropriate Region for the preferred electronic format (see Section E of this guidance). If the COP contains information considered proprietary, depending on the amount of proprietary information, prepare a submittal that either: (1) contains a version stamped "public copy" without proprietary information and an agency version stamped "proprietary information;" or (2) consists of a public copy with all proprietary information in an appendix that can be removed before the COP is made public. The BOEMRE may request additional hardcopies if affected states require them for their Coastal Zone Management Act consistency review or concurrence.

**Table for Contents for your COP**

To facilitate easy review of your COP, it is highly advisable to structure your COP around the regulatory sections in 30 CFR Part 285 and identify the information submitted to satisfy the requirements of each section. If you choose an alternate organization for your COP, please provide adequate cross references to the corresponding regulatory sections to allow us to trace your inputs back to the requirements of the regulations. Attachment B has been provided as an example of an organizing theme that you may use to describe the elements of a project description. If you choose to use such a theme, ensure all appropriate regulatory sections are cross-referenced within it.

**Table of Contents**

## A. Contents of a Construction and Operations Plan (COP)

### (1) COP Purpose and Scope

The purpose of the COP is to provide a description of all proposed activities and planned facilities that you intend to construct and use for a project under a commercial lease. The COP must include all planned facilities, including onshore and support facilities, as well as anticipated project easements needed for the project. It must also describe the activities related to the project including construction, commercial operations, maintenance, decommissioning, and site clearance procedures. The COP will provide the basis for the analysis of the environmental and socioeconomic effects and operational integrity of your proposed construction, operation, and decommissioning activities.

The scope of a COP depends on how you wish to develop the commercial lease (for example, if you plan to construct your project in phases, this should be clearly documented). Data gathered from site assessment activities may be used to develop your COP. In the event your project requires additional survey data beyond that already completed, BOEMRE will review the survey plans described in your COP before you begin such additional survey activities.

The submission of your COP is the initial step in a multi-step review process that may result in COP approval. Your COP will be reviewed by BOEMRE to determine if it contains all the required information necessary to conduct its technical and environmental reviews (30 CFR 285.628). If we determine that your COP meets submittal requirements, we will deem it complete, and discuss with you the processing costs and the preparation of appropriate environmental analysis documents (30 CFR 285.111).

### (2) Submittal of a SAP/COP: Pre-Survey Coordination with BOEMRE

In the event you submit a combined SAP/COP, you are strongly encouraged to discuss your pre-survey planning with BOEMRE to ensure all surveys are conducted in a manner that addresses the regulatory information requirements for a COP and those of state agencies with jurisdictional authority over your activities. Pre-survey coordination provides an opportunity for us to discuss common goals and expectations, agree upon the technical aspects and key parameters for the surveys, and ensure you have the necessary authorizations or permits from other resource agencies before you contract and mobilize your resources for an offshore survey(s). We also may be able to help you tailor your survey(s) to the site-specific needs of your project area. Additionally, our review of your COP could be delayed if you do not submit the results, including methodology for acquisition and processing, and the supporting data from any of your previously conducted surveys.

## (3) Required Survey Results and Supporting Data

**30 CFR 285.626(a)** As part of your COP you must submit the results and supporting data from survey investigations (including previous surveys from the site assessment phase of your lease, if conducted) performed in support of the construction and operations activities you plan to conduct on your commercial lease. To ensure the accuracy and quality of the data, BOEMRE recommends that you submit information detailing the methodology, data processing, spatial information, and acquisition of your surveys. The information needs for survey reports are provided below and may be elaborated upon in other guidance developed by BOEMRE. Your COP should describe resources, conditions, and activities that may be affected by your proposed activities, and also include environmental conditions (e.g. sea floor structure, seismic activity) that could affect the activities proposed in your COP.

Your shallow hazard (a)(1), geological (a)(2), geotechnical (a)(4), and archaeological (a)(5) survey results should be combined into one integrated Site Investigation Report (30 CFR 285.626(a)(6)) that may include any information gathered under the site assessment phase of your lease or from other sources. Your geological and biological surveys should determine whether: (1) there is live bottom in the area of your project; and (2) the live bottom contains viable biological communities. See the requirements of 30 CFR 285, the guidance contained below, and Attachment F for more information.

(a)(1) Shallow hazards survey.
Your shallow hazards survey results and supporting data should provide information sufficient to determine the presence of surface and shallow subsurface geological features and conditions and their likely effects on your proposed construction, operations, and facilities including, but not limited to:

(i) Shallow faults;
(ii) Gas seeps or shallow gas;
(iii) Mobile sediments, slumps or slides, potentially unstable slopes, creep, karst topography,
(iv) Surface live bottoms (in particular, rock exposed at the surface and not overlain with sediment veneer), buried channels and scour features,
(v) Ice scour of seabed sediments, and
(vi) Shipwrecks, cables, artificial reefs, buoys, debris and other man-made objects.

Your shallow hazards survey results, supporting data, and report should be submitted with the COP, and information acquired from them should be integrated with the information needs of section 285.626, and should include any information gathered under the site assessment phase of your lease. See Section (a)(5) of this guidance for further information on how to submit sensitive archaeological information.

(a)(2) Geological survey relevant to the design and siting of your facility.
Your geological report should provide an integrated interpretation of shallow subsurface conditions based on a shallow hazards survey, and should include any information collected from other sources. Discuss how identified features may impact proposed construction, facilities, or operations. Report assessments of the following:

(i) Seismic activity at your proposed site;
(ii) Fault zones;
(iii) The possibility and effects of seabed subsidence; and
(iv) The extent and geometry of faulting attenuation effects of geologic conditions near your site.

(a)(3) Biological survey.
Your biological survey results should report the presence/absence and distribution of biologically sensitive resources in the vicinity of your proposed activities and structures, including live bottoms, fish populations (including migratory populations), marine mammals, sea turtles, and birds. Include information on temporal and spatial abundance and seasonality of use for each species. See Attachment F for more detailed information.

(a)(4) Geotechnical survey.
Your geotechnical survey results, supporting data, and sediment testing program should investigate the stratigraphic and geoengineering properties of the bottom sediment that may affect the foundations or anchoring systems of any structure permanently or temporarily attached to the seabed. Report the field and laboratory test methods employed, and the applicability of these methods as they pertain to the quality of the samples, the type of sediment, the anticipated design application, and results of your program. Explain how the engineering properties of each sedimentary layer affect the design of your project, and how any variations in the sediment layers throughout the project site are addressed. Describe the uncertainties inherent in your testing program and the reliability and applicability of the chosen methods.

Describe:

(i) The results of your testing program to investigate the stratigraphic and geoengineering properties of the sediment that may affect the foundations or anchoring systems for your project;

(ii) The results of adequate in-situ testing, boring, and/or sampling (for example, cone penetration tests, etc.) at each foundation location, to examine all important sediment and rock strata to determine its strength classification, deformation properties, and dynamic characteristics:

(iii) The results of a minimum of one deep soil boring (with soil sampling and testing) at each edge of the project area, and within the project area as needed, to determine the vertical and lateral variation in seabed conditions and to provide the relevant geotechnical data required for design. To be considered a "deep boring," the soil boring depth should be at least 10 meters deeper than the design penetration of the

foundation piles. For areas with highly variable subsea soil conditions, it may be appropriate to obtain a different number of deep borings.

(a)(5) Archaeological resources survey.
Your archaeological resources survey results, supporting data, and report should identify and describe any existing historical or prehistoric archaeological resources in the vicinity of your proposed activities. This information will be used by BOEMRE to comply with NHPA, NEPA, and other applicable environmental and preservation laws. Describe any technique used to identify or evaluate ambiguous seafloor contact(s) identified during surveys. Your archaeological survey results, supporting data, and report may be integrated with any information you may have acquired from other sources or under the site assessment phase of your lease to meet the information needs for the COP. Note that sensitive archaeological information (such as site locations) should be labeled "Confidential" and provided as an appendix to your overall Site Investigation Report. The BOEMRE is required, after consultation with the Secretary, to withhold the location, character, or ownership of historic resources if determination is made that the disclosure may, among other concerns, risk harm to the historic resources or impede the use of a traditional religious site by practitioners

(a)(6) Overall site investigation report.
You must prepare an overall site investigation report for a project that integrates the findings of the shallow hazard, geological, and geotechnical surveys for a proposed project. Describe how scour or erosion is expected to interact with your intended scour control system.
Analyze the potential for:

(i) Scouring of the seabed;
(ii) Hydraulic instability;
(iii) The occurrence of sand waves;
(iv) Instability of slopes at the facility location;
(v) Liquefaction or possible reduction of sediment strength due to increased pore pressures;
(vi) Degradation of subsea permafrost layers;
(vii) Cyclic loading;
(viii) Lateral loading;
(ix) Dynamic loading;
(x) Settlements and displacements;
(xi) Plastic deformation and formation collapse mechanisms; and
(xii) Sediment reactions on the facility foundations or anchoring systems.

## (4) Project-Specific Information Requirements

**30 CFR 285.626(b)** A COP may use section headings that correspond to 30 CFR 285.626(b) or use the topic headings indicated below.

A complete and detailed project description is the foundation for understanding the impacts your project will cause and how it will interact with the environment. The information required by 30

CFR 285.626(b) may be organized and developed into a complete project description (see Attachment B). The project description should be written in layman's terms such that it can be easily understood by people unfamiliar with specialist terminology. For all construction and operations activities you propose to conduct under your COP, you must provide the following project–specific information:

(b)(1) Contact Information.
Identify an authorized representative's name, address, e-mail address, and phone number. This representative will be the main contact for the project.

(b)(2) Designation of operator, if applicable.
Designate an operator, if applicable, as required by section 285.405.

(b)(3) The construction and operation concept.
Include a discussion of the following, using tables as appropriate:

(i) A description of the objectives for the project;
(ii) A description of the proposed activities, which should include:
   a. A description of the construction procedure for installing equipment;
   b. A description of how the project will be configured and how it will operate, including a description of the turbine array, any electrical service platforms (ESPs), the subsea power transmission cables, and any shore-side support infrastructure;
   c. Any other relevant information;
(iii) A tentative schedule from start to completion, including the tentative schedule for all construction activities and for inspection and maintenance activities throughout the operational life of the project; and
(iv) Any plans for phased development, as provided in section 285.629, if applicable.

(b)(4) Commercial lease stipulations and compliance.
Include a description of the measures you took or will take to satisfy the conditions of any lease stipulations (if applicable) related to your proposed construction and/or operations activities. A table is a suitable format for presenting this information.

(b)(5) Location plat (map drawn to scale).
The location plat should be a 1-page map showing the general location of the offshore project in relation to the coastline, with an overlay showing the OCS lease blocks. It should include the proposed route of the subsea cable back to shore (if applicable), the proposed location where the cable will cross land (if applicable), and the location where the cable will tie into the shore-side power grid (if known).

In accordance with section 285.626(b)(5), the location plat must include the surface location and water depth for all proposed and existing structures, facilities, and appurtenances located both offshore and onshore, including all anchoring/mooring data. To meet this requirement, more detailed, larger-scale maps of the offshore project site may be necessary to depict the proposed configuration of the turbines and any other offshore structures. Ideally, these detailed maps

should also show the location of any subsea interconnecting power cables, relevant subsea features (rock formations, potential archaeological sites, magnetic anomalies, etc.) identified during the site surveys required by section 285.626(a), and the proximity of these features to the proposed structures and subsea cables.

(b)(6) General structural and project design, fabrication, and installation.
Describe each type of structure or facility proposed for installation with your project, using tables if appropriate.

(i) Provide diagrams/drawings and fabrication information for all structures to be installed or attached to the seabed.
(ii) List the design standards that you intend to use and a description of the environmental/met-ocean (meteorological and oceanographic) data you intend to use to establish the operational and extreme loading conditions for your structures (see Attachment C).
(iii) Describe the water depth for surface structure and installation locations with X, Y coordinates and latitude/longitude.
(iv) Indicate the general anchor radii for any facilities, vessels, or derrick barges to be used during installation. If the exact position of the anchors is not known, indicate maximum radius of anchors on the location plat.

(b)(7) All cables and power lines, including those on project easements.
Describe the location, design, and installation methods. Provide information on depths, testing, maintenance, repair, safety devices, exterior corrosion protection, inspection schedules, and decommissioning of all cables and transmission power lines, including those of project easements.

Indicate the general anchor radii for any facilities, vessels, or derrick barges to be used during cable and/or power line installation. If the exact position of the anchors is not known, indicate maximum radius of anchors on the location plat.

(b)(8) Description of the deployment activities.
By 'deployment', BOEMRE means how you propose to bring your equipment and materials to the construction site/project location from shore. Describe the safety, and pollution prevention methodology that will be used.

(b)(9) List of solid and liquid wastes generated.
Report any National Pollutant Discharge Elimination System (NPDES) permit you expect to receive for your activities. Provide information on the projected nature and volume of liquid and solid wastes to be generated by all vessels and structures involved in your activities. Include both permitted operational wastes and any other identified wastes. Describe disposal methods and locations, if applicable. A table – similar to that in Attachment D – is a suitable format.

(b)(10) List of all chemical products used.
Describe chemical products used (if it is a United States Environmental Protection Agency (EPA) Reportable Quantity), the volume stored on location; their treatment, discharge, or

disposal method and location, and any other necessary permit(s) pertaining to these chemical products. Describe how these products would be brought onsite, the number of transfers that may take place, and the quantity that may be transferred on each occasion.

(b)(11) Description of any vessels, vehicles, and aircraft used to support your activities.
Provide an estimate of the frequency and duration of any vessels/vehicles/aircraft traffic you anticipate for your construction and operation of your project. If not already provided in (4)(b)(3), provide the name, class specifications, and description of type of vessel(s) to be deployed for facility installations or surveys, including construction ships or barges, cable laying barges, refueling vessels, tug boats, seismic survey vessels, supply vessels, or crew vessels. For each vessel or vessel type include length, displacement, crew size, type of marine sanitation device, type propeller system(s), number of fuel tanks, and maximum fuel storage capacity for each tank (many operators have specification sheets for their vessels that report this information). Vessel availability may make it difficult to know all specific vessel information in advance; if this is the case, provide as much detail as possible to inform BOEMRE review.

Indicate:

(i) The average and maximum number of vessel/vehicle/aircraft anticipated to be in the construction area at any one time;
(ii) The type of remotely operated vehicle(s) deployed, if applicable;
(iii) The type of aircraft deployed, if applicable;
(iv) Any recommendations or requirements for aircraft or vessel speed or operational restrictions, made by NOAA, U.S. Coast Guard, or any other agency having jurisdiction.

(b)(12) General description of operating procedures.
Describe the operating procedures or systems you intend to use in the case of accidents or emergencies, whether natural or manmade. Describe the procedures and systems that will be used at your facilities in the case of emergencies, accidents, or non-routine conditions regardless of whether they are man-made or natural. Include, as a part of non-routine conditions, descriptions of high-consequence and low-probability events.

(b)(13) Decommissioning and site clearance procedures.
Describe and explain the general concept and procedures proposed for the decommissioning of all installed components and facilities. Refer to 30 CFR 285.906 through .910 for additional information on decommissioning and site clearance procedures.

(b)(14) List of all Federal, state, and local authorizations, approvals, or permits that will be required to conduct the proposed activities.
Identify all Federal, state, and local application approvals or permits you will have to obtain to conduct your proposed construction and operation activities. (For example, U.S. Army Corps of Engineers permits, any required USCG or Federal Aviation Administration (FAA) permits or approvals relating to warning lights, etc.). A list of all permits, authorizations, or approvals required from other regulatory agencies may be provided by BOEMRE upon request. Identify the originating statute and/or regulation that requires the permit, and provide a statement

indicating whether you have applied for or obtained such authorization, approval, or permit. If applied for, indicate the approval status for these authorizations. A table is a suitable format for presenting this information.

(b)(15) Measures for avoiding, minimizing, reducing, eliminating, and monitoring environmental impacts.
Describe the measures you will take to avoid, minimize, reduce, eliminate, and/or mitigate environmental impacts that will be carried out pursuant to your COP. Describe any existing or planned environmental monitoring and mitigation systems you will implement before, during, and after construction, and the effectiveness of these systems (see 30 CFR 285.633). State whether your activities are likely to result in harassment, injury, or death of endangered or other protected species, and describe the measures you will take to avoid adverse interactions with these species. Based on your proposed activities, authorizations or permits may be required by the United States Fish and Wildlife Service (FWS) or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) before you begin work.

(b)(16) Information incorporated by reference.
Reference information and data discussed in other plans that you previously submitted, that are referenced in BOEMRE documentation, or are BOEMRE documents, may be merely incorporated by reference into a "References Cited" section. If your COP relies on reference information and data from other sources, you should fully discuss such information and data in your COP and explain how this information and data was used to inform your conclusions.

(b)(17) List of agencies and persons with whom you have consulted or will consult about potential impacts of your proposed activities.

The BOEMRE encourages early and frequent consultations with appropriate Federal and state agencies, tribal governments, and the public regarding the potential impacts associated with your proposed activities. Indicate the names of people, their affiliation, and the dates on which you had contact, and a short summary of issues discussed. A table is a suitable format in which to convey this information.

It is important that you contact the USCG to discuss and clarify its expectation for the Navigational Safety Risk Assessment (NSRA) which you should prepare to satisfy the information requirements of 30 CFR 285.627(a)(8). The BOEMRE will rely on the USCG to review the NSRA and advise BOEMRE on its adequacy and the adequacy of any proposed navigational safety mitigation measures. Additional information on preparing a NSRA can be found in the USCG Navigation and Inspection Circular (NVIC) 02-07, "Guidance on the Coast Guard's roles and responsibilities for Offshore Renewable Energy Installations (OREI)." You should include information about any consultations you have had with the USCG in this section of the COP.

It is suggested that you contact the FAA to discuss any issues arising from your project relating to airspace restrictions, lighting requirements, use patterns, and/or potential radar interference (see FAA Advisory Circular 70: Obstruction Marking and Lighting (FAA AC 70/7460-1K), FAA Procedures for Handling Airspace Matters (FAA Order JO 7400.2G), and FAA Form 7460-

1 for additional information). The FAA will review relevant portions of your proposed project and advise BOEMRE on its adequacy and the adequacy of any proposed mitigation measures. You should include information about any consultations you have had with the FAA in this section of the COP.

(b)(18) Reference.
Provide a list of all documents and published sources referenced as part of this plan or cross-reference to citations in any previously submitted plans or published material that is readily available to BOEMRE. You may include any sources incorporated by reference into a single "References Cited" section listed above in (b)(16).

(b)(19) Financial assurance.
Provide statements attesting that the activities and facilities as proposed in the COP are or will be covered by an appropriate bond or other security as required by sections 285.515 and .516.

(b)(20) CVA nominations for reports required in 30 CFR Part 285 (Subpart G).
Provide nominations for a CVA as outlined in 30 CFR 285.706, or a request to waive the CVA requirement as specified in section 285.705(c).

(b)(21) Construction schedule.
Report a reasonable schedule for all construction phases of your project that considers all relevant project factors such as vessel availability and delivery dates of equipment. Show significant milestones of construction activity leading to the commencement of commercial operations. Submit a project chart and provide periodic updates to BOEMRE (e.g., monthly). Consult with BOEMRE regional office for further information regarding these periodic updates.

(b)(22) Air quality information.
The requirements for submission of air emissions information for a renewable energy COP are provided in section 285.659 and clarified in Attachment E of this guidance.

(b)(23) Other information.
Additional information requests by BOEMRE will be based on project-specific and site-specific needs that may not be possible to predict in advance. If the nature of your project presents circumstances and/or technology that warrant additional attention, BOEMRE may request additional data or information in order to assist BOEMRE in evaluating your COP.

## B. Required Information to Accompany a COP

### (1) Information for Compliance With NEPA and Other Relevant Laws

**30 CFR 285.627(a)** For construction and operations activities on a commercial lease, you must submit with your COP detailed information that describes resources, conditions, and activities that could be affected by your proposed project. You should describe the environment that may be affected by your proposed activities and include a description of specific impact producing factors and activities related to your activities (refer to Attachment F of this guidance for more information). There must be enough detail to assist BOEMRE in complying its NEPA

obligations and those of other relevant environmental laws. It is strongly recommended that you contact BOEMRE if you have questions about information needs prior to the submission of a COP.

The tables provided in Attachment F describe the information requirements for 30 CFR 285.627. This information will be used by BOEMRE to comply with NEPA and, as appropriate, other environmental laws such as: the Endangered Species Act (ESA), the Marine Mammals Protection Act (MMPA), the Migratory Bird Treaty Act (MBTA), the Coastal Zone Management Act (CZMA), the National Historic Preservation Act (NHPA), the Magnuson – Stevens Fishery Conservation and Management Act (MSFCMA), and the American Indian Religious Freedom Act (AIRFA). The mitigation measures that may eventually apply to your project will be determined as a result of the analysis of this information, and may be influenced by the input of agencies with appropriate subject matter jurisdiction or expertise.

### (2) Oil Spill Response Plan (OSRP)

**30 CFR 285.627(c)** You must submit to BOEMRE an OSRP, in accordance with 30 CFR Part 254, Subparts A through D, along with your COP. The response plan must provide for response to an oil spill for all your lease activities on the OCS.

### (3) Safety Management System (SMS)

**30 CFR 285.627(d)** You must submit your SMS, in accordance with section 285.810 along with your COP. The SMS must describe the following for all aspects of the project:

(i) How you will ensure the safety of personnel or anyone on or near your facilities;
(ii) Remote monitoring, control, and shutdown capabilities;
(iii) Emergency response procedures;
(iv) Fire suppression equipment, if needed;
(v) How and when you will test your Safety Management System; and
(vi) How you will ensure that personnel who operate your facility are properly trained.

Your SMS must be fully functional when you begin activities described in your approved COP. The BOEMRE strongly encourages you to ensure that your offshore renewable energy facilities meet the equivalent safety standards of those of unmanned offshore oil and gas facilities, pursuant to the U.S. Coast Guard's regulations in 33 CFR Subchapter N. You may reference the relevant sections of the following regulations to develop your SMS for unmanned facilities:

(i) Workplace Safety and Health – 33 CFR Part 142;
(ii) Design and Equipment – 33 CFR Part 143;
(iii) Lifesaving Appliances – 33 CFR 144.10;
(iv) Firefighting Equipment – 33 CFR Part 145; and
(v) Operations – 33 CFR Part 146.

The BOEMRE commissioned a TAR study – TAR Project #633, "Wind Farm/Turbine Accidents and the Applicability to Risks to Personnel and Property on the OCS, and Design Standards to Ensure Structural Safety/Reliability/Survivability of Offshore Wind Farms on the OCS" – and the final report for this TAR study included a proposed SMS template. While this template was not generated by BOEMRE and its use is not required, it can be a useful reference document or template for the development and presentation of a SMS.

## C. Revisions to an Approved COP

**30 CFR 285.634** In cases where BOEMRE has already approved your COP, it is still possible that a COP revision may become necessary. You must notify BOEMRE in writing before conducting any activities not described in your approved COP, describing in detail the activities you propose to conduct. The BOEMRE will also periodically review the activities conducted under an approved COP. If the review indicates that the COP should be revised because of any of the following modifications, we may require you to submit revisions to the COP. Activities for which a proposed revision to your COP may be necessary include:

(i) Activities not described in an approved COP;
(ii) Modifications to the size or type of facility or equipment you will use;
(iii) Change in the surface location of a facility or structure;
(iv) Addition of a facility or structure;
(v) Change in the location of an onshore support base from one state to another or to a new base requiring expansion;
(vi) Changes in the location of bottom disturbances (anchors, chains, cables, etc.) by 500 feet or greater from the approved locations;
(vii) Structural failure of one or more facilities; and
(viii) Change in any other activity specified by BOEMRE.

## D. Departures

**30 CFR 285.103** The BOEMRE recognizes that new and emerging technology may advance quickly and that current regulations may not always be entirely applicable to the reality presented by any particular project. Therefore, BOEMRE retains the authority to issue departures from the regulations under certain circumstances. The BOEMRE will only consider requests for departures made in writing. The request must identify the section of the regulations from which you are asking relief, be consistent with subsection 8(p) of the OCS Lands Act, protect the environment and the public health to the same degree as if there were no approved departure from the regulations, and not impair the rights of third parties. Departures will be granted on a case-by-case basis and at the sole discretion of BOEMRE.

## E. Contacts and Submittal Addresses

Submit one paper copy and one electronic version of the COP to the addressees indicated below. Call the telephone numbers listed in this table to establish a point of contact within BOEMRE for e-mailing your digital files.

| Project Location by State (Offshore) | Filing Address |
|---|---|
| • Maine<br>• New Hampshire<br>• Massachusetts<br>• Rhode Island<br>• New York<br>• New Jersey<br>• Delaware<br>• Maryland<br>• Virginia<br>• North Carolina<br>• South Carolina<br>• Georgia<br>• Florida (South Atlantic and Straits of Florida Planning Areas)) | Bureau of Ocean Energy Management,<br>Regulation and Enforcement<br>Office of Offshore Alternative Energy Programs<br>Mail Stop 4090<br>381 Elden Street<br>Herndon, Virginia 20170-4817<br>Phone: 703-787-1300 |
| • Florida (Eastern Gulf of Mexico Planning Area)<br>• Alabama<br>• Mississippi<br>• Louisiana<br>• Texas | Bureau of Ocean Energy Management,<br>Regulation and Enforcement<br>Gulf of Mexico OCS Regional Office<br>Attn: Renewable Energy Program<br>Mail Stop 5400<br>1201 Elmwood Park Blvd.<br>New Orleans, Louisiana 70123-2394<br>Phone: 800-200-GULF |
| • Alaska | Bureau of Ocean Energy Management,<br>Regulation and Enforcement<br>Alaska OCS Regional Office<br>Mail Stop 8200<br>Centerpoint Building<br>3801 Centerpoint Drive, Suite 500<br>Anchorage, Alaska 99503<br>Phone: 907-334-5200 |
| • Washington<br>• Oregon<br>• California<br>• Hawaii | Bureau of Ocean Energy Management,<br>Regulation and Enforcement<br>Pacific OCS Regional Office<br>Mail Stop 7000<br>770 Paseo Camarillo, 2nd Floor<br>Camarillo, California 93010<br>Phone: 805-389-7502 |

## Attachment A

## Best Management Practices

*Source: Establishment of an OCS Alternative Energy and Alternate Use Program, Record of Decision, Dec. 2007. U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement, Washington, D.C.*

The BOEMRE prepared a Programmatic Environmental Impact Statement (PEIS) in 2007 to support the establishment of the Alternative Energy and Alternate Use Program. The Record of Decision for that PEIS adopted Best Management Policies and Practices (BMPs) that may be applicable to a range of renewable energy projects. You should review and refer to the BMPs as you design your project and incorporate them, as appropriate, into the planning and implementation stages of your project. Upon request, BOEMRE will assist you in determining which of these policies and BMPs are appropriate for a specific lease, easement, or right-of-way. These BMPs are included for your reference to assist you in preparing your COP for submission.

| Phase/Resource | Best Management Practice |
|---|---|
| ***Preconstruction Planning*** | |
| | Lessees and grantees shall minimize the area disturbed by preconstruction site monitoring and testing activities and installations. |
| | Lessees and grantees shall contact and consult with the appropriate affected Federal, state, and local agencies early in the planning process. |
| | Lessees and grantees shall consolidate necessary infrastructure requirements whenever practicable. |
| | Lessees and grantees shall develop a monitoring program to ensure that environmental conditions are monitored during construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts are mitigated. |
| ***Seafloor Habitats*** | |
| | Lessees and grantees shall conduct seafloor surveys in the early phases of a project to ensure that the alternative energy project is sited appropriately to avoid or minimize potential impacts associated with seafloor instability or other hazards. |
| | Lessees and grantees shall conduct appropriate pre-siting surveys to identify and characterize potentially sensitive seafloor habitats and topographic features. |
| | Lessees and grantees shall avoid locating facilities near known sensitive seafloor habitats, such as coral reefs, hard-bottom areas, and chemosynthetic communities. |

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| | Lessees and grantees shall avoid anchoring on sensitive seafloor habitats. |
| | Lessees and grantees shall employ appropriate shielding for underwater cables to control the intensity of electromagnetic fields. |
| | Lessees and grantees shall reduce scouring action by ocean currents around foundations and to seafloor topography by taking all reasonable measures and employing periodic routine inspections to ensure structural integrity. |
| | Lessees and grantees shall avoid the use of explosives when feasible to minimize impacts to fish and other benthic organisms. |
| | Lessees and grantees shall take all reasonable actions to minimize seabed disturbance and sediment dispersion during cable installation. |
| ***Marine Mammals*** | |
| | Lessees and grantees shall evaluate marine mammal use of the proposed project area and design the project to minimize and mitigate the potential for mortality or disturbance. The amount and extent of ecological baseline data required will be determined on a project basis. |
| | Vessels related to project planning, construction, and operation shall travel at reduced speeds when assemblages of cetaceans are observed, and maintain a reasonable distance from whales, small cetaceans, and sea turtles as determined during site-specific consultations. |
| | Lessees and grantees shall minimize potential vessel impacts to marine mammals and turtles by requiring project-related vessels to follow the NMFS Regional Viewing Guidelines while in transit. Operators shall be required to undergo training on applicable vessel guidelines. |
| | Lessees and grantees shall take efforts to minimize disruption and disturbance to marine life from sound emissions, such as pile driving, during construction activities. |
| | Lessees and grantees shall avoid and minimize impacts to marine species and habitat in the project area by posting on-site a qualified observer approved by the BOEMRE and NMFS during construction activities. |
| ***Fish Resources and Essential Fish Habitat*** | |
| | Lessees and grantees shall conduct pre-siting surveys (may use existing data) to identify important, sensitive, and unique marine habitats in the vicinity of the projects and design the project to avoid, minimize, or otherwise mitigate adverse impacts to these habitats. |
| | Lessees and grantees shall minimize construction activities in areas containing anadromous fish during migration periods. |
| | Lessees and grantees shall minimize seafloor disturbance during construction and installation of the facility and associated infrastructure. |

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| ***Sea Turtles*** | |
| | Lessees and grantees shall minimize potential vessel impacts to marine mammals and sea turtles by requiring project-related vessels to follow the NMFS Regional Viewing Guidelines while in transit. Operators shall be required to undergo training on applicable vessel guidelines. |
| | Lessees and grantees shall take efforts to minimize disruption and disturbance to marine life from sound emissions, such as pile driving, during construction activities. |
| | Lessees and grantees shall locate cable landfalls and onshore facilities so as to avoid impacts to known nesting beaches. |
| ***Avian Resources*** | |
| | The lessee shall evaluate avian use in the project area and design the project to minimize or mitigate the potential for bird strikes and habitat loss. The amount and extent of ecological baseline data required will be determined on a project-to-project basis. |
| | Lessees and grantees shall take measures to reduce perching opportunities. |
| | Lessees and grantees shall locate cable landfalls and onshore facilities so as to avoid impacts to known nesting beaches. |
| | Lessees and grantees shall comply with Federal Aviation Administration (FAA) and USCG requirements for lighting while using lighting technology (e.g., low-intensity strobe lights) that minimize impacts to avian species. |
| ***Acoustic Environment*** | |
| | Lessees and grantees shall plan site characterization surveys by using the lowest sound levels necessary to obtain the information needed. |
| | Lessees and grantees shall take efforts to minimize disruption and disturbance to marine life from sound emissions, such as pile driving, during construction activities. |
| | Lessees and grantees shall employ, to the extent practicable, state-of-the-art, low-noise turbines or other technologies to minimize operational sound effects. |
| ***Fisheries*** | |
| | Lessees and grantees shall work cooperatively with commercial/recreational fishing entities and interests to ensure that the construction and operation of a project will minimize potential conflicts with commercial and recreational fishing interests. |
| | Lessees and grantees shall review planned activities with potentially affected fishing organizations and port authorities to prevent unreasonable fishing gear conflicts. Lessees and grantees shall minimize conflict with commercial fishing activity and gear by notifying registered fishermen of the location and time frame of the project construction activities well in advance of mobilization with updates throughout the construction period. |

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| | Lessees and grantees shall use practices and operating procedures that reduce the likelihood of vessel accidents and fuel spills. |
| | Lessees and grantees shall avoid or minimize impacts to the commercial fishing industry by marking applicable structures (e.g., wind turbines, wave generation structures) with USCG-approved measures (such as lighting) to ensure safe vessel operation. |
| | Lessees and grantees shall avoid or minimize impacts to the commercial fishing industry by burying cables, where practicable, to avoid conflict with fishing vessels and gear operation. If cables are buried, lessees and grantees shall inspect cable burial depth periodically during project operation to ensure that adequate coverage is maintained to avoid interference with fishing gear/activity. |
| ***Coastal Habitats*** | |
| | Lessees and grantees shall avoid hard-bottom habitats, including seagrass communities and kelp beds, where practicable, and restore any damage to these communities. |
| | Lessees and grantees shall implement turbidity reduction measures to minimize effects to hard-bottom habitats, including seagrass communities and kelp beds, from construction activities. |
| | Lessees and grantees shall minimize effects to seagrass and kelp beds by restricting vessel traffic to established traffic routes. |
| | Lessees and grantees shall minimize impacts to wetlands by maintaining buffers around wetlands, implementing BMPs from erosion and sediment control, and maintaining natural surface drainage patterns. |
| ***Electromagnetic Fields*** | |
| | Lessees and grantees shall use submarine cables that have proper electrical shielding and bury the cables in the seafloor when practicable. |
| ***Transportation and Vessel Traffic*** | |
| | Lessees and grantees shall site alternative energy facilities to avoid unreasonable interference with major ports and USCG-designated Traffic Separation Schemes. |
| | Lessees and grantees shall meet FAA guidelines for sighting and lighting of facilities. |
| | Lessees and grantees shall place proper lighting and signage on applicable alternative energy structures to aid navigation per USCG circular NVIC 07-02 (USCG 2007) and comply with any other applicable USCG requirements. |
| | Lessees and grantees shall conduct all necessary studies of potential interference of proposed wind turbine generators with commercial air traffic control radar systems, national defense radar systems, and weather radar systems, including identification of possible solutions. |

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| ***Visual Resources*** | |
| | Lessees and grantees for wind projects shall address key design elements, including visual uniformity, use of tubular towers, and proportion and color of turbines. |
| | Lessees and grantees for wind projects shall use appropriate viewshed mapping, photographic and virtual simulations, computer simulation, and field inventory techniques to determine with reasonable accuracy the visibility of the proposed project. Simulations should illustrate sensitive and scenic viewpoints. |
| | Lessees and grantees shall comply with FAA and USCG requirements for lighting while minimizing the impacts through appropriate application. |
| | Lessees and grantees shall seek public input in evaluating the visual site design elements of proposed wind energy facilities. |
| | Within FAA guidelines, directional aviation lights that minimize visibility from shore should be used. |
| ***Cultural Resources*** | |
| | Lessees and grantees shall conduct magnetometer tows using 30-m (100-ft) line spacing in areas where there is a high potential for shipwrecks. |
| ***Operations*** | |
| | Lessees and grantees shall prepare waste management plans, hazardous material plans, and oil spill prevention plans, as appropriate, for the facility. |

## Attachment B

## Elements of the Project Description

**30 CFR 285.626** The COP should provide a detailed description of the devices, systems, and each specific activity or class of activities that may result in environmental impacts from construction, operation, and decommissioning. The Project Description is an organizing theme that includes all or part of the requirements of sections 285.626(b3), (b), (b6), (b7), (b)(8), (b)(9), (b)(10), (b)(11), and (b)(12). A complete project description should include the following items:

| Device Elements or System | Construction | Operation | Conceptual Decommissioning |
|---|---|---|---|
| **Overall Project Description** | ● | ● | ● |
| Device configuration and how it operates | | ● | |
| Management system and structure | ● | ● | ● |
| Remote monitoring system | ● | ● | |
| Transformer platform | ● | ● | ● |
| Shore connections and sea bottom appurtenances | ● | | ● |
| Shore facilities | ● | ● | ● |
| Markings, lighting, and proximity warnings | ● | ● | |
| Materials inventory by quantity and physical properties | ● | ● | |
| **Description of Operational Concept** | ● | ● | ● |
| General concept for construction, operation, and decommissioning | ● | ● | ● |
| Means of access to offshore structures | ● | ● | |
| Maintenance schedule and procedures | ● | ● | |
| Vessel and aircraft support needed for construction, operations, maintenance, and decommissioning | ● | ● | ● |
| Noise and vibration levels | ● | ● | ● |
| Chemical use and management | ● | ● | ● |
| Potential discharges to the sea and air | ● | ● | ● |
| Accidental events or scenarios, including non-routine conditions | ● | ● | ● |
| **Electrical Systems** | ● | ● | ● |
| Electrical systems (AC and DC) | ● | ● | ● |
| Heating and cooling systems | ● | ● | |
| Power requirements | ● | ● | ● |
| Grounding and Lightning Protection | ● | ● | |
| Power conversion system | ● | ● | |

| Device Elements or System | Construction | Operation | Conceptual Decommissioning |
|---|---|---|---|
| Energy storage and/or Emergency Power | ● | ● | ● |
| Subsea cables | ● | | ● |
| **Mechanical Systems** | ● | ● | ● |
| Power conversion devices and gearboxes | ● | ● | |
| Hydraulic systems | ● | ● | ● |
| **Foundation and/or Mooring Systems** | ● | ● | ● |
| Installation and removal procedures for all bottom-founded and installed structures | ● | | ● |
| Corrosion protection system | ● | ● | |
| Antifouling system | ● | ● | |

## Attachment C

## Design Standards & Environmental Loading for Offshore Wind Energy Installations

### Design Standards

**30 CFR 285.626(b)(6)** The BOEMRE's renewable energy regulations are not prescriptive regarding the design standards that must be used for an offshore wind energy installation. There are various United States, European, and international standards that could be applied to an offshore wind energy installation, but no single standard has yet been determined to be the most appropriate for application in the offshore waters of the U.S. With regard to facilities on the OCS, the BOEMRE approach is to use U.S. standards whenever possible. For offshore oil and gas structures on the Outer Continental Shelf (OCS), there has been a long and proven history using industry standards that have been established and improved upon over many years, such as those of the American Petroleum Institute (API), the American Society for Testing and Materials (ASTM), the American Society of Mechanical Engineers (ASME), the American Society of Civil Engineers (ASCE), the American Concrete Institute (ACI), the American Welding Society (AWS), Underwriters Laboratory (UL), etc. Many of these standards can be applied to offshore wind energy installations. However, BOEMRE will consider international and European standards if there are shortcomings or gaps in the U.S. standards when applied to offshore wind energy installations.

A number of different standards will likely have to be used for the various types of structures that make up an offshore renewable energy installation, and for the various components that make up each type of structure. In determining which standards to apply, a conservative approach should be taken unless more definitive regulations are promulgated or policy identified in the future. In general, the different standards should be compatible with one another, and ideally they all should be issued by the same standards organization. In case of any conflicts between any of the standards being proposed, the one which leads to a more conservative design, fabrication or installation approach should generally be used. U.S. standards should be used whenever possible, and for any non-U.S. standards that are proposed there may be additional information requirements for BOEMRE to determine if they provide an equivalent level of safety to any comparable U.S. standards or regulations.

Offshore wind energy structures such as meteorological data collection towers (met towers) and transformer platforms are similar enough to offshore oil and gas platforms that the API design standards should be applied. For offshore wind turbines, BOEMRE will accept a "design-basis" approach whereby the applicant proposes which criteria and standards to apply and justifies why each particular criteria and standard is appropriate. As noted above, the preference should be to use U.S. standards whenever possible, and to use those standards that lead to the most conservative approach for the design, fabrication, and installation. However, the International Electrotechnical Commission (IEC) standard 61400-3, "Wind turbines – Part 3: Design Requirements for Offshore Wind Turbines," provides a useful framework of design load cases which should be examined for the design of an offshore wind turbine, and therefore provides a good starting point for the design process.

Other standards, such as the API RP-2A standard, can then be used to perform a detailed analysis for some of the design load cases described in the IEC 61400-3 standard.

Specific guidance relating to the design of the offshore wind energy installation is as follows:

(1) 100-year (or longer) return period storm data, if available, should be used for the design of the offshore wind energy installation, with special attention given to hurricane impacts and the combined effect of wind, waves, and ocean currents. Note that the IEC 61400-3 standard only calls for the use of 50-year return period storm data .
(2) Appropriate winter storm loads should be considered in the design, with ice loads applied to the tower and exposed deck for offshore locations where icing could be a problem. A 100-year winter storm in conjunction with wind, wave and current loads should be checked for the structural integrity of the offshore wind energy structures.
(3) The yawing system for each wind turbine should have a back-up power supply, unless the wind turbines can withstand worst-case storm conditions without the chords of the feathered blades being oriented parallel into the wind.
(4) Torque and fatigue life are particularly important design considerations for wind turbines, as the rotating blades can create significant dynamic effects. The unique loadings associated with the large, rotating blades, and associated machinery should be carefully considered in the design.

The BOEMRE is actively engaged in conducting research to promote the safe, efficient, and environmentally sound advancement of the renewable energy industry. The BOEMRE has commissioned several studies specifically focused on identifying appropriate standards to apply for offshore wind energy projects. These studies are available to the general public and are posted on BOEMRE's Technology Assessment & Research (TAR) webpage for Renewable Energy. Some specific TAR projects to take note of are listed below:

(i) TAR Project #618, "Comparative Study of Offshore Wind Turbine Generators (OWTG) Standards."
(ii) TAR Project #633, "Wind Farm/Turbine Accidents and the Applicability to Risks to Personnel and Property on the OCS, and Design Standards to Ensure Structural Safety/Reliability/Survivability of Offshore Wind Farms on the OCS."
(iii) TAR Project #651, "Evaluate the Effect of Turbine Period of Vibration Requirements on Structural Design Parameters."
(iv) TAR Project # 656, "Seabed Scour Considerations."

**Environmental Loading**

A major design consideration for any offshore structure is the worst-case loading it may experience during its service life. To complicate matters, there are often many different types of loadings with different types of associated failure modes and all must be considered in the design. For offshore structures, the marine environment makes the design process particularly challenging because, in addition to wind loading, there are waves and ocean currents to consider. During a severe storm, such as a hurricane, all three of these forces come into play and can produce a worst-case combined environmental loading that is very severe and difficult to accurately predict. Therefore, an important aspect of the design process is to identify appropriate meteorological and oceanographic (met-ocean) data to be used to determine the extreme storm loading for the offshore installation.

The BOEMRE recommends that a 100-year return period storm, if data allows, be used for the design of an offshore wind energy installation. This is consistent with what the U.S. Coast Guard requires for the design of a deepwater port pursuant to 33 CFR 149.625. The API-RP-2A standard incorporates met-ocean criteria by creating "exposure categories" (L-1, L-2, and L-3), with L-1 equating to the 100-year return-period storm criteria.

Determination of the 100-year return period storm conditions for a particular offshore site can be quite challenging, particularly in "frontier" regions of the OCS where there have not traditionally been many offshore structures. The National Oceanographic and Atmospheric Administration (NOAA) weather buoys are one source of data, although these are likely to under-predict the extreme wind speeds because of the boundary layer effect and the shielding effect that large storm waves can have on surface winds during an extreme weather event. The API RP-2A-WSD standard provides 100-year met-ocean values for some regions of the OCS, and in particular, see Tables 2.3.4-2 and 2.3.4-3 in that standard. The building codes for adjacent coastal communities can also provide valuable information for determining appropriate design wind speeds for a particular coastal region, and should also be investigated. However, it is important to note that it is not just the wind loading but the worst-case combined effect of wind, waves, and ocean currents – both local, wind-driven currents as well as synoptic-scale ocean currents – that must be determined for your particular offshore site. **You are strongly encouraged to meet with BOEMRE and discuss your approach for determining the appropriate worst-case met-ocean conditions, prior to carrying out your site-specific metocean analysis.** Research projects being sponsored by BOEMRE will eventually provide additional guidance on how to determine the appropriate environmental/met-ocean data for the design of an offshore wind energy installation.

## Attachment D

## Waste and Discharge Information

**285.626(b)(9)** Provide information on the projected liquid and solid wastes to be generated by all vessels and facilities during all phases of the COP activities. Include both permitted operational wastes and any other identified wastes. A table similar to the one below may be used to show such information, which may include, but need not be limited to, the following elements:

| Type of Waste or Composition | Approximate Total Amount Discharged | Maximum Discharge Rate | Means of Storage or Discharge Method |
|---|---|---|---|
| Sewerage from vessels | 25 gal/person/day | NA | MSD Type III |
| Domestic water | 35 gal/person/day | NA | Discharged overboard after treatment |
| Drilling cuttings, mud, or borehole treatment chemicals, if used | 50 bbl | As generated | Water based; Discharged overboard |
| Uncontaminated bilge water[1] | 5,000 gal/day | 5,000 gal/day | Discharged overboard |
| Deck drainage and sumps[3] | 200 gal/day | 5,000 gal/day | Discharged overboard after treatment |
| Uncontaminated ballast water[1] | 10,000 gal/day | 5000 gal/day | Discharged overboard |
| Uncontaminated fresh or seawater[2] | NA | NA | Discharged overboard |
| Solid trash or debris | 100 $m^3$/day | NA | Onshore landfill (identify location) |
| Chemicals, solvents, oils, greases | 5 gal/day | NA | Incineration[4] (or other, (identify location) |

bbl = 42 U.S. gallon barrel, 1 $m^3$ = 6.3 bbl.

[1] Refer also to U.S. Coast Guard regulations for bilge and ballast water treatment requirements for oil and grease as well as the EPA's vessel NPDES permits.

[2] Used for vessel air conditioning.

[3] Depending on weather.

[4] Incineration of these materials is not a likely option for the west coast of the U.S. You should plan on designating these as hazardous materials and disposing of them at onshore facilities.

## Attachment E

## Air Emissions Screening

**30 CFR 285.626(b)(22)** You must comply with the Clean Air Act (42 U.S.C. § 7409 *et seq.*) and implementing regulations, according to the following table. You should provide a copy of the analysis that you prepare for the EPA, or other agency delegated by EPA for enforcement of the Clean Air Act, to BOEMRE subsequent to submittal to EPA (or other officially recognized designee). The digital files should contain the formatted meteorological files used in modeling runs, and the emission estimates and control measures that apply.

| If your project is located... | You must... |
|---|---|
| (1) In the Gulf of Mexico west of 87.5° west longitude (western Gulf of Mexico), | Include in your plan any information required for BOEMRE to make the appropriate air quality determinations for your project. |
| (2) Anywhere else on the OCS, | Follow the appropriate implementing regulations as promulgated by the USEPA under 40 CFR Part 55. Provide a copy of your analysis to BOEMRE. |

For air quality modeling that you perform in support of the activities proposed in your plan, you should contact the appropriate regulatory agency to establish a modeling protocol to ensure that the agency's needs are met and that the meteorological files used are acceptable before initiating the modeling work. A copy of the Air Permit(s) needs to be submitted to BOEMRE once issued by EPA. In the western Gulf of Mexico (west of 87.5 ° west longitude), you must submit to BOEMRE three copies of the modeling report and three sets of digital files as supporting information.

## Attachment F

## Construction and Operations Plan (COP)

## Information Requirements for NEPA and other Relevant Laws

Attachment F includes tables that specify the information requirements for each resource, condition, and/or activity identified in section 285.627(a). Your COP should include the requested baseline information requirements and impact producing factors. The discussion of environmental resources and impacting factors is informative rather than analytical; however, the level of detail will ultimately depend on the geographic extent of your activities, the duration or intensity of impacting factors, and the sensitivity of resources in your project area to the impacting factors of the project. There should be enough detail to support environmental analyses required by NEPA and other relevant environmental laws. Your COP should also include any environmental protection measures and monitoring activities you are proposing as part of your proposed activity. Note each table also identifies additional information and/or analyses that may be required prior to COP approval, but do not necessarily have to be part of your submission with the COP. This additional information and/or analyses are integral to the environmental review process which will occur after COP submittal. Mandatory mitigation measures and monitoring requirements may be identified in the course of environmental review, and/or any environmental protection measures and monitoring identified in your proposal may need to be revised or modified to accommodate changes in the proposed activities and/or changes in the environment. It is strongly recommended that you contact BOEMRE about information needs described in this section prior to the submission of your COP.

Note: The *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans* that is referenced in this attachment is not yet available.

| | CONSTRUCTION AND OPERATIONS PLAN (COP) § 285.627(a)(1) Hazards | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Focus** | • Describe the extent of meteorological and oceanographic forcing, geology and geomorphology, sediment conditions and sediment transport processes, and physiographic conditions within the area of your proposed project. | | |
| **Scope** | • Describe a site-specific evaluation of meteorological and oceanographic conditions, geology and geomorphology, sediment conditions and sediment transport processes, and physiographic conditions having the potential to destabilize your planned activities or facilities. The area-wide evaluation should provide a description of the ecosystem context for the location you intend to place your project. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans.* | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Nature, intensity, and duration of disturbances to the sea bottom, such as pile driving, cable laying and jetting, vessel anchoring, and other construction, operating, or decommissioning techniques.<br>• Natural hazards. Nature, intensity, and duration of local and global scour, wave strike and overtopping, and slope instability and seismic events<br>• Accidental events. Potential for, and effects of collisions and structure failure. | | |
| **Other Potential Needs for COP Approval** | • Additional information may be needed to support the evaluation of hazards and physical impacts, including but not limited to:<br>1. Stability analysis of seafloor morphology;<br>2. Modeling of wave and current interaction with proposed structures;<br>3. Modeling of proposed scour protection; and,<br>4. Modeling of disturbances associated with foundation installation, cable jetting and burial, and cable landfall. | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP) § 285.627(a)(1) Hazards | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Environmental Protection Measures (That You Propose)** | • Describe any environmental protection measure of your project that is designed to minimize potential adverse effects on physical resources. | | |
| **Presentation of Results** | • Provide succinct narratives by topic, at a level of detail appropriate to the scale of the impacts that each category of proposed activities may cause. Provide report(s) presenting the methods used, results of, and conclusions reached by any numerical modeling performed.<br>• Include data/information in tables where appropriate.<br>• Include maps where appropriate (e.g., bathymetric map, isopach, storm tracks, bottom type, and in sedimentary and/or geologic cross sections). | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(2) Water Quality | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Focus** | • Describe the existing water quality conditions and your project activities that could affect water quality. | | |
| **Scope** | • Describe the water quality in the area proximal to your proposed activities and the incremental changes to the parameters that define water quality that may be caused by your proposed activities. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans.* | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Nature, intensity, and duration of disturbances to the sea bottom that may increase turbidity or affect other water quality conditions.<br>• Natural hazards. Environmental hazards and/or accidental events causing accidental releases of non-hazardous or hazardous materials and wastes.<br>• Accidental events. Routine and accident releases from construction equipment, vessels, and installed facilities. | | |
| **Other Potential Needs for COP Approval** | • Additional information may be needed to support the evaluation of water quality impacts, including but not limited to:<br>1. Modeling of turbidity during foundation installation, cable jetting/burial, and cable landfall;<br>2. Oil or other fluid spill probability and spill trajectory modeling; and,<br>3. Any Operation, Service and Maintenance Plan, Oil Spill Response Plan, Stormwater Pollution Prevention Plan, and any other pollution control plan prepared to avoid and minimize impacts to water quality.<br>4. If additional information requirements apply to the proposed project, provide any draft plans or quantitative assessments undertaken and/or describe any planned. | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |
| **Environmental Protection Measures (That You Propose)** | • Describe any part of your project that is designed to minimize adverse effects on water quality.<br>• If an NPDES permit is required by the EPA or Water Quality Certification is required by the state(s) or ACOE, include a summary of the anticipated reporting and monitoring requirements. | | |

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| **Presentation of Results** | • Provide succinct narratives by topic, at a level of detail appropriate to the scale of the impacts that each category of proposed activities may cause. Provide report(s) presenting the methods used, results of, and conclusions reached by any numerical modeling performed.<br>• Include data/information in tables where appropriate.<br>• Include maps or tables where appropriate. |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(3) Biological Resources* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Focus** | • Describe the nature and extent of biological resources that may be affected by activities proposed in your COP, and the nature and extent to which your activities will affect such resources. | | |
| **Scope** | • Include site-specific descriptions of species with potential impacting factors that may result from your proposed activities. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*.<br>• In addition, identify and describe coastal sandy and rocky intertidal, dune, wetland and marsh species and habitats that may be disturbed by proposed activities or reasonable extensions of your project—such as construction of transmission lines and facilities that could be impacted by accidental spills, discharges or collisions. | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Indicate maximum area of sea bottom disturbed as a result of your activities and a description of the duration and intensity of disturbance and how those disturbances are relevant to biological resources;<br>• Activities that introduce sound into the environment. Characterize sound produced in both air and water. Include source level and frequency of each anthropogenic source and the expected sound attenuation path calculations for transmission loss, if applicable.<br>• Activities that result in changes to ambient lighting. Report the type, duration, and intensity of lighting at your facilities during construction, operations, and conceptual decommissioning activities. Annotate areas of both steady and/or flashing lighting if used.<br>• Activities that result in changes to ambient electromagnetic fields (EMF) including testing, operations, and decommissioning. Report the type, duration, and intensity of EMF producing activities at your facilities;<br>• Activities that may displace biological resources. Describe vessel traffic patterns through all phases and locations of proposed structures, and any other proposed activities.<br>• Activities that may result in direct injury or death of biological resources (e.g. turbine operations, support/construction vessel activities).<br>• Accidental events. Describe possible accidental events, such as materials or fuel spills and ship strikes. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(3) Biological Resources* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Other Potential Needs for COP Approval** | • In lieu of direct observations, modeling of impact producing factors on biological resources may be required. These may include, but are not limited to, the following:<br>1. Sound dispersion models;<br>2. EMF models;<br>3. Materials and fuel spill modeling;<br>4. Collision hazard and risk modeling; and,<br>5. Species distribution modeling | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on biological resources.**<br>**Note that additional mitigation measures may be required for approval of your COP. These may be developed through scoping and consultations with other stakeholders and resource agencies. | | |
| **Presentation of Results** | • Provide a succinct narrative by topic, targeted to a level-of-detail proportionate to the scale of the activities you propose.<br>• Include species and impact factor tables where appropriate.<br>• Include maps where appropriate. | | |

* *You may combine the information provided for biological resources, threatened and endangered species and sensitive biological resources and habitats into an integrated section, provided you clearly indicate protected species.*

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(4) Threatened and Endangered Species* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Focus** | • Describe the nature and extent of threatened and endangered species that may be affected by activities proposed in your COP. | | |
| **Scope** | • Include site-specific descriptions of species and potential impacting factors that may result from your proposed activities. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*. | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Indicate approximate area of sea bottom disturbed as a result of your activities and a description of the duration and intensity of disturbance and how those disturbances are relevant to threatened and endangered species;<br>• Activities that introduce sound into the environment. Characterize sound produced in both air and water and its potential effect on threatened and endangered species. Include source level and frequency of each anthropogenic source and the expected sound attenuation path calculations for transmission loss.<br>• Activities that result in changes to ambient lighting. Report the type, duration, and intensity of lighting at your facilities;<br>• Activities that result in changes to ambient electromagnetic fields (EMF) including testing, operations, and decommissioning. Report the type, duration, and intensity of EMF producing activities at your;<br>• Activities that may displace threatened and endangered species. Describe vessel traffic patterns through all phases, locations of proposed structures,<br>• Activities that may result in direct injury or death of threatened and endangered species, (e.g. turbine operations, support/construction vessel activities).<br>• Accidental events. Describe possible accidental events, such as materials or fuel spills and ship strikes. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(4) Threatened and Endangered Species* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Other Potential Needs for COP Approval** | • In lieu of direct observations, modeling of impact producing factors and their potential effects on threatened and endangered species may include, but are not limited to the following:<br>1. Sound dispersion models;<br>2. EMF models;<br>3. Materials and fuel spill modeling;<br>4. Collision hazard and risk modeling; and,<br>5. Species distribution modeling | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on threatened and endangered species. | | |
| **Presentation of Results** | • Provide a succinct narrative by topic, targeted to a level-of-detail proportionate to the scale of the activities you propose.<br>• Include species and impact factor tables where appropriate.<br>• Include maps where appropriate. | | |

* *You may combine the information provided for Biological Resources, Threatened and Endangered Species and Sensitive Biological Resources and Habitats into an integrated section, provided you clearly indicate protected species.*

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(5) Sensitive Biological Resources or Habitats* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Focus** | • Describe the nature and extent of sensitive biological resources or habitats that may be affected by activities proposed in your COP. Include sensitive habitats that may be scarce on a regional scale and vulnerable to proposed activities or are designated as special areas (e.g., essential fish habitat, parks, sanctuaries, and marine protected areas). | | |
| **Scope** | • Include area-wide and site-specific descriptions of species with potential impacting factors that may result from your proposed activities. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*. | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Indicate approximate area of sea bottom disturbed as a result of your activities and a description of the duration and intensity of disturbance and how those disturbances are relevant to sensitive biological resources or habitats;<br>• Activities that introduce sound into the environment. Characterize sound produced in both air and water by your activities and noise on sensitive biological resources or habitats. Include source level and frequency of each anthropogenic source and the expected sound attenuation path calculations for transmission loss.<br>• Activities that result in changes to ambient lighting. Report the type, duration, and intensity of lighting at your facilities<br>• Activities that result in changes to ambient electromagnetic fields (EMF) including testing, operations, and decommissioning. Report the type, duration, and intensity of EMF producing activities at your facilities<br>• Activities that may displace sensitive biological resources or alter habitats. Describe vessel traffic patterns through all phases, locations of proposed structures, and locations of sensitive biological resources or habitats.<br>• Activities that may result in direct injury or death of sensitive biological resources (e.g. turbine operations, support/construction vessel activities).<br>• Activities that increase the turbidity of the water column. Report the type and duration of activities creating turbidity and how turbidity is relevant to sensitive biological resources or habitats.<br>• Accidental Events. Describe possible accidental events, such as materials or fuel spills and ship strikes, and how these may affect sensitive biological resources or habitats. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(5) Sensitive Biological Resources or Habitats* | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Other Potential Needs for COP Approval** | • You may be required to conduct a biological survey if survey information from any available source shows possible sensitive biological resources could be negatively affected by your proposed activities.<br>• In lieu of direct observations, modeling of impact producing factors on sensitive biological resources or habitats may be required. These may include, but are not limited to the following:<br>1. Sound dispersion models;<br>2. EMF models;<br>3. Materials and fuel spill modeling;<br>4. Collision risk and hazard modeling; and,<br>5. Species distribution modeling. | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on sensitive biological resources or habitats. | | |
| **Presentation of Results** | • Provide a succinct narrative by topic, targeted to a level-of-detail proportionate to the scale of the activities you propose.<br>• Include species and impact factor tables where appropriate.<br>• Include maps where appropriate. | | |

* *You may combine the information provided for Biological Resources, Threatened and Endangered Species and Sensitive Biological Resources and Habitats into an integrated section, provided you clearly indicate protected species.*

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(6) Archaeological Resources | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Focus** | • Describe the likelihood for archaeological resources in the area of proposed activities including the results of an archaeological survey. | | |
| **Scope** | • Describe a site-specific appraisal of evidence for the presence or type of archaeological resources in the area you have surveyed. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are as described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*. In addition:<br>• Provide information on proposed anchoring locations (or radius of potential anchoring locations) and a detailed description of all ground tackle and mooring methods for construction and operation.<br>• Describe the results of an archaeological survey in context of the evidence for, or likelihood of, prehistoric or historic archaeological resources, including:<br>1) Historic resources (e.g. shipwrecks, lighthouses, etc.)<br>2) Prehistoric resources (e.g., submerged intact human habitation sites, etc.)<br>• If relevant, describe tribal lands, tribal resources, and properties of traditional religious and cultural importance to an Indian tribe, Native Alaskan, or Native Hawaiian organization in the area of your proposed activities.<br>• Describe the potential visual impacts to any coastal prehistoric or historic resources that are listed, eligible, or potentially eligible for listing on the National Register of Historic Places. | | |
| **Impacting Factors** | • Activities that disturb the sea bottom. Indicate the nature, intensity, and duration of disturbances to the sea bottom that may affect archaeological resources. | | |
| **Other Potential Needs for COP Approval** | • Additional site-specific information may be requested for NEPA or NHPA depending on the nature of survey results. | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(6) Archaeological Resources | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on archaeological resources.<br>• Report proposed setbacks from bottom or ferro-magnetic anomalies, acoustic targets, or other man-made objects.<br>• Report how construction and operation activities will be conducted to adequately protect known resources or anomalies. | | |
| **Presentation of Results** | • Provide a public information document and a separate proprietary appendix. The public document should contain general descriptions of archaeological resources that might be encountered, but that masks their location and exact description. The proprietary appendix should contain specific information as to characteristics and configurations of resources or anomalies and map(s) indicating the location of ferro-magnetic anomalies, acoustic targets, or other man-made objects.<br>• Provide pre-construction anchor maps showing the estimated locations, types, and sizes of anchors that will be used during construction activities. Include any areas identified for avoidance. (*Note: Post-construction maps that show all areas of seafloor impacts with precise locations may be necessary after construction and should include any areas that were identified for avoidance.)* | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(7) Social and Economic Resources | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Focus** | • Describe the onshore economic baseline of the coastal areas that may affected by your project. Describe the context of existing socioeconomic activities and resources and extant demographic and economic patterns for construction, operation, and your preferred option for decommissioning. | | |
| **Scope** | • Describe what socioeconomic activity and resources in the onshore and coastal environment are affected by your project phases. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*. In addition:<br>• Economic modeling, if any, you have undertaken.<br>• Describe the commercial and recreational fisheries, recreational resource use patterns, employment and demographic patterns, transportation use patterns, and visual expressions that would be affected by your construction and operations activities. | | • Describe the commercial and recreational fisheries, recreational resource use patterns, employment and demographic patterns, transportation use patterns, and visual expressions that would be affected by removal of your facilities. |
| **Impacting Factors** | • Activities that potentially interfere with radar reflectivity.<br>• Activities that may displace fishing activities and /or availability of fishery resources. | | |
| **Other Potential Needs for COP Approval** | • If your operating facilities are visible from the shoreline, a Visual Impact Assessment (VIA) will likely be required as part of NEPA to evaluate vantages from:<br>1) Variable heights at and above the beach and shoreline;<br>2) Variable heights at and above known protected areas (see 30 CFR 285.627(a)(5) and (6));<br>3) Variable heights at and above potential places or areas that are eligible for entry onto historic lists;<br>4) Land cover types or frequented locations along the coastal area that are not directly on the beach;<br>5) How seasonal sun angles, times of day, and meteorological conditions affect the above; and<br>6) Describe the potential visual impacts to any coastal prehistoric or historic resources that are listed, eligible, or potentially eligible for listing on the National Register of Historic Places. | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(7) Social and Economic Resources | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on social and economic resources. | | |
| **Presentation of Results** | • Narrative by topic that includes data/information.<br>• Summarize in tables and maps where appropriate. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(8) Coastal and Marine Uses | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Focus** | • Describe all known current sea surface, subsurface, and sea bottom uses of state and OCS waters near to, and other than, your proposed project. | | |
| **Scope** | • Competing uses include points (for example, navigation buoys) and zones (for example, dredge material disposal sites). Describe the point and zoned uses or authorizations of state or OCS air mass and sea surface, subsurface, or sea bottom in the area planned for your project. | | |
| **Information Needs for COP Submittal** | • Baseline information needs for your COP are the same as those described in the *Guidelines for Information Requirements for Renewable Energy Site Assessment Plans*. In addition:<br>• Describe how the construction and operation of your facilities take account of, is able to co-occur with, or does not interfere with any other authorized use of the OCS (short of the other potential needs for COP approval (below).<br>• Map the coastal and marine uses described in your SAP, and if not included in your SAP include Commercial or military air ascent or descent corridors and describe the intensity or seasonality of use. | | |
| **Impacting Factors** | • Activities that may cause conflict with temporal and seasonal space use by other authorized users of the coastal zone or OCS. | | |
| **Other Potential Needs for COP Approval** | • A geo-referenced (GIS-type) 3-D analysis of your facilities together with all other authorized users of OCS air, or water surface, column, and bottom space in context of temporal or seasonal use pattern may be necessary to illustrate the diverse coastal and marine uses in the area affected by your proposed project.<br>• A Navigational Safety Risk Assessment (NSRA) may be required pursuant to (regulation), and will be reviewed by the U.S. Coast Guard to evaluate: (1) the impact the offshore energy installation will have on other marine users; and (2) the potential for it to interfere with vessels, aircraft, or other authorized users of the air space and the sea surface, water column, or sea bottom (for example, fisheries). See (NVIC) 02-07, "Guidance on the Coast Guard's roles and responsibilities for Offshore Renewable Energy Installations (OREI)". | | |
| **Monitoring (That You Propose)** | • Describe any monitoring activities you propose to undertake for construction and/or operations, as part of your COP proposal. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(8) Coastal and Marine Uses | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase*** |
| **Environmental Protection Measures (That You Propose)** | • Describe environmental protection measures that are proposed as part of your project that are designed to minimize adverse effects on other coastal and marine uses. | | |
| **Presentation of Results** | • Provide integrated map(s) and description of extant coastal and marine use patterns defined by intensity and seasonality in your project area. | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(9) Consistency Certification | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Focus** | • Ensure that lessees and applicants are aware of CZMA requirements stated in the regulation and timing for submittals. | | |
| **Scope** | • State(s) that are affected by your project may require that you receive coastal consistency certification of your project with their state CMP (15 CFR Part 930). | | |
| **Information Needs for COP Submittal** | • The Consistency Certification needs to complete before the COP may be approved. | | • Conceptual decommissioning should be included in your consistency certification submittal.<br>• Additional consistency certification will be required at the time of actual decommissioning of a project. |
| **Impacting Factors** | • Listed activities should be conducted in a manner that is consistent with the enforceable policies of the state(s) CMP. | | |
| **Other Potential Needs for COP Approval** | • Construction and operation activities should be conducted in such a manner to comply with each applicable state's approved CMP.<br>• Competitive commercial leases fall under 30 CFR 930, Subpart D and non-competitive commercial leases fall under 30 CFR 930, Subpart E.<br>• The applicant or lessee should ensure that the state(s) have a NOAA-approved CMP that includes the specific review of renewable energy activities on the OCS beyond their coastal zone in order to be applicable to a COP.<br>• For leases under Subpart D, necessary data and information that the applicant shall furnish the state agency along with the consistency certification is listed in 30 CFR 930.58 (a) through (c).<br>• For leases under Subpart E, necessary data and information that the applicant shall furnish BOEMRE is listed in 30 CFR 930.76 (a) through (c). | | • Conceptual decommissioning should demonstrate how activities will be conducted in order to comply with each applicable state's CMP. |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(9) Consistency Certification | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Presentation of Results** | • The lessee must include one paper copy and one electronic copy of the consistency certification for the project to verify compliance with each applicable state's approved CMP, including the required information and analysis per pursuant to section 285.627(a). | | |

| | CONSTRUCTION AND OPERATIONS PLAN (COP)<br>§ 285.627(a)(10) Other Resources, Conditions, and Activities | | |
|---|---|---|---|
| | **Construction Phase** | **Operation Phase** | **Conceptual Decommissioning Phase** |
| **Focus** | • The BOEMRE strongly recommends that you consult with BOEMRE about the nature of your proposal before submitting a COP. | | |
| **Scope** | • If the nature of your project presents new kinds of environmental impacts that are novel or imprecisely understood, BOEMRE may request the appropriate data or information in order to complete our environmental analysis and to support the necessary consultations with other state and Federal agencies. | | |
| **Information Needs** | • Contact the appropriate BOEMRE Regional Office for more information. | | |
| **Impacting Factors** | • Contact the appropriate BOEMRE Regional Office for more information. | | |
| **Monitoring** | • Contact the appropriate BOEMRE Regional Office for more information. | | |
| **Environmental Protection Measures** | • Contact the appropriate BOEMRE Regional Office for more information. | | |
| **Presentation of Results** | • Contact the appropriate BOEMRE Regional Office for more information. | | |