



United States Department of the Interior

BUREAU OF OCEAN ENERGY MANAGEMENT

Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

In Reply Refer To: GM 235D

April 19, 2024

Ms. Aimee Deady
Arena Offshore, LP
2103 Research Forest Drive
Suite 200
The Woodlands, TX 77380

Dear Ms. Deady,

Reference is made to the following plan:

Control No. S-8136
Type Supplemental Development Operations Coordination Document
Received January 19, 2024
Lease(s) OCS-G 05040, Block 316, Eugene Island Area (EI)
OCS-G 37169, Block 315, Eugene Island Area (EI)
OCS-G 37170, Block 329, Eugene Island Area (EI)

You are hereby notified that the approval of the subject plan has been granted as of April 19, 2024, in accordance with 30 CFR 550.270(b)(1).

This approval includes the activities proposed for Wells A002, A004, A005, A008, A011, and A012 in EI Block 315 and Wells A001, A003, A006, A007, A009, and A010 in EI Block 329 and the revision of air emissions for Platform A (Complex ID 23162-1) in EI Block 316.

In accordance with 30 CFR 556.901(d), additional security may be required for your proposed activities. Prior to conducting activities in which you need to obtain approvals and/or permits described in 30 CFR 550.281(a) from the appropriate District Manager or BSEE Regional Supervisor, you must contact BOEM Risk Management Operations Section by email at boemrms@boem.gov to determine if additional security is required and comply with any demand for this security.

In response to the request accompanying your plan for a hydrogen sulfide (H₂S) classification, the area in which the proposed drilling operations are to be conducted is hereby classified, in accordance with 30 CFR 250.490(c), as "H₂S absent."

You must comply with the following species protective measures in all activities conducted pursuant to the plan:

- **COMPLIANCE WITH BIOLOGICAL OPINION TERMS AND CONDITIONS AND REASONABLE AND PRUDENT MEASURES:** This approval is conditioned

upon compliance with the Reasonable and Prudent Measures and implementing Terms and Conditions of the Biological Opinion issued by the National Marine Fisheries Service (NMFS) on March 13, 2020, and the amendment issued on April 26, 2021. This includes mitigation, particularly any appendices to Terms and Conditions applicable to the plan, as well as record-keeping and reporting sufficient to allow BOEM and BSEE to comply with reporting and monitoring requirements under the Biological Opinion; and any additional reporting required by BOEM or BSEE developed as a result of Biological Opinion implementation. The NMFS Biological Opinion may be found here:

<https://www.fisheries.noaa.gov/resource/document/biological-opinion-federally-regulated-oil-and-gas-program-activities-gulf-mexico>. The Amended Incidental Take Statement and Appendices and protocols may be found here:

<https://www.fisheries.noaa.gov/resource/document/appendices-biological-opinion-federally-regulated-oil-and-gas-program-gulf-mexico>. The amendment provided updates to Appendices A, C, and I, which may be found here:

<https://repository.library.noaa.gov/view/noaa/29355>.

- **SEISMIC SURVEY OPERATION, MONITORING, AND REPORTING GUIDELINES:** The applicant will follow the guidance provided under Appendix A: Seismic Survey Mitigation and Protected Species Observer Protocols, found in the Biological Opinion amendment issued by NMFS on April 26, 2021. The guidance can be accessed on the National Oceanic and Atmospheric Administration (NOAA) Fisheries internet site at <https://repository.library.noaa.gov/view/noaa/29355>.
- **MARINE TRASH AND DEBRIS AWARENESS AND ELIMINATION:** The applicant will follow the protocols provided under Appendix B. Gulf of Mexico Marine Trash and Debris Awareness and Elimination Survey Protocols found in the Biological Opinion issued by NMFS on March 13, 2020. The guidance can be accessed on the NOAA Fisheries internet site at <https://www.fisheries.noaa.gov/resource/document/appendices-biological-opinion-federally-regulated-oil-and-gas-program-gulf-mexico>.
- **VESSEL-STRIKE AVOIDANCE/REPORTING:** The applicant will follow the protocols provided under Appendix C. Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols found in the Biological Opinion amendment issued by NMFS on April 26, 2021. The guidance can be accessed on the NOAA Fisheries internet site at <https://repository.library.noaa.gov/view/noaa/29355>.
- **SEA TURTLE RESUSCITATION GUIDELINES:** The applicant will follow the guidance provided under Appendix J. Sea Turtle Handling and Resuscitation Guidelines found in the Biological Opinion issued by the NMFS on March 13, 2020. The guidance can be accessed on the NOAA Fisheries internet site at <https://www.fisheries.noaa.gov/resource/document/appendices-biological-opinion-federally-regulated-oil-and-gas-program-gulf-mexico>.
- **SLACK-LINE PRECAUTIONS Condition of Approval:** If operations require the use of flexible, small diameter (< 2 inch) lines to support operations (with or without divers), operators/contractors must reduce the slack in the lines, except for human safety considerations, to prevent accidental entanglement of protected species (i.e., species protected under the Endangered Species Act [ESA] and/or Marine Mammal Protection Act [MMPA]). This requirement includes tether lines attached to remotely operated

equipment. The requirements below must be followed for any activities entailing use of flexible, small diameter lines that will not remain continuously taut, except when complying with these requirements would put the safety of divers, crew, or the vessel at risk:

1. Operators must utilize tensioning tools and/or other appropriate procedures to reduce unnecessary looseness in the lines and/or potential looping;
 2. The lines must remain taut, as long as additional safety risks are not created by this action;
 3. A line tender must be present at all times during dive operations and must monitor the line(s) the entire time a diver is in the water; and
 4. Should the line tender and/or diver become aware of an entanglement of an individual protected species, the reporting requirements described in the *Reporting Requirements Condition of Approval* (see below) must be followed as soon as safety permits.
- **REPORTING REQUIREMENTS Condition of Approval:** Review of your proposed activities identified use of equipment that has the potential for entanglement and/or entrapment of protected species (i.e., species protected under the ESA and/or MMPA) that could be present during operations. In case of entrapment, procedures and measures for reporting are dependent upon the situation at hand. **These requirements replace those specific to dead and injured species reporting in respective sections of Appendix A (insofar as they relate to geophysical surveys) and Appendix C of the 2020 Biological Opinion on the Bureau of Ocean Energy Management's Oil and Gas Program Activities in the Gulf of Mexico.**

Incidents Requiring Immediate Reporting

Certain scenarios or incidents require immediate reporting to Federal agencies; these are described below:

Should any of the following occur at any time, **immediate reporting** of the incident is required after personnel and/or diver safety is ensured:

- Entanglement or entrapment of a protected species (i.e., an animal is entangled in a line or cannot or does not leave a moon pool of its own volition).
 - Injury of a protected species (e.g., the animal appears injured or lethargic).
 - Interaction, or contact with equipment by a protected species.
 - Any observation of a leatherback sea turtle within a moon pool (regardless of whether it appears injured, or an interaction with equipment or entanglement/entrapment is observed).
1. As soon as personnel and/or diver safety is ensured, report the incident to NMFS by contacting the appropriate expert for 24-hour response. If you do not receive an immediate response, you must keep trying until contact is made. Any failed attempts should be documented. Contact information for reporting is as follows:
 - **Marine mammals:** contact Southeast Region's Marine Mammal Stranding Hotline at (877) 433-8299.
 - **Sea turtles:** contact Brian Stacy, Veterinary Medical Officer at (352) 283-3370. If unable to reach Brian Stacy, contact Lyndsey Howell at (301)

310-3061. This includes the immediate reporting of any observation of a leatherback sea turtle within a moon pool.

- **Other protected species** (e.g., giant manta ray, oceanic whitetip shark, or Gulf sturgeon): contact the ESA Section 7 biologist at (301) 427-8413 (nmfs.psoreview@noaa.gov).
- **Report all incidents** to takereport.nmfsser@noaa.gov.

Minimum reporting information is described below:

- i. Time, date, water depth, and location (latitude/longitude) of the first discovery of the animal;
 - ii. Name, type, and call sign of the vessel in which the event occurred;
 - iii. Equipment being utilized at time of observation;
 - iv. Species identification (if known) or description of the animal involved;
 - v. Approximate size of animal;
 - vi. Condition of the animal during the event and any observed injury/behavior;
 - vii. Photographs or video footage of the animal, only if able; and
 - viii. General narrative and timeline describing the events that took place.
2. After the appropriate contact(s) have been made for guidance/assistance as described in 1 above, you may contact BSEE at (985) 722-7902 (24 hours/day) for questions or additional guidance on recovery assistance needs (if still required) and continued monitoring requirements. You may also contact this number if you do not receive a timely response from the appropriate contact(s) listed in 1 above.

Minimum post-incident reporting includes all information described above (under 1. i through viii) in addition to the following:

- i. NMFS liaison or stranding hotline that was contacted for assistance.
- ii. For moon pool observations or interactions:
- iii. Size and location of moon pool within vessel (e.g., hull door or no hull door);
- iv. Whether activities in the moon pool were halted or changed upon observation of the animal; and
- v. Whether the animal remains in the pool at the time of the report, or if not, the time/date the animal was last observed.

Reporting of Observations of Protected Species within an Enclosed Moon Pool

If a protected species is observed within an enclosed moon pool and does not demonstrate any signs of distress or injury or an inability to leave the moon pool of its own volition, measures described in this section must be followed (only in cases where they do not jeopardize human safety). Although this particular situation may not require immediate assistance and reporting as described under *Incidents Requiring Immediate Reporting* (see above), a protected species could potentially become disoriented with their surroundings and may not be able to leave the enclosed moon pool of their own volition. In order for operations requiring use of a moon pool to continue, the following reporting measures must be followed:

Within 24 hours of any observation, and daily after that for as long as an individual protected species remains within a moon pool (i.e., in cases where an ESA listed species has entered a moon pool but entrapment or injury has not been observed), the following information must be reported to BSEE (protectedspecies@bsee.gov) and BOEM (protectedspecies@boem.gov):

1. For an initial report, all information described above (under 1. i through viii) should be included.
 2. For subsequent daily reports:
 - a. Describe the animal's status to include external body condition (e.g., note any injuries or noticeable features), behaviors (e.g., floating at surface, chasing fish, diving, lethargic, etc.), and movement (e.g., has the animal left the moon pool and returned on multiple occasions?);
 - b. Description of current moon pool activities, if the animal is in the moon pool (e.g., drilling, preparation for demobilization, etc.);
 - c. Description of planned activities in the immediate future related to vessel movement or deployment of equipment;
 - d. Any additional photographs or video footage of the animal, if possible;
 - e. Guidance received and followed from NMFS liaison or stranding hotline that was contacted for assistance;
 - f. Whether activities in the moon pool were halted or changed upon observation of the animal; and
 - g. Whether the animal remains in the pool at the time of the report, or if not, the time/date the animal was last observed.
- **NOTIFICATION OF INTENTION TO TRANSIT RICE'S WHALE AREA
Condition of Approval (COA):**

Operators or their recognized representative must notify the Bureau of Ocean Energy Management (BOEM) or Bureau of Safety and Environmental Enforcement (BSEE) as appropriate of their intention to transit through the Rice's (formerly Bryde's in 2020 Biological Opinion and subsequent amendment) whale area (from 100 to 400 meter isobaths from 87.5° W to 27.5° N as described in the species' status review plus an additional 10 kilometers around that area) (see figure below) when this transit is associated with either an initial plan/application or as part of a change to an existing plan/application when either vessel route and/or support base changes. If proposing to transit through any portion of the Rice's whale area, the BOEM Permit/Plan holder shall submit their notification to transit and concurrence to fulfil the reporting requirements as stated below to BOEM/BSEE (protectedspecies@boem.gov and protectedspecies@bsee.gov). In the case of a post-approval change in vessel route or change in a support base, your intention to transit through the Rice's whale area should be made by contacting the BOEM or BSEE Point of Contact for the most recent applicable permit or application. Please be advised that changes to the use of a support base may trigger a revised plan (e.g., 30 CFR § 550.283), revised application, or modified permit (for geological and geophysical [G&G] activities). You will be required to follow the requirements defined below as originally outlined (as Bryde's whale) in the 2020 Biological Opinion and April 2021 Amendment to the Incidental Take Statement and Revised Appendices issued by the National Marine Fisheries Service (NMFS). Note these conditions of approval refer to the species as the Rice's whale (*Balaenoptera ricei*). Until 2021, the species was known as Bryde's whale (*Balaenoptera edeni*).

- A. Vessel operators and crews must maintain a vigilant watch for Rice's whales and slow down, stop their vessel, or alter course, as appropriate and regardless of vessel size, to avoid striking any Rice's whale. Visual observers monitoring the 500-meter vessel strike avoidance zone for Rice's whales can be either third-party observers or crew members (e.g., captain), but crew members responsible for these duties must be provided sufficient training to distinguish aquatic protected species to broad taxonomic groups, as well as those specific species detailed further below. If the species is indistinguishable, then operators should assume it is a Rice's whale and act accordingly (see below).

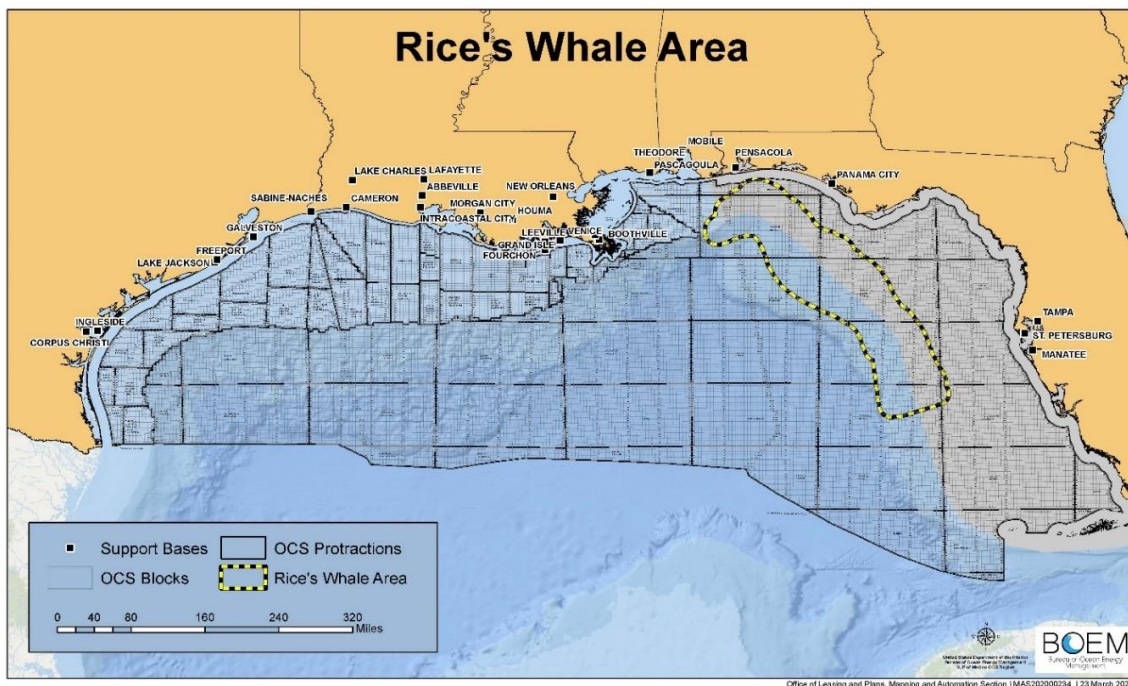


- B. If transiting within the Rice's whale area (figure below), operators must notify BOEM and/or BSEE of their plans prior to transit and include what port is used for mobilization and demobilization and explain why the transit is necessary. If an unavoidable emergency transit through this area occurs (i.e., safety of the vessel or crew is in doubt or the safety of life at sea is in question), it must be reported immediately after the emergency is over and must include all required information referenced herein. After completing transit through the Rice's whale area, you must prepare a report of transit describing the time the vessel entered and departed the Rice's whale area, any Rice's whale sightings or interactions (e.g., vessel avoidance) that occurred during transit, and any other marine mammal sightings or interactions.

Minimum reporting information is described below:

- i. The plan, permit or other BOEM or BSEE number used to identify the activity;
- ii. Automatic Identification System (AIS), if available;
- iii. Time and date vessel entered and exited the Rice's whale area;
- iv. Time, date, water depth, and location (latitude/longitude) of the first sighting of the animal;
- v. Name, type, and call sign of the vessel in which the sighting occurred;
- vi. Species identification (if known) or description of the animal involved;
- vii. Approximate size of animal (if known);
- viii. Condition of the animal during the event and any observed injury / behavior (if known);
- ix. Photographs or video footage of the animal, if available;
- x. General narrative and timeline describing the events that took place;
- xi. Time and date vessel departed Rice's whale area;
- xii. Trackline (e.g., time, location, and speed) of vessel while within Rice's whale area; and
- xiii. Environmental conditions, including Beaufort Sea State (BSS) and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon.

- C. Upon conclusion of transit, operators must submit reports to protectedspecies@boem.gov and protectedspecies@bsee.gov within 24 hours of transit through the Rice's whale area. The title of the email should include "Transit through Rice's Whale Area."
- D. All vessels, regardless of size, must observe a 10-knot, year-round speed restriction in the Rice's whale area during daylight hours. The only exception to the 10-knot vessel speed restriction would be when observing the speed restriction would cause the safety of the vessel or crew to be in doubt or the safety of life at sea to be in question.
- E. All vessels must maintain a minimum separation distance of 500 meters from Rice's whales. If a whale is observed but cannot be confirmed as a species other than a Rice's whale, the vessel operator must assume that it is a Rice's whale and take appropriate action.
- F. All vessels 65 feet or greater associated with oil and gas activity (e.g., source vessels, chase vessels, supply vessels) must have a functioning Automatic Identification System (AIS) onboard and operating at all times as required by the U.S. Coast Guard. If the U.S. Coast Guard does not require AIS for the vessel, it is strongly encouraged. At minimum, the reporting (as specified within this COA) must be followed and include trackline (e.g., time, location, and speed) data.
- G. No transit is permissible at nighttime or during low visibility conditions (e.g., BSS 4 or greater) except for emergencies (i.e., when the safety of the vessel or crew would otherwise be in doubt or the safety of life at sea is in question).
- H. If an operator while operating within the Rice's whale area:
- i. Exceeds the 10-knot vessel speed,
 - ii. Does not maintain a 500-meter minimum separation distance from a Rice's whale, and/or
 - iii. Conducts transit during nighttime or during low visibility conditions (e.g., BSS 4 or greater),
- the operator must notify BSEE and BOEM by emailing protectedspecies@bsee.gov and protectedspecies@boem.gov within 24 hours. The notification must be reported as a separate and distinct notification to the transit report with the title "Transit Deviation" in the subject line. The notification must provide a detailed explanation as to why the Transit Deviation occurred.
- I. This COA does not remove or alter the need to comply with any other applicable regulatory or legal requirements with respect to vessel operations, including as outlined in the amended Appendix C - Gulf of Mexico Vessel Strike Avoidance and Injured/Dead Aquatic Protected Species Reporting Protocols.



- **PILE DRIVING MONITORING AND REPORTING REQUIREMENTS Condition of Approval:**

This Condition of Approval (COA) will be implemented by the Bureau of Safety and Environmental Enforcement (BSEE), the Bureau of Ocean Energy Management (BOEM), and provide requirements to operators in complying with the Endangered Species Act (ESA; 16 U.S.C. §§ 1531-1544). These measures contained herein apply to all types of pile driving activities (i.e., stationary activity) in water less than 100 meters approved by BOEM/BSEE and associated with the federally regulated oil and gas program in the Gulf of Mexico. Supplemental mitigations may be required at deeper depths.

Background

Pile driving (e.g., impact hammer) activities may have an impact on marine wildlife. Many marine species are protected under the Endangered Species Act (ESA) and all marine mammals (including manatees) are protected under the Marine Mammal Protection Act (MMPA). The following Gulf of Mexico species are listed under the ESA:

ESA listed Species common to the Gulf of Mexico

Rice's whale (*Balaenoptera ricei*)

Sperm Whale (*Physeter macrocephalus*)

Green Turtle (*Chelonia mydas*) – North Atlantic DPS and South Atlantic DPS

Hawksbill Turtle (*Eretmochelys imbricata*)

Kemp's Ridley Turtle (*Lepidochelys kempii*)

Leatherback Turtle (*Dermochelys coriacea*) - Northwest Atlantic DPS

Loggerhead Turtle (*Caretta caretta*) – Northwest Atlantic Ocean DPS

Gulf Sturgeon (*Acipenser oxyrinchus desotoi*)

Oceanic Whitetip Shark (*Carcharhinus longimanus*)

Giant Manta Ray (*Manta birostris*)
 West Indian Manatee (*Trichechus manatus*)*

* Managed by the US Fish and Wildlife Service

Note that this list can change as other species are listed/delisted, and this COA must be applied to any ESA listed species (and all marine mammals) that occur in the Gulf of Mexico, including rare and extralimital species, such as blue whales (*Balaenoptera musculus*).

BSEE and BOEM consult jointly with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) under Section 7 of the ESA to ensure that BOEM or BSEE authorized activities do not jeopardize the continued existence of ESA listed species nor result in destruction or adverse modification of designated critical habitat. Incidental take of ESA listed species is prohibited except as exempted pursuant to an Incidental Take Statement. In the case of pile driving activities, please refer to the Incidental Take Statement associated with the 2020 Biological Opinion on the Federally Regulated Oil and Gas Program Activities in the Gulf of Mexico (BiOp). This COA is the result of coordination between BOEM, BSEE, NMFS, and industry and is based on terms and conditions and reasonable and prudent measures identified in the 2020 BiOp issued to the Bureaus. BSEE is tasked as the lead agency for compiling lessee or operator reporting data required under current BiOp applicable to both Bureaus. Therefore, all data collection reports described herein must be submitted to BSEE. Some other reporting requirements may also include BOEM and NMFS where specified below.

In order to protect ESA listed species and marine mammals during pile driving operations, operators will be required to follow specific protocols when operating. Suction piles do not require said protocols. Operators must comply with the below measures except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question.

Definitions

1. Terms used in this COA have the following meanings:

- Protected species means any species listed under the ESA and/or protected by the MMPA. Requirements discussed herein focus on marine mammals and sea turtles since these species are the most likely to be observed during pile driving activities. However, other ESA listed species (e.g., giant manta rays) are also protected and observations of them should be reported as detailed below in Reporting Requirements.
- 2. Pile driving activity means stationary activities that utilize an impact hammer for the setting of foundations for but not limited to Caisson Structures, Fixed Platforms, Tension Leg Platforms, and mustow water conductors as approved in a permit or plan.
- 3. Soft start (sometimes referred to as "ramp-up") means the gradual and systematic increase of emitted sound levels from a pile driving activity. The use of a soft start

- procedure is believed to provide additional protection to protected species by “warning” and/or providing them a chance to leave the area prior to full operation.
4. Operational level means the highest energy level at which the pile driving activity will operate for the majority of the time. The strikes from the impact hammer at operational level will be at a higher energy level than the initial strikes during soft start, if possible.
 5. Exclusion zone (or shutdown zone) means the area to be monitored for pre-clearance and possible mitigation actions (such as delays to soft start or shutdowns) in order to reduce or eliminate the potential for injury of protected species. The exclusion zone encompasses the area at and below the sea surface from the edges of the pile driving activity out to a radius of 500 feet (152 meters) upon detection of protected species within or entering that zone.
 6. Pre-clearance means the visual monitoring of the exclusion zone for protected species to determine if the zone has been clear of protected species for at least 30 minutes before the soft start may begin. If a protected species is observed entering or within the exclusion zone prior to the initiation of impact pile driving activities, pile driving must be delayed and will not begin until either the protected species has voluntarily left the exclusion zone or when specific time periods have elapsed with no further have occurred (i.e., 30 minutes). Visual monitoring should extend beyond the exclusion zone for detecting protected species that may be traveling to or entering the exclusion zone.
 7. Shutdown means the immediate cessation of soft start pile driving activity when technically feasible, as described below in General Requirements. This does not include activity at full operational level.
 8. Visual monitoring is intended to establish and maintain (when visual conditions allow) a zone around the pile driving activity that is clear of protected species, thereby reducing or eliminating the potential for auditory injury before operational level is achieved. Visual monitoring of adjacent waters is intended to aid in establishing and maintaining the exclusion zone by alerting all relevant personnel of protected species that are outside of, but may approach and enter, the exclusion zone.

General Requirements

1. A copy of this COA must be in the possession of the operator, other relevant personnel, the observer(s), and any other relevant designees operating under the authority of the approved Permit/Plan.
2. Monitoring must be conducted by qualified, NMFS-approved protected species observers, which can include crew members, in accordance with the following conditions:
 - Observers must be dedicated, NMFS-approved (in advance of the activity; see Visual Observer(s) Qualifications) and have no other assigned tasks during monitoring periods. For visual monitoring, at a minimum one individual must be designated with all the authority and appropriate qualifications therein to conduct pre-clearance checks and shutdown during soft start procedures, as needed. Crew members responsible for these duties must be provided sufficient training to distinguish aquatic protected species to broad taxonomic groups, as well as those specific species detailed above.

- At least one observer must have prior experience performing the duties of an observer during pile driving activity. Prior experience may be substituted with other relevant experience, 1) education (degree in biological science or related field), or 2) relevant training.
 - The operator must ensure relevant personnel (including but not limited to applicable rig and platform personnel) are notified of the observers' authority with regard to the measures described in this COA. Designated observers must participate in all pre-operation briefings (job safety analysis [JSA] / job safety and environmental analysis [JSEA] meetings) to ensure that responsibilities, communication procedures, protected species monitoring protocols, operational procedures, and permit requirements are clearly understood. This briefing procedure must be repeated at each shift change and JSA/JSEA meeting, and before work commences or recommences.
3. The observer must be granted access to relevant instrumentation to document real-time log information.
 4. The observer must be granted access to the most appropriate observation posts to safely conduct visual monitoring of the exclusion zone. The observation posts should provide an unobstructed view of the exclusion zone and adjacent waters to the maximum extent practicable.
 5. Pile driving activities will not begin during periods of reduced visibility (e.g., nighttime, fog, heavy rain, or a Beaufort Sea State (BSS) 4 or greater) in which an observer cannot observe the exclusion zone of 500 feet) (152 meters). BSS 3 or less is considered good visibility conditions (see #10 below).
 6. Monitoring must take place from 30 minutes prior to initiation of pile driving activity (i.e., pre-clearance monitoring before soft start) through 30 minutes post-completion of pile driving activity.
 7. Soft start procedures are required at the beginning of the activity and at any time following a cessation of pile driving activity of more than 30 minutes.
 8. If a protected species is observed within or entering the exclusion zone during soft start the observer must call for a shutdown of activity by communicating such to the field engineer, or other qualified personnel.
 - Observers must be able to identify and document behaviors of protected species at this distance (and preferably beyond) for implementation of mitigation measures described herein. If pile driving activity is intended to occur during nighttime hours, initiate soft start during daylight hours so that pre-clearance checks can be effective.
 - The field engineer, or other qualified personnel, will determine if a shutdown is technically feasible and inform the observer if they can, or cannot, implement a shutdown. A shutdown would not be considered technically feasible if it has the potential to result in pile instability, operational issues, or human safety concerns. If not technically feasible, then the operator/engineer must provide the reasoning details to the observer for reporting.
 - The field engineer/qualified personnel must closely monitor tubular penetration, soil data, real-time hammer log information, and any other relevant information needed to determine if a cessation of activity is technically feasible to ensure a timely response to any call for a shutdown by an observer.

9. During good visibility conditions (e.g., daylight hours; BSS 3 or less), the observer must conduct observations until the completion of activity, to the maximum extent practicable and record as described herein.
10. Pile driving may commence only during daylight hours no earlier than one hour after (civil) sunrise. Pile driving may not be initiated any later than 1.5 hours before (civil) sunset. Pile driving may continue after dark only when the installation of the same pile began during daylight (1.5 hours before (civil) sunset).

Visual Observer(s)

Qualifications

Operator must use a dedicated, NMFS-approved observer. A minimum of one designated NMFS-approved observer must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant crew with regard to the presence of protected species and mitigation requirements (including brief alerts regarding maritime hazards). To become a NMFS-approved observer specific to oil and gas related pile driving, an individual submits qualifications/credentials to NMFS at nmfs.psoreview@noaa.gov with subject line “GOM pile driving observer”. Training and experience provided in a resume/CV must be sufficient to perform necessary tasks of species identification, safety, communication, and data collection/reporting. However, if already NMFS-approved as a protected species observer for geophysical surveys in the United States, then that would qualify an individual to act in this role.

Equipment

The BSEE or BOEM approved Permit/Plan holder is required to work with the relevant personnel to ensure that the observer has all equipment needed to adequately perform necessary tasks, including accurate determination of distance and bearing to observed protected species. Such equipment should include but is not limited to:

- a) Reticle binoculars (e.g., 7 x 50) of appropriate quality (plus backup)
- b) Digital single lens reflex (SLR) camera with a telephoto lens
- c) Radios for communication among rig/platform crew and observer (plus backups)
- d) Any other tools necessary to adequately perform necessary observer tasks.

The Permit/Plan holder is responsible for ensuring the observer has the proper equipment specified in (a) through (d) above required to perform the duties specified within this COA.

Visual Monitoring

An observer schedule showing that the number of observer(s) used is sufficient to effectively monitor the area for the project and record the required data must be included. The observer must not be on watch for more than 4 consecutive hours, with at least a 1-hour break after a 4-hour watch. The observer must not be on active duty observing for

more than 12 daylight hours in any 24-hour period during multiple-day operations, if applicable.

1. For 30 minutes prior (pre-clearance) to soft start operations, an observer must be on duty and conducting visual observations.
2. An observer will record all protected species detections, regardless of distance from the pile driving activity, and must document detection distance and any behavioral reactions.
3. An observer would be located at the best vantage point(s) in order to ensure 360° visual coverage around the activity and must conduct visual observations using the camera, binoculars, and the naked eye while free from distractions and in a consistent, systematic, and diligent manner, while still maintaining a safe work environment. If possible, the observer should photograph any detected protected species for Data Collection and Reporting Requirements.
4. An observer must establish and monitor the exclusion zone during daylight hours (30 minutes prior to [civil] sunrise to 30 minutes after [civil] sunset) or activities cease, whichever comes first. This zone must be based upon the radial distance from the pile that will be driven. During soft start, occurrences of protected species that are seen outside the exclusion zone and in adjacent waters should be communicated to the operator to prepare for the potential shutdown of the activity.
5. Any observations of protected species by crew members aboard any vessel or platform associated with the pile driving activity must be relayed to the observer immediately.

Pre-Clearance and Soft Start

The intent of pre-clearance observation (30 minutes) is to ensure no protected species are observed within or entering the exclusion zone prior to the beginning of soft start and only during daylight hours. The intent of soft start is to warn protected species of pending pile driving activities and to allow sufficient time for those animals to leave the immediate vicinity. A soft start procedure, involving an initial set of strikes at a reduced energy level, is required at the beginning of each day's pile driving activity and at any time following a cessation of activity of more than 30 minutes. If this cessation of activity occurs, then an operator must wait until daylight to conduct pre-clearance and soft start for the next round of activity. All operators must adhere to the following pre-clearance and soft start requirements:

1. The observer on duty has the authority to delay the beginning of soft start procedures or to call for shutdown (see Shutdown) of activity if a protected species is detected within the exclusion zone.
2. The operator must notify the designated observer of the planned start of soft start as agreed upon with the observer; the notification time should not be less than 60 minutes prior to the planned soft start in order to allow the observer time to monitor the exclusion zone for 30 minutes prior to the initiation of soft start (pre-clearance).
3. The observer conducting pre-clearance observations must be notified again immediately prior to initiating soft start procedures and the operator must receive confirmation from the observer to proceed.

4. Soft start may not be initiated if any protected species is observed within the exclusion zone. If a protected species is observed within the exclusion zone during the 30-minute pre-clearance period, soft start may not begin until the animal(s) has been observed exiting the exclusion zone or until an additional time period of 30 minutes has elapsed with no further sightings.
5. Soft start must begin by activating the hammer at a reduced energy level for the initial strikes and must continue by increasing the energy level in stages as determined by the field engineer. The operator must provide information to the observer documenting that appropriate procedures were followed.

IMPACT PILE DRIVING:

Soft start requires contractors to provide an initial set of strikes at no more than half the operational power, followed by a 30 second waiting period, then two subsequent reduced power strike sets. A soft start must be implemented at the start of each day's impact pile driving, any time pile driving has been shutdown or delayed due the presence of a listed species, and following cessation of pile driving for a period of 30 minutes or longer. Following this soft start procedure, operational impact pile driving may commence and continue provided listed species remain absent from the shutdown zone.

Shutdown

The Permit/Plan holder must adhere to the following shutdown requirements during soft start only:

1. The observer must monitor the exclusion zone during soft start procedures. If a protected species is observed within or entering the exclusion zone, the observer must call for a shutdown, after which the field engineer or other qualified personnel determines whether a shutdown is technically feasible (see General Requirements). If not feasible, the operator or field engineer will provide the observer details for why it is not feasible.
2. Upon implementation of shutdown, the activity may recommence after the protected species has been observed exiting the exclusion zone, or if 30 minutes have elapsed since the last observation and no other protected species were observed in the exclusion zone.
3. If the activity is shut down for brief periods (i.e., less than 30 minutes) for reasons other than that described below in Shutdown (e.g., mechanical difficulty), it may be activated again without soft start procedures if the observer has maintained constant visual observation and no detections of protected species have occurred within the exclusion zone.
4. The operator must establish and maintain clear lines of communication directly between the observer on duty and relevant crew operating the pile driver to ensure that shutdowns are conveyed swiftly while allowing the observer to maintain watch.
5. If the field engineer, or other qualified personnel, determines a shutdown can be implemented, the activity must be halted immediately by cessation of strikes.
6. Upon implementation of shutdown, the activity may recommence after the protected species has been observed exiting the exclusion zone, or if 30 minutes have elapsed

since the last observation and no other protected species were observed in the exclusion zone.

7. If cessation of the activity is longer than 30 minutes, soft start procedures must be utilized if the field engineer, or other qualified personnel, determines it is technically feasible.

Data Collection

The observer must use data collection forms, whether hard copy or electronic. Observer must record detailed information about any implementation of mitigation requirements, including the distance of animals to the pile driving activity and description of specific actions that ensued, the behavior of the animal(s), any observed changes in behavior before and after implementation of mitigation, if shutdown was implemented, and the length of time before any subsequent soft start of the pile driving activity. If required mitigation was not implemented, observer should record a description of the circumstances. At a minimum, the following information must be recorded:

1. Operator name and facility information;
2. Observer names and affiliations/company;
3. Date and participants of observer briefings (as discussed in General Requirements) or a copy of the signed JSA(s)/JSEA(s);
4. Observation shifts/times;
5. Observer monitoring location;
6. Date and time monitored pile driving activity begins or ends;
7. Environmental conditions during monitoring periods (at beginning and end of visual observer shift and whenever conditions change significantly, including BSS, cloud cover, fog, sun glare, overall visibility and estimated observable distance);
8. Factors that may have contributed to impaired observations (e.g., vessel traffic obstructing views);
9. Upon visual observation of any protected species, the following information:
 - a) Watch status (sighting made by observer during watch, by personnel or crew, etc.);
 - b) Date and time of observation;
 - c) Location of observation (Lat/Long coordinates);
 - d) Distance of the animal from visual observer and/or construction activity (feet or meters, please specify);
 - e) Pile driving activities occurring during observation;
 - f) Species, numbers, and, if possible, size, sex and age class;
 - g) Description of any observable behavior patterns (e.g., feeding, traveling, etc.), including bearing and direction of travel and distance from activity; and
 - h) Description of implementation of mitigation measures (e.g., delay or shutdown) including detailed circumstances and reasoning for any shutdown that could not be implemented and the specifics of the pile driving activity at that time.
10. Pile driving logs and/or activity information, such as energy output of hammer while in operation (e.g., amount of “reduced energy output” during soft start and amount of “full energy output” after completion of soft start and up to operational energy level), number of strikes per pile, pile size and any other notes of significance (i.e., pre-

clearance, soft start, shutdown, operational energy level, end of operations, etc.). Specific minimal requirements for logs are further outlined here:

- a) Operator
- b) OCS Lease
- c) Area Block
- d) Well Name/Structure Name
- e) API/Complex ID
- f) Plan Number (EP, DOCD)
- g) Start Date
- h) Completion Date (e.g., total duration of activity for which actively hammering)
- i) Type of Impact Hammer Used (impact)
- j) Drive Pipe / Pile diameter, (in)
- k) Drive Depth, (ft)
- l) Drive Depth BML, (ft)
- m) Water Depth (ft)
- n) Substrate Type(s) (e.g., silt, mud, sand, gravel, etc.)
- o) Type of Pile Driven (e.g., drive pipe or conductor, piling, etc.)
- p) Pile Material (e.g., steel, concrete, etc.)
- q) Number of piles driven
- r) Number of strikes per pile
- s) Total number of strikes
- t) Whether hammer is operating (dry) or below (wet) the water surface
- u) Number of Soft Starts
- v) Duration of Soft Starts (mins)
- w) Duration at Full/Operating Power (HH:MM)
- x) Hammer low energy output (KIP or kJ)
- y) Duration at low energy (HH:MM)
- z) Hammer highest energy output (KIP or kJ)
- aa) Duration at highest energy levels (HH:MM)
- bb) Number of hammer pauses
- cc) Total duration of pauses (HH:MM)

Reporting Requirements

1. The Permit/Plan holder, or observer on behalf of your company, must submit data collection reports (see Data Collection for details) to BSEE (protectedspecies@bsee.gov) detailing all protected species observations within 15 days of completing operations. BSEE is tasked as the lead agency and will submit reports to other agencies as appropriate.
2. The Permit/Plan holder, or observer on behalf of your company, must submit a draft comprehensive report to BSEE (protectedspecies@bsee.gov) and BOEM (protectedspecies@boem.gov) on all pile driving activities and monitoring results within 30 days of completing operations. This comprehensive report will utilize the information from the data collection reports to provide full documentation of methods, results, and interpretation pertaining to all monitoring, and must summarize

- the dates of the pile driving activities conducted and all protected species observations.
3. If Rice's whale, or what is presumed to be Rice's whale, is observed at any time by visual observer(s) or construction personnel, the Permit/Plan holder must immediately report the sighting information the NMFS via nmfs.psoreview@noaa.gov as soon as feasible but no longer than 24 hours after the sighting. Information must include at minimum: time of sighting, location, and number of Rice's whales observed. For other applicable information, see Data Collection. The subject line for the information must include for tracking purposes: GOM presumed Rice's whale observation and "date".
 4. Dead and Injured species reporting:
 - For injured or dead non-marine mammal aquatic protected species, report incidents to the hotlines listed at <https://www.fisheries.noaa.gov/report> (phone numbers vary by state). For reporting dead or injured marine mammals, refer to the reporting requirements specified in Conditions of Approval and Appendixes within the BiOp or as amended.
 - Marine mammals: contact WHALE HELPLINE at 877-942-5343

These measures are designed to promote environmental protection, consistent environmental policy, compliance with environmental laws, and safety.

If you have any questions or comments concerning this approval, please contact Leslie Wilson at (504) 736-2588.

Sincerely,

for Bernadette Thomas
 Regional Supervisor
 Office of Leasing and Plans