

Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Decommissioning Offshore Wind Facilities

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List of Abbreviations and Acronyms

BOEM	Bureau of Ocean Energy Management
COP	Construction and Operations Plan
DOI	Department of the Interior
ESPIS	Environmental Studies Program Information System
FDR/FIR	Facility Design Report and Facility Installation Report
GAP	General Activities Plan
OCS	Outer Continental Shelf
OWF	Offshore Wind Facility
ROW	Rights-of-Way
RUE	Rights-of-Use and Easement
SAP	Site Assessment Plan

Executive Summary

The Bureau of Ocean Energy Management's (BOEM) ability to guarantee that a lessee or grantee can efficiently decommission their offshore wind facilities on the Outer Continental Shelf (OCS) comes from BOEM's stringent regulations and comprehensive system of financial assurances, authorized by Section 388 of the Energy Policy Act of 2005. BOEM's implementing regulations at 30 CFR 585 provide specific financial security requirements for OCS projects and requires the lessee to provide a surety bond or other form of financial assurance. BOEM requires leaseholders to prepare conceptual decommissioning plans when their project is first proposed and requires more detailed plans for evaluation at the time decommissioning is requested. This report provides an overview of the processes, regulatory requirements, and financial assurances imposed by BOEM for decommissioning offshore wind facilities on the Outer Continental Shelf. This white paper is a living document and will be updated as new information becomes available.

1 Introduction

In 2009, the Department of the Interior (DOI) announced final regulations for the Outer Continental Shelf (OCS) Renewable Energy Program, which was authorized by Section 388 of the Energy Policy Act of 2005 (Bureau of Ocean Energy Management [BOEM], 2019a). DOI’s BOEM is responsible for implementing these regulations, which provide a framework for issuing leases, easements, and rights-of-way for OCS activities that support the production and transmission of renewable energy, including offshore wind (BOEM, 2019a). These regulations also established a framework for orderly, safe, and environmentally responsible OCS renewable energy development and provided a fair return for use of OCS lands (BOEM, 2020a).

Section 388 of the Energy Policy Act shaped the renewable energy authorization process as four main phases: planning and analysis, issuance of a lease or grant, site assessment, and construction and operations (Figure 1). The planning and analysis phase seeks to identify suitable areas for wind energy leasing through a collaborative and analytical process that engages stakeholders, Tribes, and state and federal government agencies. In this phase, BOEM also conducts environmental compliance reviews and consultations with Tribes, states, and natural resource agencies. After a suitable area for wind energy generation is determined, the leasing phase begins. The leasing phase results in the issuance of a commercial wind energy lease through either a competitive or noncompetitive process. A lessee is not allowed to begin construction or any other activities on the lease during this phase. After securing the lease, the site assessment phase begins, which includes a Site Assessment Plan (SAP) and a conceptual decommissioning plan of the proposed site assessment facilities such as a met tower or met buoy, which must be approved by BOEM before any site assessment activities may begin. Upon completion of activities approved in the SAP, the construction and operations phase commences. Under the construction and operation phase, the lessee is required to submit a Construction and Operations Plan (COP), which also includes conceptual decommissioning plans for the entire renewable energy facility.

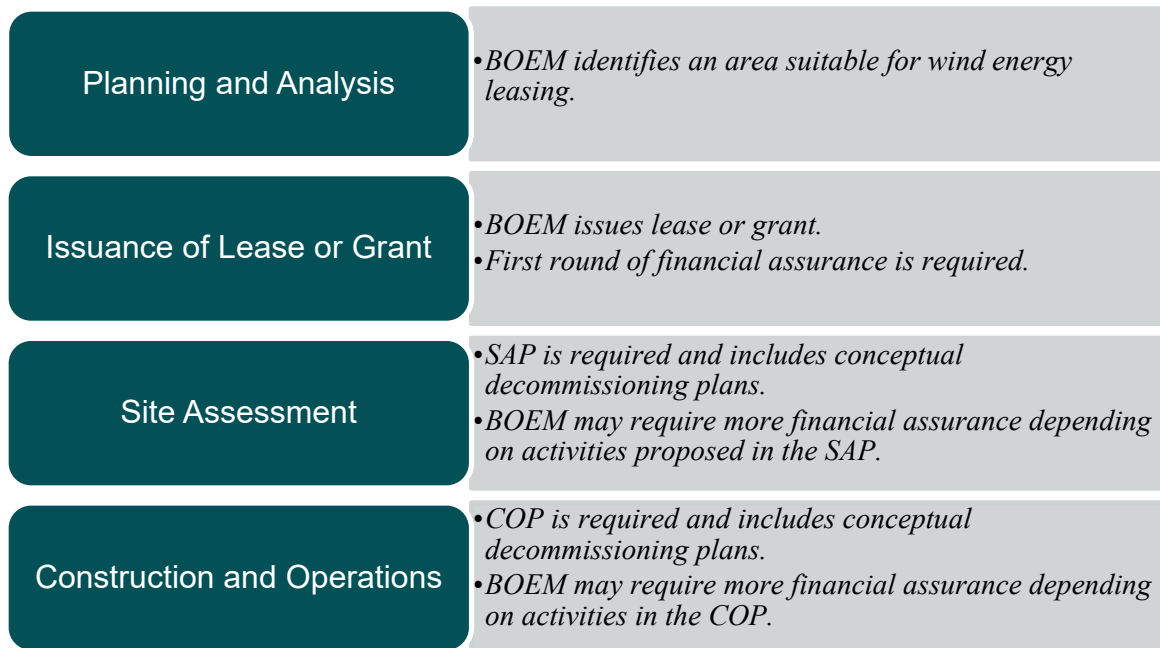


Figure 1. Energy Authorization Process

After the COP is approved by BOEM and a Facility Design Report and Fabrication and Installation Report (FDR/FIR) have been submitted to BOEM (and BOEM has no objections to it), the lessee may begin constructing and operating their offshore wind facility (OWF) until the termination of their lease (BOEM, 2019a). Upon termination of the lease, the lessee is given two years to fully decommission their operations on the OCS, unless BOEM has authorized the facilities and installations to remain in place or be converted to an artificial reef. Decommissioning, as defined by BOEM, is the removal of all facilities, installations, and other devices permanently or temporarily attached to the seabed on the OCS to a depth of 15 feet below the mudline and must be complete within two years following the termination of a lease or grant (30 Code of Federal Regulations [CFR] §585.433, §585.910).

The Energy Policy Act also established specific financial security requirements for OCS projects and requires the lessee to provide a surety bond or other form of financial assurance (Congressional Research Service, 2021). A \$100,000 basic lease-specific bond, or another BOEM-approved financial assurance of the same value, is required upon issuance of the lease, and more bonds or BOEM-approved financial assurances are required throughout the aforementioned phases (Gaffney & Marriott, 2018). Ultimately, the sum of all the lessee's financial assurances will cover the estimated decommissioning costs of an offshore wind development and, upon termination of the lease, this sum is returned to the lessee or grantee to be used for decommissioning (Department of Energy, 2016).

This report provides an overview of the processes, regulatory requirements, and financial assurances imposed by BOEM for decommissioning OWFs on the OCS. The purpose is to provide the basic steps that BOEM requires leaseholders to follow to ensure offshore wind structures are properly removed following the termination of operations. This report is a living document and will be updated as new information becomes available.

2 Overview of Conceptual Decommissioning Plans

This section examines the BOEM regulations pertaining to and required documentation of conceptual decommissioning plans prior to and during the construction of OWFs and other necessary related structures. BOEM defines conceptual decommissioning as general concepts and procedures proposed for the decommissioning of all installed components (BOEM, 2019b). BOEM's approval of any conceptual decommissioning plans submitted within the sections discussed below is not approval to carry out decommissioning activities, as explained in Section 3; rather it is approval to commence site assessment, general, or construction and operations activities unrelated to decommissioning and site clearance.

2.1 Site Assessment

The site assessment phase includes the submission of a detailed SAP, which contains the lessee's proposal and timeline for the construction, installation, and decommissioning of meteorological towers, meteorological buoys, and other installations that may help the lessee assess what activities should be conducted on the leasehold (BOEM, 2019a). During the site assessment phase, the lessee may conduct site characterization surveys and studies to better understand how to mitigate the effects on avian and marine species (BOEM, 2019a). In addition to discussing removal and site clearance activities for meteorological towers and buoys, the SAP's conceptual decommissioning plans must also include the nature, intensity, and duration of disturbances to the sea bottom, an evaluation of biological resources and potential impacts to them, impacts to water quality and benthic footprint, and environmental monitoring methods. For a complete list of conceptual decommissioning requirements in the SAP, refer to the BOEM guidance document, *Guidelines for Information Requirements for a Renewable Energy SAP* (BOEM, 2019b). The SAP, including the conceptual decommissioning plans, must be approved by BOEM before

the lessee conducts any assessments on their lease (BOEM, 2019a). Upon completion of SAP activities, BOEM may determine that certain installations are necessary to the function and operation of the OWF, so the lessee will not be required to decommission those structures until the expiration of the lease. For all installations deemed unnecessary, BOEM requires that the lessee commence the decommissioning process when SAP activities are completed (30 CFR §585.618).

Depending on the complexity, number, and location of facilities in the SAP, BOEM may determine that a second financial assurance is required prior to SAP approval (Gaffney & Marriott, 2018). The price of this assurance is dependent on factors described in the SAP. If the lessee deviates from the BOEM-approved activities in their SAP or fails to decommission the necessary installations in the given timeline, then BOEM will call for the forfeiture of the bond and revoke the lease. Regardless, if the bond is revoked or the lease is terminated, the lessee is still liable for all removal and disposal costs and any damages or injuries that might result from their failure to decommission (30 CFR §585.433).

2.2 General Activities

Although not one of the main phases under the Energy Policy Act, general activities are applicable to limited leases, Rights-of-Way (ROW) grants, and Right-of-Use and Easement (RUE) grants and are often used in lieu of a SAP (Gaffney & Marriott, 2018). A limited lease is required for activities that support the production of energy but do not result in the production of electricity for sale or distribution beyond a certain threshold (BOEM, 2016). A ROW grant authorizes the connection of renewable energy facilities that are not located on the OCS to the electrical grid via transmission lines located on the OCS (BOEM, 2016). For example, the Block Island Wind Farm is located in state waters but transmission to the mainland crosses the OCS. A RUE grant authorizes the construction and maintenance of facilities or installations that support the production, transportation, or transmission of energy produced from a lease in the OCS (BOEM, 2016).

If the lessee is required to submit a General Activities Plan (GAP), the GAP should describe how they will construct and operate their facilities in a limited lease, ROW, or RUE and includes a project timeline and description of construction activities for all planned facilities, associated activities, and conceptual decommissioning plans (BOEM, 2016). The lessee may not conduct activities on their lease or grant until BOEM has approved the GAP. Additionally, a \$300,000 bond or financial assurance is required for a limited lease, ROW grant, or RUE grant, or an amount sufficient to guarantee compliance with the terms and conditions of the limited lease or grant (Gaffney & Marriott, 2018). If the lessee does not follow the terms of their lease or grant, strays from the approved GAP activities, or fails to decommission according to the pre-approved timeline, then BOEM has the authority to confiscate the financial assurance and hold the lessee liable for all remaining costs and damages (30 CFR §585.433).

2.3 Construction and Operations

The construction and operations phase consists of the submission of a COP, which is the plan and timeline for the construction, operation, and conceptual decommissioning of an OWF on the lease (BOEM, 2019a). This phase and the submission of the COP generally occurs after the SAP has been approved by BOEM. In order to gain approval and begin construction of the OWF, the COP must undergo environmental and technical reviews and the lessee must make any required modifications (BOEM, 2019a). Conceptual decommissioning plans in the COP must include broad coverage of not only deconstruction and site clearance activities, but also potential impacts to the surrounding environment and potential mitigation measures. Operational conceptual decommissioning plans include methods of removal and site clearance for all management systems and structures, platforms, shore connections and

sea-bottom appurtenances, and all bottom-founded and installed structures. Other topics covered in the COP's decommissioning plans are noise and vibration levels, chemical use and management, potential discharges to the sea, and air, electrical systems, and power requirements. For a complete list of BOEM's conceptual decommissioning plan requirements for a COP, see BOEM's *Information Guidelines for a Renewable Energy COP* (BOEM, 2020b).

Before the installation of any facility in the lease area, the lessee must pay a third form of financial assurance (Gaffney & Marriott, 2018). BOEM contracts with an experienced third-party to prepare detailed cost estimates to decommission each project based on details provided in the COP and the FDR/FIR. The estimate assumes that all facilities will be removed from the seafloor to a minimum depth of 15 feet below the mudline and makes assumptions on nearby ports of operations and vessels to perform the work. Estimates also include administrative and other management costs incurred by BOEM to contract out the work (BOEM, 2021). These estimates determine the amount of financial assurance requirements necessary to meet all accrued lease obligations, each on a case-by-case basis (30 CFR §585.517). If the lessee deviates from their BOEM-approved COP or fails to decommission in the given timeline, the ramifications are identical to that in the SAP. BOEM will call for the forfeiture of the bond and revoke the lease. Regardless, if the assurance is revoked or lease is terminated, the lessee is still liable for all removal and disposal costs and any damages or injuries that might result from their failure to decommission (30 CFR §585.433).

3 Decommissioning Process

Decommissioning obligations are accrued by the lessee or grantee upon acceptance and signature of the lease or grant and are maintained by the lessee or grantee until the decommissioning process is completed or there has been a BOEM-approved transfer of the lease or grant (30 CFR §585.901). The decommissioning process is relatively standard regardless of when the process begins or whether it is a standard commercial lease, limited lease, ROW grant, or RUE grant. The decommissioning process is made up of the following three distinct stages: decommissioning application, decommissioning notice, and the final notice. These procedures ensure that an OWF on the OCS will be fully decommissioned and the site will be cleared through both regulatory requirements and the incentive of reimbursement of past financial assurances (Figure 2). The regulatory requirements include compliance with the National Environmental Policy Act, Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Coastal Zone Management Act and other Federal, state, and local regulations. BOEM will prepare an environmental assessment and consult with other agencies to ensure compliance.

3.1 Decommissioning According to GAP/COP Timeline

As early as 2 years before the expiration of the lease or as late as 90 days after the expiration, the lessee must submit a decommissioning application to BOEM for approval and may not commence decommissioning activities until approval is administered (30 CFR §585.905). The decommissioning application must include identification and description of the facilities, cables, and/or pipelines designated for removal; a proposed decommissioning schedule; a description of removal methods and procedures; and plans for the transportation and disposal or salvage of decommissioned materials (30 CFR §585.906). For a complete list of decommissioning application requirements, see 30 CFR §585.906. BOEM-approved conceptual decommissioning plans submitted in the SAP, GAP, and COP are no longer applicable, only the unique decommissioning application. After BOEM approves the decommissioning application, the lessee must submit a separate decommissioning notice at least 60 days before beginning any activities related to decommissioning (30 CFR §585.908). The decommissioning notice must include a description of any changes to the approved methods and procedures in the decommissioning application

and an updated decommissioning schedule (30 CFR §585.908). The lessee must also provide BOEM with any coordination efforts made with affected states, local, and Tribal governments (30 CFR §585.902). Upon termination of the lease or grant, the lessee has 2 years to remove all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by activities on the lease, including a project easement or grant, to a depth of 15 feet below the mudline (30 CFR §585.433, §585.910). Within 60 days after the removal of any facility, cable, or pipeline, a final notice must be submitted to BOEM verifying site clearance. The notice must include a summary of removal activities and description of any mitigation measures (30 CFR §585.912).

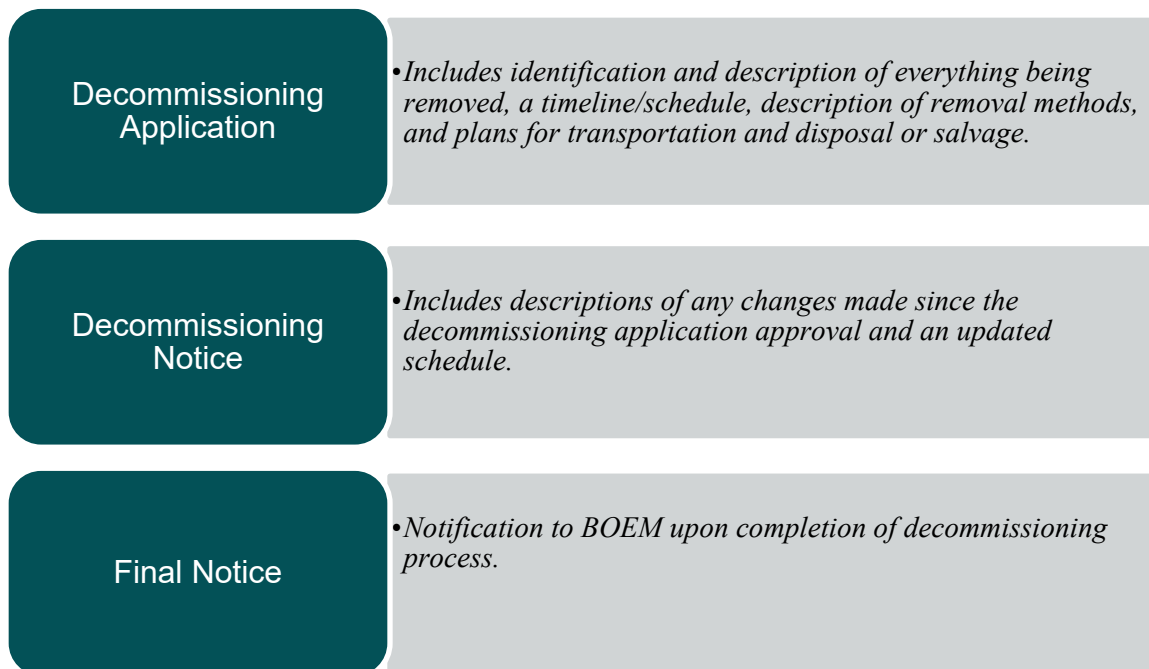


Figure 2. Decommissioning Following Termination of a Lease

3.2 Decommissioning Prior to GAP/COP Timeline

Any time a commercial lease ceases operation without an approved suspension, the lessee must notify BOEM within five business days. If operations cease for an indefinite period of time which extends longer than six months, BOEM has the authority to cancel the lease, thus forcing the lessee to commence the decommissioning process (30 CFR §585.635, §585.656). Other than this condition, the process and timeline for decommissioning prior to the termination of a lease or grant is the same as if it were to occur as scheduled. The decommissioning application must first gain BOEM approval, then the decommissioning notice must be submitted along with any proof of coordination efforts with affected states, local, and Tribal governments (30 CFR §585.902). The decommissioning application and decommissioning notice must include the details referenced in Section 3.1 as well as the additional requirements found in 30 CFR §585.906 and §585.908. The lessee has 2 years to remove all facilities, projects, cables, pipelines, and obstructions and clear the seafloor of all obstructions created by activities on the lease, including a project easement or grant, to a depth of 15 feet below the mudline (30 CFR §585.433, §585.910). Upon the removal of facilities, cables, and pipelines, a final notice must be submitted to BOEM within 60 days. The final notice must contain the information specified in Section 3.1, Section 3.3, and any additional requirements found in 30 CFR §585.910 and §585.912.

3.3 Failure to Decommission

If a lessee fails to decommission an installation, BOEM has additional assurances that the process will still be conducted regardless of the lessee's failure to act. BOEM will issue all relevant parties a notice of noncompliance explaining the failure to comply with their decommissioning application and/or decommissioning notice, how to comply, and the time constraints in which compliance must be met. If the lessee or grantee fails to comply within the given timeline, BOEM has the authority to call for the forfeiture of the financial assurance. After this, BOEM holds the lessee or grantee liable for all removal and disposal costs and any accidents or damages that occur from their failure to decommission. If it is determined that the lessee's or grantee's failure to decommission on schedule caused serious or irreparable damage to natural resources, wildlife, human safety, surrounding ecosystems, or objects of historical or archaeological significance, then BOEM may assess civil or criminal penalties as authorized by Section 24 of the OCS Lands Act (30 CFR §585.400).

3.4 Alternatives to Decommissioning

BOEM may allow alternatives to decommissioning where appropriate and on a case-by-case basis. The two main options, if a lessee wants to consider an alternative to decommissioning, are remain in place or be converted to an artificial reef. BOEM may authorize facilities on the OCS to remain in place for several reasons, but each request is handled on a case-by-case basis. Factors BOEM takes into consideration when deciding whether a facility may be exempt from decommissioning and remain in place may include potential adverse impacts to the surrounding marine environment, competing uses of the OCS, and impacts to national defense and security. Any departure from decommissioning requirements and supporting rationale must be consistent with the applicable sections of the OCS Lands Act. In the decommissioning application, the lessee may also request that certain facilities be converted into an artificial reef to provide marine habitat. Even if BOEM determines that a facility may remain in place, the former lessee remains liable for future decommissioning, unless satisfactory evidence is provided showing that another entity has assumed that responsibility and secured sufficient financial assurances (30 CFR §585.909).

4 Conclusion

BOEM's ability to guarantee that a lessee or grantee can efficiently decommission their OWF on the OCS comes from BOEM's stringent regulations and comprehensive system of financial assurances working cohesively. BOEM requires transparency regarding decommissioning plans throughout the entire process, as seen in the SAP, GAP, COP, and decommissioning application. At the same time, BOEM continuously updates the total amount of financial assurance required as plans are approved. BOEM's current decommissioning financial assurance regulations require the lessee or grantee to submit financial assurance covering the anticipated decommissioning costs and, upon termination of the lease, this sum is returned to the lessee or grantee to be used for decommissioning (Department of Energy, 2016). As stated previously, if a lessee or grantee does not comply with BOEM's decommissioning regulations or timeline, BOEM has the authority to confiscate the financial assurance while still holding the lessee or grantee financially, not operationally, responsible (30 CFR §585.433). This means the lessee or grantee could pay double their anticipated costs to decommission, thus making it financially irresponsible to deviate from BOEM-approved plans or noncompliance with BOEM timelines. Ultimately, the financial assurance and transparency required by BOEM ensures that decommissioning will occur, regardless of whether or not the lessee or grantee complies.

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