

Environmental Studies Program: Ongoing Study

Study Area(s): Southern California

Administered By: Pacific OCS Region

Title: Air Emissions Associated with Decommissioning Operations for Pacific Outer Continental Shelf (OCS) Oil and Gas Platforms (NSL #PC-17-x10)

BOEM Information Need(s) to be Addressed: One of the most significant potential environmental impacts from offshore oil and gas decommissioning activities will be from air emissions resulting from the use of heavy equipment and the effects of those operations on regional air quality. Local air quality regulations require projects exceeding air quality standards to mitigate project emissions below emission thresholds and to assure a net air quality benefit from the project. Future oil and gas platform decommissioning projects will be required to estimate the equipment and emissions from those operations and will be subject to the rules and regulations of the air pollution control agencies. As such, the potential to emit emissions and the ability to demonstrate net air quality benefits from these operations are largely unknown and will be required of the Bureau of Ocean Energy Management (BOEM) to support environmental evaluations and analyses under the National Environmental Policy Act (NEPA). Information from this study will help define the BOEM Strategic Science Question: What are the BOEM regulated industry impacts of air emissions to the human, coastal, and marine environment?

Total BOEM Cost: \$147,950

Period of Performance: FY 2018–2019

Conducting Organization(s): MRS Environmental, Inc.

Principal Investigator(s): [Greg Chittick](#)

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Description:

Background: Since 1958, offshore oil and gas production platforms have been present off the Southern California coast. At the present time, there are 23 offshore platforms located in Federal waters, installed between 1968 and 1989 and operating in water depths ranging between approximately 29 and 365 m (96 to 1,197 ft.). These platforms have finite economic lifespans and at the end of their productive life will eventually be decommissioned and removed. Current regulations in place require the complete removal of platform structures and associated debris and site clearance following decommissioning of the offshore oil and gas facilities. Due to the large platform sizes and water depths (~30% are in water depths exceeding any decommissioning projects in the world), air emissions from those operations are expected to be a potential significant impact to local and regional air quality and will need to be controlled and mitigated to assure a net air quality benefit from those operations. Recent changes to laws and regulations now allow for alternative decommissioning options such as partial removal to 85 feet below the ocean surface in lieu of complete removal options.

Objectives: Due to the operation of heavy equipment supporting all phases of decommissioning, estimations of air pollutants (criteria, toxic, greenhouse gases [GHG]) are needed for the two potential decommissioning options (complete removal and partial removal) for all Pacific OCS Region oil and gas facilities. Emission estimates will be required for individual platforms for the following decommissioning phases:

- Pre-Abandonment (well-plugging & abandonment, platform preparation, marine growth removal, removal of conductors)
- Topside Removal
- Jacket Removal
- Debris Removal
- Pipeline/Power Cable Removal
- Processing/Disposal (transfer components to shore [tugs/cargo barges], processing, recycling, shipment, disposal of materials onshore)

Emission estimates will be based on applicable emission factors and include the types and numbers of equipment utilized, fuel types and volumes, engine size, fuel use, operating specifications and vessel usage, and other applicable means of estimating emissions.

Methods: Based on available funding, describe and detail the equipment expected to be utilized during the individual decommissioning phases that would be required for projects due to water depths (deepwater/shallow), platform sizes, and weights for the complete removal and partial removal to 85 feet below the ocean surface options. Equipment assumptions shall also include applicable emission factors, fuel consumption estimates, operating specifications, and emission profiles. Provide emissions estimates for both offshore (platform, vicinity, transiting) and onshore (likely ports, offloading in port, salvage, disposal, *etc.*) for each Pacific OCS oil and gas facility. In addition, provide a review of air regulations that would be required of decommissioning projects and how those regulations would be applied to comply with projects within specific air quality agency jurisdictions including requirements to achieve a net air quality benefit. Previous decommissioning studies offshore California should be consulted, and other applicable information sources should be utilized to develop project assumptions and estimations.

Current Status: A firm fixed-price contract was awarded on February 1, 2018. The post-award meeting was held on February 7, 2018. An interim report on Air Regulations and Decommissioning Requirements and Operations was submitted in May 2018 and much progress is being made on the report and coordination with applicable air agencies.

Final Report Due: February 1, 2019

Publications Completed: None

Affiliated WWW Sites: <https://marinecadastre.gov/epis/#/search/study/100229>

Revised Date: July 13, 2018