FINDING OF NO SIGNIFICANT IMPACT

Freeport McMoRan Oil & Gas LLC
Platform Irene Conductor Removal Project
Environmental Assessment

U.S. Department of Interior
Bureau of Safety and Environmental Enforcement

September 2025

Summary

In accordance with the National Environmental Policy Act (NEPA), 42 USC 4261, et seq., the Council on Environmental Quality regulations[1] at 40 CFR 1501, et seq., Department of the Interior (DOI) regulations implementing NEPA at 43 CFR Part 46, Bureau of Ocean Energy Management (BOEM) and Bureau of Safety and Environmental Enforcement (BSEE) policy, BOEM prepared an Environmental Assessment (EA) on Freeport-McMoRan Oil & Gas, LLC ("Freeport") Applications for Permit to Modify (APMs) submitted pursuant to Code of Federal Regulations (CFR) title 30 part 250.1723, to initiate removal of eight well conductors, from the Point Pedernales Unit, Platform Irene. Platform Irene is located in the Santa Maria Basin of the Southern California Planning Area, federal outer continental shelf.

BOEM prepared the EA to determine whether the Proposed Action may result in significant effects (40 CFR 1508.27), triggering additional mitigation to reduce such effects or the need to prepare an Environmental Impact Statement (EIS). The EA analyzes the potential for significant adverse effects from the Proposed Action on the human environment, interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment (40 CFR 1508.13, 1508.14). The EA was also prepared to assist with BOEM and BSEE planning and decision-making (40 CFR 1501.3b), namely, to help inform a determination as to whether the Proposed Action would cause undue or serious harm or damage to the human, marine, or coastal environment.

BSEE's review of the EA and supporting documents determined that the Proposed Action will not significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of NEPA. Therefore, the preparation of an EIS is not required and BSEE issues this Finding of No Significant Impact (FONSI).

Public Availability

The Final EA and FONSI will be posted to the project website at: https://www.bsee.gov/what-we-do/environmental-compliance/environmental-programs/nepa-compliance.

[1] Although rescinded by direction of Executive Order 14154, *Unleashing American Energy*, the bureaus voluntarily referenced CEQ's 2020 NEPA regulations to guide the development of the referenced Environmental Assessment (per guidance in the Council for Environmental Quality's February 19, 2025 Memorandum on *Implementation of the National Environmental Policy Act*). Reference to the Code of Federal Regulations is made only to assist the reader in understanding the prior statutory basis for the definitions and content structure found within this document.

Background

The BSEE Pacific Region – Office of Field Operations, received technical and environmental information from Freeport in support of APM's to initiate removal of eight well conductors, A-2, 3, 7, 8, 13, 14, 26 and 28, from the Point Pedernales Unit, Platform Irene. The Point Pedernales Unit is operated by Freeport and is active under Leases OCS-P0437, 0438, 0440, and 0441. Platform Irene is on the Outer Continental Shelf (OCS) in the Santa Maria Basin of the Southern California Planning Area (Figure 1 1). Platform Irene was installed on August 7, 1985, with the first production occurring in April 1987. There are 72 well slots with 27 wells and the water depth is 242 feet (74 meters).

Platform Irene has been temporarily shut-in since December 2022, due to onshore transportation issues. Currently, all production systems, related pipelines and facilities are secured, shut-in, and safely maintained, awaiting a return to service. During this time, the Platform remains manned, and all regulatory requirements pertaining to facility integrity, environmental and safety systems testing, inspection activities and BSEE-required reporting continue.

Proposed Action

The Proposed Action evaluated in this EA is for BSEE to review and either approve or deny Freeport's request to conduct permanent abandonment operations including the removal of well conductors on the eight subject wells on Platform Irene. Platform Irene maintains an active status with BSEE and other state and local permits and approvals and therefore the EA assumes that Platform Irene will again become fully operational, producing and transporting oil to shore.

Evaluation of Alternatives

The EA considered two alternatives: 1) Alternative A (approval of the APMs to permanently abandon the eight subject wells); and 2) Alternative B (the "No Action" alternative). BOEM considered the potential for impacts to the following resource areas: 1) air quality; 2) water quality 3) benthic resources; 4) fishes and essential fish habitat; 5) marine mammals and sea turtles; 6) coastal and marine birds; 7) threatened and endangered species; 8) commercial and recreational fishing; and 9) socioeconomics.

Summary of Impacts

The EA describes the affected environment within the vicinity of the Platform Irene and associated OCS infrastructure, and the potential environmental impacts of the proposed action. The EA considered potential environmental impacts of removing these conductors. Anticipated impacts of the Proposed Action are summarized below. Detailed analysis may be found within the EA and its supporting appendices.

Accidental Oil Spills: BOEM's oil spill risk analysis concluded that a catastrophic oil spill event is not possible on the Pacific OCS due to the mature and declining oil field pressures. The EA evaluated the potential impacts of spills 50 bbl or less on water quality; benthic resources; fishes and essential fish habitat; marine mammals and sea turtles; and coastal and marine birds and concluded that these spills would not significantly impact these resources. These small spills would be minimal compared to the oil output from the natural oil seeps in the Santa Maria Basin.

Air Quality: Removal of eight conductors will create short-term, localized impacts to air quality immediately in the vicinity of the platform, but no significant impacts are anticipated due to the short duration of the project which will utilize the existing permitted vessel schedule. Santa Barbara

County Air Pollution Control District regulates these emissions through Permits to Operate (Platform Irene, #9106), which establish limits for allowable emissions and requirements and requires each platform to offset operational net emission increases for criteria pollutants. The Permit allows for emissions of nitrogen oxides, carbon monoxides, sulfur oxides, particulate matter, reactive organic gases, and greenhouse gases from various operational activities (e.g., use of combustion engines, pigging, pipeline operations, tank and process operations, etc.). The EA concluded that projected air emissions from the Proposed Action are expected to be short term, to disperse quickly, and are not anticipated to exceed any Federal, state, or local air quality standards. Accordingly, BSEE does not anticipate that the Proposed Action will result in public health impacts from resultant air emissions.

Water Quality: Increased turbidity may occur from some activities associated with the Proposed Action, but would be temporary and short-term, and impacts on water quality would be minor and localized. Suspended sediments of the duration and intensity described for the Proposed Action are observed naturally as part of high-current or storm events in the area with no evidence of loss of resources. Seawater workover fluid found in the outermost conductor casing will be discharged in accordance with the NPDES General Permit (CAG280000). Residual emulsion which may release during the operation would likely weather, disperse, or evaporate before reaching shore because of the high-energy environment in the Santa Maria Basin. Additionally, the region is characterized by natural hydrocarbon seeps, contributing periodically to high background levels of hydrocarbons.

Benthic Resources: Seafloor disturbing activities from the Proposed Action include those disturbances immediately in the vicinity of the removed conductors. Cutting and removal of conductor pipes could increase turbidity and discharges that bury organisms, clog feeding structures, or expose them to chemicals. The estimated 4–5% reduction of hard substrate could slightly reduce habitat for recruiting invertebrates and fishes (Section 3.5). Avoiding anchoring will minimize impacts to benthic resources. It is unlikely that biomass accumulation from marine growth removal efforts would cause a detrimental water quality and the seafloor. Oil spill trajectories show that oil would not reach the kelp forests nearshore where species of concern such as black abalone or sunstars could be present. Impacts from the Proposed Action are expected to be minimal, temporary in duration, and confined to the area near the platform, as supported by the fact the proposed number of conductors to be removed is lesser than prior, similar conductor removal activities.

Fishes and Essential Fish Habitat: Impacts from these activities are expected to be local, difficult to distinguish from background variability, and are not expected to detectably affect regional fish populations, including Endangered Species Act (ESA)-listed species, or habitats, including Essential Fish Habitat (EFH). BOEM determined that the environmental consequences of the Proposed Action are not predicted to be detectable to regional fish populations, ESA-listed species, or EFH. The permanent reduction in platform substrate could alter resident platform fish communities in the long-term, but this is not expected to affect the viability of regional populations, and platform structure to be removed is not specifically designated as EFH or Habitat Areas of Particular Concern (a subset of EFH) by the Pacific Fisheries Management Council.

Marine Mammals and Sea Turtles: The proposed action is not expected to affect marine mammals and sea turtles. Those activities involved with resumed production of primary concern to protected marine mammals (i.e., various whale species, Guadalupe fur seal) and sea turtles (i.e., leatherback, loggerhead) are operations that are temporary in nature. Overall, the EA findings suggest impacts to marine mammals and sea turtles resulting from these activities are not significant.

Marine and Coastal Birds: Artificial lighting and noise could potentially affect marine and coastal birds. Impacts on birds from noise will be transitory, temporary, and localized. Lights on existing platforms have not been shown to significantly affect marine birds over the last 40 years, and lighting from vessels will comply with US Coast Guard navigation light requirements. The proposed action does not contemplate further artificial lighting than what is currently produced from the facility. BOEM has determined that the Proposed Action would have no effects on the Lightfooted Ridgway's Rail and may affect but is not likely to adversely affect the Western Snowy Plover, California Least Tern, Marbled Murrelet, Short-tailed Albatross, and Hawaiian Petrel.

Threatened and Endangered Species: The Proposed Action will result lead to vessel traffic, noise, artificial lighting, and bottom disturbance, which may impact ESA listed species. Given the temporary and localized nature of impacts, they will likely be undetectable to ESA-listed fish and invertebrate species. ESA-listed marine birds are unlikely to occur within the area. Finally, new or additional impacts to protected marine mammal and sea turtle species are not anticipated and will not significantly impact these species. Risks to marine mammals and sea turtles can be further minimized by consistency with "Reasonable and Prudent Measures," "Terms and Conditions," considered as part of this project, and also additional "Conservation Recommendations" detailed in the 2024 ESA consultation Biological Opinion from the National Marine Fisheries Service (NMFS Consultation Number: 2023-02183).

Commercial and Recreational Fishing: The impact analysis considered ongoing offshore energy activities, marine vessel traffic, marine protected areas, and non-project marine vessel traffic. In summary, the Proposed Action is not expected to interfere with commercial or recreational fishing operations in the local offshore area. A small oil spill could restrict surf fishing for a few days if beaches become polluted and clean-up necessary.

Socioeconomics: The Proposed Action is expected to increase economic activity and transportation. These impacts are likely to be negligible compared to the total economic activity, employment, and transportation occurring on a normal basis in the project areas. A net positive impact from the Proposed Action is expected on employment, with increased workers on the platforms for the conductor recovery effort. There would be more on-road time for truck drivers and increased activity for scrap yard crews and Port Hueneme. The overall impact on the local economy is not expected to be significant, and local social activities are not expected to be disrupted.

Marine Protected Areas: Platform Irene is located within the boundary of the Chumash Heritage National Marine Sanctuary (CHNMS), which was designated in December 2024. The removal of the eight conductors will temporarily disturb the seafloor in the area immediately surrounding each conductor. The EA assumes that vessel operators and Freeport adhere to the requirements of their discharge permit. Therefore, the EA found no significant impacts to CHNMS resources including water quality, benthic, fish, mammals and turtles and marine and coastal birds described above. Under CHNMS regulations, the Proposed Action is listed among exceptions to prohibited activities found at 15 CFR 922.232 and therefore this activity is approved. In addition, based on the analysis presented in the EA, the Proposed Action is not likely to injure any sanctuary resource of CHNMS under Section 304(d) of the National Marine Sanctuaries Act (16 USC 1434).

Best Management Practices

The EA indicates the Proposed Action will not significantly affect the quality of the environment. However, to further protect the environment from harm to the maximum extent practicable, BSEE determined a suite of standards should be imposed. These standards, or best management practices (BMPs), were developed from prior activities in the Pacific OCS and as a result of consultation with other agencies.

In 2024, BOEM and BSEE concluded an ESA Section 7 consultation with National Marine Fisheries Services (NMFS).[2] The consultation identified terms and conditions necessary to minimize impacts to ESA-listed species on ongoing activities for all platforms in the Pacific OCS. BOEM subsequently directed all operators to acknowledge and incorporate terms and conditions arising from this consultation. However, BSEE determined it is prudent to reemphasize these terms and conditions on the Proposed Action. Therefore, BSEE imposes the following ESA Section 7 terms and conditions as required mitigation:

Marine Mammals and Sea Turtles

- Collision Reporting (as soon as practicable): If an oil and gas vessel collision occurs with marine mammals or sea turtles, the Operator must report the collision to:
    - NMFS West Coast Region Marine Mammal and Sea Turtle Stranding Coordinator: Justin Viezbicke at (562) 980-3230 or justin.viezbicke@noaa.gov.
    - BSEE Pacific Regional Environmental Officer: James Salmons at (805) 384-6307 or james.salmons@bsee.gov.
- Annual Reporting on vessel use, beginning immediately and for each calendar year, must be submitted by March 1 of the following year, to the BSEE Pacific Region Environmental Officer, including:
    - Routine/daily vessel activity: Hours of oil and gas vessel operation, by vessel type, including length of vessel.
    - Non-routine/additional vessel activity: Hours of oil and gas vessel operation, by vessel type, including length of vessel.

Pursuant to 30 CFR 250.106(c), BSEE identified and adopts certain BMPs to impose as required mitigation:

General Compliance

- Prior to commencement of well conductor removal activities, Freeport will submit to BSEE for approval an environmental compliance monitoring plan to monitor and track compliance with all BMPs incorporated into the Proposed Action. Freeport's plan would specify submittal dates to report progress to BSEE in ensuring operations were conducted in accordance with the approved plan and supporting information, noting any deviations from the approved APM operations.
- If Freeport needs to make a change outside of the project scope or if there is an emergency impact on biological resources, Freeport must contact BSEE immediately.

[2] "Endangered Species Act Section 7(a)(2) Biological and Conference Opinion: Development and Production of Oil and Gas Reserves and Beginning Stages of Decommissioning within the Southern California Planning Area of the Pacific Outer Continental Shelf Region" on February 27, 2024 (Biological Opinion; NMFS consultation #: 2023-02183)

Air Quality

- Freeport works within the Boat Monitoring and Reporting Plan approved by the Santa Barbara County Air Pollution Control District (permit # 9106-R9) for the trip from the Platform Irene facilities to and from Port Hueneme.

Water Quality

- Freeport would operate under a BSEE-approved Oil Spill Response Plan (OSRP).
- Freeport's National Pollutant Discharge Elimination System (NPDES) permit CAG280000 would include limits on discharges into water column.

Benthic Resources and Fishes and Essential Fish Habitat

- Freeport will avoid anchoring vessels during Project activities.
- Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations.
- Freeport will operate under a BSEE-approved OSRP

Marine Mammals and Sea Turtles

- 10 knots vessel speed restriction (NMFS consultation #: 2023-02183).
- Protected Species Observers (PSOs) on vessels operating during well conductor removals to minimize the risk of collisions (NMFS consultation #: 2023-02183). Specific crew members will be assigned to conduct visual clearance for ESA-listed whales (blue, fin, [sei] or humpback whales). PSOs will meet criteria listed in Section 3.6.2.6.
- Reporting requirements:
    - All reporting, detailed in Appendix D of the EA, will be submitted to the BSEE Environmental Compliance Officer within 30 days after completion of all conductor removal activities;
    - Any observations of injured or dead marine mammals, related or unrelated to the activities, will be immediately reported to NOAA's West Coast Region Stranding Hotline at 1-866-767-6114 and BSEE notified; and
    - Any observations of entangled marine mammals, related or unrelated to the activities, will be reported to the Entanglement Reporting Hotline at 1-877-767-9425 and/or the USCG: VHF Ch. 16 and BSEE notified.

Marine and Coastal Birds

- General operation lighting levels and timing at the facility and vessels will not change. Measures under consultation are listed as recommendations in Section 3.7.

Commercial and Recreational Fishing

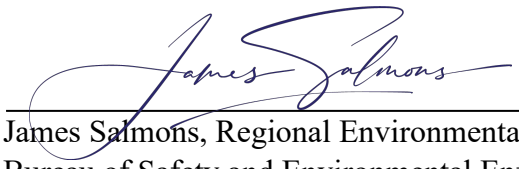
- Freeport would consult with the Joint Oil-Fisheries Liaison Office to minimize space-use conflicts associated with marine vessel traffic and portside activities.
- Freeport would file a timely advisory with the local U.S. Coast Guard (USCG) District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all local ports that support commercial fishing vessels prior to the commencement of Proposed Action activities.
- Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations.
- Freeport will use the USCG TSS during vessel transit to and from the Port of Hueneme.

- Freeport operates under a BSEE-approved OSRP.

Socioeconomics
- None listed. One recommendation, however, may be found in Section 3.10 of the EA.

Finding of No Significant Impact

BSEE determined, based on its review of the EA and supporting documents, that the Proposed Action will not significantly affect (40 CFR 1508.27) the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act and results in a Finding of No Significant Impact (FONSI). Therefore, no further NEPA analysis or Environmental Impact Statement is required.



09/18/2025

James Salmons, Regional Environmental Officer
Bureau of Safety and Environmental Enforcement
Environmental Compliance Division
Pacific Section

Date

BOEM 2025-037

Platform Irene Conductor Removal

Environmental Assessment

Freeport-McMoRan Oil & Gas, LLC
Offshore Santa Barbara County, California

September 2025

BUREAU OF OCEAN ENERGY MANAGEMENT • U.S. DEPARTMENT OF THE INTERIOR •

BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT ★ U.S. DEPARTMENT OF THE INTERIOR ★

Platform Irene Conductor Removal

Environmental Assessment

Agency Name and Region	Bureau of Ocean Energy Management, Pacific OCS Region
BOEM Publication Number	OCS EIS/EA BOEM 2025-037
Activity Type	Review of Applications for Permit to Modify
Document Date	September 2025
Location	Southern California Planning Area, Point Pedernales Unit
Lessee/Operator/Applicant	Freeport-McMoRan Oil & Gas LLC
Lease Number	OCS-P0437, P0438, P0440, and P0441
For More Information	https://www.boem.gov/environment/environmental-assessment/nepa-activities-pacific

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Acronyms and Abbreviations

APM	Applications for Permit to Modify
BA	biological assessment
BMP	best management practice
BOEM	Bureau of Ocean Energy Management
BSEE	Bureau of Safety and Environmental Enforcement
CARB	California Air Resources Board
CCS	California Current System
CFR	Code of Federal Regulations
CH	Critical Habitat
CH_4	methane
CHNMS	Chumash Heritage National Marine Sanctuary
CO_2	carbon dioxide
CPFV	commercial passenger fishing vessel
DPM	diesel particulate matter
DPS	Distinct Population Segment
EA	environmental assessment
EFH	Essential Fish Habitat
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	evolutionary significant unit
FMOG	Freeport-McMoRan Oil & Gas, LLC
FR	*Federal Register*
Freeport	Freeport-McMoRan Oil & Gas, LLC
GDP	gross domestic product
GHG	greenhouse gas
GNOME	General NOAA Operational Modeling Environment
IHA	Incidental Harassment Authorization
JOFLO	Joint Oil/Fisheries Liaison Office
MMPA	Marine Mammal Protection Act
MPA	Marine Protected Area
MSRC	Marine Spill Response Corporation
$MTCO_2e$	metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service

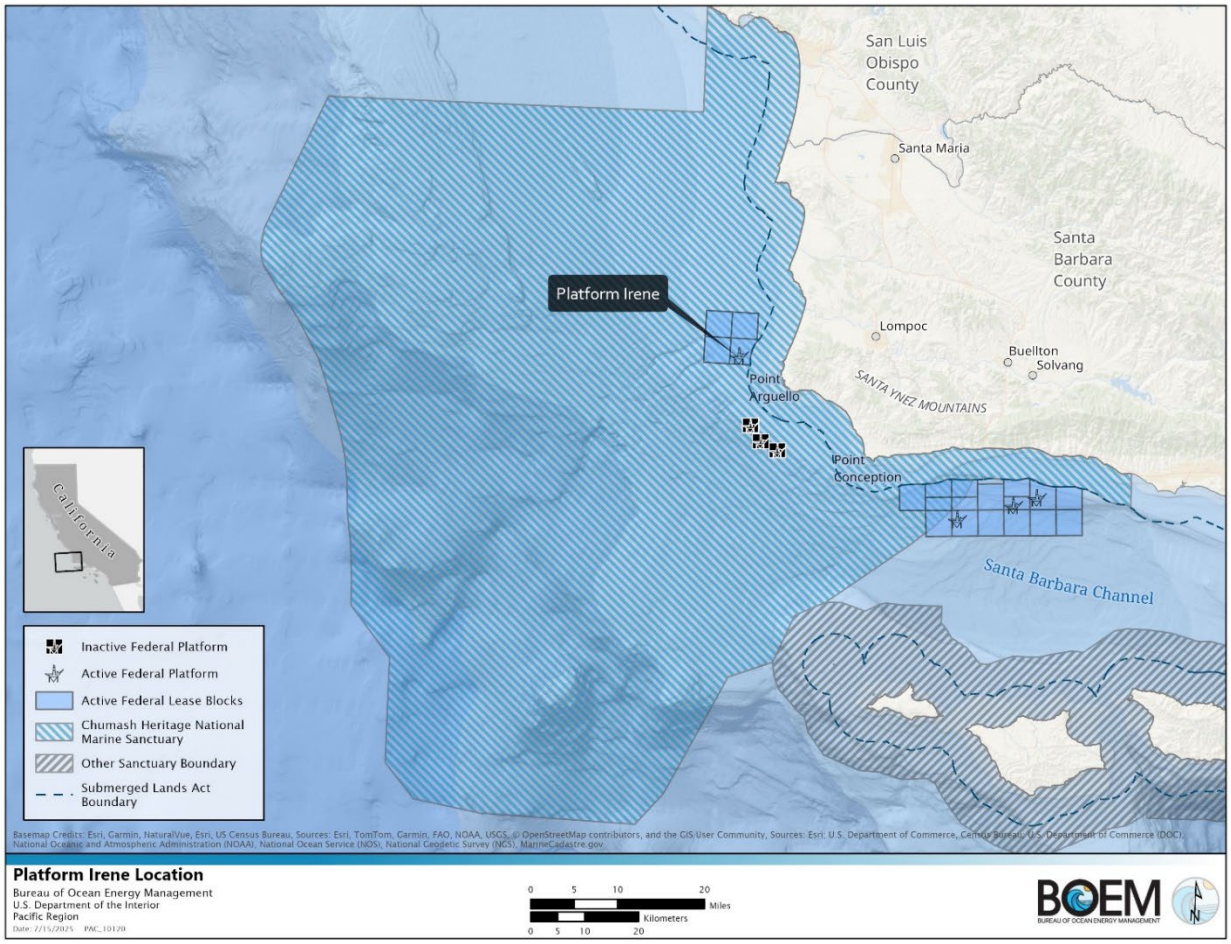
N_2O	nitrous oxide
NOAA	National Oceanic & Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OCS	Outer Continental Shelf
OCSLA	OCS Lands Act
ONMS	Office of National Marine Sanctuaries
OSRO	Oil Spill Response Organizations
OSRP	Oil Spill Response Plan
PFMC	Pacific Fishery Management Council
PM_{10}	particulate matter with a diameter of 10 microns or less
POCS	Pacific Outer Continental Shelf
POCSR	Pacific Outer Continental Shelf Region
PSO	protected species observer
PTO	Permit to Operate
PTS	permanent threshold shift
SBC	Santa Barbara Channel
SBCAPCD	Santa Barbara County Air Pollution Control District
SCAQMD	South Coast Air Quality Management District
SCB	South California Bight
SDS	Safety Data Sheet
TAC	toxic air contaminants
TAP	trajectory analysis planner
TSS	traffic separation scheme
UC	Unified Command
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VCAPCD	Venture County Air Pollution Control District
WCD	worst-case discharge

1 Introduction

1.1 BACKGROUND

The Bureau of Safety and Environmental Enforcement's (BSEE) Pacific Region – Office of Field Operations, received technical and environmental information from Freeport-McMoRan Oil & Gas, LLC. (Freeport) in support of Applications for Permit to Modify (APMs) Code of Federal Regulations (CFR) title 30 part 250.1723 to initiate the removal of eight well conductors, A-2, 3, 7, 8, 13, 14, 26 and 28, from the Point Pedernales Unit, Platform Irene. The Point Pedernales Unit is operated by Freeport and is active under Leases OCS-P0437, 0438, 0440, and 0441. Platform Irene is on the Outer Continental Shelf (OCS) in the Santa Maria Basin of the Southern California Planning Area (Figure 1-1). Platform Irene was installed on August 7, 1985, with the first production occurring in April 1987. There are 72 well slots with 27 wells and the water depth is 242 feet (74 meters [m]).

Figure 1-1: Santa Maria Basin, North of the Arguello Plateau, Point Pedernales Unit (Platform Irene) and Sanctuary Boundaries



1.2 EXISTING NATIONAL ENVIRONMENTAL POLICY ACT AND OTHER ENVIRONMENTAL ANALYSES

The Bureau of Ocean Energy Management (BOEM) is the Federal agency responsible for conducting the National Environmental Policy Act (NEPA) analyses necessary for BSEE decisions. The impacts of activities associated with the permanent abandonment of eight wells is analyzed in this document. A 2019 Platform Irene flange repair, and other completed environmental analyses, of the impacts on physical and biological resources from OCS oil and gas operations in the Southern California Planning Area provided updated information related to this NEPA document. Prior documents include the following:

- 2018 Programmatic EA [environmental assessment] Federally Regulated Offshore Oil and Gas Activities in the Southern California Planning Area
- 2020 Point Arguello Unit Well Conductors Removal EA
- 2021 Final EA Santa Clara Unit (Platforms Grace and Gail) Conductor Removal Program

BOEM and BSEE concluded an Endangered Species Act (ESA) Section 7(a)(2) consultation with National Marine Fisheries Service (NMFS) West Coast Region titled *Endangered Species Act Section 7(a)(2) Biological and Conference Opinion: Development and Production of Oil and Gas Reserves and Beginning Stages of Decommissioning within the Southern California Planning Area of the Pacific Outer Continental Shelf Region* on February 27, 2024 (Biological Opinion; NMFS consultation #: 2023-02183)(NMFS 2024a). Freeport revised their Development and Production Plan (30 CFR Part 550.285) in December 2024, incorporating the terms and conditions required by the Biological Opinion's Section 2.9.4. Terms and conditions are part of the Proposed Action in this document and are explained further as best management practices (BMPs) in Sections 2.2.3 and 3.6.2.6.

The 2024 NMFS Biological Opinion Section 1.3.5 lists additional required measures incorporated from prior terms and conditions of well conductor removal projects. NMFS sent Letters of Concurrence to BOEM in 2020 and again in 2021 that the removal of 62 and 66 conductors, respectively, was not likely to adversely affect species listed as threatened and endangered or critical habitats designated under the ESA. These additional measures are specific to well conductor removal projects and include the requirement of a 10-knot vessel speed restriction and the presence of protected species observers (PSOs). These measures are part of the Proposed Action in this document and explained as BMPs in Sections 2.2.3 and 3.6.2.6.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of this specific project is to enable the removal of eight well conductors and permanent abandonment of eight wells to ensure the safe operation of OCS oil and gas platforms.

The BSEE need for the Proposed Action is to ensure the technically safe and environmentally sound removal of the Point Pedernales Unit, Platform Irene conductors and permanently abandon wells that possess no future utility and are at the end of their economic life. The decommissioning and removal of

these conductors shall follow requirements in the OCS Lands Act (OCSLA), NEPA, and the regulatory requirements pursuant to BSEE under 30 CFR Part 250.1700 et seq.

This EA supports APMs submitted by Freeport in accordance with 30 CFR Part 250.1700 et seq. Freeport intends to permanently abandon the eight wells, although site clearance activities (30 CFR 250.1740 and 250.1742) cannot be performed until decommissioning of the Platform. This assessment accounts for the potential range of impacting factors associated with the proposed activities and the environmental resources and socioeconomic considerations that could be affected by them. OCSLA's definition of the term human environment, "means the physical, social, and economic components, conditions, and factors which interactively determine the state, condition, and quality of living conditions, employment, and health of those affected, directly or indirectly, by activities occurring on the OCS" and is the definition used for this analysis.

1.3.1 Revisions to the EA After August 2025

BOEM updated the EA to include changes to the project description that were sent from Freeport via letter on September 4, 2025 (Appendix C). These changes include an increase in the number of conductors removed from five to eight and subsequent increase to the number of truck trips on shore. The numbers for project activities affecting fishes and EFH were updated. Vessel trip estimates remain unchanged, as the original analysis was deemed sufficient. These updates to the Proposed Action are now reflected in this document and Appendix C, were reviewed by analysts, and have been found to have no difference in prior conclusions. Due to the timing of the update, BOEM removed the August 2025 date on the cover page and replaced it with September 2025. No public comment or Federal Register posting was required or occurred.

1.4 REGULATORY FRAMEWORK

BSEE will determine whether the Proposed Action is technically and environmentally sound by reviewing the application materials submitted by Freeport, and this NEPA document. NEPA mandates that Federal agencies ensure the professional and scientific integrity of environmental documents; use reliable data and resources when carrying out NEPA; and study, develop, and describe technically and economically feasible alternatives (42 U.S.C. 4332(2)(D)–(F)). This document does not assess permitting requirements outside of BOEM or BSEE authority.

The decommissioning and removal of the eight well conductors shall follow requirements in OCSLA, NEPA, and regulatory requirements pursuant to 30 CFR Subpart Q. Platforms generally consist of two parts for decommissioning purposes: the topside (the structure visible above the waterline) and the substructure (the parts between the surface and the seabed, or mudline). Topsides containing the operational components are taken to shore for recycling or re-use. The substructure is severed 15 feet below the mudline, then removed and brought to shore to sell as scrap for recycling or refurbished for installation at another location.

Executive Order (EO) 14154, *Unleashing American Energy* (Jan. 20, 2025), and a Presidential Memorandum *Ending Illegal Discrimination and Restoring Merit-Based Opportunity* (Jan. 21, 2025), require the Department to strictly adhere to NEPA. Further, such EO and Memorandum repeal EOs 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because EOs 12989 and 14096 have been repealed, complying with such EOs is a legal impossibility. The Bureau verifies that it has complied with the requirements of NEPA, including the Department of Interiors' regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 EO and Memorandum. The Bureau has also voluntarily considered the Council on Environmental Quality's rescinded regulations implementing NEPA, previously found at 40 CFR Parts 1500–1508, as guidance to the extent appropriate and consistent with the requirements of NEPA and EO 14154.

1.5 STUDY AREA: PROJECTS AND ACTIVITIES

This section describes the reasonably foreseeable projects and activities area that could co-occur, in space or time, with the Proposed Action. Two types of projects and activities are described: (1) approved and pending energy projects, and (2) other non-energy projects and activities that are occurring or could occur in the vicinity of the Platform Irene project and could interface with the same biological, economic, or cultural resources. BOEM uses the term *impact-producing factors* to define the way in which an action (project or activity) affects a given resource (Table 2-1 and Table 3-1). Projects and activities could generate impact-producing factors, which could affect a biological, economic, or cultural resource directly or indirectly.

1.5.1 Offshore Energy Projects

Future oil and gas activities are described below, and no new offshore energy projects are reasonably foreseeable that overlap temporally or spatially with the proposed activities.

1.5.1.1 Activities on Existing Federal Platforms

There are 23 oil and gas platforms on the OCS. Nineteen platforms (including the one analyzed in this EA) are off the coasts of Santa Barbara and Ventura counties. Three facilities nearest to Platform Irene are Platforms Hidalgo, Harvest, and Hermosa, about 10 miles to the south. These Platforms are in the beginning stages of decommissioning with all conductors removed and wells plugged and abandoned. Activities that could overlap with Proposed Action activities are limited to monitoring and maintenance operations. East of those platforms offshore Gaviota, California, and about 35 miles (56 km) miles from Platform Irene, there are three additional platforms (Heritage, Harmony, and Hondo). Those platforms are in the process of resuming oil production as a part of routine operations and so this document considers the potential for accidental oil spills from these platforms overlapping with Proposed Action activities. Routine permitted operations include creating air emissions, effluent discharges, and transportation of personnel and supplies by crew and supply boats and helicopters. Transportation of personnel and supplies by crew and supply vessels shall follow currently used routes between the ports and the platforms, and vessels operate only within the established vessel traffic lanes.

1.5.1.2 State Offshore Energy Projects

The legacy wells re-abandonment project included the permanent re-abandonment of four leaking legacy oil wells in the subtidal and intertidal zones offshore Summerland, Santa Barbara County. Legacy well abandonment of the Duquesne and Olson wells concluded in December 2021 and July 2021, respectively (https://slcprdwordpressstorage.blob.core.windows.net/wordpressdata/2021/12/SB44_2021.pdf).

The re-abandonment of two Treadwell Pier oil wells in the intertidal zone of Summerland Beach was completed in February 2025 (https://content.govdelivery.com/accounts/CNRA/bulletins/3d70035).

The plugging and abandonment of all onshore and offshore wells at Rincon Island was completed in June 2021 (phase 1). The California Coastal Commission certified a final Environmental Impact Report to develop a decommissioning plan for the disposition of Rincon Island, the onshore facility, and the causeway (phase 2) in August 2024 (https://www.slc.ca.gov/oil-and-gas/rincon/). The permanent plugging and abandonment of Platform Holly's 30 oil and gas wells offshore of the City of Goleta was completed in September 2024 (https://www.slc.ca.gov/oil-and-gas/southellwood/).

1.5.2 Offshore Activities

1.5.2.1 National Marine Sanctuaries and National Parks

The Chumash Heritage National Marine Sanctuary (CHNMS) was designated in 2024; it is the sixth national marine sanctuary off the U.S. West Coast and encompasses 4,543 square miles of the central California coast and waters. The CHNMS includes Platform Irene and a western portion of the Santa Ynez Unit, as well as associated pipelines and power cables. The CHNMS designation in 2024 includes exceptions for oil and gas production for existing leases or lease units, pursuant to 15 CFR 922.232. The CHNMS considers water quality, benthic, fish, marine mammal, and bird resources discussed in this EA to be CHNMS resources and subject to review under Section 304(d) of the National Marine Sanctuaries Act. The relevant details can be found in Section 4.

Channel Islands National Park and Channel Islands National Marine Sanctuaries are collocated around the northern Channel Islands to the south of the Proposed Action area. All three areas have restrictions on ships greater than 300 gross tons, but other jurisdictions differ, and additional permitting can apply.

1.5.2.2 California Marine Protected Areas (MPAs)

The 1999 Marine Life Protection Act directed the State of California to design and manage a network of MPAs to protect marine life and habitats, marine ecosystems, and marine natural heritage, as well as improve recreational, educational, and study opportunities provided by marine ecosystems. MPAs include state marine reserves, state marine parks, and state marine conservation areas, which confer different levels of restrictions on recreational and commercial fishing in state waters out to 3 nautical miles (nm)(CDFW 2025). Vandenberg State Marine Reserve is located directly east of the Platform Irene.

1.5.2.3 Shipping Activity

Most of the commercial vessels in the Santa Barbara Channel (SBC) use the vessel Traffic Separation Scheme (TSS), an internationally sanctioned set of traffic lanes established for marine safety providing predictability and safer navigation(USCG 2011). The north-bound and southbound shipping lanes in the SBC are 1 nm (1.8 kilometers [km]) wide, and each separation zone is 1 nm (1.8 km) wide (Figure 1-1). The estimated annual traffic through SBC TSS is 6,000 vessel movements. SBC is also extensively used by smaller commercial, fishing, and recreational vessels. Accidents and the subsequent spillage of fuel oil is a possibility for vessels transiting SBC, but no significant spillage has occurred since the TSS was established. Designated commercial shipping lanes exist within the San Pedro Bay for ships to enter and leave the Ports of Los Angeles-Long Beach. Oil tankers, container ships, and other large commercial vessels use these shipping lanes when entering and leaving port.

The 2023 Pacific Coast Port Access Route Study (PAC-PARS Workgroup 2023) resulted in recommended (voluntary) vessel transit corridors (in the case of PAC-PARS, a proposed fairway system) consistent with current vessel routes. The PAC-PARS Study included vessel traffic in waters of the Pacific Ocean from the baseline of Washington, Oregon, and California extending 200 nm (370 kilometers) off the West Coast. The final PAC-PARS coastal analysis (covering 2012, 2015, 2017–2021) found that vessel traffic in the study area increased over time (USCG 2011). Based on these findings, an increase in vessel traffic over time is an existing baseline trend offshore California.

As noted above, the Designation of CHNMS could divert some vessel traffic, such as tank vessels and cargo ships greater than 300 gross tons, farther offshore, due to renewed emphasis on the West Coast Offshore Vessel Traffic Risk Management project recommendations (WCOVTRM 2022).

1.5.2.4 Commercial Fishing

The productive habitats within the Santa Maria Basin and SBC regions support important fishing grounds, with annual landings between 2022–2024 averaging more than $68 million dollars. Fishers that ply these waters landed 145 taxa for market using trawl, pot/trap, purse seine, gill/set net, longline, hand rake, and hook-and-line gear (CDFW 2025). The regions benefit from both high-volume (coastal pelagic fishes, market squid, and sea urchin) and high-priced (California spiny lobster, sablefish, and spot prawn) fisheries. During the year, fishers allocate their effort among different fisheries depending on market demand, harvest regulations, weather conditions, and species abundance.

1.5.2.5 Point Source Discharges

Regulated point source pollution entering the Santa Maria Basin include permitted outfalls from municipal and commercial sources. Among these, publicly owned treatment works represent the largest point source contributors to the basin. Only two publicly owned treatment works discharge directly, and only three, indirectly. All qualify as small and employ at least secondary treatment (Continental Shelf Associates 2005, MMS 2001). Offshore oil and gas operations, in the southern portion of the Santa Maria Basin, contribute relatively less pollution, but relatively higher amounts of hydrocarbon pollutants than do the other anthropogenic sources (Lyon and Stein 2010). The largest contributors of

hydrocarbons to offshore waters, however, are the naturally occurring oil and gas seeps within the northwestern Santa Barbara Basin near Point Conception. Southerly winds and currents can carry hydrocarbons from seeps northward into the Santa Maria Basin (Lorenson et al. 2011). These seeps often produce localized, visible sheens on the water and lead to the production of tar balls commonly found on beaches after weathering and oxidation of oil (Farwell et al. 2009). Platform Irene is the northernmost oil and gas platform. There are no marine terminals or other sizable sources of marine pollution in the Santa Maria Basin region (Continental Shelf Associates 2005).

1.5.2.6 Nonpoint Source Discharges

The Santa Maria Basin area is sparsely inhabited with little industrial development but with more agriculture and ranching than urban centers to the south. Two major rivers, the Santa Maria River, which discharges on the border of San Luis Obispo and Santa Barbara counties, and the Santa Ynez River, which discharges between Point Purisima and Point Arguello, represent the dominant sources of nonpoint pollution to the basin (Argonne National Laboratory 2019). Key contributors to nonpoint source discharges to the Santa Maria Basin are from its dominant nearby agricultural sector and expanding urban and municipal development. The nearest main sources of nonpoint source pollution are the numerous small and intermittently flowing streams running out of the coastal range along the mainland side of the SBC. River runoff is difficult to quantify and is seasonally variable. Contaminants carried by a river runoff plume would be well diluted but perhaps still detectable by the time of arrival in the Proposed Action area.

1.5.2.7 Vandenberg Space Force Base

In March 2025, the *Falcon 9 Launch Cadence Increase at Vandenberg Space Force Base, California*, was published. This analysis is to accommodate Falcon 9 and Falcon Heavy launches and increase cumulative launch cadence of Falcon 9 and Falcon Heavy to 100 launches per year. Previously, only 36 to 50 launches per year occurred. Up to 12 first stages per year would continue to land at Space Launch Complex-4. See the Finding of no Significant Impact for more information.

In June 2025, Vandenberg Space Force Base published the Programmatic EA for Harbor Activities. This analysis provides an updated understanding of the overall impacts from the harbor activities program including harbor dredging; vessel transit, loading, and unloading; and other general recreational activities in Lompoc, California. See the Draft Programmatic Environmental Assessment for Harbor Activities for more information.

2 Description of the Proposed Action and Alternatives

2.1 BACKGROUND INFORMATION AND DESCRIPTION OF EXISTING FACILITIES

The Point Pedernales Unit Platform Irene is about 4.7 miles offshore Santa Barbara County in the Santa Maria Basin. Platform Irene, installed in 1985, sits in 242 feet of water with 72 slots, 27 of which are active wells (Figure 1-1). The height above the seafloor is the same for all the eight wells, at 307 feet (water depth of 242 feet plus well length above sea level at 65 feet). Production at Platform Irene was temporarily ceased in December 2022. Currently all platform wells, production systems and related pipelines and facilities are secured, shut in, and safely maintained in a safe state ready to be returned to service (commonly referred to as "warm-standby") as Freeport resolves third-party commercial issues regarding the oil sales pipeline. None of the wells are permanently abandoned as of this date and Freeport maintains an active lease status. Freeport plans that oil sales and transportation issues will be resolved, and oil and gas production will resume.

During this time, the facilities are manned and all regulatory required programs relating to facility integrity, environmental and safety testing, inspection and reporting are continuing unless specifically addressed with a temporary waiver or variance from the relevant jurisdictional agencies (e.g. BSEE, Department of Transportation - PHMSA, Santa Barbara County Air Pollution Control District). Ongoing maintenance includes equipment inspections onshore and offshore, continued preventative maintenance to preserve the integrity of equipment including repairs, operation of required safety and utility systems, rotating motors, internal in-depth inspections, maintenance of lube oil systems and keeping moisture out of the system, and inspections of subsea structures and pipelines. Seven structural inspections and 27 pipeline inspections occurred over the past 5 years. Inspections are carried out by jurisdictional agencies or qualified third-party contractors with no affiliation to the operator.

2.2 ALTERNATIVE A: PROPOSED ACTION

BSEE's Pacific Office received project technical and environmental information from Freeport in support of APMs (30 CFR Part 250.1723) to initiate the removal of eight well conductors from the Point Pedernales Unit Platform Irene. Freeport is proposing to permanently abandon eight wells and remove eight conductor casings on Platform Irene. Platform Irene is currently not transporting oil to shore. However, due to the active status of Platform Irene, this document assumes that Platform Irene is fully producing and transporting oil to shore and so describes the risk of an accidental oil spill in Section 2.2.2 and in Appendix A.

2.2.1 Platform Irene and Well Conductors

The Point Pedernales Unit (leases OCS-P0437, 0438, 0440, and 0441) is in the southeastern portion of the Santa Maria Basin OCS area (Figure 1-1). Platform Irene is 4.7 miles from shore, where the southern Santa Maria Basin meets the western edge of the Southern California Bight. The seafloor around the platform has a downward western slope (0.71%) toward the Pacific Ocean. Platform Irene's height

above the seafloor is 307 feet in a water depth of approximately 242 feet plus well length above sea level at 65 feet. The seafloor area around Platform Irene has a relatively featureless profile and consists of medium-to-fine grain sand and sedimentary materials.

Freeport will use the Marine Vessel (M/V) *Loren C* for the transport of crew and materials (Appendix B). Freeport anticipates 1-2helicopter runs daily, during Proposed Action operations.

Platform Irene is not in the immediate vicinity of either buried or seafloor channels (Little 1985). The seafloor is a firm, sandy bottom. The seafloor around Platform Irene is mostly soft-bottom benthic habitats, and is made of an accumulation of sediment, shell debris, discharges, and man-made materials, such as grout from the platform construction. There is one recorded shell debris mound beneath Platform Irene (Appendix C), which rises approximately 9 feet and is centered under the western quadrant of the platform (MMS 2003).

Freeport determined that mechanical cutting is the most effective method to cut conductors. There will be no alternative cutting method considered for this Proposed Action due to the reliability of the mechanical cutting process and the required equipment will already be on location. If the cut conductor becomes stuck in the platform's jacket due to an obstruction in the water column or mud mat during the well conductor recovery process, Freeport will recover the stuck conductor during the platform abandonment process. The Proposed Action at Platform Irene would result in the following conductor and wellhead scrap:

- Forty 40-foot length cut conductor pieces; each 40-foot piece to weigh approximately 10,582 pounds
- Five 12-foot length cut conductor pieces; each 12-foot piece to weigh approximately 3,175 pounds
- Eight wellhead systems; each system to weigh approximately 10,000 pounds

Details about the Proposed Action at Platform Irene are described further in Appendix C.

2.2.1.1 Project Timing

Freeport plans to mobilize equipment from the Gulf of America in August 2025 and start operations subsequently. The temporary well abandonment process is expected to take 90 to 135 days for all eight wells. Freeport would immediately move into permanent well abandonment operations after the temporary well abandonment work has been completed, approximately by the end of 2025.

2.2.1.2 Methodology

The equipment needed for the temporary abandonment is also needed for permanent abandonment and will be on location to perform the abandonment in compliance with 30 CFR 250.1716. The basic methodology includes the following:

- Mechanically cut each well at a depth at least 15 feet below the mudline using internal cutting blades.

- Hydraulically lift the well casings out of the water column.
- Cut the well casings into manageable (approximate 40') segments onboard the platform.
- Load the segments of well casings onto a transport vessel.
- Transport the well casing segments to an approved recycling/disposal facility.
- Demobilize the permanent abandonment equipment.

The mechanical cutting assembly will run inside the pipe using drill pipe. Once in the proper depth position, hydraulic pressure is applied to the cutting assembly to engage the blades, which move into contact with the inside of the conductor pipe. The assembly is rotated in place from the surface using a power swivel until the cut is completed. This initial cut for each well will require approximately three to four hours.

After the initial cut is made and proved on each well, the conductor pipe will be lifted using hydraulic jacks onboard the platform where it will be cut into approximately 40-foot segments for transport to shore. These segmenting cuts are completed using a pneumatic/electric/hydraulic cutting system and/or a torch as appropriate.

Marine vessel support for this Proposed Action would be accomplished using vessels approved in the current permit issued by the Santa Barbara County Air Pollution Control District (SBCAPCD) and described in the approved Boat Monitoring and Reporting Plan (SBCAPCD 2023). There will be no separate emission sources other than those associated with vessel operations (engines integrated into the vessel for propulsion, dynamic positioning, power generation, etc.). Mobilization and demobilization of all required equipment will be accomplished during normally scheduled vessel trips. The vessel identified for this work is the *M/V Loren C*, a supply vessel permitted to operate at Platform Irene, has an overall length of 225 feet and a deadweight of 2,488 tons. There will be one or two additional boat runs used to transport conductor casing segments to Port Hueneme, Oxnard. No vessel anchoring will occur during this Proposed Action.

Based on a maximal weight of 600,000 lbs of conductor pieces and well head systems, Proposed Action would generate approximately 23 truck trips. Freeport will ship all conductor casing and wellhead scrap to Standard Industries, a metal recycling service in Ventura, California, approximately 87 miles southeast of Platform Irene.

2.2.2 Accidental Event: Oil Spills

Accidental oil spills are neither authorized nor intended to occur, however all operators are required to prepare and respond. Freeport submitted an updated and revised Oil Spill Response Plan (OSRP) to BSEE in April 2025. The OSRP covers all aspects of spill detection and response, including sections on spill detection; source identification and control; response planning; oil and debris removal and disposal procedures; wildlife cleaning and rehabilitation procedures; and worst-case discharge (WCD) scenarios from each platform.

Vessels supporting platform maintenance involve the use of petroleum hydrocarbons, including small volumes of lubricating oils, hydraulic fluids, and waste oils. Spillage of these materials on any vessel could result in their release to the marine environment. The work vessels maintain an OSRP and have spill containment and cleanup equipment on board in the event of local deck spills. If an oil spill were to occur from a vessel into the ocean, Freeport would respond and assist the vessel in accordance with its BSEE-approved OSRP for Pacific Outer Continental Shelf Region (POCSR) Operations. Incident response procedures include mobilization of an Onsite Response Team at the platforms, and, if necessary, deployment of vessels from the Oil Spill Response Organizations (OSRO). Accidental spillage of lubricating oil, hydraulic fluids, and waste oil is expected to result in minimal, localized impact on the marine environment due to typically small volumes of such spills, the onsite oil spill response capability, and other spill-response resources in the immediate area.

2.2.2.1 Oil Spill Risk Assessment

The Proposed Action does not increase the risk of oil spills. Accidental oil spills are not authorized nor intended; however, BOEM analyzed accidental oil spill scenarios, and other related information, occurring from any actively producing offshore facility on the POCSR in Appendix A. This EA includes impact analyses of accidental oil spills of 50 barrels (bbl) or less in the appropriate resources in Section 3. BOEM does not consider higher-volume of 50 bbl or more and/or extended-duration oil spills to be possible since POCSR fields are mature and the majority of reservoirs have low to no pressure, requiring artificial lift to access the oil. Typically, mechanical interventions are required to lift oil from the reservoir, into the wellbore up to the platform and subsequently through pipelines to onshore facilities. In the instances where a well that penetrates a reservoir is unable to lift fluids above the height of the mudline/seafloor using primary reservoir energy, it is called a no-flow well. BSEE designated many wells as no-flow. The probabilities of one oil spill occurring for the entire POCSR (Appendix A, Table A-1) are conservatively calculated because other factors (in addition to declined production rates) further lower the likely hood of a spill occurring, including the use of oil pipelines instead of vessels and more stringent regulation and inspection programs to improve environmental safety.

In normal, day-to-day platform operations, accidental discharges of hydrocarbons could occur. Such accidents are typically limited to discharges of quantities of less than one barrel of crude oil. From 1963 to 2022, 1,451 oil spills were recorded. The total volume of oil spilled in the Pacific Region is dominated by the 1969 Santa Barbara Spill (80,900 bbl), which occurred soon after production began. During 1970–2022, there were 1,449 oil spills, with an average volume of 1 bbl/spill and a total volume of 1,508 bbl, which represents less than 2% of the volume spilled in 1969.

The largest spill during 1970–2022 in the POCSR was the 588 bbl Beta Unit spill (“Huntington Beach” spill) in October 2021 from Amplify Energy Corporation’s San Pedro pipeline P00547 (Appendix A, Table A-1). In a settlement agreement (Case No. 8:21-cv-01628-DOC-JDE, Document 476-4, U.S. District Court for the Central District of California, 2022), the corporate defendants asserted that the spill was a result of severe damage to pipeline P00547 from two container ships that repeatedly dragged their anchors

across it. Without accepting responsibility, the shipping companies agreed to contribute funds to the remediation process.

BSEE oil spill reporting requirements, along with development of more stringent regulations, implementation of rigorous inspection programs, imposition of civil and criminal penalties, and changes in equipment and procedures have all contributed to a safer work environment. BSEE promulgated regulations that require offshore operators to develop safety and environmental management systems, which are intended to foster environmentally responsible and safe working conditions.

2.2.3 Best Management Practices Included in the Analysis

BMPs are the actions that will be implemented to avoid or minimize impacts. These are actions that are considered part of the Proposed Action, either because they were included in Freeport's submitted materials, or prior in their Development and Production Plan. The list of BMPs are listed below in Table 2-1 and further explained in in Section 1.2 the individual Chapter 3 sections.

Table 2-1: Best Management Practices

Description of Potential Impact(s)	Best Management Practices to Avoid or Minimize Impact(s) from the Proposed Action
General Compliance	• Prior to commencement of well conductor removal activities, Freeport will submit to BSEE for approval an environmental compliance monitoring plan to monitor and track compliance with all BMPs incorporated into the Proposed Action. Freeport's plan would specify submittal dates to report progress to BSEE in ensuring operations were conducted in accordance with the approved plan and supporting information, noting any deviations from the approved APM operations. • If Freeport needs to make a change outside of the project scope or if there is an emergency impact on biological resources, Freeport must contact BSEE immediately.
Air Quality Onshore impacts from vessel and associated equipment	• Freeport works within the Boat Monitoring and Reporting Plan approved by the SBCAPCD (permit # 9106-R9) for the trip from the Platform Irene facilities to and from Port Hueneme.
Water Quality Impacts to water quality from discharges and turbidity	• Freeport would operate under a BSEE-approved OSRP. • Freeport's National Pollutant Discharge Elimination System permit CAG280000 would include limits on discharges into water column.
Benthic Resources Turbidity; benthic habitat alteration from seabed disturbance; polluted habitats from debris and discharges	• Freeport would avoid anchoring vessels during Proposed Action activities. • Freeport would keep a log for all materials lost overboard and report them to BSEE per regulations. • Freeport would operate under a BSEE-approved OSRP.

Description of Potential Impact(s)	Best Management Practices to Avoid or Minimize Impact(s) from the Proposed Action
Fishes and Essential Fish Habitat Turbidity; benthic habitat alteration from seabed disturbance; noise; polluted habitats from debris and discharges	• Freeport would avoid anchoring vessels during Project activities. • The use of explosives is prohibited during Project activities. • Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations. • Freeport operates under a BSEE-approved OSRP.

Marine Mammals and Sea Turtles
Injuries due to noise or collisions with marine vessels
	• 10 knots vessel speed restriction.
	• Protected Species Observers (PSOs) on vessels operating during well conductor removals to minimize the risk of collisions (NMFS 2024a). Specific crew members will be assigned to conduct visual clearance for ESA-listed whales (blue, fin, [sei] or humpback whales). PSOs will meet criteria listed in Section 3.6.2.6.
	• Reporting requirements:
	  • All reporting, detailed in Appendix D, will be submitted to the BSEE compliance officer within 30 days after completion of all conductor removal activities.
	  • Any observations of injured or dead marine mammals, related or unrelated to the activities, will be immediately reported to NOAA's West Coast Region Stranding Hotline at 1-866-767-6114 and BSEE notified.
	  • Any observations of entangled marine mammals, related or unrelated to the activities, will be reported to the Entanglement Reporting Hotline at 1-877-767-9425 and/or the USCG: VHF Ch. 16 and BSEE notified.

Marine and Coastal Birds Artificial lighting at night, noise, and polluted habitats from debris and discharges	• General operation lighting levels and timing at the facility and vessels will not change. Measures under consultation are listed as recommendations in Section 3.7.
Commercial and Recreational Fishing Space-use conflicts offshore and portside; loss or damage to gear; economic loss due to oil spill closures; and adverse effects to harvested species (See *Fishes and EFH*)	• Freeport would consult with the Joint Oil-Fisheries Liaison Office to minimize space-use conflicts associated with marine vessel traffic and portside activities. • Freeport would file a timely advisory with the local U.S. Coast Guard (USCG) District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all local ports that support commercial fishing vessels prior to the commencement of Proposed Action activities. • Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations. • Freeport will use the USCG TSS during vessel transit to and from the Port of Hueneme. • Freeport operates under a BSEE-approved OSRP. See also *Fishes and EFH*.
Socioeconomics Truck traffic on roads while transporting materials to local facility	• None listed. One recommendation listed in Section 3.10.

2.3 ALTERNATIVE B: NO ACTION

This EA contrasts the impacts of the Proposed Action with the current and expected future conditions of the affected environment in the absence of the action, which constitutes consideration of a no action alternative (Department of Interior 516 DM 1). Under this alternative, Freeport would not remove the well conductors and casings and therefore would not be able to conduct permanent well-abandonment operations on Platform Irene per BSEE regulatory requirements to remove the facilities at the end of their economic life. None of the impacts expected to result from the well conductor removal activities would occur. The purpose of and need for the Proposed Action would not be achieved. Without the ability to remove the well conductors and casings, Freeport would not be able to fully decommission their facilities as is required under the OCSLA and the current regulations. Water quality and oil spill risk could be impacted if facilities cannot be properly and safely maintained. Thus, the removal of the well conductors and casings is a critical step to the full removal of the structure from the Federal OCS and decommissioning of the facilities at the end of their economic life.

No other alternatives were considered for this EA.

3 Description of Affected Environment and Environmental Considerations

3.1 ENVIRONMENTAL RESOURCES CONSIDERED

Environmental Resources Included in the EA. BOEM followed a multi-step process in conducting the environmental analysis presented in this EA. First, BOEM conducted an initial screening analysis to determine the impact-producing factors and biological, economic, or cultural resources in the Proposed Action area that could potentially be impacted by the Proposed Action. The impact-producing factors identified for this Federal action are air emissions; noise; discharges; turbidity; marine vessels; and traffic. Based on this examination and review of the Proposed Action, BOEM determined that the following environmental resources and socioeconomic considerations could be potentially impacted by the Proposed Action and the relevant impact-producing factors (Table 3-1).

Table 3-1: Environmental Resources Potentially Impacted by the Proposed Action

Resource	Potential Impact(s) from Proposed Activity
Air Quality	Emissions from vessels and associated equipment
Water Quality	Disturbance of sediments and discharges of wastes
Benthic Resources	Turbidity, benthic habitat alteration, anoxic or polluted habitats
Fishes and Essential Fish Habitat	Turbidity, benthic habitat alteration, noise, anoxic or polluted habitats
Marine Mammals and Sea Turtles	Disturbance due to noise or injuries due to marine vessel traffic
Coastal and Marine Birds	Artificial lighting associated with nighttime activities, noise, and potential for accidental oil spills
Threatened and Endangered Species	Impacts are covered under the applicable resource category
Commercial and Recreational Fishing	Space-use conflicts (offshore and portside); gear damage; economic losses due to oil spill closures; adverse impacts on harvested populations (see *Fishes and Essential Fish Habitat*)
Socioeconomic	Effects on general economic activity, transportation, employment, and tourism

Environmental Resources Not Included in the EA. The following resources were not included for analysis in this EA because BOEM determined that they are not in the Proposed Action area and/or would not be affected by the activities:

- **Intertidal, Wetland, and Shallow Subtidal Resources.** These resources would not be affected by the Proposed Action.
- **Cultural/Archaeological Resources.** Archaeological and cultural resources are protected by State of California and Federal laws and are known to be present in the Proposed Action area. The Proposed Action would occur from existing drilling platforms that were installed in 1985. Previous archaeological surveys in the Proposed Action area did not identify any potential

archaeological or cultural resources near the proposed area. No anchoring is proposed for this Proposed Action, thus reducing seafloor sediment disturbances from each well conductor removal. The Proposed Action, therefore, has no potential to cause effects on historic properties as defined under Section 106 of the National Historic Preservation Act, and no further review under Section 106 is required.

3.2 AIR QUALITY

3.2.1 Affected Environment

The Freeport proposed Irene conductor removal project would take place in the OCS offshore Santa Barbara County, within the South-Central Coast Air Basin. In Santa Barbara County, winds predominantly blow from the west (WRCC 2021), meaning pollutants generated offshore and along the coast predominantly flow eastward toward populated land areas.

The climate, meteorology, air quality, and air quality trends of Santa Barbara County and Ventura County areas have been described in detail in several planning and environmental documents and are best summarized in the Ventura County Air Pollution Controle District's (VCAPCD's) Air Quality Management Plan (VCAPCD 2022) the Santa Barbara County Air Pollution Control District Ozone Plan (SBCAPCD 2022), the Environmental Setting of the Southern California OCS Planning Area (Argonne National Laboratory 2019), and the South Coast Air Quality Management Plan (SCAQMD 2022), and are hereby incorporated by reference.

For this Proposed Action, Freeport plans to use vessels already approved in the permit to operate issued by the SBCAPCD and is also referred to as Freeport's Boat Monitoring and Reporting Plan (SBCAPCD 2023). The vessel will travel to and from Port Hueneme, in Ventura County and so Ventura County air pollution standards are discussed below. There will be no separate motors other than those associated with vessel operations (engines integrated into the vessel for propulsion, dynamic positioning, power generation, etc.). Mobilization and demobilization of all required equipment will be accomplished during normally scheduled vessel trips. There will be one or two additional vessel trips used for transportation of conductor casing segments to the designated dock. Freeport would use at least one helicopter for Proposed Action operations, operated by RLC, a privately held helicopter operator.

3.2.1.1 Criteria Pollutants

Section 328 of the 1990 Clean Air Act Amendments transferred authority for air quality on the OCS to the U.S. Environmental Protection Agency (USEPA). On September 4, 1992, the USEPA Administrator promulgated requirements (40 CFR Part 55) to control air pollution from OCS sources to attain and maintain Federal and state air quality standards. The promulgated regulations require OCS sources to comply with applicable onshore air quality rules in the corresponding onshore area.

The USEPA delegated authority to the SBCAPCD on January 27, 1994, to implement and enforce the requirements of 40 CFR Part 55. The Platform Irene facilities are offshore Santa Barbara County and are

permitted by and within the jurisdiction of the SBCAPCD and working with the South Coast Air Quality Management District (SCAQMD) to implement and enforce the requirements of 40 CFR Part 55.

Ventura County is in attainment for all National Ambient Air Quality Standards (NAAQS) except for the Federal 8-hour ozone (O_3) standard and SCAQMD is in attainment status for all Federal pollutants (USEPA 2025). NAAQS are regulations established by the USEPA under the Clean Air Act, setting permissible levels for certain air pollutants to protect public health and the environment. The Federal attainment statuses of Counties in the South Coast Air Basin are found in 40 CFR 81.305. California has state ambient air quality standards in addition to the Federal standards. Both Santa Barbara and Ventura counties are in nonattainment for particulate matter with a diameter of 10 microns or less (PM_{10}), and O_3 is in nonattainment for Ventura County, and nonattainment-transitional for Santa Barbara County (CARB 2023).

3.2.1.2 Greenhouse Gases

Due to the use of both stationary and mobile equipment involving combustion processes, this Proposed Action is a source of greenhouse gases (GHGs). GHGs are defined as any gas that absorbs infrared radiation in the atmosphere. The effects of GHGs are global, in contrast to the criteria pollutant impacts, which are localized to the county and multi-county levels near where they are emitted. The three most common GHGs include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). These GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the greenhouse effect. The primary source of GHGs in the U.S. is energy-use related activities, which include fuel combustion, as well as energy production, transmission, storage, and distribution. Fossil fuel combustion represents the vast majority of the energy-related GHG emissions, with CO_2 being the primary GHG (USEPA 2024).

3.2.1.3 Toxic Air Contaminants

Areas under the jurisdiction of Ventura County Air Pollution Control, and to a greater extent, SCAQMD, are subject to emissions of toxic air contaminants (TAC), primarily diesel particulate matter (DPM). DPM is a combustion contaminant and is emitted by equipment using diesel fuel, such as heavy-duty trucks, marine vessel propulsion engines and auxiliary engines, cranes, and emergency and portable generators. In 1998, the California Air Resources Board (CARB) identified DPM as a TAC. CARB programs control DPM emissions by various means, including the regulation of commercial vehicle idling, conducting a Heavy Duty Vehicle Inspection Program, and retrofitting older trucks and buses. Since 2007, CARB has required commercial harbor vessel operators to use California ultralow sulfur diesel, install non-resettable hour meters, and phase out Tier 1 engines. As a result of these regulatory requirements, DPM emissions have decreased and are expected to decline further as cleaner technologies emerge, and additional emissions control measures are implemented.

3.2.2 Impact Analysis

BOEM, its predecessor agencies, and other agencies have prepared several environmental documents associated with offshore activities; these documents provide background discussions of air quality impacts and BMPs associated with those multiple project activities. Various Authority to Construct permits and Permits to Operate (PTOs) have been issued by the SBCAPCD regarding ongoing activities and operations and may be further referenced by contacting SBCAPCD offices. Platform Irene operates under SBCAPCD PTO #9106-R9. Platform Irene is subject to Title V permitting and compliance requirements. These PTOs contain limits for allowable emissions associated with platform operations, including decommissioning activities in its project description.

Platform Irene's power is supplied by the Pacific Gas and Electric grid via subsea cables from shore. Cuts would be made via mechanical cutting methods. The mechanical cutting equipment would use the existing shored power source. Mechanical cutting, the oldest and most established method for cutting wells, is expected to have little atmospheric impact.

The cut conductor sections would be transferred by crane to the *M/V Loren C* which is powered by two main diesel engines for transport to Port Hueneme (see Section 2.2). There will be one or two additional vessel trips used for transportation of conductor casing segments to the designated dock. In addition, the M/V crew boat would continue its routine transportation from the Carpinteria Pier to the platforms. Freeport would use at least one helicopter for Proposed Action operations. The helicopter operator (RLC) operates two Sikorsky S-76s; one is actively in use and the other is for training (but is currently under service/repairs). This impact analysis is based on Freeport's estimate of one helicopter run (with up to two helicopters) per day during Proposed Action operations. All of these engines support normal platform operations and are currently permitted for use by the SBCAPCD. Freeport does not plan to use any vessels that are not already approved in their current PTOs and Boat Monitoring and Reporting Plan (SBCAPCD 2023).

The primary emissions associated with the Proposed Action for Port Hueneme recycling would result from the vessel traffic to the platform. The *M/V Loren C* and the smaller crew boat that would be used, would be expected to comply with all applicable rules and regulations regarding fuel sulfur content, speed, and exhaust controls. Due to the short-term nature of the Proposed Action and the fact that DPM emissions would mostly occur offshore, TAC emissions are not expected to be significant.

The GHG emissions sources associated with the Proposed Action activities are expected to be primarily internal combustion engines associated with oceangoing vessels, and the predominant GHG emitted is expected to be CO_2, although CH_4 and N_2O are also expected to be emitted. GHG emissions are calculated based on estimated fuel usage for those engines. Thresholds established by SCAQMD and the SBCAPCD are 10,000 $MTCO_2e$/yr. $MTCO_2e$ stands for "metric tons of carbon dioxide equivalent," which allows for a unified way to express and assess the impact of different gases over a specific timeframe, often 100 years. Proposed Action emissions are expected to remain well below that threshold for the duration of the project (SBCAPCD 2023).

3.2.3 Conclusion

Based on the projected emissions and the implementation of BMPs (Section 2.2.3), the potential impacts to onshore air quality from the sectioning and removal of the well conductors are expected to be short-term. No modifications to existing permits are anticipated for this Proposed Action, as the activities are not expected to exceed any Federal, state, or local air quality standards. The potential impacts on onshore air quality resulting from the well conductor removal activities are expected to be within allowable emissions levels permitted by the SBCAPCD, VCAPCD, and SCAQMD.

3.3 WATER QUALITY

3.3.1 Affected Environment

Offshore water quality is influenced by several factors, including natural seawater properties such as temperature, salinity, dissolved oxygen, chlorophyll content, nutrients, pH (acidity or alkalinity), transparency (e.g., turbidity), and trace metals, as well as anthropogenically influenced amounts of pathogens and contaminant concentrations (e.g., heavy metals and hydrocarbons). Point and nonpoint source discharges of anthropogenic contaminants could affect water quality, as contaminants in sediment could be resuspended into the water by anthropogenic activities, storms, or other events. This can in turn affect the flora and fauna living in marine waters. Table 3-2 summarizes water quality characteristics of the South California Bight (SCB) including, specifically, the Santa Maria Basin area where Platform Irene is located. As the Proposed Action would occur within CHNMS, resources (as defined in 15 CFR 922.11) within the boundaries of this sanctuary have the potential to be affected and include water quality.

Table 3-2: Key Water Quality Parameters for the Santa Maria Basin Area

Parameter	Characteristics
Temperature	Near-surface temperatures typically range from 11-20°C, with seasonal and interannual variations influenced by the California Current, upwelling events, and oceanic conditions. Recent studies indicate an overall warming trend.
Salinity	Surface salinity generally ranges from 32.5-34.0 Practical Salinity Unit. Lower salinity is observed inshore in areas influenced by freshwater runoff and is associated with periods of increased upwelling; higher salinity is found offshore.
Dissolved Oxygen (DO)	Surface waters are typically well-oxygenated; however, the SCB is experiencing a long-term decline in DO at depth, with expansion of hypoxic zones. Levels decrease significantly with depth, with hypoxic conditions commonly observed in deeper waters.
pH	Surface seawater pH is typically around 8. SCB is a hotspot for ocean acidification, with a declining trend in pH, particularly in subsurface waters. Deeper waters are more acidic, with pH values dropping due to the uptake of anthropogenic CO_2 and respiration processes.
Nutrients	Nutrient concentrations—including nitrogen, phosphorus, and silicon; other micronutrients such as iron, manganese, zinc, copper, cobalt, molybdenum, vanadium, vitamin B12, thiamin, and biotin—are important for primary production and can be highly dynamic. Concentrations are generally depleted near the surface but increase with depth and upwelling.
Surface Light Transmittance (i.e., Water Clarity)	Water clarity is variable and influenced by phytoplankton blooms, terrestrial runoff such as river plumes, and sediment resuspension. Water clarity can range from <5 meters in productive coastal areas to >30 meters in offshore waters. The depth of the euphotic zone ranges from <20 meters during blooms to >80 meters in clear oceanic waters.
Trace Metals	Offshore concentrations are generally low and consistent with background levels for open ocean environments. There are inputs of various trace metals from anthropogenic sources; legacy metal concentrations have decreased, while other metals are still of concern in some areas.
Organics	A complex mixture of organic compounds is found in the SCB. Organic compounds may enter the marine environment from municipal and industrial wastewater discharges, runoff, atmospheric natural oil seeps, and current and historical discharges (including from offshore oil and gas operations). A variety of organic compounds, including legacy pesticides (e.g., DDTs), polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons, are present. Contaminants of emerging concern are also present, particularly near urban centers.

Sources: Argonne National Laboratory (2019), Bight '23 Water Quality (2024), Bograd et al. (2015), Gruber et al. (2012), Schiff et al. (2000), Schultz et al. (2024), Swam et al. (2023), Swam et al. (2024a), Swam et al. (2024b), Weber et al. (2021) and https://calcofi.org/data/

3.3.1.1 Physical Oceanography & Ocean Circulation

The Santa Maria Basin, representing the northernmost extent of the SCB, is a region defined by unique characteristics due to its position as a major biogeographic transition zone, combined with a complex and retentive oceanographic circulation pattern (Argonne National Laboratory 2019). For additional information on the oceanography and water quality in the Southern California Planning Area see www.boem.gov/Environmental-Setting-of-Southern-California/ (Argonne National Laboratory 2019); details on oceanography and ocean circulation are hereby incorporated by reference and shall be considered an integral part of this document.

3.3.1.2 Water Quality in Santa Maria Basin

Water quality details are incorporated by reference and shall be considered an integral part of this document (Table 3-2; Argonne National Laboratory 2019). Seasonal wind-driven upwelling and the south-setting California Current supply cool nutrient-rich water with moderately high salinities and naturally high background turbidities during spring and summer; autumn and winter sees warmer, more stratified (layered) conditions and episodic stormwater plumes from coastal rivers such as the Santa Maria and Santa Ynez.

The Santa Maria River watershed, which drains into the northern part of the SCB, is a landscape dominated by intensive, year-round, irrigated agriculture. This highly productive industry is a significant source of water quality impairment in the watershed, its estuary, and neighboring ocean areas (Schiff et al. 2000). The cumulative effect of agricultural pollution is severe and transfers to ocean waters as currents bring water offshore from the coast.

Stormwater runoff from urbanized areas is recognized as the largest source of surface water pollution in coastal cities (Schiff et al. 2000). Plumes can vary greatly in size depending on the amount of precipitation (Nezlin and DiGiacomo 2005, Warrick et al. 2007). Plumes in the SCB generally move south, remaining within 6 mi (10 km) of the coast (Warrick et al. 2007). When strong, post-storm winds relax, the river plumes move farther from the coast and can travel as much as 15 mi (24 km) from shore (Nezlin and DiGiacomo 2005). Platform Irene is within the area of where river plumes can travel; however, pollutants carried by these plumes are expected to be diluted by the time they reach the area.

Daily operations on offshore platforms generate several waste streams that could be discharged directly into the ocean. These discharges are regulated by the EPA under the National Pollutant Discharge Elimination System (NPDES) program, but they still represent a continuous input of potential contaminants. The NPDES permit CAG28000 is active, and Freeport would also adhere to 516 DM 1 for the existing platforms and continues to authorize discharges from the platforms. Platforms in the SBC and Santa Maria Basin discharge produced water. Monitoring data show that nickel is one of the most prevalent heavy metals, and other contaminants like cyanides and phenols are also commonly detected. While operators are required to treat and monitor this water to meet permit limits, and most reported concentrations are low, the sheer volume of the discharge constitutes a chronic source of pollution. Drilling muds and cuttings are another waste stream produced by wells and discharged overboard. Additionally, the region is characterized by natural hydrocarbon seeps, such as the seeps at Coal Oil Point near Santa Barbara, California, which are among the most active in the world and contribute to a high background level of hydrocarbons.

3.3.2 Impact Analysis

The process of severing, extracting, and handling well conductors can impact marine water quality through both physical and chemical pathways. The physical impacts are generally direct, localized, and temporary, while the chemical impacts can be more complex. Physical disturbances and discharges associated with the proposed activities will occur intermittently during approximately 15 days of the 90 to 135-day project duration to remove the eight conductors from Platform Irene (Appendix C).

Oil spills in the marine environment can have a range of environmental impacts. Oil spill risk is described in Section 2.2.2 and Appendix A. Oil spills in the marine environment can have a range of ecological impacts. The severity of these impacts depends on multiple factors, including the type and quantity of oil, spill location, weather and ocean conditions, and the effectiveness of response measures (NASEM 2022, Peterson et al. 2003). In high-energy environments, like those within and adjacent to the Santa Maria Basin, much of the oil could weather, disperse, or evaporate before reaching shore, thereby reducing its overall toxicity (Fingas 2025). However, even relatively small spills can cause patchy intertidal oiling and localized impacts on habitats and biota, particularly in sheltered or low-energy environments where oil can persist longer (Raimondi et al. 1999, Teal and Howarth 1984).

Physical impacts primarily relate to disturbance of the seabed and introduction of particulate matter into the water column, resulting in increased turbidity. Severing the conductors below the mudline (i.e., at or below the required 15-foot bottom mixed layer depth) disturbs the surrounding sediments and results in turbidity in the water column while cutting and extraction processes are taking place. Mechanical methods, which are planned for the Platform Irene conductor removal, cause disturbance as the cutting tool operates. The act of pulling severed conductor sections vertically out of the seabed likewise causes disturbance. Sediments adhering to the outer walls of the conductor could be scraped off and resuspended in the water column, and the void left behind can collapse, further disturbing the seafloor. These disturbances are temporary and localized.

Resuspended sediments, primarily made up of naturally occurring materials, create a plume of turbid water that local currents transport, resulting in increased turbidity until the plume dissipates. The plume's travel distance depends on factors such as current velocity and grain size, with finer particles like silt remaining suspended longer than coarser sands. The horizontal plume extent varies by drop height: for sediments dropping from 1 meter, it is estimated at 4 to 13 meters; from 3 meters, 11 to 40 meters; and from 5 meters, 18 to 67 meters (Appendix C). Freeport's estimates for the Point Arguello Platforms Well Conductor Casing Removal Project indicated that the suspension duration would largely depend on the size of the disturbed particles.

The assumed more severe scenario for large sediment size (0.53 millimeters released at 5 meters) would result in approximately 70 seconds (1.2 minutes) of suspension time and deposition within 18 meters of the 5-meter release point (Appendix C). Finer sediments would be suspended for slightly longer, remaining in the water column for approximately 261 seconds (4.5 minutes) and being deposited within 67 meters of the 5-meter release point (Appendix C). Given these characteristics and the removal of only eight well conductors, sediment plumes are expected to be small-scale and localized. While well conductor removal would temporarily resuspend sediments, they would quickly settle near their origin. Local currents could carry suspended materials southward, but any impacts on water quality would likely be brief and confined, mixing with larger river-derived sediments in the area. Suspended sediments of the duration and intensity in the Proposed Action are observed naturally as part of high-current or storm events in the area with no evidence of loss to this or other resources.

Offshore structures that have been in the water for decades become heavily colonized by a complex community of marine organisms (Love 2019). Shell mounds, formed by the accumulation of shells from

mussels and other invertebrates living on the platform structure, can incorporate rock cuttings and drilling muds discharged during operations (Meyer-Gutbrod et al. 2019a). Their disturbance during removal activities could release trapped pollutants and contribute to temporarily increasing turbidity. These impacts are expected to be of short duration and localized.

During the cutting and lifting of conductors, a significant portion of accumulated biomass is scraped off or dislodged and falls to the seafloor. Biomass deposition on the seafloor from removal and cleaning of the conductors is unlikely to create a meaningful hypoxic or oxygen-minimum zone.

The annular spaces of the casings are not always perfectly sealed and inert voids. Over decades, these annuli can accumulate various fluids, leading to potential contaminants that could be released when the conductor is severed. Regulations require wells to be plugged to isolate hydrocarbon zones, but this does not ensure the entire annular space remains intact. Factors such as cement shrinkage and thermal stresses can compromise well integrity over time. Freeport has identified minor cracks in two conductors slated for removal, which currently pose an environmental risk (Appendix C). Various substances could be present in the annuli, as follows:

- *Drilling and Completion Fluids:* Residuals of water-based, oil-based, or synthetic-based drilling muds, as well as completion brines, could remain trapped in the annuli.
- *Grout and Cement Barriers:* Grout is used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, cement, plasters as well as precast concrete. Dyckerhoff Class G cement is representative of what is expected to have been used in conductor grout material at Platform Irene (Appendix C).
- *Formation Fluids:* Annuli can contain formation fluids, including natural gas (methane, hydrogen sulfide), crude oil, or saline formation water. Geochemical analysis of fluids sampled from surface casing annuli has shown the presence of thermogenic gas and volatile organic compounds like benzene, toluene, ethylbenzene, and xylenes.

Cutting a conductor can release trapped fluids and materials. The release of trapped crude oil or natural gas condensate introduces hydrocarbons into the water column. Hydrogen sulfide (H_2S), if present, is toxic to marine life and poses a safety risk to personnel. Water-based muds, which were used for drilling at Platform Irene, are generally of low toxicity; however, their additives can include potentially harmful biocides, and the barite weighting agent may contain trace heavy metals. Freeport expects residual seawater workover fluid will be inside the conductor casing after all intermediate casing strings have been removed. This fluid will be discharged as authorized by the current NPDES permit CAG280000, discharge serial number 0032. Freeport recently submitted a Notice of Intent to renew this NPDES permit, which is currently expired and administratively extended pursuant to 40 CFR 122.6 continues to authorize discharges from the existing platforms. Water quality could be impacted by discharges from vessel ballast, bilge, cooling water, and sanitary wastes; however, these discharges are not expected to exceed permitted levels.

3.3.3 Conclusion

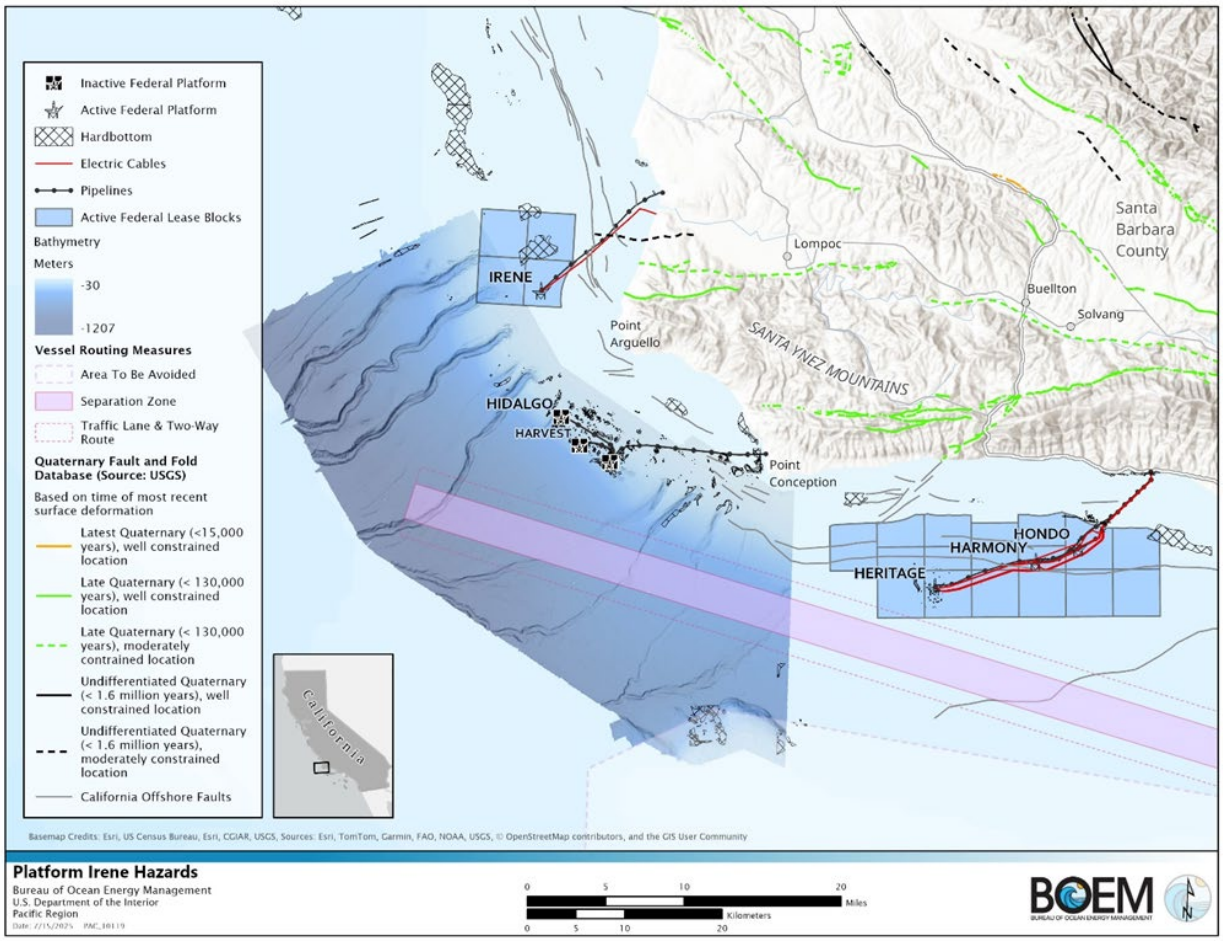
The activities of the Proposed Action would cause a small increase in turbidity and potential impacts on water quality from discharges. These impacts are expected to be temporary, short-term, and localized.

3.4 BENTHIC RESOURCES

3.4.1 Affected Environment

The affected environment for benthic resources regarding this Proposed Action includes the seafloor habitats (i.e., geology and invertebrate species) on and surrounding Platform Irene, as described in Argonne National Laboratory (2019). Habitats in the Santa Maria Basin are primarily sandy sediments with more silty sediments in deeper waters, and hardbottom scattered throughout (e.g., carbonate, rocky reefs, exposed rock, and gravel) (Figure 3-1). More than 1,000 benthic species, which reflect a mix of species found in the Oregonian and California Provinces, occur in the Santa Maria Basin. Amphipods, polychaetes, echinoderms, and mollusks are dominant in soft sediments across most depth zones. Hardbottom habitats are dominated by cnidarians, echinoderms, sponges, and crustaceans. According to Freeport, the seafloor around Platform Irene is primarily sandy soft-bottom; natural hardbottom habitats are rare at these depths (Appendix C). As the Proposed Action would occur within CHNMS, resources (as defined in 15 CFR 922.11) within the boundaries of this sanctuary have the potential to be affected, including benthic resources.

Figure 3-1: Map of Platform Irene area infrastructure, bathymetry, and hazards.



The platform and its associated shell mound provide hard substrate and habitat in the immediate area. Dominant platform species are anemones, mussels, barnacles, tube worms, and encrusting sponges (Continental Shelf Associates 2005). As this biological growth is removed (e.g., naturally, during platform maintenance), shell mounds form from the biogenic material, sediment, and residual drilling muds (Bomkamp et al. 2004, Love 2019). The shell mound beneath Platform Irene is centered under the western quandrant of the platform, and is approximately 9 ft (2.7 m) in height and 3,720 cubic yards (yd^3) (2,844 [cubic meters] m^3) in volume (MMS 2003). It has an invertebrate community dominated by echinoderms, specifically sea stars (Goddard and Love 2010).

The black abalone (*Haliotis cracherodii)* is a federally endangered species (74 *Federal Register* [FR] 1937) with designated critical habitat that includes several sections of coastline adjacent to the Southern California Planning Area (76 FR 2011). When the species was listed on January 14, 2009, significant population declines were attributed to disease and commercial and recreational harvest. The mean density of black abalone between Montaña de Oro and Government Point is 0.1408 individuals per meter of shoreline (NMFS 2024a).

The sunflower sea star (*Pycnopodia helianthoides*) was proposed to be listed as threatened under the ESA on April 11, 2023. The species is a large, fast-moving, many-armed sea star, native to the eastern Pacific Ocean from Baja California, Mexico to the Aleutian Islands, Alaska; the species is most abundant offshore eastern Alaska and British Columbia. They have previously been documented at the Platform Irene shell mound. However, sea star wasting syndrome killed an estimated 90–95% of the population between 2013 and 2017.

3.4.2 Impact Analysis

Cutting and removal of conductor pipes could impact benthic resources through increased turbidity and discharges that bury organisms, clog feeding structures, or expose them to chemicals (Schaanning 2008, Trannum et al. 2010). Redeposited materials, which will likely include naturally occurring sediment typical of the area, residual water-based drilling muds, and accumulated marine growth, can change soft-bottom habitat by increasing toxicity, organic content, and sand percentage (Peterson et al. 1996). Conductor pipe removal would also reduce the amount (surface area) of artificial hard substrate for invertebrate settlement (Page et al. 2019). Accumulation of shell debris, discharges, and human-made materials (e.g., grout) on the seafloor could add to the general hardening of soft sediments and contribute to the existing shell mound and debris near the platform; Freeport estimates that suspended materials are not likely to extend beyond 220 ft (67 m).

The California Monitoring Program Phases II and III comprehensively studied the effects of water-based drilling mud and drill cuttings discharged on soft-bottom and neighboring hardbottom epifauna at the Point Arguello field, 12 nmi south of Platform Irene with similar sediment types. Biological effects from the drilling muds were related to physical effects of increased particle loading and not chemical toxicity (Battelle Ocean Sciences 1991, SAIC and Systems 1995). Within approximately 0.6 mi (1 km) of the discharge source, some hardbottom species exhibited negative effects, such as changes in viability (SAIC and Systems 1995). These results were based on large discharge volumes and intense sampling efforts. Therefore, impacts from increased turbidity and discharges for the Proposed Action, similar to those used in drilling, would be localized, minimal, and of short duration.

It is unlikely that biomass accumulation from marine growth removal efforts would cause a detrimental water quality event (e.g., anoxic plume). Such events have not occurred observationally from any platform, and most platforms are cleaned regularly. The applicant conducts annual marine growth removal, which generates approximately 1,723 ft^3 of marine growth; removal of eight conductor casings is estimated to deposit approximately 510 ft^3. Furthermore, a study examining seafloor habitat under an aquaculture facility found no difference in benthic community structure after 20 years (Callier et al. 2007).

Oil spills in the marine environment can have a range of environmental impacts. The risk of an accidental oil spill, described in Section 2.2.2 and Appendix A as a spill of 50 bbl or less from Platform Irene, has a low likelihood of reaching the coast and rocky subtidal environments. The model estimated up to a 21.5% chance that black abalone and their critical habitat are exposed to oil from an oil spill. Although overall black abalone densities are low with a patchy distribution in the area, there are a few

sites with densities greater than one (unpublished data from Raimondi et al. (1999), as cited by NMFS (2024a)). If black abalone are exposed to oil, effects could include smothering, toxic effects, abnormal larval development, reduced growth, altered reproductive development, and increased susceptibility to disease (Crowe et al. 2000, NMFS 2024a). After a 163 bbl oil spill from a pipeline associated with Platform Irene in 1997 near to shore, one black abalone at Point Arguello was observed covered with oil; the event was estimated to decrease black abalone resources by 10–15% in the spill area Torch/Platform Irene Trustee Council 2007). The risk of these small oil volumes reaching the shore, and where black abalone are present, is low.

The sunflower sea star is now rare in the Southern California Planning Area, so localized and temporary activities are unlikely to affect the species (NMFS 2024a). However, if an individual is present on the shell mound or near the platform during the Proposed Action, then it could be exposed to increased turbidity and marine growth removal activities. Using recorded particle sizes of regional sediment and current velocities, Freeport calculates that most resuspended particles will settle within 4.5 minutes at 16.4 ft (5 m) altitude (Appendix C). This potential increase in turbidity, as the pipe is pulled out of the sediment, is expected to be of minimal volume and would be a temporary occurrence. The estimated amount of marine growth removed from conductor removal is anticipated to be less than that associated with annual cleaning events, so is not likely to adversely impact an individual, if present. The deposition of marine growth could be beneficial as an increase in food supply to the sunflower sea star (Bomkamp et al. 2004).

3.4.3 Conclusion

Prior studies indicate that well conductor removal activities would result in temporarily increased turbidity, which would rapidly settle out of the water column within the general area of its origin. The estimated 6.4-8% reduction of hard substrate could slightly reduce habitat for recruiting invertebrates and fishes (Section 3.5). Impacts from the Proposed Action are expected to be minimal, temporary in duration, and confined to the area near the platform, particularly as the proposed number of conductors to be removed are lower than prior, similar activities.

3.5 FISHES AND ESSENTIAL FISH HABITAT

3.5.1 Affected Environment

Platform Irene is at a depth of 242 ft (74 m) in the Santa Maria Basin, Santa Barbara County, California. The project area is just north of Point Conception, a highly productive transition zone between the Oregonian and Californian (or San Diegan) biogeographic provinces for many marine species, including fishes (Allen et al. 2006, Burton 1998, Miller 2023), and is characterized by rich biodiversity. The natural habitats potentially affected by the Proposed Action are the water column and nearby soft sediments (e.g., sand and mud), which the Pacific Fishery Management Council (PFMC) classifies as essential fish habitat (EFH) for one or more federally managed fisheries (PFMC 2024a, b, c). The anthropogenic habitats (platform jacket, marine debris, and associated shell mound) associated with the Proposed Action host substantial biomass and marine biodiversity within the Proposed Action area. As the

Proposed Action would occur within CHNMS, resources (as defined in 15 CFR 922.11) within the boundaries of this sanctuary have the potential to be affected, including fishes and EFH.

Allen et al. (2006) describe fish communities associated with soft sediment and water column habitats within California waters. Resident fish populations that live on or near these platforms are dominated by juvenile rockfishes (*Sebastes caurinus, S. entomelas, S, hopkinsi, S. jordani, S. mystinus, S. paucispinus)*, painted greenling (*Oxylebius pictus*), Pacific sardine (*Sardinops sagax caerulea*), and Pacific jack mackerel (*Trachurus symmetricus*) in the shallow portions of the platforms and by rockfishes in deeper waters (Love et al. 2003, Meyer-Gutbrod et al. 2019b, Meyer-Gutbrod et al. 2020). The larger ecosystem that encompasses the Santa Maria Basin and adjacent habitats have been described in previous documents (Argonne National Laboratory 2019, Dailey et al. 1993), and these are incorporated by reference for this analysis.

Of the marine fishes that could occur within the Santa Maria Basin, two are listed as endangered under the ESA: the Southern California Distinct Population Segment (DPS) of west coast steelhead and tidewater goby. The Southern California DPS of west coast steelhead (*Oncorhynchus mykiss*) comprises the anadromous component of the native *O. mykiss* complex of populations inhabiting coastal streams from the Santa Maria River watershed (Santa Barbara County) south to the U.S. border with Mexico (Busby et al. 1996, NMFS 2012b, 2023). Critical habitat for this steelhead DPS was initially designated on September 2, 2005 (70 FR 52536), and includes many river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Santa Maria Basin to San Mateo Creek (Orange and San Diego counties). Winter steelhead enter their home streams from November to April to spawn, and juveniles migrate to sea usually in spring (Busby et al. 1996, NMFS 2012b, 2023). Steelhead can migrate extensively at sea (Myers 2018).

The tidewater goby (*Eucyclogobius newberryi*) ranges from Del Norte County (near the Oregon border) south to Agua Hedionda Lagoon in northern San Diego County, and 44 units within this range were included in the final critical habitat designation (73 FR 5920). Primary tidewater goby habitat is found in small, shallow coastal lagoons that are separated from the ocean most of the year by beach barriers. These fish typically found in water less than 1 m (3.3 ft) deep (FWS 2005). This includes shallow areas of bays and areas near stream mouths in uppermost brackish portions of larger bays. Tidewater gobies are absent from areas where the coastline is steep, and streams do not form lagoons or estuaries. Although tidewater gobies can tolerate full seawater, they are most common in waters with salinities of less than 12 parts per thousand. Adults are benthic, and larvae are briefly pelagic (FWS 2005).

There are a number of fish species that are listed as either threatened or endangered under the ESA, but are unlikely to be found within the Proposed Action area because (1) they are rare or not known to occur in the Santa Maria Basin, (2) the Project Action area is small and the habitats contained therein are not especially preferred by the listed species, and (3) the Proposed Action duration is short, so they are not further discussed. These species are: Chinook salmon (*Oncorhynchus tshawytscha*, Sacramento River winter-run evolutionary significant unit [ESU], Upper Columbia River spring-run ESU, California coastal ESU, Central Valley spring-run ESU, Lower Columbia River ESU, Puget Sound ESU, Snake River fall-run ESU, Snake River spring/summer-run ESU, Upper Willamette River ESU); chum salmon

(*Oncorhynchus keta*, Columbia River ESU, Hood Canal summer-run ESU); Coho salmon (*Oncorhynchus kisutch*, Central California Coast ESU, Lower Columbia River ESU, Oregon coast ESU, Southern Oregon & Northern California coasts ESU); steelhead (*Oncorhynchus mykiss*, California Central Valley DPS, Central California Coast DPS, Lower Columbia River DPS, Middle Columbia River DPS, Northern California DPS, Puget Sound DPS, Snake River DPS, South-Central California Coast DPS, Upper Columbia River DPS, Upper Willamette River DPS); eulachon (*Thaleichthys pacificus*, Southern DPS); green sturgeon (*Acipenser medirostris*, Southern DPS); oceanic whitetip shark (*Carcharhinus longimanus*); scalloped hammerhead shark (*Sphyrna lewini*, Eastern Pacific DPS); giant manta ray (*Mobula birostris*).

3.5.2 Impact Analysis

Freeport proposes to remove eight conductors from Platform Irene and estimates that this action will reduce the amount of submerged infrastructure by approximately 6.4-8%. The removal of conductor pipes could temporarily disturb resident reef fishes. However, the reduction in artificial habitat is not expected to alter the distribution and abundance of existing platform fish communities in the short-term, because the platform's jacket would remain in place until decommissioning and because there are no nearby (< 10m) rock outcrops that reef fishes could easily swim toward if they exhibit a startle response when a conductor pipe is pulled (Figure 3-1).

Lowe et al. (2009) and Anthony et al. (2012) showed that reef fishes tagged at Platforms Grace and Gail demonstrated fidelity to these structures, and when fish were translocated to distant (≥ 6.9 mi [11 km]) reefs, they often displayed homing behavior and returned to the source platforms. It is assumed this fidelity of fishes to platform structure could also exist at Platform Irene since the species composition between sites is similar. The submerged portions of conductor pipes often provide shelter to juvenile fishes at Platform Irene.

Love et al. (2020) note the importance platform conductors play in fish abundance and diversity at two platforms in the SBC. Water mass movement plays a role in determining the timing and successful recruitment of juvenile fish to offshore platforms (Emery et al. 2006, Nishimoto et al. 2019) but the functional relationship (e.g., linear, positive-concave, threshold) between platform habitat complexity (which conductor pipes enhance) and fish recruitment abundance remains unknown. Much like what has been demonstrated in other artificial reef studies, it is reasonable to assume that habitat complexity enhances juvenile fish recruitment and/or survivorship at platforms; therefore, removal of conductor pipes could ultimately alter resident fish communities in the future by reducing biomass and biodiversity.

Freeport estimates that clearing the eight conductor pipes of marine growth would add 18.9 yd^3 (14.4 m^3) of biomass onto the existing shell mounds beneath Platform Irene. For the duration of past OCS production operations, BSEE regulations required operators of offshore platforms to clear marine growth (primarily mussels, *Mytlilus* spp.) from shallow, submerged portions of the platform on a regular basis to reduce structure fatigue. The removed growth was added to the seabed beneath the platform, and, when combined with natural deposition of mussels resulting from wave action or overgrowth and drill cuttings from initial development, the material formed a shell mound on the sediment habitat

beneath each platform (MMS 2003). Past biological surveys have demonstrated that this shell mound habitat is a favored substrate for many juvenile fishes (Meyer-Gutbrod et al. 2019a, Meyer-Gutbrod et al. 2020).

For the Proposed Action, the addition of marine growth removed from conductor pipes to existing shell mound habitat is estimated to be less than what is deposited during these regular cleaning events and is not anticipated to enlarge the existing shell mound footprint. Likewise, any changes to water quality would be less than what occurred in past cleaning activities, with the exception of local turbidity levels, which could be slightly higher when the conductor pipes are removed from the seabed due to the small amounts of mud that could cling to the pipes and be resuspended into the water column (see further discussion in Section 3.2). The increase in turbidity levels would be minimal and of short duration.

Accidentally introduced marine debris also could function as habitat (e.g., Caselle et al. 2002) but also could entangle larger fishes. Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations. The Proposed Action does not include any anchoring activities.

Freeport proposes to remove conductor pipes using mechanical cutting techniques. Fowler et al. (2022) measured mechanical cutting activities at Platform Hermosa (603 ft or 184 m depth) within the Santa Maria Basin and found that the maximum threshold distances for fish behavioral response were between 6 to 9 m (see further discussion of expected noise levels in Section 3.5). McCauley (2004) measured and modeled the noise generated by jet cutting of a wellhead below the seabed in 262 ft (80 m) of water on the northwestern shelf of Australia. He concluded that the source levels of wellhead cuttings were sufficient to cause physiological impacts on fish hearing systems, but only at ranges of a few meters from the source. If similar noise levels occur during conductor pipe removal at Platform Irene, few to no fishes would be expected to experience physiological harm because cutting would occur at least 4.6 m (15 ft) below the mudline, per BSEE regulations.

The analysis of Fowler et al. (2022) and McCauley (2004) considered sound pressure waves but not particle motion, the latter being more important when considering potential impacts on fishes (Popper and Hawkins 2018, 2019). For this Proposed Action, particle motion generated by cutting of conductor pipes is not expected to propagate strongly through sediments; therefore, noise impacts on fishes and EFH are expected to generate short-term behavioral responses, where fishes could move away from the sound source and inhabit other areas of the platform. The proposed activities do not include the use of explosives for conductor pipe removal. The noise level from two additional marine vessel trips is not expected to generate detectable effects to regional fish populations.

Oil spill risk is described in Section 2.2.2 and Appendix A. Oil spills in the marine environment can have a range of ecological impacts, particularly on fishes, EFH, and their supporting ecosystems. The severity of these impacts depends on multiple factors, including the type and quantity of oil, spill location, weather and ocean conditions, and the effectiveness of response measures (NASEM 2022, Peterson et al. 2003). In high-energy environments, like those within and adjacent to the Santa Maria Basin, much of the oil could weather, disperse, or evaporate before reaching shore, thereby reducing its overall toxicity (Fingas 2025). However, even relatively small spills can cause patchy intertidal oiling and localized impacts on

habitats and biota, particularly in sheltered or low-energy environments where oil can persist longer (Raimondi et al. 1999, Teal and Howarth 1984).

Fish can be exposed to oil through ingestion, absorption across gills or skin, or via contaminated prey (NASEM 2022). Early life stages (eggs, embryos, and larvae) are especially vulnerable due to limited mobility and underdeveloped detoxification systems (Carls et al. 1999, Malins and Hodgins 1981a, b). Documented effects include developmental abnormalities, increased mortality, reduced growth, and reproductive impairment (Grosell and Pasparakis 2021, Heintz et al. 1999, Incardona et al. 2015). While fish can metabolize hydrocarbons, this detoxification process requires energy that could otherwise support immune function, growth, or reproduction, potentially reducing fitness and increasing susceptibility to disease (Grosell and Pasparakis 2021). Nevertheless, attributing long-term population-level effects to oil exposure is challenging due to the high variability in natural recruitment (Hilborn and Walters 1992).

Oil can alter or damage planktonic communities, benthic and essential fish habitats, and intertidal food sources such as macroinvertebrates, which many fish rely on during their juvenile stages (Saiman et al. 1980). Studies following large spills in temperate environment such as *Exxon Valdez*, *Amoco Cadiz*, and *Sea Empress* documented ecosystem-level disruptions, including reduced zooplankton and macroinvertebrate abundance, changes in benthic community composition, and effects on fish feeding success (Brown et al. 1996, Conan 1928, Law and Kelly 2004). However, dynamic oceanographic settings like the open coast typically facilitate rapid dilution and biodegradation of oil, resulting in relatively short-lived impacts unless oil is retained in sediments or embayments (NASEM 2022, Peterson et al. 2003).

For tidewater gobies, which are found in shallow coastal lagoons, stream mouths, and shallow areas of bays, there is some low risk that an oil spill might reach the coastal lagoons during a high tide or storm when the sand berms blocking the stream mouths from the ocean have been breached. Breaches usually occur during the winter and spring months, and tidewater gobies often move upstream out of the lagoons during this period. Although direct oil contact with gobies would be unlikely, oil can become sequestered in the sediments and persist until rains flush the sediments from the lagoon. When the gobies returned, short-term sublethal effects would also be expected, since gobies burrow into and feed in the sediment and rely on macrofaunal and intertidal communities for food and shelter from predators (Swenson 1997, 1996). The level of impacts, however, would be dependent on the volume of oil that reached their habitat and the amount of weathering and mixing the oil had undergone before reaching the habitat. An oil spill of 50 bbl or less would likely weather, mix, and break up to the point where only limited tarring would be expected to coastal lagoons that have a probability of contact from an oil spill. Such a level of spillage would be unlikely to have a detectable effect on regional populations of tidewater gobies. In 1997, the 163 bbl oil spill from a pipeline associated with Platform Irene was not associated with detectable impacts to tidewater gobies (Torch/Platform Irene Trustee Council 2007). Oil spill prevention and response capabilities are in place, reducing the probability of environmental consequences.

The critical habitat for southern steelhead includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Santa Maria Basin to Malibu Creek. In the area shoreward of the Santa Maria Basin. this would include the Santa Ynez River, San Antonio Creek, the Santa Maria River, and perhaps Jalama and Cañada Honda Creeks. During winter months, after rains and storms have breached the natural sand barriers, protection of steelhead habitat that is within the potential contact zone of a spill would rely on the speed and effectiveness of the oil spill response team and the level of impact would be dependent on the volume of oil that reached the habitat and the amount of weathering and mixing the oil had undergone before reaching the habitat. An oil spill of 50 bbl or less would likely weather, mix, and break up to the point where only limited tarring would be expected to steelhead critical habitats that have a probability of contact from an oil spill and thus would be unlikely to have a detectable effect on regional populations of southern steelhead. In 1997, the 163 bbl oil spill from a pipeline associated with Platform Irene was not associated with detectable impacts on southern steelhead (Torch/Platform Irene Trustee Council 2007). Oil spill prevention and response capabilities are in place, reducing the probability of environmental consequences.

3.5.3 Conclusion

This analysis considered the potential environmental consequences associated with the Proposed Action and in relation to other activities within or nearby the Santa Maria Basin (e.g. offshore energy projects, marine shipping, commercial fishing, point and nonpoint discharges) with respect to turbidity, benthic habitat alteration, noise, and pollution/oil spills. In general, BOEM determined that the environmental consequences of the Proposed Action are not predicted to be detectable to regional fish populations, ESA-listed species, or EFH. The permanent reduction in platform substrate could alter resident platform fish communities in the long-term, but this is not expected to affect the viability of regional populations, and platform structure to be removed is not specifically designated as EFH or Habitat Areas of Particular Concern (a subset of EFH) by either NOAA (Helvey 2002) or the PFMC (PFMC 2024a, b, c, 2025).

Although fishes and EFHs are sensitive to oil pollution, small spills (e.g., $\leq$ 50 bbl) are unlikely to result in lasting, population-level effects due to effective oil spill response and the region's natural capacity for dispersion and biodegradation. Freeport has proposed environmental protection measures as part of the Proposed Action: (1) avoiding anchoring vessels during project activities; (2) removing conductor pipes without the use of explosives; (3) keeping a log for all materials lost overboard and report them to BSEE per regulations; and (4) operating under a BSEE-approved OSRP.

3.6 MARINE MAMMALS AND SEA TURTLES

3.6.1 Affected Environment

There are a number of marine mammal species known to occur frequently in Southern California waters surrounding the Proposed Action area, including baleen whale, toothed whale and dolphin species, seals and sea lions, and the southern sea otter. In addition, leatherback and loggerhead sea turtles are listed species that may also occur in the Proposed Action area. The species evaluated in this EA are included in Table 3-3. These species are those listed under ESA and/or Marine Mammal Protection Act (MMPA) and

are likely to occur in the Proposed Action area. As the Proposed Action would occur within CHNMS, resources (as defined in 15 CFR 922.11) within the boundaries of this sanctuary have the potential to be affected, including marine mammal and sea turtles.

3.6.2 Impact Analysis

A 2022 BOEM study Fowler et al. (2022) explored the characteristics and contributions of noise generated by mechanical cutting during conductor removal operations. The study analyzed cutting events that were 20–25 ft below the mudline as opposed to the Proposed Action for Platform Irene in which cutting will take place as shallow as 15 ft below the mudline. Fowler et al. (2022) referenced the NMFS revisions to *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing* (Version 2.0) (NMFS 2018). Updated Technical Guidance (NMFS 2024b) is now available. However, the Fowler study is the most extensive and current research available on noise impacts resulting from mechanical cutting during conductor removal operations that is directly applicable to the removal of eight conductors on Platform Irene.

The sound generated by the cutting operations in the Fowler et al. (2022) study significantly increased the ambient sound levels in the vicinity of the platform. The wellbore cutting operations resulted in a 14 to 27 decibels (dB) increase over the existing noise levels and the empty conductor cuts resulted in an increase of 18 to 33 dB over the existing noise levels. However, the study demonstrates that technical cutting activities do not generate noise levels high enough to exceed the thresholds for marine mammal permanent threshold shift (PTS) onset. The marine mammals' behavioral response distance ranges from 205 to 663 m (673 to 2,175 ft) (Fowler et al. 2022). Behavioral changes could include but are not limited to changes in feeding, resting, and mating behavior (NOAA Fisheries Undated).

Table 3-3: List of Endangered Species Act and Marine Mammal Protection Act Species Expected to Occur in the Proposed Action Area; For Critical Habitat Status

Common Name	Scientific Name	Stock	Critical Habitat (CH)	ESA/MMPA Status	Citations for ESA Listing
Blue whale	*Balaenoptera musculus*	Eastern North Pacific	N/A	Endangered/Depleted	*35 FR 18319; December 2, 1970*
Fin whale	*Balaenoptera physalus*	California, Oregon, and Washington	N/A	Endangered/Depleted	*35 FR 8491; June 2, 1970*
Humpback whale	*Megaptera novaeangliae*	California, Oregon, and Washington – Central American DPS)	86 FR 21082	Endangered/Depleted	*81 FR 62260; September 8, 2016*
Humpback whale	*Megaptera novaeangliae*	California, Oregon, and Washington – Mexico DPS	86 FR 21082	Threatened/Depleted	*81 FR 62260; September 8, 2016*
Sei whale	*Balaenoptera borealis*	Eastern North Pacific	N/A	Endangered/Depleted	*35 FR 12024; December 2, 1970*
Sperm whale	*Physeter macrocephalus*	California, Oregon, and Washington	N/A	Endangered/Depleted	*35 FR 18319; December 2, 1970*
Sperm whale	*Physeter macrocephalus*	Northern Gulf of Mexico	N/A	Endangered/Depleted	*35 FR 18319, December 2, 1970*
Guadalupe fur seal	*Arctocephalus townsendi*	Mexico to California	N/A	Threatened/Depleted	*50 FR 51252; December 16, 1985*
Leatherback sea turtle	*Dermochelys coriacea*	Throughout range	77 FR 4169	Endangered/N/A	*35 FR 8491 June 2, 1970*
Loggerhead sea turtle	*Caretta*	North Pacific DPS	N/A	Endangered/ N/A	*76 FR 58868 September 22, 2011*

Key: N/A indicates not listed; for non-marine mammal species, N/A means not applicable.

3.6.2.1 Vessel Noise

The noise data from the Fowler et al. (2022) study for all the mechanical cuts were further evaluated for marine mammals by applying the NOAA Fisheries hearing weightings. The noise levels generated by the mechanical cutting activities were found to be well below the marine mammal PTS onset acoustic thresholds and generally below temporary threshold shift onset acoustic thresholds. Although the sound generated by the well conductor cutting is above ambient sound levels, protected marine mammals would have to remain within the zone of ensonification (205 to 663 m from the cutting activity) to experience any potential behavioral disturbance.

Sea turtle acoustic thresholds for both PTS and AUD INJ are higher than for all marine mammals (NMFS 2024b). Therefore, based on the Fowler et al. (2022) study, mechanical cutting for Platform Irene will have equal or less impact on sea turtles than for marine mammals.

Considering the above analysis, BMPs (listed below), as well as the intermittent and short-term nature of the initial well conductor cutting events, BOEM determines that noise associated with the Proposed Action will have low levels of impact on marine mammal and sea turtle species. Additional general vessel noise resulting from this action is very minor and unlikely to affect sea turtle or marine mammal behavior.

3.6.2.2 Vessel Strikes

NMFS (2020) provides a detailed summary of the interactions of protected species and vessels in Southern California waters. Species of highest concern for interactions with vessels in the California Bight are blue, humpback, and fin whales (Rockwood et al. 2017a). Rockwood et al. (2017b) also reported that collisions underestimate actual strikes because many go unseen. Moreover, while whales have some cues to avoid ships, this is true only at close range under certain oceanographic conditions and if the whales are not otherwise distracted by feeding, breeding, or other behaviors (Szesciorka et al. 2019). There have been no reports of vessel strikes associated with oil and gas development and production in the 30-year record (NMFS 2020).

Although vessel strikes pose a risk for marine mammals and sea turtles, the Proposed Action adds only 1–2 vessel round trips to the ongoing activities associated with oil and gas development. Employing the environmental protection measures below would likely minimize the potential for vessel strikes with marine mammals and sea turtles during Proposed Action-related vessel operations. Therefore, this Proposed Action does not add any additional risks to marine mammals and sea turtles for vessel interaction.

3.6.2.3 Entanglement

No vessel anchoring will occur during this Proposed Action, so there is no entanglement risk to marine mammals and sea turtles. Therefore, no additional analyses regarding entanglement risk were conducted.

3.6.2.4 Critical Habitat

Critical habitat for the leatherback sea turtle does overlap with a portion of the Proposed Action area. BOEM does not anticipate impacts on critical habitat for the leatherback sea turtle. This critical habitat area is important to leatherback turtles for feeding (InPort 2025, NMFS 2012a), but leatherback sea turtle prey (i.e., moon jellies) are not expected to be impacted by noise or vessel activity associated with this Proposed Action. Critical habitat for both DPSs of the humpback whale does overlap with a portion of the Proposed Action area. This critical habitat area serves as a feeding habitat (86 FR 21082), but humpback whale prey (i.e., euphasiids and small pelagic fish) are not expected to be impacted by noise or vessel activity associated with this Proposed Action.

3.6.2.5 Oil Spills

Oil spill risk is described in Section 2.2.2 and Appendix A. Oil spills in the marine environment can have a range of ecological impacts. The severity of these impacts depends on multiple factors, including the type and quantity of oil, spill location, weather and ocean conditions, and the effectiveness of response measures (NASEM 2022, Peterson et al. 2003). In high-energy environments, like those within and adjacent to the Santa Maria Basin, much of the oil could weather, disperse, or evaporate before reaching shore, thereby reducing its overall toxicity (Fingas 2025). However, even relatively small spills can cause localized impacts on habitats and biota, particularly in sheltered or low-energy environments where oil can persist longer (Raimondi et al. 1999, Teal and Howarth 1984). Oil impacts to fishes and mammal food sources are described in Section 3.5.2. An oil spill of 50 bbl or less would likely weather, mix, and break up such that there is a low probability of contact from an oil spill to a mammal or turtle. Oil spill prevention and response capabilities are in place, reducing the probability of environmental consequences.

3.6.2.6 Best Management Practices

BOEM and BSEE worked with NMFS implementing BMPs (NMFS 2024a) and incorporated into Freeport's current Development and Production Plan. Therefore, BOEM is adopting vessel speed restrictions, PSOs, and monitoring requirements as part of the Proposed Action. The following is the language from 2024 NMFS Biological Opinion (Section 1.2) (NMFS 2024a) regarding measures specifically for the Proposed Action of "well conductor removal" (NMFS Consultation Number: 2023-02183):

> BOEM proposes to implement vessel speed restrictions (10 knots) and Protected Species Observers (PSOs) on vessels operating during well conductor removals to minimize the risk of collisions with marine mammals during those operations. Previously, through consultation on well conductor removal activity, BOEM had proposed and implemented these measures along with additional measures for well conductor removal that are described below ((NMFS 2020) (WCRO-2019-03765)). While the Bureau's BA [Biological Assessment] did not include specific description of these additional mitigation measures for well conductor removal operations under this Proposed Action, on December 28, 2023, BOEM clarified their intention to including the following measures as part of the proposed action, which mirror the 2020 proposed mitigation/monitoring for removing 62 24-inch diameter well conductor casings from three offshore oil platforms known as the Point Arguello Unit, located on the OCS of the SBC. For that proposed action, NMFS concurred with BOEM's determination that the action was not likely to adversely affect ESA-listed species or designated critical habitat ((NMFS 2020) (WCRO-2019-03765)).
>
> 1. Specific crew members will be assigned to conduct visual clearance for ESA-listed whales (blue, fin, [sei] or humpback whales).
> 2. These crew members will:

a. Be trained with the Wildlife and Fisheries Training video generated by Pacific Offshore Operators, LLC
b. Have visual acuity in both eyes (correction is permissible) sufficient to discern moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars or spotting scope may be necessary
c. Have the ability to communicate orally, by radio or in person, with Project personnel to provide real time information on marine mammals observed in the area, as needed
d. Collect the information detailed in Appendix D, describing conditions prior to, and after, the initial cut for each conductor, including any sighting event, during periods of visual clearance/inspection.

3. Visual clearance includes:
   a. 30-minute inspection of a 200 m clearance zone, made from the cutting site on the platform, seaward, to ensure no ESA-listed whales are within the clearance zone before initial cutting starts
   b. 30-minute inspection of a 200 m clearance zone, after initial cutting has been completed, made from the cutting site on the platform, in a seaward arc, to detect if any ESA-listed whales were exposed to cutting activities.
4. Clarification of various possible scenarios:
   a. If the 200 m zone is clear of ESA-listed whales for 30 minutes but initial cutting is delayed, for any reason, another 30-minute visual inspection/clearance of the 200 m clearance zone must be done.
   b. If no ESA-listed whales are seen within the 200 m clearance zone, cutting can be started immediately, and continue until completion.
   c. If an ESA-listed whale is sighted within the 200 m clearance zone, cutting will be delayed until the whale has moved more than 200 m away from the cutting site, at which time cutting may commence.
   d. If an ESA-listed whale is seen subsequent to the start of cutting, the crewmember assigned to visual duties must note the occurrence using the form provided, but cutting may continue.
5. Reporting requirements:
   a. All reporting required, listed in 2d above, will be submitted to the BSEE compliance officer within 30 days after completion of all conductor removal activities.
   b. Any observations of injured or dead marine mammals, related or unrelated to the activities, will be immediately reported to NOAA's West Coast Region Stranding Hotline at 1-866-767-6114.
   c. Any observations of entangled marine mammals will be reported to the Entanglement Reporting Hotline at 1-877-767-9425 and/or the USCG: VHF Ch. 16.

NMFS lists further recommendations to consider but are not requirements. The most applicable the Proposed Action is consideration of the tool Whale Safe, which helps track whale presence within the SBC whenever practicable.

3.6.3 Conclusion

The analysis considered potential impacts associated with the Proposed Action of the removal of eight well conductors from the Point Pedernales Unit Platform Irene, including noise from mechanical cutting and additional vessel traffic, ship strike risk, and potential oil spill risk. BOEM has determined that the Proposed Action, including BMPs, is not expected to add to current activities to the extent that marine mammals and sea turtles would be adversely affected.

3.7 MARINE AND COASTAL BIRDS

3.7.1 Affected Environment

The marine and coastal bird population off Southern California is both diverse and complex and includes as many as 195 species (Baird 1993). This community of birds has been described in detail in previous studies and environmental documents (Baird 1993, Briggs et al. 1981, Briggs et al. 1989, Carter et al. 1992, Hunt Jr. et al. 1981, Mason et al. 2007, Sowls et al. 1980). Of the many different types of birds that occur in this area, two groups are generally the most sensitive to the potential impacts of projects on the OCS: marine birds (e.g., waterfowl, loons, grebes, shearwaters, storm-petrels, cormorants, gulls, terns and alcids) and shorebirds (e.g., plovers and sandpipers). While some of these species breed in the area, others may spend their non-breeding or "wintering" period there or simply pass-through during migration. As the Proposed Action would occur within CHNMS, resources (as defined in 15 CFR 922.11) within the boundaries of this sanctuary have the potential to be affected, including marine and coastal birds.

3.7.1.1 Marine Birds

Marine birds can be divided into four major groups based on habitat use, behavior, and/or phylogenetic relationships: nearshore, pelagic, breeding species, and non-breeding gulls and terns.

1. Nearshore species generally occupy relatively shallow waters close to shore. While in Southern California, these species spend almost their entire time on the water's surface. In the Proposed Action area, the most common nearshore species are Red-throated, Pacific, and Common Loons (*Gavia stellata*, *G. pacifica*, and *G. immer*); Western and Clark's Grebes (*Aechmophorus occidentalis* and *A. clarkii*); and Surf Scoters (*Melanitta perspicillata*). In Southern California, nearshore species occur in highest numbers during the winter months; relatively few remain during the summer.
2. Pelagic species generally occupy deeper waters than nearshore species and can be found far from shore. These species spend much of their time on the water surface or diving for food. In the Proposed Action area, the most common offshore species are Sooty, Black-vented, and Pink-

footed Shearwaters (*Ardenna grisea*, *Puffinus opisthomelas*, and *Ardenna creatopus*); Northern Fulmars (*Fulmarus glacialis*), Red and Red-necked Phalaropes (*Phalaropus fulicarius* and *P. lobatus*); Pomarine and Parasitic Jaegers (*Stercorarius pomarinus* and *S. parasiticus*); Common Murres (*Uria aalge*); and Rhinoceros Auklets (*Cerorhinca monocerata*). Although the period of highest density varies from species to species, except for the Common Murre and Rhinoceros Auklet, most of the pelagic birds are non-breeding visitors in Southern California.

3. Breeding species in the vicinity of the Proposed Action area nest mainly on the Channel Islands, although a few also nest on the mainland. The most common local breeding species are Leach's, Ashy, and Black Storm-Petrels (*Hydrobates leucorhous*, *H. homochroa*, and *H. melania*); Brown Pelicans (*Pelecanus occidentalis*); Brandt's, Pelagic, and Double-crested Cormorants (*Urile penicillatus*, *U. pelagicus*, and *Nannopterum auritum*); Western Gulls (*Larus occidentalis*); California Least Terns (*Sternula antillarum browni*); and several alcids, including Pigeon Guillemots (*Cepphus columba*), Cassin's Auklets (*Ptychoramphus aleuticus*), and Scripps's Murrelets (*Synthliboramphus scrippsi*). From 1989–1991, the total breeding marine bird population on the Channel Islands was estimated at more than 100,000 birds (Carter et al. 1992). Location, numbers of nests, and at-sea densities vary greatly from species to species.
4. Many gulls and terns (excluding the Western Gull and California Least Tern, which are local breeders), though an important component of Southern California avifauna, do not readily fit into any of the above categories. Some are coastal in nature (e.g., Ring-billed gull, *Larus delawarensis*), while others remain far offshore (e.g., Arctic Tern, *Sterna paradisaea*). In the Proposed Action area, the most common non-breeding gulls and terns are California, Ring-billed, Heermann's, and Bonaparte's Gulls (*Larus californicus*, *L. delawarensis*, *L. heermanni*, and *L. Philadelphia*) and Forster's, Caspian, Royal, and Elegant Terns *(Sterna forsteri*, *Hydroprogne caspia*, *Thalasseus maximus*, and *T. elegans*).

3.7.1.2 Shorebirds

In addition to marine birds, there are a number of shorebirds that occupy coastal habitats in the vicinity of the Proposed Action. More than 40 shorebird species have been recorded in Southern California (Garrett and Dunn 1981); however, only about 24 species occur regularly in the area. Almost all locally occurring shorebirds migrate to Southern California from northern breeding areas; very few shorebirds breed in this area. Although most shorebirds occupy coastal wetlands (including estuaries, lagoons, and salt and freshwater marshes), they also use other coastal habitats, including sandy beaches, rocky shores, and open ocean.

Common shorebird species in Southern California and the Proposed Action area include Black-bellied Plovers (*Pluvialis squatarola*), Willets (*Tringa semipalmata*), Whimbrels (*Numenius phaeopus*), Marbled Godwits (*Limosa fedoa*), Black Turnstones (*Arenaria melanocephala*), Sanderlings (*Calidris alba*), Western and Least Sandpipers (*Calidris mauri* and *C. minutilla*), Dunlins (*Calidris alpina*), and Short-billed and Long-billed Dowitchers (*Limnodromus griseus* and *L. scolopaceus*).

Locally breeding shorebirds are limited to Black Oystercatchers (*Haematopus bachmani*), Black-necked Stilts (*Himantopus mexicanus*), American Avocets (*Recurvirostra americana*), Killdeer (*Charadrius*

melodus), and the federally threatened Western Snowy Plover (*Charadrius nivosus nivosus*), which nests and winters on sandy beaches in Southern California. Because of their migratory nature and the fact that few species breed in Southern California, shorebirds are most abundant in this area from fall through spring; comparatively few shorebirds remain in Southern California during the summer months (McCrary and Pierson 2002).

Several bird species that have the potential to occur within the Proposed Action area have been afforded protected status by the state and/or Federal governments due to declining populations and/or habitats. In addition, all native birds within the area are protected by the Migratory Bird Treaty Act of 1918 (MBTA), which is administered by the U.S. Fish and Wildlife Service. Special-status marine bird species found within the vicinity of the proposed activities are listed below in Table 3-4.

Table 3-4: Special-Status Marine and Coastal Birds Within or Near the Proposed Action Area

Common Name	Scientific Name	Federal Status	State Status
Brant	*Branta bernicla*	BMC	SSC
Surf Scoter	*Melanitta perspicillata*	BMC	N/A
White-winged Scoter	*Melanitta deglandi*	BMC	N/A
Black Scoter	*Melanitta americana*	BMC	N/A
Long-tailed Duck	*Clangula hyemalis*	BMC	N/A
Light-footed Ridgway's Rail	*Rallus obsoletus levipes*	E, BMC	E, FP
Black Oystercatcher	*Haematopus bachmani*	BCC, BMC	N/A
Western Snowy Plover	*Charadrius nivosus nivosus*	T, BCC, BMC	SSC
Marbled Godwit	*Limosa fedoa*	BCC, BMC	N/A
Red Knot	*Calidris canutus*	BCC, BMC	N/A
Short-billed Dowitcher	*Limnodromus griseus*	BCC, BMC	N/A
Willet	*Tringa semipalmata*	BCC	N/A
Marbled Murrelet	*Brachyramphus marmoratus*	T, BMC	E
Scripps's Murrelet	*Synthliboramphus scrippsi*	BCC, BMC	T
Guadalupe Murrelet	*Synthliboramphus hypoleucus*	BCC, BMC	T
Craveri's Murrelet	*Synthliboramphus craveri*	BCC	N/A
Cassin's Auklet	*Ptychoramphus aleuticus*	BCC, BMC	SSC
Rhinoceros Auklet	*Cerorhinca monocerata*		WL
Tufted Puffin	*Fratercula cirrhata*	BCC	SSC
Heermann's Gull	*Larus heermanni*	BCC	N/A
Western Gull	*Larus occidentalis*	BCC	N/A
California Gull	*Larus californicus*	BCC	WL
California Least Tern	*Sternula antillarum browni*	E, BMC	E, FP

Common Name	Scientific Name	Federal Status	State Status
Elegant Tern	*Thalasseus elegans*	BCC	WL
Black Skimmer	*Rynchops niger*	BCC, BMC	SSC
Laysan Albatross	*Phoebastria immutabilis*	BCC	N/A
Black-footed Albatross	*Phoebastria nigripes*	BCC, BMC	N/A
Short-tailed Albatross	*Phoebastria albatrus*	E, BMC	SSC
Ashy Storm-Petrel	*Hydrobates homochroa*	BCC, BMC	SSC
Black Storm-Petrel	*Hydrobates melania*	BCC	SSC
Murphy's Petrel	*Pterodroma ultima*	BCC	N/A
Hawaiian Petrel	*Pterodroma sandwichensis*	E, BMC	N/A
Cook's Petrel	*Pterodroma cookii*	BCC	N/A
Buller's Shearwater	*Ardenna bulleri*	BCC	N/A
Pink-footed Shearwater	*Ardenna creatopus*	BCC, BMC	N/A
Black-vented Shearwater	*Puffinus opisthomelas*	BCC, BMC	N/A
Brandt's Cormorant	*Urile penicillatus*	BCC	N/A
Double-crested Cormorant	*Nannopterum auritum*	BMC	WL
Brown Pelican	*Pelecanus occidentalis*	DE	DE, FP

Key: BCC = bird of conservation concern; BMC = bird of management concern; C = candidate; DE = delisted (formerly endangered); E = endangered; FP = fully protected; T = threatened; SSC = species of special concern, WL = watch list

3.7.2 Impact Analysis

The Proposed Action in Section 2.2 has the potential to impact coastal and marine birds. Several of these species are likely to occur in the vicinity of the Proposed Action area during Proposed Action activities. The distribution and abundance of birds would largely be affected by ocean temperatures, currents, prey distribution, and season.

Federal- or state-listed bird species have the potential to occur in the Proposed Action area. The Light-footed Ridgway's Rail (*Rallus obsoletus levipes*) is unlikely to occur in the vicinity of the Proposed Action. This taxon inhabits coastal salt marshes from the Carpinteria Marsh in Santa Barbara County, California, to Bahia de San Quintin, Baja California, Mexico (Zembal et al. 1989). The vast majority (more than 95%) of the remaining Light-footed Ridgway's Rails in California are in Orange and San Diego counties. At the northern limit of its range in Santa Barbara County, the taxon was formerly more widespread, but the loss of habitat and other factors restricted it to the Carpinteria Salt Marsh during the later 1900s (Lehman 2024). Approximately 20 pairs were there in the early 1980s dropping to just one individual by 2004. None were recorded after 2004 until a single individual was heard vocalizing there in 2011. Due to the extremely low probability of impacts on locations occupied by Light-footed Ridgway's Rails, BOEM does not anticipate any impacts on this taxon or its occupied habitat.

The Western Snowy Plover (*Charadrius nivosus nivosus*) breeds and winters along the coasts of San Luis Obispo and Santa Barbara counties in the vicinity of the Proposed Action area. Significant breeding areas within this stretch of coast include the Morro Bay Sandspit, Oceano Dunes State Vehicular Recreation Area, the Guadalupe Dunes, Vandenberg Air Force Base beaches and Coal Oil Point. It nests in depressions in the sand above the drift zone on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creeks and river mouths, and salt pans at lagoons and estuaries.

The breeding season extends from early March to late September, with birds at more southerly locations beginning to nest earlier in the season than birds at more northerly locations (64 FR 68507). In winter, the taxon is found on many of the beaches used for nesting, as well as on beaches where they do not nest, in man-made salt ponds, and on estuarine sand and mud flats. Critical habitat has also been designated and units in this area (3,123 acres) include San Carpoforo Creek, Arroyo Laguna Creek, San Simeon State Beach, Villa Creek Beach, Toro Creek, Atascadero Beach/Morro Strand State Beach, Morro Bay Beach, Pismo Beach/Nipomo Dunes, and Devereaux Beach (77 FR 36728). This taxon can be impacted by oil spills year-round if oil reaches the coastal habitats they occupy.

The California Least Tern (*Sternula antillarum browni*) is unlikely to occur in the vicinity of Platform Irene. California Least Terns are summer residents that breed along the Southern California coast. The species is present in California from mid-April to mid-September and does nest on beaches at Oceano Dunes, Rancho Guadalupe Dunes, and Vandenberg Air Force Base in northern Santa Barbara and southern San Luis Obispo counties. While studies conducted at some of the larger colonies in Southern California show that at least 75% of all foraging activity during breeding occurs in the ocean (Atwood and Minksy 1983), approximately 90–95% of ocean feeding occurred within 1 mile of shore in water depths of 60 ft or less. California Least Terns were rarely seen foraging at distances between 1–2 miles from shore and were never encountered farther than 2 miles offshore (Atwood and Minksy 1983). However, there is evidence of some foraging and migration off California that occurs as far as 20 miles offshore or more based on observations off Southern California (Pereksta, pers obs.). Further evidence offshore Mexico possibly corroborates these observations (Howell and Engel 1993, Ryan and Kluza 1999). This taxon can be impacted by oil spills if oil reached the coastal habitats they occupy during their breeding season.

The Marbled Murrelet (*Brachyramphus marmoratus*) could be present in the Proposed Action area. While the species does not nest in the vicinity of the Proposed Action area, individuals from the population nesting in the Santa Cruz Mountains (and perhaps from more northerly populations) do disperse to the coast and offshore waters of San Luis Obispo and Santa Barbara counties. Marantz (1986) characterized them as a rare transient and winter visitant offshore, but possibly regular in late summer in San Luis Obispo County. Lehman (2024) described the species as a very rare late summer, fall, and winter visitor along the coast of Santa Barbara County, but somewhat regular in late summer in the Point Sal/north Vandenberg Air Force Base area. Marbled Murrelets are generally found in nearshore waters within a few miles of shore, so it is unlikely to occur near the Proposed Action area, which is approximately 5 nm off the coast. If they were within the Proposed Action area, they would have the potential to be attracted by lighting during night operations and could be impacted by oil spills.

The Short-tailed Albatross (*Phoebastria albatrus*) and Hawaiian Petrel (*Pterodroma sandwichensis*) are not expected to occur in the vicinity of the Proposed Action area due to their rarity in the eastern Pacific and the lack of records in the vicinity of the Proposed Action. Most Short-tailed Albatrosses found off California in recent years have been during the fall and early winter with a few records in late winter and early spring (Hamilton et al. 2007). Hawaiian Petrels have been recorded off Oregon and California from April-October (Onley and Scofield 2007) with the California records occurring from April-early September. If either species was present, they have the potential to be attracted by lighting during night operations and could be impacted by oil spills.

Guadalupe Murrelets could occur in the vicinity of the Proposed Action during the Proposed Action period. The species is rare and geographically restricted, breeding only on Guadalupe and San Benito Islands off Baja California, Mexico. Post-breeding dispersal north occurs in waters off Southern California, and the species favors waters farther offshore on the shelf edge west and southwest of the northern Channel Islands between mid-July and early November (Lehman 2024), which is during the timeframe of the Proposed Action. If any are in the Proposed Action area, they have the potential to be attracted by lighting during night operations and could be impacted by oil spills.

Scripps's Murrelets could occur within the vicinity of the Proposed Action. During the breeding season, Scripps's Murrelets occur primarily from January to September, with a peak of abundance between late February and July. This species breeds on San Miguel, Santa Cruz, Anacapa, Santa Barbara, and San Clemente Islands . During the breeding season, Scripps's Murrelets are generally concentrated in the Southern California Bight. Their distribution at sea during this time varies based on conditions in the marine environment. They disperse to forage in cool upwelling areas with the greatest densities occurring near Santa Barbara and Anacapa Islands and north of Point Conception along the coast. If any are in the Proposed Action area, they have the potential to be attracted by lighting during night operations and could be impacted by oil spills.

A number of other special-status marine bird species have the potential to occur in the Proposed Action area during Proposed Action activities. Several of these species occur year-round like the Cassin's Auklet, Heermann's Gull, Western Gull, California Gull, Brandt's Cormorant, Double-crested Cormorant, and Brown Pelican; however, they can be more common during some seasons than others. Species that could occur seasonally include the Rhinoceros Auklet, Elegant Tern, Ashy Storm-Petrel, Black Storm-Petrel, Pink-footed Shearwater, and Black-vented Shearwater.

Artificial lighting from Proposed Action activities could affect marine birds. The holding or trapping effect of bright, artificial lighting can deplete the energy reserves of migrating birds, resulting in diminished survival and reproduction. For example, light entrapment could delay migrating birds from reaching breeding or foraging grounds or leave them too weak to forage or escape predation. Marine birds have been observed to continuously circle platforms until exhausted, whereupon they fall to the ocean or land on the platforms (Montevecchi 2006, Wolf 2007). Similarly, light entrapment could negatively affect breeding marine birds by increasing their time away from their nests, leaving the nests vulnerable to predation for longer periods of time, as well as causing parent chick separation of at-sea

birds. In addition, time and energy spent circling lights may impede a bird's ability to successfully forage for enough food to feed their young.

Although lights associated with the offshore oil platforms off Southern California do appear to attract marine birds, it is not known whether or to what extent such attraction disrupts migration or foraging behavior. Specifically, although Platform Irene has been operating for 37 years, there has been no indication that platform lighting has significantly affected any marine bird species. A BOEM study that assessed bird interactions with offshore petroleum production platforms in the San Pedro Basin, SBC, and Santa Maria Basin found no incidence of light disorientation or light entrapment by nocturnally migrating birds during 524 hours of nighttime observations (Johnson et al. 2011). Observations from platforms Irene, Hermosa, Gail, Gina, and Edith in the fall of 2010 indicated that bird species observed during 20 night-monitoring events showed no signs of being attracted to or confused by the lit platforms.

Birds found within the vicinity of the proposed operations could be affected by lighting of the work area during nighttime operations. If lighting levels increase above the current baseline, they could attract bird species that are susceptible to artificial light attraction during night operations. In some cases, a bird could strike a work vessel or the platform leading to injury or death. Federally endangered or threatened birds are not expected to occur in the Proposed Action area, and it is highly unlikely that any would be affected by the Proposed Action activities. However, several special-status species, including the Ashy Storm-Petrel and the California threatened Scripps's Murrelet and Guadalupe Murrelet could occur in the vicinity of the Proposed Action and could be attracted by vessel and platform lighting. Fledgling storm-petrels, shearwaters, and some alcids are more attracted to artificial lights than are adults and are particularly vulnerable when they are dispersing away from their natal areas. Vessels would be compliant with the USCG navigation light requirements.

As part of an ongoing ESA Section 7 consultation with the U.S. Fish and Wildlife Service, BMPs have been developed to minimize the impacts of artificial lighting on birds. Once that consultation is completed, operators will be expected to follow the measures when conducting actions on or near the OCS. At this time, BOEM is recommending but not requiring the incorporation of the following measures to minimize potential lighting effects to birds:

- Lighting on project vessels will be directed inboard and downward, or shielded, to reduce the potential for birds to be attracted to work areas.
- Light from cabin windows will be reduced with shades, blinds or shields that block exiting light.
- A PSO will routinely inspect lighted work areas for birds that may have been attracted to artificial lighting.
- If an injured bird is discovered on a platform or vessel, the bird will be transported on the next returning work vessel to an approved wildlife care facility.
- A log of all birds found onboard a platform or vessel that may have been attracted by artificial light during a particular project will be maintained with the status and health of birds on retrieval and release. The log will be provided to BOEM when the project has been completed.

Noise created from transiting vessels, helicopters, and other operation-related activities could exceed the threshold of potential effect for most birds, resulting in the potential for a flight response. Known data on sound-only flushes are available in (Awbrey and Bowles 1990, Brown 1990, Delaney et al. 1999, Thiessen et al. 1957).

Vessel and helicopter noise at a specific location is transitory; slowly increasing as a vessel approaches and decreasing as it passes. Because of the transitory nature of this noise and the mobility of marine birds it is unlikely that a marine bird would suffer an injury or death from vessel or helicopter noise. In addition, it is expected that the visual presence of the vessels will elicit a response from birds in the area before noise does (Anderson 2007). Typical medium to large construction equipment (crane, large pumps, and generators) used at offshore facilities emit approximately 73 to 84-dB at 50 ft, which is near the 90-dB level that resource agencies consider potentially significant for many bird species.

Noise sources associated with the proposed activities could include equipment such as vessels, aircraft, winches, generators, cable engines, jet pumps, and conductor removal equipment. Noise associated with construction activities on Platform Irene is expected to be temporary and localized and is not expected to interfere with sensitive status bird species above the water surface. Noise resulting from operation of construction equipment below surface would result in an increase in underwater noise levels, but it is unknown whether these temporary increases would result in significant sound pressure levels.

The Proposed Action area is not near any marine bird breeding colonies where nesting birds could suffer greater noise-related effects than those foraging or transiting through any Proposed Action area near Platform Irene. Therefore, noise impacts on listed and other special-status marine bird species are not expected to be significant.

Oil spills pose a significant threat to marine and shore birds. For the purposes of this EA, BOEM does not consider oil spills to be a direct effect of the Proposed Action, given they are neither authorized nor intended to occur. BOEM does, however, concur that certain smaller oil spills (50 bbl or less) could be an indirect effect of the action caused by the Proposed Action. This EA therefore provides scenario and other information related to smaller accidental oil spills in Section 2.2.2 and Appendix A. The effects of oil on seabirds have been extensively reviewed (Bourne 1976, Burger and Fry 1993, Fry 1987, Leighton 1995). Because of the migratory nature of many bird species in the region, the significance of any impacts from a spill will depend on the habitats affected, the time of year, species present, and the numbers of birds in the area at the time of the spill.

The immediate danger of oil to most birds is the clogging or matting of the fine structure of the feathers that are responsible for maintaining water repellency and heat insulation. Oiled birds are subject to hypothermia, loss of buoyancy, impaired ability to fly, and reduction in foraging ability. In addition to coating by oil, birds are also subject to chronic, long-term effects from oil that remains in the environment (Laffon et al. 2006). Small amounts of oil on a bird's plumage that were transferred to eggs during incubation have been shown to kill developing embryos (Albers 1978, Albers and Szaro 1978).

Birds can also accumulate oil in their diet and through preening. Holmes and Cronshaw (1977) have reviewed physiological stresses that can result from ingestion. An oil spill that affects important bird habitats (e.g., coastal marshes, intertidal foraging areas), even during periods of low use, could pose long-lasting problems. Birds have been observed to leave an area that has been affected by a spill (Albers 1984, Chapman 1981, Hope Jones et al. 1978). Albers (1984) suggests that such movements would cause severe impacts during the breeding season.

The Western Snowy Plover and California Least Tern are highly susceptible to oiling, because they nest and roost on beaches and mud flats that could be contacted by an oil spill or are in close proximity to the ocean or an estuary. In addition, Western Snowy Plovers forage along the shoreline and in sea wrack (seaweed and other natural wave-cast organic debris) at the high-tide line where they are at risk of direct exposure to oil during spills. They can experience direct mortality from oiling of birds and eggs and could also experience loss of prey availability due to contamination. They could also be exposed directly to oil if they were feeding in waters affected by a spill because they dive into the water to catch their fish prey. Moreover, they could be impacted if cleanup activities were to occur on nesting beaches.

Marbled, Guadalupe, and Scripps's Murrelets are vulnerable to oil spills due to their predominately at-sea existence. Mortality due to oil pollution is one of the major threats to Murrelet populations. Although poorly documented, mortality from large spills and chronic oil pollution has been occurring for decades throughout the range of the Marbled Murrelet (Carter and Kuletz 1995). Marbled Murrelets have been impacted by oil pollution in Prince William Sound, Central California, and western Washington (Carter and Kuletz 1995).

The Short-tailed Albatross and Hawaiian Petrel are vulnerable to oil spills while they are at sea in the eastern Pacific Ocean. However, neither species is expected to be present in the action area with any regularity, because records documenting these species exist in the vicinity of the Proposed Action area are rare.

Accidental spillage from these activities is unlikely and if it were to occur, it is anticipated to be small in volume (50 bbl or less), rapidly addressed, and any impacts (if any) would be minimized according to the OSRP. A spill of 50 bbl or less from Platform Irene is unlikely to make landfall along the coast and is therefore unlikely to impact coastal species and their habitats.

3.7.3 Conclusion

The analysis considered potential impacts associated with the Proposed Action of the removal of eight well conductors from the Point Pedernales Unit Platform Irene, including artificial lighting from nighttime operations, noise from mechanical cutting and additional vessel traffic, and potential oil spill risk. Artificial lighting associated with night operations could attract marine birds to the Proposed Action area, several of which have special-status designations. The Marbled Murrelet and the state-listed Scripps's Murrelet and Guadalupe Murrelet could occur in the vicinity of the Proposed Action and, if present, could be attracted to the area at night by project-related lighting. However, an increase in artificial lighting because of the Proposed Action is not anticipated. In addition, if Proposed Action

activities occur after the fledging dispersal period of the marine bird species breeding on the Channel Islands, possible impacts from light attraction will be reduced even further.

Noise associated with construction activities on Platform Irene is expected to be temporary and localized and not expected to interfere with sensitive status bird species above the water surface. The Proposed Action area is not near any marine bird breeding colonies where nesting birds could suffer greater noise-related effects than those foraging or transiting through any Proposed Action area near the platforms. The risk of oil spills is low and accidental spills from conductor removal or vessels are highly unlikely. BOEM has determined that the Proposed Action would have no effects on the Light-footed Ridgway's Rail and may affect but is not likely to adversely affect the Western Snowy Plover, California Least Tern, Marbled Murrelet, Short-tailed Albatross, and Hawaiian Petrel.

3.8 THREATENED AND ENDANGERED SPECIES

See Section 3.4 (Benthic Resources), Section 3.5 (Fishes and EFH), Section 3.6 (Marine Mammals and Sea Turtles), and Section 3.7 (Marine and Coastal Birds) for information regarding threatened and endangered species potentially affected by the Proposed Action.

3.9 COMMERCIAL AND RECREATIONAL FISHING

3.9.1 Affected Environment

Platform Irene is at a depth of 242 ft (74 m) in the Santa Maria Basin, Santa Barbara County, California. Inclement weather conditions often prevail within the Proposed Action region. Strong winds, rough waves, and foggy conditions often make the region hazardous for marine vessels, and it is the location for a number of well-known maritime disasters. Home ports for most of the commercial fishers that use fishing grounds near the proposed activities are associated with the Morro Bay and Santa Barbara port complexes. Between 2022–2024, an annual average of approximately 72 million pounds valued at more than $68 million dollars was landed at these ports (CDFW 2025). Market squid, California spiny lobster, red sea urchin, spot prawn, sablefish, California halibut, yellow rock crab, shortspine thornyhead, ridgeback prawn, vermillion rockfish, red rock crab, and white sea bass dominated landings (CDFW 2025). Commercial gear used to harvest these species in the Proposed Action region include deep-set buoy gear, gill net, hand, harpoon/spear, hook-and-line, nets, set longline, trap, and trawl (CDFW 2025). It is expected that very little commercial fishing occurs in proximity to Platform Irene due to the potential of entangling gear with the marine infrastructure.

Due to rough seas, recreational fishing in the Santa Maria Basin would most likely be from commercial passenger fishing vessel (CPFV) day trips rather than private boats and would likely originate from either Morro Bay or Port San Luis. Between 2022–2024, 11 to 13 CPFVs were active each year in the region, and they hosted an average of more than 21,000 recreational fishers that landed more than 157,000 fish each year (CDFW 2025). It is expected that very little recreational fishing occurs in proximity to Platform Irene because of the long distance from port to platform would not be favorable for day trips. Onshore, pier and surf fishing are popular activities.

3.9.2 Impact Analysis

Potential effects form from proposed activities could include offshore space-use conflicts, port space-use conflicts, gear loss or damage from marine debris, infrastructure entanglement, or marine vessel traffic, and economic or access impacts due to closures from oil spills. Potential consequences to harvested populations are examined in Section 3.5. The proposed activities associated with conductor pipe removal would primarily be confined to the existing platform footprint. Because very little, if any, fishing activity occurs next to Platform Irene, conductor removal activities are not expected to restrict commercial or recreational fishers from their fishing grounds or entangle their gear beyond current baseline levels. Freeport will keep a log for all materials lost overboard and report them to BSEE per regulations.

Oil spill risk is described in Section 2.2.2 and Appendix A. In high-energy environments, like those within and adjacent to the Santa Maria Basin, if there is a small spill ($\leq$ 50 bbl) much of the oil could weather, disperse, or evaporate before reaching nearshore fishing grounds, thereby reducing its overall toxicity (Fingas 2025). A small spill would be unlikely to change the overall economic characteristics of regional fishing activities. In 1997, the 163 bbl oil spill from a pipeline associated with Platform Irene was not associated with detectable economic consequences to commercial or CPFV fishing (Torch/Platform Irene Trustee Council 2007). However, physical oiling of the beaches and subsequent cleanup activities closed surf fishing at impacted beaches for 6 days. If a small spill closed shore access to fishing, it would probably last less than 6 days, and shore-based fishers could access unimpacted areas during that time. Oil spill prevention and response capabilities are in place, which will reduce the probability of economic or access consequences.

Freeport is a current member of the Joint Oil/Fisheries Committee. As such, Freeport coordinates with the Joint Oil/Fisheries Liaison Office (JOFLO) concerning offshore and/or portside activities that could affect commercial fishing to reduce conflicts, if any, including economic impacts that could arise from entanglement/loss of fishing gear or oil spill closures. Freeport estimates that only two additional trips from Proposed Action vessels are expected for the duration of the project, so offshore space-use conflicts or a marine vessel-generated oil spill would be unlikely from this small change. Vessels will not employ anchors during proposed activities, so there is no risk of damage to fishing gear from anchoring activities.

3.9.3 Conclusion

The impact analysis considered ongoing offshore energy activities, marine vessel traffic, MPAs, and non-project marine vessel traffic. In summary, the Proposed Action is not expected to interfere with commercial or recreational fishing operations in the local offshore area. A small oil spill could restrict surf fishing for a few days if beaches become polluted and cleanup is necessary. Freeport will (1) communicate with JOFLO to resolve potential conflicts that could arise during Proposed Action operations; (2) file a timely advisory with the local USCG District office, with a copy to the Long Beach Office of the State Lands Commission, for publication in the Local Notice to Mariners and will place a similar notification in all local ports that support commercial fishing vessels prior to the commencement

of project activities; (3) keep a log for all materials lost overboard and report them to BSEE per regulations; and (4) operate under a BSEE-approved OSRP.

3.10 SOCIOECONOMICS

OCSLA's definition of the term human environment, "means the physical, social, and economic components, conditions, and factors which interactively determine the state, condition, and quality of living conditions, employment, and health of those affected, directly or indirectly, by activities occurring on the OCS" and is the definition used for this analysis. The analysis below focuses on clear impacts from the Proposed Action to the local human environment.

3.10.1 Affected Environment

The terrestrial portion of the Proposed Action would affect both Ventura County and Santa Barabara County, California. The oil well itself is 4.7 mi (7.6 km) off the coast of Santa Barbara County. The materials would be transported by watercraft to Port Hueneme in Ventura Conty and then by truck to a recycling faculty approximately 12 miles from the port, in Ventura County. There will likely be two helicopters used daily (for one run) during the Proposed Action.

According to U.S. Census data from the 2023 5-Year American Community Survey, Santa Barbara County had a population of 443,975 and Ventura County had a population of 838,259. Median household income for Santa Barbara County was $95,977 and Ventura County was $107,327, respectively. The civilian labor force unemployment rates for Santa Barbara County, 3.8 %, and Ventura County, 3.5%, were on par with the national rate of 3.3% (USCB 2023). The Gross Domestic Product (GDP) in 2017 dollars between 2020 and 2023 was $32 billion for Santa Barbara County and $53.6 billion for Ventura County (Bureau of Economic Analysis 2024).

The ocean economy is a central driver of economic activity in Santa Barbara County. In 2021, the ocean economy accounted for 7.8% of the total county employment, with 16,677 workers across 869 establishments, providing $717.8 million in wages and contributing $1.7 billion to GDP (NOAA 2021). The offshore mineral resources sector accounted for 1.4% of ocean economy related employment, while tourism and recreation jobs comprised 84.3% of ocean economy county employment (NOAA 2021).

In Ventura County, the ocean economy is also a key component of economic activity. In 2021, the ocean economy accounted for 5.2% of the total county employment, with 16,765 workers across 1,025 establishments, providing $577.4 million in wages and contributing $1.6 billion to GDP. Tourism and recreation accounted for most of those jobs, with 85.8% of total ocean economy employment in those sectors. The offshore minerals sector accounted for 1.6% of ocean economy employment in Ventura County (NOAA 2021).

The Port of Hueneme is the fourth largest container port in California. In 2023, it moved $16.1 billion in goods. The port is a primary support for the offshore oil industry. In 2024, the port handled more than 2.2 million revenue tons of cargo (Port of Hueneme 2024). The Port of Hueneme is a key economic

engine for the region and provides more than 24,997 direct, indirect, and induced jobs regionally and contributes $2.8 billion in overall economic impact (Port of Hueneme 2025).

3.10.2 Impact Analysis

The Proposed Action's potential socioeconomic impacts are on transportation, mainly vessel and road traffic. Sizable disruptions are not expected in tourism, recreational fishing, or consumer travel activities due to project-related marine activities.

Economic activity could increase due to increased business in ocean and land transportation, onshore scrapping and fuel purchases. These changes would be temporary and extremely small compared to the total economic activity in either Ventura County or Santa Barbara County.

The crew boat vessel, the *M/V Loren*, is expected to depart from the Port of Hueneme, as scheduled, and would only require one or two additional boat runs to transport materials from platform to port. The materials would then be transported via trucks to the recycling facility, Standard Industries, which is 12 miles northeast of the Port of Hueneme in Saticoy, Ventura County. The trucking vendor estimates that approximately 23 truck trips would be required between the port and the facility, due to the length and weight of the materials being transported. Trucks would be carrying pieces ranging from 12-ft to 40-ft, and with a maximum weight of 40,000 pounds. Due to the number of truck trips required, there could be potential impacts on local traffic between the port and the recycling center. Trucks are not expected to be carrying oversized loads. Oil spill risk is described in Appendix A. Oil spills in the marine environment can have a range of potential human impacts.

3.10.3 Conclusion

The Proposed Action is expected to increase economic activity and transportation. These impacts are likely to be negligible compared to the total economic activity, employment, and transportation occurring on a normal basis in the project areas. Impacts are expected to also be temporary, lasting during the periods of Proposed Action activity in 2025. No impacts on fishing or tourism are expected.

Transportation would be performed with existing vessels and trucks and would occur over well-defined routes. Sizable disruption in existing transportation is not expected. No navigational closures (i.e., exclusion zones) are expected due to this Proposed Action. No road closures are expected to transport cut piping from Port Hueneme to Standards Industries in Saticoy. BOEM recommends that Freeport consider, as appropriate, working with the trucking vendor and affected local municipalities in Ventura County to develop a traffic management plan to further minimize disruption to local traffic flows during the transportation of materials from the port to the recycling center.

A net positive impact from the Proposed Action is expected on employment, with increased crew on the platforms for the conductor recovery effort. There would reasonably be more on-road time for truck drivers and increased activity for scrap yard crews and port stevedores. The overall impact on the local economy is not expected to be significant, and local social activities are not expected to be disrupted.

4 Consultation and Coordination

National Marine Fisheries Service. BOEM consulted with NMFS under ESA for Ongoing Oil and Gas Operations, which included conductor removal activities (NMFS 2024a). As part of that consultation, BOEM agreed to incorporate specific protective measures as part of the Proposed Action for conductor removals (see Section 3.5). Per the regulations of the Magnuson-Stevens Fishery Conservation and Management Act, BOEM prepared an EFH assessment and determined that the proposed activities would produce minimally adverse effects to EFH and proposed no additional conservation measures beyond those already incorporated into the Proposed Action activities. NMFS must decide to either concur with the EFH assessment or suggest additional conservation recommendations to avoid, minimize, or otherwise offset impacts to EFH. In addition, in accordance with the MMPA, the applicant must determine the need for an Incidental Harassment Authorization (IHA), which allows the incidental take of marine mammals during the specified activities. If the applicant determines the need for an IHA, they must submit an application to NMFS, which, after evaluation, would either authorize incidental take or deny the IHA application

U.S. Fish and Wildlife Service (USFWS). An analysis of the Proposed Action was conducted, and BOEM determined that the Proposed Action would have no effects to the Light-footed Ridgway's Rail and may affect but is not likely to adversely affect the Western Snowy Plover, California Least Tern, Marbled Murrelet, Short-tailed Albatross, and Hawaiian Petrel. BOEM concluded a formal consultation with the USFWS for current and expected activities associated with development and production of oil and gas reserves within the Southern California Planning Area on August 31, 2025. New terms and conditions are not applicable to this project.

U.S. Army Corps of Engineers. It was determined that the Proposed Action does not require Rivers and Harbors Act Section 10 authorization.

Santa Barbara County Air Pollution Control District. Equipment used for the well conductor removal activities that require air quality permits are presently under existing PTOs issued by the SBCAPCD, and no new modifications are required to current air permits. In addition to PTO conditions and District rule requirements, Freeport is required to comply with all specifications within the updated Boat Monitoring and Reporting Plan for the *M/V Loren* C as well as CARB engine emissions, fuel sulfur content, and reporting requirements for marine vessels (Appendix C) (SBCAPCD 2023).

Chumash Heritage National Marine Sanctuary. National marine sanctuaries provide additional protections to the important resources, such as natural, cultural, and historical resources, found in sanctuary waters. Each national marine sanctuary has its own set of regulations to facilitate, to the extent compatible with the primary objective of resource protection, all public and private uses of the sanctuary not prohibited under other authorities. Consistent with this purpose, the CHNMS regulations establish a discrete list of prohibited activities, subject to specified regulatory exceptions and the permitting process to ensure people can still enjoy and responsibly use these areas. For example, prohibited activities in CHNMS include disturbing or otherwise altering the seafloor and discharging or

depositing matter or materials into the sanctuary, including discharges from vessels. The CHNMS was designated in 2024 this active oil and gas facilities within its borders including Platform Irene. Oil and gas production for existing leases and lease units is excepted from several of the prohibitions in the CHNMS regulations, including specific exceptions for Platform Irene for discharges and disturbing the seafloor, including well abandonment pursuant to 15 CFR 922.232 (a)(1), (a)(2)(i)(H), and (a)(3)(vi). The relevant exceptions for Platform Irene include the following:

- Oil and gas production, including well abandonment, pursuant to existing leases or lease units in effect on the sanctuary effective date (November 30, 2024; 15 CFR 922.232 (a)(1));
- Discharges incidental and necessary to oil and gas production from Platform Irene, including well abandonment (15 CFR 922.232 (a)(2)(i)(H));
- Drill, maintain, or abandon a well necessary for purposes related to oil and gas production pursuant to existing leases or lease units in effect on the effective date of Sanctuary designation (November 30, 2024) from Platform Irene (15 CFR 922.232(a)(3)(vi)).

The Lessee, Freeport-McMoRan Oil & Gas, LLC's, proposal to abandon eight wells and remove eight conductor casings at Platform Irene are activities that are excepted from the sanctuary regulations in 15 CFR 922.232; therefore, NOAA Office of National Marine Sanctuaries (ONMS) approval is not needed under the sanctuary regulations.

Under Section 304(d) of the National Marine Sanctuaries Act (16 U.S.C. §1434(d)), any Federal agency taking any action that is likely to destroy, cause the loss of, or injure a sanctuary resource is required to consult with NOAA. Injury is defined as "to change adversely, either in the short or long term, a chemical, biological or physical attribute, or the viability, of a sanctuary resource. This includes, but is not limited to, to cause the loss of or destroy (15 CFR 922.11)." Also see the 304(d) overview document and CHNMS Final Management's "Offshore Energy Action Plan." BOEM and ONMS coordinated on the review of this EA consistent with the intent of the Offshore Energy Action Plan Strategy OE-4 in the CHNMS Final Management Plan. Based on the analysis presented in the EA, BOEM determines that the Proposed Action is not likely to injure any sanctuary resource of CHNMS.

Tribes. Public information indicates that the Proposed Action area is in or near the traditional cultural region of Chumash-affiliated Tribes (NAHC 2025) and the ancestral territory of the federally recognized Santa Ynez Band of Chumash Indians (TMSN 2025). Based on the impact analyses on environmental resources and BMPs that will be implemented to avoid or minimize impacts, the Proposed Action is not expected to have adverse effects on Tribes and tribal activities. As the decision-making agency for the Proposed Action, BSEE retains responsibility for government-to-government consultation with federally recognized Tribes for actions that may have substantial direct effect on a Tribe.

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Appendix A. Pacific Outer Continental Shelf Region Programmatic Oil Spill Risk Analysis

This appendix covers oil spill risk, fate of oil, trajectory analysis, and response.

A-1 Oil Spill Risk Assessment and Methods

In normal, day-to-day platform operations, accidental discharges of hydrocarbons could occur. Such accidents are typically limited to discharges of quantities of less than one barrel (bbl) of crude oil. From 1963 to 2022, 1,451 oil spills were recorded. The total volume of oil spilled in the Pacific Region is dominated by the 1969 Santa Barbara Spill (80,900 bbl), which occurred soon after production began. During 1970–2022, there were 1,449 oil spills with an average volume of 1 bbl/spill and a total volume of 1,508 bbl, which represents less than 2% of the volume spilled in 1969.

The largest spill during 1970–2022 was the 588 bbl Beta Unit spill ("Huntington Beach" spill) in October 2021 from Amplify Energy Corporation's San Pedro pipeline P00547 (Table A-1). In a settlement agreement (Case No. 8:21-cv-01628-DOC-JDE, Document 476-4, U.S. District Court for the Central District of California, 2022), the corporate defendants asserted that the spill was a result of severe damage to pipeline P00547 from two container ships that repeatedly dragged their anchors across it. Without accepting responsibility, the shipping companies agreed to contribute funds to the remediation process.

The next six largest spills were (in descending order of size; Table A-1) as follows:

1. 164 bbl in 1997 due to a pipeline break in the flange metal in state waters due to welding flaws
2. 150 bbl in 1996 due to equipment failure and error allowing emulsion to flow through flare boom
3. 101 bbl in 1990 from mineral oil mud released due to incorrectly positioned standpipe and closed valves

4. 50 bbl in 1994 due to process upset resulting in overflow of oil/water emulsion from tanks into disposal tube
5. 50 bbl in 1991 after a pipeline riser ruptured when snagged by grappling hook used by workboat to retrieve a lost anchor
6. The source of oil spilled in 2012 (35.78 bbl; Table A-1) was primarily from Platform Houchin caused by a burst plate (35 bbl, per USCG).

The oil spill risk in the 50 to 1,000 bbl range was calculated for the Pacific Region using historic oil spill data (1963–2022) and cumulative production from the Pacific Region. BOEM estimated the number of oil spills and the probability of one or more spills that could occur as a result of ongoing activities in the Southern California Planning Area in the 50 to 1,000 bbl size range using Pacific Region oil spill rates (Table A-2).

Oil spill rate is calculated as a function of the volume of oil handled or the amount of oil that could be exposed. Oil exposed is defined as the volume of oil produced or transported within a given area. Therefore, the total amount of oil that could be economically produced in the Southern California Planning Area was used as this exposure variable. In the 50 to 1,000 bbl size range, BOEM estimates there would be one spill with a 63% probability of an oil spill occurring (Table A-2). The probability of an oil spill occurring decreases with the decreasing amount of oil left to be produced. Note that the 80,900 bbl 1969 spills were not included in this calculation, since they do not fall within the 50 to 1,000 bbl size range for spill probability calculations; a spill of this size is an extreme event and not reasonably foreseeable.

For comparison, BOEM calculated oil spill probabilities using oil spill rates derived from all United States OCS operations (1996–2010) and the total amount of oil that could be economically produced in the Southern California Planning Area (Anderson et. al. 2012). Using spill rates based on all US OCS operations (1996–2010), the probability of one or more spills occurring in the Pacific Region for the 50 to 1,000 bbl size range is 95%. The lower probability (63%) of spills in the 50 to 1,000 bbl size range using POCSR oil spill data reflects the lower number of oil spills throughout POCSR production history.

The probability of one or more spills occurring in the greater than 1,000 bbl size range is 7% (Table A-2). This is a conservative estimate calculated using the same methodology as for the 50 to 1,000 bbl range and based on all US OCS operations (1996–2010). For the greater than 1,000 bbl size range, BOEM did not calculate oil spill rates with only POCSR data due to the limited dataset (2 spills > 1,000 bbl occurred in 1969). A spill of this size would be an unlikely event in the POCSR.

Number and volume (in barrels, bbl) of crude, diesel, or other hydrocarbon spills recorded in the POCSR, 1963–2022, shown for three size categories of spills: 1) less than or equal to 1 bbl, 2) greater than 1 but less than 50 bbl, 3) greater than or equal to 50 bbl.

Table A-1. Oil Spills Since 1963

Year	# Spills ≤ 1 bbl	Vol. Spills ≤ 1 bbl	# Spills 1–50 bbl	Vol. Spills 1–50 bbl	# Spills ≥ 50 bbl	Vol. Spills ≥ 50 bbl	Total # Spills	Total Volume	Cumulative Vol. 1970–2022
1963	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1964	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1965	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1966	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1967	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1968	0	0.00	0	0.00	0	0.00	0	0.00	N/A
1969	0	0.00	0	0.00	2	80,900.00	2	80,900.00	N/A
1970	0	0.00	0	0.00	0	0.00	0	0.00	0.00
1971	0	0.00	0	0.00	0	0.00	0	0.00	0.00
1972	0	0.00	0	0.00	0	0.00	0	0.00	0.00
1973	0	0.00	0	0.00	0	0.00	0	0.00	0.00
1974	0	0.00	0	0.00	0	0.00	0	0.00	0.00
1975	1	0.10	0	0.00	0	0.00	1	0.10	0.10
1976	3	1.10	1	2.00	0	0.00	4	3.10	3.20
1977	11	2.20	1	4.00	0	0.00	12	6.20	9.40
1978	4	1.20	0	0.00	0	0.00	4	1.20	10.60
1979	5	1.70	1	2.00	0	0.00	6	3.70	14.30
1980	11	4.90	2	7.00	0	0.00	13	11.90	26.20
1981	21	6.00	10	75.00	0	0.00	31	81.00	107.20
1982	24	3.20	1	3.00	0	0.00	25	6.20	113.40
1983	56	7.70	3	6.00	0	0.00	59	13.70	127.10
1984	65	4.70	3	36.00	0	0.00	68	40.70	167.80
1985	55	9.30	3	9.00	0	0.00	58	18.30	186.10
1986	39	5.50	3	12.00	0	0.00	42	17.50	203.60
1987	67	7.50	2	11.00	0	0.00	69	18.50	222.10
1988	47	3.70	1	2.00	0	0.00	48	5.70	227.80
1989	69	4.10	3	8.33	0	0.00	72	12.43	240.23
1990	43	2.70	0	0.00	1	101.00	44	103.70	343.93
1991	51	2.80	1	13.00	1	50.00	53	65.80	409.73
1992	39	1.20	0	0.00	0	0.00	39	1.20	410.93
1993	32	0.76	0	0.00	0	0.00	32	0.76	411.69
1994	18	0.40	2	33.00	1	50.00	21	83.40	495.09
1995	25	0.90	1	1.43	0	0.00	26	2.33	497.42
1996	39	0.90	1	5.00	1	150.00	41	155.90	653.32
1997	20	1.50	0	0.00	1	164.00	21	165.50	818.82
1998	29	1.00	0	0.00	0	0.00	29	1.00	819.82
1999	26	1.35	1	10.00	0	0.00	27	11.35	831.17
2000	36	1.00	0	0.00	0	0.00	36	1.00	832.17

Year	# Spills ≤ 1 bbl	Vol. Spills ≤ 1 bbl	# Spills 1–50 bbl	Vol. Spills 1–50 bbl	# Spills ≥ 50 bbl	Vol. Spills ≥ 50 bbl	Total # Spills	Total Volume	Cumulative Vol. 1970–2022
2001	48	1.70	0	0.00	0	0.00	48	1.70	833.87
2002	55	1.30	1	9.00	0	0.00	56	10.30	844.17
2003	56	1.37	0	0.00	0	0.00	56	1.37	845.54
2004	36	1.00	0	0.00	0	0.00	36	1.00	846.54
2005	46	2.60	0	0.00	0	0.00	46	2.60	849.14
2006	46	1.99	0	0.00	0	0.00	46	1.99	851.13
2007	45	1.19	1	1.19	0	0.00	46	2.38	853.51
2008	45	1.20	1	27.00	0	0.00	46	28.20	881.71
2009	36	1.10	0	0.00	0	0.00	36	1.10	882.81
2010	33	0.63	0	0.00	0	0.00	33	0.63	883.44
2011	38	0.02	0	0.00	0	0.00	38	0.02	883.46
2012	30	0.08	1	35.70	0	0.00	31	35.78	919.24
2013	26	0.03	0	0.00	0	0.00	26	0.03	919.27
2014	10	0.48	0	0.00	0	0.00	10	0.48	919.75
2015	13	0.11	0	0.00	0	0.00	13	0.11	919.86
2016	0	0.00	0	0.00	0	0.00	0	0.00	919.86
2017	0	0.00	0	0.00	0	0.00	0	0.00	919.86
2018	0	0.00	0	0.00	0	0.00	0	0.00	919.86
2019	0	0.00	0	0.00	0	0.00	0	0.00	919.86
2020	0	0.00	0	0.00	0	0.00	0	0.00	919.86
2021	0	0.00	0	0.00	1	588.00	1	588.00	1,507.86
2022	0	0.00	0	0.00	0	0.00	0	0.00	1,507.86
Total	1,399	92.00	44	313.00	8	82,003.00	1,451	82,408.00	1,507.86

Oil spill probability estimates are conservative given the following for POCSR:

- Oil spill history
- Long established drilling program
- Producing from mature fields with lower pressure
- No floating drilling rigs
- No new platforms being installed
- No oil is transported via vessels.

Estimated spill rate, mean number of oil spills, and spill occurrence probability in the POCSR for 1) 50-1,000 bbl: oil spills with volumes greater than 50 but less than 1,000 bbl, and 2) ≥ 1,000 bbl: oil spills equal to or greater than 1,000 bbl. Numbers are based on oil spill data from POCSR operations (1963–2022) or U.S. OCS Spill Data (1996–2010). Anticipated POCSR production is 0.226 Bbbl (billions of barrels). Spill rate based on methodology from (Anderson et al. 2012).

Table A-2. Calculated Oil Spill Probability

Spill Volume (bbl)	Dataset	Years	Structures	Spill Rate	Estimated Mean # Spills	Probability ≥ 1 Spill
50–1,000	POCSR	1963–2022	Platforms & Pipelines	4.38	1	63%
50–1,000	U.S. OCS	1996–2010	Platforms & Pipelines	12.88	3	95%
≥ 1,000	U.S. OCS	1996–2010	Platforms	0.25	0.06	3%
≥ 1,000	U.S. OCS	1996–2010	Pipelines	0.88	0.20	4%
≥ 1,000	US OCS	1996–2010	Total	1.13	0.25	7%

Formulae used in the Oil Spill Occurrence and Probability Calculations:

- Spill rate λ = number of spills per Bbbl
- Estimated Mean Number of Spills = spill rate λ x volume handled t (Bbbl) = λ t
- Probability [n spills over future exposure t] = [(λ t)ne-λt] / n!
- Probability of Zero Spills = [(λ t)0e-λt] / 0! = [1 x e-λt] / 1 = e-λt = 1 / e λt
- Probability of One or More Spills = 1-Probability[zero spills] = 1 - 1 / e λ t

A-1.1 OIL SPILL ASSESSMENT 1970S AND 1980S

The production estimates for the region are within what was estimated in the 1975 EIS. This section reviews, by geographic location, the oil spill assessments completed in the 1970s and 1980s environmental documents. This information is provided to support the discussion of the (USGS 1975) status of the species, to provide background on previous determinations of effects to threatened and endangered species, to boost confidence in BOEM's current calculations, and to serve as a comparison with current estimates.

Santa Barbara Channel

The 1975 EIS for Oil Development in the Santa Barbara Channel estimated 1 to 2 billion barrels (Bbbl) of oil would be produced (USGS 1975). To date, the Southern California Planning Area has produced 1.37 Bbbl of oil with a remaining production estimate of 0.2256 Bbbl. USGS 1975 EIS: estimated a 70% chance that there would be at least one platform spill of 1,000 bbl, and if a large platform spill occurred, there was an 80% chance the spill would exceed 2,380 bbl (USGS 1975). (Platforms covered: Hogan, Houchin, Hillhouse, A, B, C, Henry, Grace, Habitat)

The 1980 Environmental Impact Report – Environmental Assessment (EIR-EA) for the Platform Gina and Gilda development estimated that an average rate of operational platform spills is 1 spill per production platform per 10.6 years (Dames and Moore, 1980). Thus, it was estimated that Platform Gilda would have 1.9 spills over the 20-year production lifetime. (Platforms covered: Gina, Gilda)

The 1986 Platform Gail Environmental Assessment (EA) cumulative oil spill analysis estimated that during 32 years of production in the Southern California Planning Area there would be 14.5 spills ≥ 1,000 bbl and 6.6 spills ≥ 10,000 bbl (MMS 1986). (Platforms covered: Gail)

The 1984 Santa Ynez Unit Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) examined spills ranging from 10 bbl to more than 500,000 bbl and categorized a platform blowout as spilling between 1,000 and 500,000 bbl (SAI 1984). (Platforms covered: Hondo, Harmony, Heritage,[1] and a fourth platform that was never installed)

The 1984 Point Arguello EIR/EIS estimated that a cumulative total of 144,000 bbl of oil would be expected to be spilled over a 30-year project lifetime (Arthur D. Little, Inc. 1984). (Platforms covered: Hildalgo, Harvest, Hermosa)

Spills since 1969, ≥ 50 bbl, include the following:

- Platform Habitat: 1990—100 bbl of drilling mud with mineral oil
- Platform Gina: 1991—50 bbl of oil from a broken pipeline
- Platform Hogan: 1994—50 bbl of oil
- Platform Heritage: 1996—150 bbl of oil

San Pedro Bay

The 1978 Beta Unit EIR-EA analyzed the following spills: 5000-bbl platform spill, 50-bbl pipeline spill, 50-bbl Long Beach Harbor spill, and a catastrophic 80,000-bbl platform spill (State Lands Commission et al. 1978). (Platforms covered: Elly, Ellen, Eureka, Edith)

Spills since 1969:

- Beta Unit: 2021—588 bbl pipeline spill

Santa Maria Basin

The 1985 Santa Maria Basin EIS/EIR analyzed oil spills ranging from 10 to 100,000 bbl (Arthur D. Little, Inc. 1985) (Platforms covered: Irene).

Spills since 1969:

- Platform Irene: 1997—164 bbl pipeline spill

A-1.2 WORST-CASE DISCHARGE (WCD)

Pacific OCS Region operators are required to submit OSRPs, which show the worst-case volume of oil that could be spilled from three sources associated with offshore operations: vessels, tanks, and piping on board platforms, pipelines, and loss of well control events (Table A-3; 30 CFR Parts 254, 550). These plans are not authorized by BSEE and therefore not part of this consultation (*Alaska Wilderness League*

[1] A fourth platform was also covered by this document but was never installed. The platform has since been removed from the current Development and Production Plan for the Santa Ynez Unit.

v. Jewell, 788 F.3d 1212, 1224-25; 9th Cir. 2015). The intent of this conservative requirement is to ensure that each operator has adequate spill response capabilities to respond to the largest conceivable oil spill from their facilities. If surface intervention is unsuccessful, an operator needs to mobilize a drilling rig to the Southern California Planning Area and drill a relief well.

The largest WCD volume is calculated as the release of stored oil on a platform, oil in the associated pipeline, plus the total flow released from a loss of well control up to the drilling of a relief well. The WCD volumes vary significantly across facilities. A continuous spill event (i.e., from a loss of well control) is more difficult to quantify but unlikely to occur given the reservoir pressures in the POCSR (13 of the 23 platforms have no pressure; Table A-3).

Table A-3. Worst-case Discharges Identified in Oil Spill Response Plans in POCSR

Facility	Pipeline (bbl)	Storage (bbl)	Drilling (bbl/day)	Reference
Hogan	Pipeline to Shore = 41 (oil + water) Inter-Platform (Houchin) = 49	324	0	Pacific Operators Offshore OSRP 2012
Houchin	See Information for Hogan	324	0	Pacific Operators Offshore OSRP 2012
Elly	16” Pipeline Elly to Beta Pump Station = 3,111	8,925	0 (no drilling)	Beta Unit Complex OSRP 2012
Ellen	No Pipeline, transfers through Elly = 0	1,840	45	Beta Unit Complex OSRP 2012
Eureka	Pipeline = 1,026	4,232	105	Beta Unit Complex OSRP 2012
Gail	Pipelines at Gail = 168	2,068	650	Santa Clara Unit OSRP 2012
Grace	Pipelines at Grace and Grace to Shore = 292	1,557	110	Santa Clara Unit OSRP 2012
Hermosa	Pipeline Hermosa to Shore = 2,502	3,760	0	Plains Exploration and Production Company OSRP 2012
Hildalgo	Pipeline Hildalgo to Hermosa = 489	2,478	0	Plains Exploration and Production Company OSRP 2012
Harvest	Pipeline Harvest to Hermosa = 221	3,820	0	Plains Exploration and Production Company OSRP 2012
Irene	Pipeline Irene to Shore = 1,124	1,064	750	Plains Exploration and Production Company OSRP 2012
Gilda	Pipeline Gilda to Shore = 1,994	857	200	DCOR OSRP 2012
Gina	Pipeline Gina to Shore = 546	223	0	DCOR OSRP 2012
“C”	Pipeline C to B = 11	306	2	DCOR OSRP 2012
“B”	Pipeline B to A = 92	646	0	DCOR OSRP 2012
“A”	Pipeline A to Shore = 3,685	589	0	DCOR OSRP 2012
Hillhouse	Pipeline Hillhouse to A = 57	1,534	0	DCOR OSRP 2012
Henry	Pipeline Henry to Hillhouse = 3	118	0	DCOR OSRP 2012
Edith	Pipeline Edith to Elly = 122	2,352	0	DCOR OSRP 2012
Habitat	No Pipeline, gas production	385	0	DCOR OSRP 2012

Facility	Pipeline (bbl)	Storage (bbl)	Drilling (bbl/day)	Reference
Harmony	Pipeline Harmony to Shore = 6,210	2,607	< 2,000	ExxonMobil OSRP 2014
Heritage	Pipeline Heritage to Harmony = 731	2,684	33,986	ExxonMobil OSRP 2014
Hondo	Pipeline Hondo to Harmony = 560	3,811	< 2,000	ExxonMobil OSRP 2014

Worst-Case Discharge Scenario, Largest Volume in POCSR

Platform Heritage, SYU, located approximately 8 miles offshore Gaviota, California, has the largest WCD estimate for a loss of well control (blowout) with an estimated maximum daily flow rate of 33,986 bbl. It is estimated to take 17 days to stop the flow using surface capping equipment, for a total discharge volume of 577,762 bbl. If surface intervention is not achieved, the estimated maximum time it would take to mobilize a rig and drill a relief well would be 170 days, with a total discharge volume of 5,777,620 bbl. This would be a catastrophic event that is not reasonably certain to occur.

A-1.3 SUMMARY OF OIL SPILL RISK ASSESSMENT

This assessment assumed a maximum spill of 1,000 bbl at a rate of 200 bbl per day for 5 days. The probability of an oil spill occurring in the 50 to 1,000 bbl range is 63%. Projected oil production in the Southern California Planning Area is within what was analyzed in the environmental documents from the 1970s and 1980s. A large catastrophic event is not reasonably certain to occur.

A-2 Fate of Oil

In the event of an accidental oil spill, a slick forms and part of the slick begins evaporating while the action of breaking waves forms oil droplets that are dispersed into the water column. Oil in the Southern California Planning Area ranges from very heavy (API 12) to very light (API 39). Light oil has a rapid evaporation rate and is soluble in water. Light crude oils can lose up to 75% of their initial volume within a few days of a spill (NRC 2003). In contrast, heavy oil (API < 22) has a negligible evaporation rate and solubility in water.

Depending on the weight of the oil spilled and the environmental conditions (i.e., sea state) at the time of a spill, 6 to 60% of oil during an oil spill would sink and be in the water column or on the seafloor in the vicinity of the spill (ADL 1984). This is supported by a study of natural oil seeps at Coal Oil Point in the SBC that range in depth from 6 to 67 meters offshore of Goleta, California (Leifer et al. 2006), and are assumed to release 100 bbl/day (Farwell et al. 2009). The distribution of heavy oil in a surface slick in the SBC is primarily influenced by surface currents and falls out of the slick over a period of 0.4 to 5 days (Leifer et al. 2006).

A-3 Oil Spill Response

BSEE regulations at 30 CFR Part 254 require that each OCS facility has a comprehensive Oil Spill Response Plan (OSRP). These plans are not subject to Federal approval and thus not included as part of this consultation (*Alaska Wilderness League v. Jewell*, 788 F.3d 1212, 1224-25; 9th Cir. 2015). Response plans consist of an emergency response action plan and supporting information that includes an equipment inventory, contractual agreements with subcontractors and oil spill response cooperatives, WCD scenario, dispersant use plan, *in-situ* burning plan and details on training and drills.

The U.S. Coast Guard is the lead response agency for oil spills in the coastal zone and coordinate the response using a Unified Command (UC), consisting of the affected state and the Responsible Party (i.e., the company responsible for spilling the oil) in implementing the Incident Command System (ICS) if an oil spill occurs. Oil spill drills, either agency-lead or self-lead by a company, also use the UC/ICS. California's Office of Spill Prevention and Response (OSPR) assumes the role of the state on-scene coordinator and plays a significant role in managing wildlife operations in the Southern California Planning Area as the state's natural resource agency.

BSEE requires companies that operate in the OCS to have the means to respond to a WCD from their facilities. Companies meet this requirement by becoming members of Oil Spill Response Organizations (OSRO).

The Marine Spill Response Corporation (MSRC) is the U.S. Coast Guard-classified OSRO based in Long Beach (www.msrc.org). MSRC is a nationwide OSRO with multiple responder-class oil spill response vessels and oil spill response barges. They are also equipped to respond to an oil spill 24 hours a day.

MSRC is equipped and prepared to respond to oil spill threats to sensitive shoreline areas through the detailed and up-to-date information on sensitive areas and response strategies from the Los Angeles/Long Beach Area Contingency Plan (https://www.wildlife.ca.gov/OSPR/Preparedness/LA-LB-Spill-Contingency-Plan) and the California OSPR (https://www.wildlife.ca.gov/OSPR).

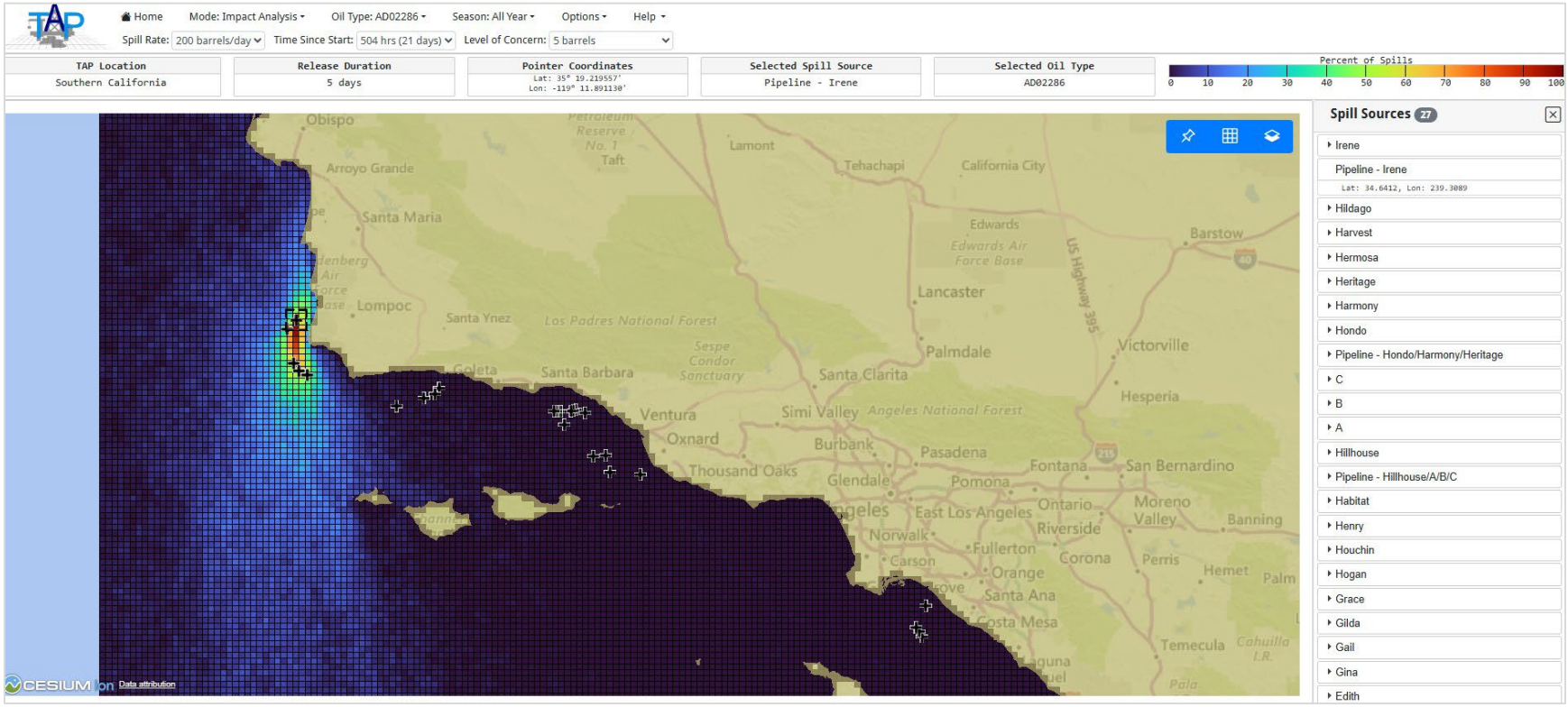
A-4 Oil Spill Trajectory Analysis

Oil spill trajectory modeling was conducted to determine the movement and fate of spilled oil if a spill occurred in the Southern California Planning Area from existing offshore oil and gas operations. BOEM collaborated with the National Oceanic & Atmospheric Administration (NOAA) Office of Response & Restoration to create a Trajectory Analysis Product (TAP) for the Southern California Planning Area. A regional TAP involves the development of a database created by analyzing statistics from a large number of simulated spill trajectories. These trajectories were run using the GNOME (NOAA 2015, Zelenke et al. 2012) with forcing from a high-resolution (1 km) ROMS; (Shchepetkin and McWilliams 2005) hindcast. This extensive model output allows modeling of realistic oil spill scenarios over a range of different regional oceanographic regimes (such as upwelling, relaxation, and eddy-driven flow). Modeled spills were started at the locations of OCS oil and gas operations in Southern California. A maximum

hypothetical spill of 1,000 bbl was simulated from each location using a spill rate of 200 bbl per day for 5 days.

The visualizations of the modeled spills can be accessed online through the web-based TAP viewer (https://tap.orr.noaa.gov/#locations/south-california/impact_analysis). Users can select features of the model's output for graphic display, including spill source (platform or pipeline) time since start, and level of concern. Figure A-1 shows one example of trajectory analysis results generated by the model. Figure A-2 shows the combined trajectory model results from multiple spill sources. It represents the full extent of areas that could be affected by the estimated maximum spill size (1,000 bbl).

Figure A-1: Example graphic visualization of model results from Trajectory Analysis Planner for the Southern California Planning Area



Source: https://tap.orr.noaa.gov/#locations/south-california/impact_analysis

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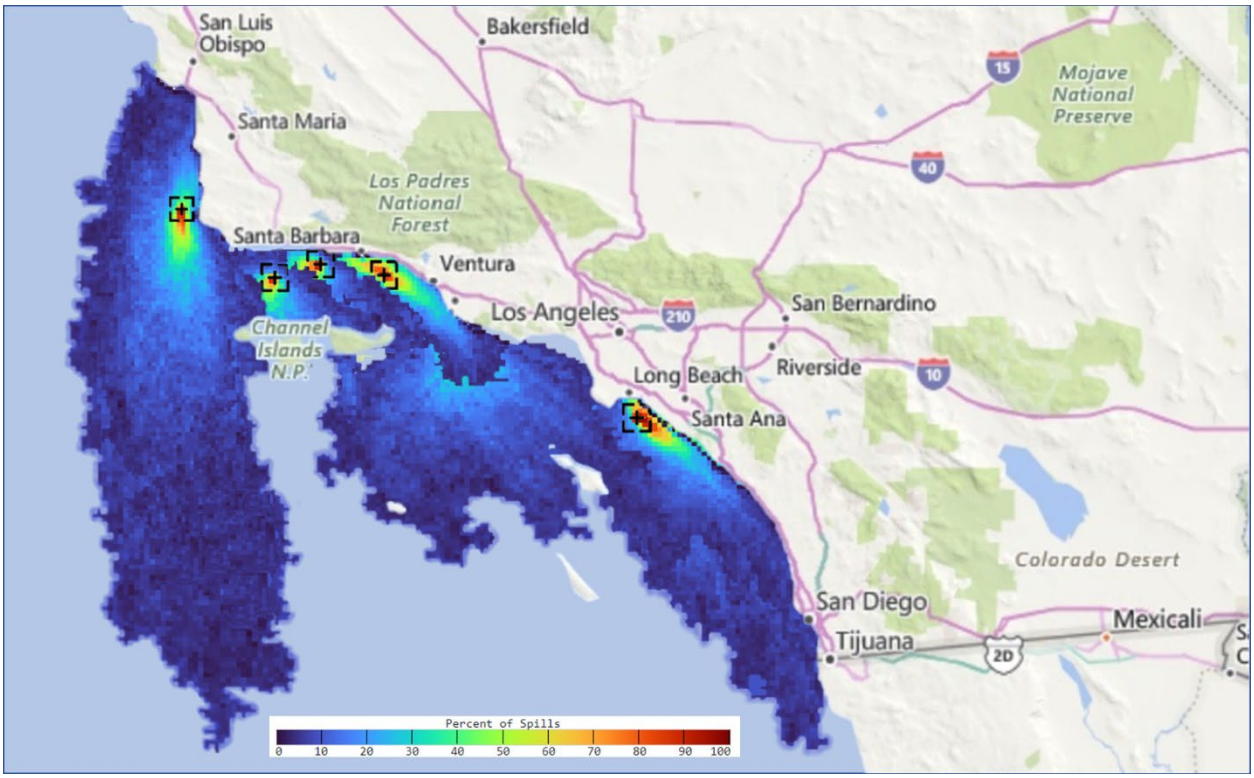
Figure A-2: Combined Spill Trajectory Model Results



Note: Areas with colors represented on the color scale had greater than approximately 10% of modeled spills resulting in accumulation of 5 bbl or more by 21 days since the maximum spill occurrence (200 bbl per day for 5 days).

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Appendix B. Marine Vessel *Loren C* Specification Sheet

M/V Loren C

Supply Boat: 225' PSV | DP-1

Official Number: 1193859

IMO: 9383792

SPECIFICATIONS

VESSEL NAME: Loren C
LENGTH OVERALL: 225 ft. 68.6 m
BEAM: 48 ft. 14.6 m
DEPTH: 16 ft. 4.9 m
DRAFT: (LIGHT) 6 ft. 1.8 m
DRAFT: (LOADED)
13 ft. 4 3/16 in. 4.1 m
DEADWEIGHT: 2,488 tons 2,528 mt

CONSTRUCTION

HULL: Steel
SUPERSTRUCTURE: Steel

PERFORMANCE

SPEED: (MAXIMUM) 13 knots
SPEED: (CRUISING) 12 knots
FUEL CONSUMPTION:
(MAXIMUM)
84 gal/hr. 382 l/hr.
FUEL CONSUMPTION:
(CRUISING) 80 gal./hr. 364 l/hr.

DECK CARGO:

DECK DIMENSIONS 148 ft. x 44 ft.
45.1 m x 13.4 m
DECK AREA: 6,512 sq. ft. 605.0 m2

CAPACITIES

DRILL/POTABLE WATER:
134,400 USG 508.8 m3
FUEL: 118,000 USG 446.7 m3
BULK MUD:
(6) 1,000 cu. ft. (6) 28.3 m3

TRANSFER / DISCHARGE RATES

BALLAST/DRILL WATER:
400 GPM at 280 ft. 1,818 LPM at 85.3 m
FUEL: 400 GPM at 280 ft. 1,818 LPM at 85.3 m
LIQUID MUD: 700 GPM at 240 ft. 3,182 LPM at 73.1 m
POTABLE WATER:
400 GPM at 280 ft. 1,818 LPM at 85.3 m
DRY BULK: 80 PSI System - 20.82 m3/hr.

ACCOMMODATIONS

CABINS/BERTHS: 5/16
MESS: 10
LOUNGE: 1
HEADS: 4

DYNAMIC POSITIONING

SYSTEM: Beier INCS-2000
CLASS: DP-1

MACHINERY

MAIN ENGINES: (2) Caterpillar 3516 at 2,100 BHP
Z-DRIVES: (2) Rolls Royce 360° Azimuth Thrusters
GENERATORS: (2) Cummins K-19 at 563kW
BOW THRUSTERS: (1) SMI
BOW THRUSTER ENGINE:
(1) Cummins QSK 19M at 660 BHP
LIQUID MUD PUMPS:
(2) 200 HP Mission Magnum 5x4x14
CIRCULATING PUMPS:
(3) 40 HP Mission Magnum 4x3x12
BULK COMPRESSOR: Comp Air Leroi
EMERGENCY GENERATOR:
(1) John Deere at 99 kW
FIRE MONITOR: 1,900 GPM

ELECTRONICS

RADAR: (2) Furuno FR-8122
GPS: (2) MX Marine MX 240
AUTOPILOT: Beier INCS-2000
VHF: (2) Furuno FM-8800s, ICOM 640, &
ICOM IC M504
AIS: Furuno FA-150
DEPTH SOUNDER: Furuno FCV620
GMDSS: Furuno RC-1815, Cyscan, & RadaScan
EMAIL & COMMS.:
Ocens Mail & KVH VSAT Broadband
ELECTRONIC CHARTS: Maptech Navigator Pro

SPECIAL EQUIPMENT / FEATURES

Beier Engine Alarm
Rescue Boat
Electric Welding Machine
McMurdo Lifeboat VHF
Sentinel Engine Monitoring System

DOCUMENTATION - CERTIFICATION

OPERATOR: Curtin Maritime, Corp.
DELIVERED: 2007
BUILDER: Thoma-Sea Ship Builders, LLC
FLAG: USA
CLASSIFICATION: USCG Certified,
Dual Subchapter: L/I
ABS: Load Line, DP-1
OFFICIAL NO.: 1193859
TONNAGE: 996 Gross, 677 Net

Appendix C. June 2025 Project Details from Freeport-McMoRan Oil and Gas, LLC. and Updated September 2025 Application Details

In this effort, five of the 27 wells on Platform Irene will be permanently abandoned. In preparation for this project, the production tubing and casing in each of the five wells will be removed, and all producing intervals and any freshwater zones, will be permanently isolated (including placing a required cement plug to fill the wellbore to at least 150 below the mud-line) as required by applicable Bureau of Safety and Environmental Enforcement (BSEE) well abandonment regulations at 30 CFR 250.1715. This will be completed under BSEE supervision and monitoring through the application-for-permit-to-modify (APM) process. The preparation work is commonly referred to as "temporary abandonment" and is not within the scope of this project.

After the temporary abandonment work is completed for each of the five wells, and additional BSEE approvals are obtained, this project will be executed. Assuming the timing of the BSEE approvals for this project can be obtained within a reasonable time, the same hydraulic workover rig utilized for the temporary abandonment work would be used for the first part (initial cutting) of this project.

The methods and procedures to be used for this five well, Platform Irene conductor casing removal project are the same as the completed (2021) well conductor casing removal project at the adjacent three Point Arguello platforms, which are located approximately 5 miles south-east of this project location at Platform Irene. The conductor casing removal project at the three Point Arguello platforms included 62 wells and 17 empty conductors.

The basic elements of this project include:

- Mechanical cutting each well at a depth at least 15 feet below the mudline using internal cutting blades
- Hydraulically lifting the well casings out of the water column
- Cutting the well casings into manageable (approximate 40') segments onboard the platform
- Loading the segments of well casings onto a transport vessel
- Transporting the well casing segments to an approved recycling/disposal facility
- Demobilizing the permanent abandonment equipment used for this project.

Freeport-McMoRan Oil & Gas (FMOG), prepared the following responses to the Bureau of Ocean Energy Management's (BOEM) questions presented in BOEM's letter dated April 16, 2025 (BOEM questions shown in bold text):

BOEM Question #1: Add a description of current status of Platform Irene, recent changes in production status, and explain shut-in. If Irene is not producing oil to shore currently then are all 27 wells temporarily plugged currently? When did it stop producing?

FMOG Response: Production at Platform Irene was temporarily ceased in December 2022. Currently all platform wells, production systems and related pipelines and facilities are safely secured, shut in, and maintained in a safe state ready to be returned to service (commonly referred to as "warm-standby") as FMOG resolves third-party commercial issues regarding the oil sales pipeline. None of the wells have been temporary or permanently abandoned as of this date. Only five wells are planned to be permanently abandoned.

During this time period, the facilities are manned and all regulatory required programs relating to facility integrity, environmental and safety testing, inspection and reporting are continuing unless specifically addressed with a temporary waiver or variance from the relevant jurisdictional agencies (e.g. BSEE, Department of Transportation - PHMSA, Santa Barbara County Air Pollution Control District, etc.). Additionally, production operations (i.e., production enhancing well interventions) have been planned and executed resulting in the preservation of active lease status. FMOG remains hopeful the oil sales and transportation commercial issues will be resolved, and oil and gas production will resume.

BOEM Question #2: Acknowledge new reporting and include relevant actions and reports required from NMFS Biological Opinion on ongoing operations. The signed letter outlining those responsibilities is attached.

FMOG Response: We acknowledge the three new reporting requirements as follows:

Immediate reporting of an oil and gas vessel collision with a marine mammal or sea turtle to NMFS West Coast Region Marine Mammal and Sea Turtle Stranding Coordinator: Justin Viezbicke at (562) 980-3230 or justin.viezbicke@noaa.gov.

Immediate reporting of an oil and gas vessel collision with a marine mammal or sea turtle to BSEE Pacific Region Environmental Officer: James Salmons at (805) 384-6307 or james.salmons@bsee.gov.

Annual reporting on vessel use, beginning immediately and for each calendar year, submitted by March 1 of the following year, to the BSEE Pacific Region Environmental Officer, including:

- Routine /daily vessel activity: hours of oil and gas vessel operation, by vessel type, including length of vessel.
- Non-routine/additional vessel activity: hours of oil and gas vessel operation, by vessel type, including length of vessel.

Actions:

- All project-related crews are provided the approved OCS operations training program which includes information regarding marine mammal species present in the area. This information is intended to improve the awareness, detection, and avoidance of marine mammals during vessel operations (NMFS BO 2023-02183; p.141).
- All key personnel that operate oil and gas vessels have been informed of the above required new immediate reports for any collisions.
- All key personnel that operate oil and gas vessels have been informed of https://whalesafe.com/ as a tool that can be used by anyone to help track when available data suggest that whale.
- Presence and the risk of vessel collisions is relatively high/low within the Santa Barbara Channel. (NMFS BO 2023-02183; p.182).
- The annual report noted above has been integrated into our reporting calendar and has been assigned to qualified staff.
- The first annual report noted above was sent to BOEM/BSEE.

BOEM Question #3: FMOG Response from earlier in 2025: For this project we do not plan to use any vessels that are not already approved in our current permit to operate issued by the Santa Barbara County Air Pollution Control District (including the Boat Monitoring and Reporting Plan). There will be no separate motors other than those associated with vessel operations (engines integrated into the vessel for propulsion, dynamic positioning, power generation, etc.). Mobilization and demobilization of all required equipment will be accomplished during normally scheduled boat runs. There will [be] one or two additional boat runs used for transportation of conductor casing segments to the designated dock.

New Question: Please include a copy, or link if online, to the current air pollution permit and Boat Monitoring and Reporting Plan. The EA needs to have a current description of all approved vessels and air support including the normally scheduled boat runs, the total number of vessel and helicopter numbers and types. Include origin of all transport. The current draft project description notes that the Masco Endeavor may be used, please confirm and include the specifications of this vessel, port of origin, and any emissions related equipment. Are there work- related vessels that could introduce additional light on a regular basis in the project area? Please clarify whether the vessels will increase night lighting on a consistent basis.

FMOG Response: FMOG does not plan to use any vessels that are not already approved in our current permit to operate issued in 2023 by the Santa Barbara County Air Pollution Control District (SBCAPCD; including the approved Boat Monitoring and Reporting Plan for the Point Pedernales Project, Platform Irene). This project will likely utilize a singular work vessel, the *M/V Loren C* a supply vessel permitted to operate at Platform Irene per the New/Replacement Boats conditions of the Platform's permit (SBCAPCD, 2023). The work-related vessel would not introduce additional light on a regular basis in the project area because Platform Irene has existing safety lighting, and the vessel is already approved to operate within Platform Irene; any light generated would be a part of the existing condition and permit. The Loren C has an overall length of 225 feet and a deadweight of 2,488 tons, it has a hull and superstructure of steel. Please see Attachment 2 for the *M/V Loren C*

specifications, noting the vendor information is incorrect at over 4000 brake-horsepower (bhp) and the Coast Guard Certificate Inspection shows the correct 4000 bhp rating. The *M/V Loren C's* point of origin would be Port Hueneme. The current Permit to Operate and Boat Monitoring and Reporting Plan (SBCAPCD, 2023) were sent to BOEM/BSEE.

The *M/V Loren C* was previously described in the 2022 Point Pedernales Project Boat Monitoring and Reporting Plan. The *M/V Loren C* engines are all EPA Tier 3 compliant. The *M/V Loren C* has the following vessel characteristics and emission-related equipment:

Characteristic	Main Engines (bhp)	Generators (bhp)	Bow Thruster (bhp)	Desk Crane (bhp)
M/V Loren C	2@2,000 each	446	330	0

Note: bhb = brake-horsepower

The *M/V Loren C* has the following air emissions ratings:

Supply Boat Emission Factor	NOx (lb/Kgal)	ROC (lb/Kgal)	CO (lb/Kgal)	SOx (lb/Kgal)	PM (lb/Kgal)
Main – Tier 3	163.4	8.0	148.3	0.20	3.2
Generator/Auxiliary – Tier 3	112.2	8.0	104.2	0.2	6.0

Note: lb/Kgal = point per thousand gallons

FMOG would utilize at least one helicopter for project operations, operated by RLC, a privately held helicopter operator. RLC operates two Sikorsky S-76; one is actively in use and the other is for training and currently under service/repairs. Each Sikorsky S-76 is configured for 12 passengers, has an average payload available of 1,600 to 1,800 pounds (lbs.), and equipped with 2 life rafts with 10-person capacities. Each Sikorsky S-76 is 43 feet in length and has an aircraft main rotor diameter of 44 feet. FMOG estimates one helicopter run (with up to two helicopters) per day during project operations.

BOEM Question #4: Please clarify whether work vessels will be working at night with bright lights.

FMOG Response: The singular work vessel, the *M/V Loren C* (a supply vessel permitted to operate at Platform Irene), will utilize the existing lights on the deck for required safety at times during night-time operations. The vessel will arrive on station at Platform Irene during night hours, prior to sunrise. Any night-time lighting on the vessel during its transit from its port of origin to Platform Irene will be utilized for safety.

BOEM Question #5: Regarding conductor segments being recycled on shore, please include the number of truck trips and location of the onshore facility.

FMOG Response: The project at Platform Irene will result in the following conductor and wellhead scrap:

- Forty 40-foot length cut conductor pieces; each 40-foot piece to weigh approximately 10,582 lbs
- Five 12-foot length cut conductor pieces, each 12-foot piece to weigh approximately 3,175 lbs
- Eight wellhead systems; each system to weigh approximately 10,000 lbs

Each truck can carry up to 40,000 lbs of conductor casing and wellhead scrap. Based on the weight of the above-listed material, the Project will generate approximately 15 truck trips. The trucking vendor will also take steps to maximize weight of scrap in each truck trip. FMOG will ship all conductor casing and wellhead scrap to Standard Industries, a metal recycling service in Ventura, CA, approximately 87 miles southeast of Platform Irene.

BOEM Question #6: Include the NPDES permit copy or online link.

FMOG Response: FMOG expects residual seawater workover fluid will be inside the conductor casing after all intermediate casing strings have been removed. This fluid will be discharged as authorized by the current General NPDES permit CAG280000, discharge serial number 003 (NPDES 2013). FMOG has recently submitted a Notice of Intent to renew this NPDES permit, which is currently expired. The expired permit would remain active while the EPA promulgates the NPDES permit renewal.

BOEM Question #7: Include Safety Data Sheet (SDS) for grout and other materials used in conductor removal.

FMOG Response: Dyckerhoff Class G cement would be representative of what is expected to have been used in conductor grout material. The most recent SDS for Dyckerhoff Class G grout is Version 4.3 (Dyckerhoff 2024). The grout is used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders, grouts, cement, plasters as well as precast concrete.

BOEM Question #8: Include steps for minimizing trash and debris.

FMOG Response: FMOG has always maintained Platform Irene in a workmanlike manner, minimizing the chances of trash being blown into the Pacific Ocean. FMOG will also require all project personnel to view a training video pertaining to minimizing trash and pollution entering the Pacific Ocean.

BOEM Question #9: Include copy of the oil spill prevention plan.

FMOG Response: FMOG will be utilizing the Core OSRP written for Operations in the Point Arguello and Point Pedernales Fields, Onshore Facilities and Associated Pipelines for the conductor removal at Platform Irene. A copy of the Core OSRP will be provided to BOEM along with this letter.

BOEM Question #10: Map and description of existing seafloor bathymetry and features within the plume or anchoring distance of the platform.

FMOG Response: Platform Irene is located approximately 4.7 miles from shore, where the southern Santa Maria Basin meets the western edge of the Southern California Bight (MMS 2003). The seafloor around the platform has a downward slope (0.71 percent) western toward the Pacific Ocean. Platform Irene's height above the seafloor is 307 feet with a water depth of approximately 242 feet plus well length above sea level at 65 feet. A pre-construction biological survey of Platform Irene, completed with remotely operated underwater vehicle still photography, indicated a relatively featureless seafloor consisting of medium-to-fine grain sand and sedimentary materials (Union Oil Company, McClelland Engineers 1984). Platform Irene is also not located in the immediate vicinity of either buried or seafloor channels (Arthur D. Little, Inc. 1985). Thus, the seafloor is a firm sandy bottom.

The seafloor around Platform Irene is mostly soft-bottom benthic habitats. Hardbottom habitats in deep waters such as those of Platform Irene are rare. The seafloor around Platform Irene is made of an accumulation of sediment, shell debris, discharges, and man-made materials, such as grout from the platform construction. There is one recorded shell debris mound beneath Platform Irene which rises approximately nine feet and is centered under the western quadrant of the platform. A bathymetric map of the area around Platform Irene was sent to BOEM/BSEE as Attachment 6.

No anchoring is planned for the Project; therefore, no anchoring distance is identified.

BOEM Question #11: Description of the area and extent of turbidity and chemical discharge plumes. While detailed modeling isn't required, provide a well-reasoned discussion—ideally using comparable projects as references. Include an estimate or range for the total volume of all materials (e.g., abrasives, grout, and cutting fluids) that may be discharged into the water or deposited on or beneath the seabed.

FMOG Response:

<u>Turbidity</u>

Each conductor casing will be cut below the mudline and create some turbidity in the water column as it is cut and pulled toward the surface, but impacts to water quality are likely to be short-term and localized.

As the well conductor casings exit the seafloor and are hoisted to Platform Irene's surface, there could be some marine growth/sediments/soil attached to the exterior of the well conductor casing. The marine growth and sediments could slough off into the water column and fall back to the seafloor resulting in some water column turbidity, especially once sediments are subjected to ocean currents and increase in gravity by no longer being supported by surrounding seafloor sediments.

The previous response to comments prepared by FMOG for the Point Arguello Platforms Well Conductor Casing Removal Project estimated suspension time in the water column would depend greatly on the size of the particles disturbed during casing removal. The assumed worst-case scenario for large sediment size (0.53 millimeters released at 5 meters) would result in approximately 70 seconds (1.2 minutes) of suspension time, and deposition within 18 meters of the

5-meter release point. Finer sediments would be suspended for slightly longer, remaining in the water column for approximately 261 seconds (4.5 minutes), and being deposited within 67 meters of the 5-meter release point. FMOG also determined that the deeper the mudline below the surface, the less fine sediment is present. As such, the data indicates that the well conductor removal activities will result in a small amount of temporary sediment suspension, but the sediment will rapidly settle out of the water column and within the general area of its origin.

Plume

For weak bottom currents during hoisting (i.e., less than 10 centimeters per second), any suspended sediments (i.e., naturally occurring sediment typical of the regional area, residual drilling muds, shells, and man-made materials) would be of short duration and localized, i.e. they may be transported by the flow but settle nearby; exact distance depends on factors such as the seafloor grain size and vertical suspension:

For a sediment particle dropping from 1 meter in height, the horizontal plume extent is estimated to be within 4 to 13 meters.

For a sediment particle dropping from 3 meters in height, the horizontal plume extent is estimated to be within 11 to 40 meters.

For a sediment particle dropping from 5 meters in height, the horizontal plume extent is estimated to be within 18 to 67 meters as was stated in a response letter to BOEM and BSEE in 2019 entitled Attachment D – Discussion of Seafloor Disturbance. Point Arguello Platforms, Well Conductor Casing Removal Project.

In addition, the comprehensive California Monitoring Program Phases II and III trajectory computations revealed a general transport of drilling fluid plumes toward the northwest (Dames and Moore 1982; Coats 1994). Prevailing currents alone will likely transport the majority of drilling fluids to the northwest. Heavier rock cuttings will likely be transported less than 600 feet (de Margerie 1989).

Materials

Materials that could be temporarily introduced into the water column during removal will likely include naturally occurring sediment typical of the regional area, residual water-based drilling muds, and shells from accumulated marine growth removed from subsurface platform structures. Shells and or shell fragments, if disturbed during well conductor casing removal would be expected to fall to the seafloor quicker than sediments with smaller grain sizes.

These discharges will occur on approximately 15-days intermittently during the 90-day project duration to remove the five conductors from Platform Irene.

BOEM Question #12: Frequency and extent of past marine growth removal efforts within the last five years, the cleaning depths and an estimate of volume or weight of the removed marine growth

deposited onto the seabed during a cleaning event. Compare the amount (weight or volume) of marine growth proposed to be removed from conductors for this project to the average estimate (weight or volume) of the amount of marine growth deposited to the seabed during an average cleaning event.

FMOG Response: FMOG conducts marine growth removal approximately annually and it has been approximately one year since the last marine growth removal event. Assuming each abandoned well has one conductor, marine growth rate is up to 3 inches per year, 3 inches thick at the surface, and 0 inches thick at 100 feet (typical), and marine growth has 75 percent coverage (typical), the conductor casing removal for the five conductor casings will deposit 319.1 cubic feet of marine growth on the seabed. This amount is much less than the average maintenance cleaning event/project operations which generate approximately 1,723 cubic feet of marine growth. Conductor exteriors would be cleaned of any minor amount of residual marine growth using high pressure water as they are brought onboard the work boat.

BOEM Question #13: Are you considering using divers for the upper submerged portions?

FMOG Response: Divers are not currently planned for this project.

BOEM Question #14: The percentage (an estimate) of the amount of hard substrate that will be eliminated from the underwater portions of the platform once the conductors are removed.

FMOG Response: FMOG estimates 4 to 5 percent of the amount of hard substrate will be eliminated from the underwater portions of the platform once the conductors are removed.

BOEM Question #15: During permanent abandonment of the wells (P&A) and removing the conductor by severance, will alternate methods be considered as back up if mechanical methods do not work? If there are any other methods potentially, please include now.

FMOG Response: FMOG determined mechanical cutting is the oldest and most effective method for cutting wells. There will be no other alternate cutting method considered for this project due to the reliability of the mechanical cutting process and the required equipment will already be on location. If the cut conductor becomes stuck in the platforms jacket due to an obstruction in the water column or mud mat during the well conductor recovery process, FMOG will recover the stuck conductor during the platform abandonment process.

Documents Submitted Separately to BOEM and BSEE that are not accessible online and therefore available upon request:

- Bathymetric map of the area around Platform Irene
- Core Oil Spill Contingency Plan
- National Marine Fishery Service 2024 Biological Opinion regarding Pacific OCS oil and gas operations
- Marine Mammal Strike Tracking Annual Report
- Permit to Operate and Boat Monitoring and Reporting Plan (cited as Santa Barbara County Air Pollution Control District, 2023).

Freeport-McMoRan Oil & Gas
201 S. Broadway
Orcutt, CA 93455

September 4, 2025

Ms. Lisa Glibane
Bureau of Ocean Energy Management
760 Paseo Camarillo, Suite 102
Camarillo, CA 93010-6064

Subject: Platform Irene – Addition of Three Wells to the Five-Well Abandonment Project

Dear Ms. Gilbane,

We appreciate the joint efforts of the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement in your recent review of the Freeport-McMoRan Oil & Gas five-well abandonment project at platform Irene (hereinafter referred to as the "Project"). As discussed, we are seeking approval to add three wells – wells A-03, A-13, and A-14 - to the scope of the Project.

The incremental work to add these wells is minimal, and is described as follows:

- No additional vessel trips. Please note that in recent conversations we made an erroneous assumption of the likelihood of one additional boat trip.
- Eight additional truck trips from Port Hueneme to the nearby recycling facility.

Please contact me at (805) 637-7952 or drose@fmi.com if there are any comments, or questions.

Thank you for your attention to this matter.

Sincerely,

David Rose

David Rose
Director, Environmental Health & Safety

Copy: B. Kurtz
A. Novy
N. Rodriguez
J. Salmons

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Appendix D. Best Management Practices and Reporting Requirements for Protected Species Observer observation(s)

To ensure compliance and evaluate effectiveness of mitigation measures, regular reporting of survey activities and information on all protected and ESA-listed species will be required as follows.

BMPs

1. Data from all PSO observations must be recorded based on standard PSO collection and reporting requirements. The following information must be reported electronically, if feasible:

Visual Effort

a. Vessel name;
b. Dates of departures and returns to port with port name;
c. Lease number;
d. PSO names and affiliations;
e. PSO ID (if applicable);
f. PSO location on vessel;
g. Height of observation deck above water surface (in meters);
h. Visual monitoring equipment used;
i. Dates and times (Greenwich Mean Time) of survey on/off effort and times corresponding with PSO on/off effort;
j. Vessel location (latitude/longitude, decimal degrees) when survey effort begins and ends; vessel location at beginning and end of visual PSO duty shifts; recorded at 30 second intervals if obtainable from data collection software, otherwise at practical regular interval;
k. Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any change;
l. Water depth (if obtainable from data collection software) (in meters);
m. Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions change significantly), including wind speed and direction, Beaufort scale, Beaufort wind force, swell height (in meters), swell angle, precipitation, cloud cover, sun glare, and overall visibility to the horizon;
n. Factors that may be contributing to impaired observations during each PSO shift change or as needed as environmental conditions change (e.g., vessel traffic, equipment malfunctions);
o. Survey activity information, such as type of survey equipment in operation, acoustic source power output while in operation, and any other notes of significance (i.e., pre-clearance survey, ramp-up, shutdown, end of operations, etc.);

Visual Sighting (includes all Visual Effort fields, plus the following):

a. Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);
b. Vessel/survey activity at time of sighting;
c. PSO/PSO ID who sighted the animal;
d. Time of sighting;
e. Initial detection method;
f. Sighting's cue;
g. Vessel location at time of sighting (decimal degrees);
h. Direction of vessel's travel (compass direction);
i. Direction of animal's travel relative to the vessel;
j. Identification of the animal (e.g., genus/species, lowest possible taxonomic level, or unidentified); also note the composition of the group if there is a mix of species;
k. Species reliability;
l. Radial distance;
m. Distance method;
n. Group size; Estimated number of animals (high/low/best);
o. Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);
p. Description (as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars or markings, shape and size of dorsal fin, shape of head, and blow characteristics);
q. Detailed behavior observations (e.g., number of blows, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior);
r. Mitigation Action; Description of any actions implemented in response to the sighting (e.g., delays, shutdown, ramp-up, speed or course alteration, etc.) and time and location of the action.
s. Behavioral observation to mitigation;
t. Equipment operating during sighting;
u. Source depth (in meters);
v. Source frequency;
w. Animal's closest point of approach and/or closest distance from the center point of the acoustic source;
x. Time entered shutdown zone;
y. Time exited shutdown zone;
z. Time in shutdown zone;
aa. Photos/Video.

Reporting Requirements

For all vessel activity:

1. Collect, summarize, and report information on vessel activity, including hours of vessel operation per vessel type.

For vessel activity with incidents (e.g., vessel strike, dead sightings, etc.)

2. In the event of a vessel strike of a protected species by any survey vessel, the project proponent must immediately report the incident to BOEM, NMFS, and the NOAA West Coast stranding hotline at 1-866-767-6114 and 562-506-4315. The report must include the following information:
    a. Name, telephone, and email or the person providing the report;
    b. The vessel name;
    c. The Lease Number;
    d. Time, date, and location (latitude/longitude) of the incident;
    e. Species identification (if known) or description of the animal(s) involved;
    f. Vessel's speed during and leading up to the incident;
    g. Vessel's course/heading and what operations were being conducted (if applicable);
    h. Status of all sound sources in use;
    i. Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike;
    j. Environmental conditions (wave height, wind speed, light, cloud cover, weather, water depth);
    k. Estimated size and length of animal that was struck;
    l. Description of the behavior of the species immediately preceding and following the strike;
    m. If available, description of the presence and behavior of any other protected species immediately preceding the strike;
    n. Disposition of the animal (e.g., dead, injured but alive, injured and moving, blood or tissue observed in the water, last sighted direction of travel, status unknown, disappeared); and
    o. To the extent practicable, photographs or video footage of the animal(s).
3. Sightings of any injured or dead protected species must be immediately reported, regardless of whether the injury or death is related to survey operations, to BOEM and the NOAA West Coast stranding hotline at 1-866-767-6114 and 562-506-4315. If the project proponent's activity is responsible for the injury or death, they must ensure that the vessel assist in any salvage effort as requested by NMFS. When reporting sightings of injured or dead protected species, the following information must be included:
    a. Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
    b. Species identification (if known) or description of the animal(s) involved;
    c. Condition of the animal(s) (including carcass condition if the animal is dead);
    d. Observed behaviors of the animal(s), if alive;
    e. If available, photographs or video footage of the animal(s); and
    f. General circumstances under which the animal was discovered.

4. Reporting and Contact Information:
    a. Dead and/or Injured Protected Species:
        i. NOAA West Coast stranding hotline at 1-866-767-6114 and 562-506-4315.
    b. Injurious Takes of Endangered and Threatened Species:
        i. NOAA NMFS Long Beach Office, Protected Resources Division, Justin Viezbicke at (562) 980-3230 or justin.viezbicke@noaa.gov.
        ii. BOEM Office of Environment, Pacific Region, Lisa Gilbane at 805-384-6387 or lisa.gilbane@boem.gov

U.S. Department of the Interior

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

Bureau of Ocean Energy Management

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way. The bureau promotes energy independence, environmental protection, and economic development through responsible management of these offshore resources based on the best available science.